

Oracle® Collaboration Suite

Installation Guide

10g Release 1 (10.1.1) for Linux

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Contents

Preface	xxiii
Audience	xxiii
Documentation Accessibility	xxiii
Related Documents	xxiv
Conventions	xxiv
 1 What You Should Know Before Installation	
1.1 Order of Installation	1-2
1.2 Contents of Oracle Collaboration Suite DVD Pack.....	1-2
1.3 Compatibility with Earlier Versions	1-2
1.4 Where Do I Install Oracle Collaboration Suite?.....	1-2
1.5 Oracle Home Directory	1-3
1.6 Installing Any Oracle Product for the First Time.....	1-4
1.7 What Are the Types of Installations Supported by Oracle Collaboration Suite?	1-4
1.7.1 Basic Installation	1-5
1.7.2 Advanced Installation	1-7
1.7.2.1 Oracle Collaboration Suite Infrastructure Installation.....	1-8
1.7.2.2 Oracle Collaboration Suite Applications Installation.....	1-8
1.7.2.3 Oracle Collaboration Suite Infrastructure and Applications Installation	1-8
1.8 Installing Support for Additional Languages.....	1-8
1.9 Oracle Collaboration Suite Instances and Instance Names	1-9
1.9.1 How Oracle Collaboration Suite Uses Instance Names	1-9
1.10 The ias_admin User and Restrictions on Its Password	1-10
1.11 Where Does the Installer Write Files?	1-11
1.12 Why Do I Need to Log In as root at Certain Times During Installation?	1-11
1.13 Running root.sh During Installation.....	1-11
1.14 Connecting to Oracle Internet Directory Through SSL	1-12
 2 Preparing to Install Oracle Collaboration Suite	
2.1 Hardware Requirements.....	2-1
2.1.1 Considerations for Real-Time Collaboration	2-3
2.1.2 Tips for Reducing Memory Usage	2-4
2.2 Software Requirements	2-4
2.2.1 Software Requirements for Red Hat Enterprise Linux AS/ES 3.0 Systems.....	2-5
2.2.2 Software Requirements for Red Hat Enterprise Linux AS/ES 4.0 Systems.....	2-6

2.2.3	Software Requirements for SUSE Linux Enterprise Server 8 Systems	2-8
2.2.4	Software Requirements for SUSE Linux Enterprise Server 9 Systems	2-10
2.3	Kernel Parameters.....	2-12
2.4	Ports	2-17
2.4.1	Checking If a Port Is in Use	2-17
2.4.2	Using Default Port Numbers	2-18
2.4.3	Using Custom Port Numbers (The "Static Ports" File).....	2-18
2.4.3.1	Format of the staticports.ini File.....	2-18
2.4.3.2	Error Conditions That Will Cause the Installer to Use Default Ports Instead of Specified Ports	2-21
2.4.4	Ports for Oracle HTTP Server and OracleAS Web Cache	2-21
2.4.4.1	Examples That Use the staticports.ini File.....	2-22
2.4.5	If Port 1521 Is In Use.....	2-23
2.4.5.1	If Port 1521 Is Being Used by an Existing Oracle Database.....	2-23
2.4.5.2	If Port 1521 Is Being Used by Some Other Application	2-25
2.5	Operating System Groups	2-25
2.5.1	Create a Group for the Inventory Directory	2-26
2.5.2	Create Groups for Database Administrators	2-26
2.6	Operating System User	2-27
2.7	Environment Variables	2-28
2.7.1	Environment Variable Tips	2-28
2.7.2	ORACLE_HOME and ORACLE_SID	2-28
2.7.3	PATH, CLASSPATH, and Shared Library Path Environment Variables.....	2-29
2.7.4	DISPLAY	2-29
2.7.5	TNS_ADMIN.....	2-29
2.7.6	TMP and TMPDIR	2-30
2.7.7	LD_BIND_NOW	2-30
2.7.8	ORA_NLS	2-30
2.8	The /etc/hosts File	2-30
2.8.1	Location of the Default Identity Management Realm.....	2-31
2.8.2	Host Name for Oracle Application Server Single Sign-On	2-31
2.9	Network Topics.....	2-31
2.9.1	Installing Oracle Collaboration Suite on a DHCP Host	2-32
2.9.2	Installing Oracle Collaboration Suite on Multihomed Computers	2-32
2.9.3	Copying the DVD to a Hard Drive	2-32
2.9.4	Installing Oracle Collaboration Suite from a Remote DVD-ROM Drive.....	2-33
2.9.5	Installing Oracle Collaboration Suite on Remote Computers.....	2-33
2.9.6	Installing Oracle Collaboration Suite on NFS-Mounted Storage.....	2-34
2.9.7	Support for NIS and NIS+	2-34
2.10	Prerequisite Checks Performed by the Installer	2-34

3 Starting the Oracle Collaboration Suite Installation

3.1	Installing Oracle Collaboration Suite from the DVDs.....	3-1
3.1.1	Mounting DVDs for Linux	3-2
3.1.1.1	Mounting DVD-ROMs with Auto-Mounting Software.....	3-2
3.1.1.2	Mounting DVDs Manually	3-2
3.2	Installing Oracle Collaboration Suite from a Hard Drive	3-3

3.3	Understanding Oracle Universal Installer	3-3
3.3.1	oraInventory Directory and Installation Session Log Files	3-4
3.3.2	Additional Component Installations with Oracle Universal Installer	3-4
3.4	Starting Oracle Universal Installer	3-5

4 Installing Oracle Collaboration Suite 10g Infrastructure

4.1	Types of Infrastructure Installation.....	4-1
4.1.1	Why Would I Select Different Types of Installation?	4-2
4.2	Order of Infrastructure Installation.....	4-2
4.3	Preparing to Install Oracle Collaboration Suite 10g Infrastructure	4-3
4.3.1	Can I Install Components on Separate Computers?	4-4
4.3.2	Tips for Installing Identity Management Components Separately	4-6
4.3.3	Do I Need the Oracle Delegated Administration Services or Oracle Directory Integration and Provisioning Components? 4-7	
4.3.4	Can I Use an Existing Instance of Oracle Internet Directory?	4-7
4.3.5	How Do I Register Oracle Collaboration Suite Database in Oracle Internet Directory and Randomize the Password 4-8	
4.3.6	Can I Use Multiple Oracle Collaboration Suite Databases?	4-9
4.3.7	What High Availability Options Does Oracle Collaboration Suite Support?	4-10
4.3.8	What are the Restrictions on the Passwords for the SYS and SYSTEM Users?	4-10
4.3.9	What Do I Enter in the Specify Namespace in Internet Directory Screen?	4-11
4.3.10	How Do I Determine Port Numbers Used by Components?	4-11
4.4	Understanding Common Installation Screens.....	4-12
4.4.1	First Few Screens of the Installation	4-12
4.4.2	Screens of Oracle Collaboration Suite Database Installation	4-15
4.4.3	Screens of OracleAS Certificate Authority Installation.....	4-18
4.4.4	Last Few Screens of the Installation	4-19
4.5	Installing Oracle Collaboration Suite 10g Infrastructure	4-20
4.5.1	Installing Oracle Collaboration Suite Database and Identity Management Components in a New Database 4-21	
4.5.2	Installing Only Oracle Collaboration Suite Database in a New Database	4-22
4.5.3	Installing Oracle Collaboration Suite Database in an Existing Database	4-23
4.5.4	Installing Identity Management Components Excluding Oracle Internet Directory	4-23
4.5.5	Installing Identity Management Components Including Oracle Internet Directory	4-25
4.5.6	Installing Only Oracle Internet Directory	4-26
4.5.7	Installing Oracle Collaboration Suite 10g Infrastructure for an Existing Instance of Oracle Internet Directory 4-27	
4.5.8	Installing Only Oracle Application Server Certificate Authority and Oracle Collaboration Suite Database 4-29	
4.5.9	Running the OCSdbSchemaReg Script.....	4-30
4.5.10	Using an Existing Instance of Identity Management from Oracle Application Server	4-33
4.5.11	Using an Existing Instance of OracleAS Portal from Oracle Application Server	4-33

5 Installing Oracle Collaboration Suite Database in an Existing Database

5.1	Preparing to Install	5-1
5.2	Installing Oracle Collaboration Suite Database in an Existing Database	5-2
5.2.1	Applying the 10g Release 1 (10.1.0.4.2) Patchset	5-2
5.2.1.1	Preinstallation Requirements.....	5-2
5.2.1.2	Preinstallation Tasks	5-2
5.2.1.3	Installation Tasks	5-9
5.2.1.4	Postinstallation Tasks.....	5-12
5.2.2	Installing Oracle Collaboration Suite	5-18
5.2.2.1	Preinstallation Tasks	5-19
5.2.2.2	Installation Tasks	5-19
5.3	Split Configuration	5-23

6 Configuring Oracle Internet Directory for Installation Privileges

6.1	Default Users in Oracle Internet Directory	6-1
6.2	Groups in Oracle Internet Directory	6-2
6.2.1	Global Groups	6-2
6.2.2	Groups for Each Oracle Collaboration Suite 10g Database	6-3
6.2.3	Groups for Each Component	6-3
6.3	Groups Required to Configure or Deinstall Components	6-4
6.4	Groups Required to Install Oracle Collaboration Suite Database	6-7
6.5	Creating Users in Oracle Internet Directory	6-7
6.6	Adding Users to Groups in Oracle Internet Directory	6-7
6.6.1	Using Oracle Directory Manager to Add Users to Groups	6-7
6.6.1.1	Navigating to Global Groups	6-8
6.6.1.2	Navigating to Oracle Collaboration Suite Database Groups	6-8
6.6.1.3	Navigating to Component Groups	6-8
6.6.2	Using Deployment Delegation Console to Add Users to Groups.....	6-9
6.7	Contents of a New Oracle Internet Directory	6-10
6.8	User Name and Realm for Logging In to Oracle Internet Directory.....	6-10

7 Installing Oracle Internet Directory in Replicated Mode

7.1	Oracle Internet Directory Replication Overview	7-1
7.1.1	Fan-Out Replication (LDAP Replication).....	7-2
7.1.2	Multimaster Replication (Advanced Replication)	7-2
7.2	Requirements.....	7-3
7.2.1	Database Requirements	7-3
7.2.2	Clock Synchronization	7-4
7.3	Installation Order	7-4
7.4	Installing a Master Oracle Internet Directory	7-4
7.5	Installing an Oracle Internet Directory Replica.....	7-5
7.5.1	Overview of Installing a Replica	7-5
7.5.2	Installing an Oracle Internet Directory Replica with a New Database.....	7-5
7.5.3	Installing an Oracle Internet Directory Replica Against an Existing Database	7-7
7.6	Accessing Oracle Application Server Single Sign-On and Oracle Delegated Administration Services 7-9	

8 Installing Oracle Collaboration Suite 10g Applications

8.1	Oracle Collaboration Suite 10g Applications and Oracle Collaboration Suite 10g Infrastructure	8-1
8.2	Components in Oracle Collaboration Suite Applications.....	8-1
8.3	Which Components Do I Need?	8-2
8.4	Component Dependencies.....	8-2
8.4.1	Component Dependency on Oracle Mail.....	8-2
8.4.2	Component Dependency on an Existing Instance of OracleAS Portal and Oracle Collaborative Portlets	8-3
8.5	How Can I Determine the Port Numbers Used by Components?.....	8-4
8.6	Installing Oracle Collaboration Suite Applications Against an Upgraded Oracle Internet Directory	8-4
8.7	Configuring Additional Applications-Tier Components After Installation	8-5
8.8	Can I Upgrade and Expand Oracle Collaboration Suite 10g Applications at the Same Time?	8-5
8.9	Can I Use a Specific Oracle Calendar Server Node ID During the Installation?	8-5
8.9.1	Selecting a Node ID	8-5
8.9.2	Not Connecting a Node	8-5
8.10	Installing Oracle Collaboration Suite Applications	8-6
8.10.1	Preinstallation Tasks	8-6
8.10.1.1	Sendmail-Related Tasks.....	8-6
8.10.1.2	Oracle Collaboration Suite Search-Related Tasks.....	8-6
8.10.2	First Few Screens of the Installation	8-7
8.10.3	Component Installation Screens.....	8-10
8.10.4	Last Few Screens of the Installation	8-12

9 Installing Oracle Collaboration Suite on a Single Computer

9.1	Using Basic Installation for Single-Computer Installation	9-1
9.2	Using Advanced Installation for Single-Computer Installation	9-2
9.2.1	Starting Single-Computer Installation.....	9-2
9.2.2	Performing Single-Computer Installation.....	9-3

10 Installing Oracle Collaboration Suite in High Availability Environments

10.1	Understanding High Availability Configurations: Overview and Common Requirements ..	10-1
10.1.1	Understanding the Common High Availability Principles.....	10-1
10.1.1.1	Oracle Collaboration Suite Database Tier	10-1
10.1.1.2	Identity Management Service	10-2
10.1.1.3	Oracle Calendar	10-3
10.1.1.4	Oracle Collaboration Suite Applications Tier	10-3
10.1.2	Overview of High Availability Configurations	10-3
10.1.2.1	Single Cluster Architecture	10-4
10.1.2.2	Colocated Identity Management Architecture.....	10-5
10.1.2.3	Distributed Identity Management Architecture	10-7
10.1.2.4	Summary of Differences	10-10
10.1.3	Installation Order for High Availability Configurations.....	10-10

10.1.4	Requirements for High Availability Configurations.....	10-10
10.1.4.1	Check Minimum Number of Nodes.....	10-11
10.1.4.2	Check That Groups Are Defined Identically on All Nodes	10-11
10.1.4.3	Check the Properties of the oracle User	10-11
10.1.4.4	Check for Previous Oracle Installations on All Nodes	10-11
10.2	Preparing to Install Oracle Collaboration Suite in High Availability Environments ..	10-12
10.2.1	Preinstallation Steps	10-12
10.2.1.1	Use the Same Path for the Oracle Home Directory (Recommended).....	10-12
10.2.1.2	Synchronize Clocks on All Nodes.....	10-13
10.2.1.3	Configure Virtual Server Names and Ports for the Load Balancer.....	10-13
10.2.1.4	Configure Your LDAP Virtual Server to Direct Requests to Node 1 Initially	10-13
10.2.1.5	Set Up Cookie Persistence on the Load Balancer.....	10-13
10.2.2	About Oracle Internet Directory Passwords.....	10-14
10.2.3	About Configuring SSL and Non-SSL Ports for Oracle HTTP Server	10-14
10.2.3.1	Case 1: Client and the Load Balancer Use HTTP and the Load Balancer and Oracle HTTP Server Also Use HTTP for Communication	10-15
10.2.3.2	Case 2: Client and the Load Balancer Use HTTPS and the Load Balancer and Oracle HTTP Server Also Use HTTPS for Communication	10-15
10.2.3.3	Case 3: Client and the Load Balancer Use HTTPS and the Load Balancer and Oracle HTTP Server Use HTTP for Communication	10-16
10.3	Installing Oracle Calendar Server in High Availability Environments	10-16
10.3.1	High Availability Configuration for Oracle Calendar	10-17
10.3.2	Preinstallation Steps for Installing Oracle Calendar in High Availability Environments	10-17
10.3.2.1	Check That Clusterware Is Running.....	10-17
10.3.2.2	Map the Virtual Host Name and Virtual IP Address.....	10-17
10.3.2.3	Set Up a File System That Can Be Mounted from Both Nodes.....	10-19
10.3.2.4	Review Recommendations for Automatic Storage Management (ASM).....	10-20
10.3.3	Installing Oracle Calendar.....	10-20
10.3.3.1	Installing Oracle Calendar Server in a Cold Failover Cluster Configuration.	10-22
10.3.3.2	Performing the Postinstallation Steps	10-24
10.3.3.3	Installing Oracle Collaboration Suite Applications.....	10-24

11 Installing in High Availability Environments: Single Cluster Architecture

11.1	Summary of Installation Steps	11-1
11.2	Installing Oracle Collaboration Suite Single Cluster Architecture	11-1
11.2.1	Installing and Applying Patch to Oracle Cluster Ready Services	11-2
11.2.1.1	Installing Oracle Cluster Ready Services	11-2
11.2.1.2	Applying Oracle Cluster Ready Services 10.1.0.4.2 Patchset	11-4
11.2.2	Installing the Oracle Collaboration Suite Database on RAC	11-5
11.2.2.1	Prerequisites for Selecting the Types of RAC storage.....	11-5
11.2.2.2	Review Recommendations for Automatic Storage Management (ASM).....	11-5
11.2.2.3	Installation Tasks	11-6
11.2.2.4	Postinstallation Tasks.....	11-7
11.2.2.4.1	Troubleshooting the Installation Errors	11-7
11.2.3	Configuring Load Balancers for Identity Management	11-7
11.2.3.1	Prerequisites for Installing Identity Management on High-Availability Nodes.....	11-7

11.2.3.1.1	Configuring the load balancer.....	11-7
11.2.3.1.2	Synchronize the System Clocks on All Nodes	11-8
11.2.4	Installing Identity Management on High Availability Nodes	11-9
11.2.4.1	Installing First Instance of Identity Management.....	11-9
11.2.4.2	Installing Subsequent Instance of Identity Management	11-10
11.2.4.3	Postinstallation Tasks.....	11-13
11.2.4.3.1	Performing Manual Postinstallation steps	11-13
11.2.5	Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants 11-13	
11.2.6	Installing Oracle Calendar Server	11-13
11.2.6.1	Preinstallation Tasks	11-13
11.2.6.1.1	Check if the clusterware is running.....	11-14
11.2.6.1.2	Map the virtual hostname and virtual IP address.....	11-14
11.2.6.1.3	Set Up a File System That Can Be Mounted from Both Nodes	11-16
11.2.6.2	Installation Tasks	11-16
11.2.6.3	Postinstallation tasks.....	11-19
11.2.6.3.1	Performing Manual Postinstallation Steps	11-19
11.2.7	Installing the First Instance of Oracle Collaboration Suite Applications (without Oracle Calendar Server) 11-19	
11.2.8	Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer 11-21	
11.2.8.1	Configure the Load Balancer	11-21
11.2.8.2	Configure the Oracle HTTP Server with the Load Balancer	11-22
11.2.8.3	Configure the Parallel Page Engine Loop-Back with the Load Balancer	11-23
11.2.8.4	Modify the Portal Dependency Settings (iasconfig.xml) File.....	11-24
11.2.8.5	Register the OracleAS Portal URLs with the Load Balancer.....	11-25
11.2.8.6	Reset the Oracle Enterprise Manager 10g Link	11-25
11.2.8.7	Configure OracleAS Web Cache with the Load Balancer	11-25
11.2.8.8	Reregister mod_osso	11-27
11.2.8.9	Verify Connectivity for Invalidation Messages from the Database to OracleAS Web Cache on ocs_apps1.mycompany.com through the Load Balancer 11-27	
11.2.8.10	Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal 11-28	
11.2.8.11	Configuring Real-Time Collaboration with Load Balancer	11-28
11.2.8.12	Updating Oracle Collaboration Suite Service Registry Entries in Oracle Internet Directory to Use the Load Balancer 11-29	
11.2.8.13	Test the Configuration	11-32
11.2.9	Installing Subsequent Instance of Oracle Collaboration Suite Applications	11-32
11.2.9.1	Installation Tasks	11-32
11.2.9.2	Postinstallation tasks.....	11-34
11.2.9.2.1	Troubleshooting the Installation Errors.....	11-34
11.2.9.2.2	Performing Manual Postinstallation Steps	11-35
11.2.10	Post Installation Steps for Subsequent Instances of Oracle Collaboration Suite Applications to Work with the Load Balancer 11-35	
11.2.10.1	Enable Portal	11-36
11.2.10.2	Configure the Oracle HTTP Server with the Load Balancer	11-37
11.2.10.3	Configure the Parallel Page Engine Loop-Back with the Load Balancer	11-38
11.2.10.4	Modify the Portal Dependency Settings (iasconfig.xml) File.....	11-39

11.2.10.5	Reregister mod_osso	11-39
11.2.10.6	Configure OracleAS Web Cache Clusters.....	11-39
11.2.10.7	Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal 11-41	
11.2.10.8	Enable Session Binding on OracleAS Web Cache Clusters	11-41
11.2.10.9	Configure Collaborative Portlets.....	11-42
11.2.10.10	Configure Oracle Collaboration Suite Mobile Collaboration.....	11-42
11.2.10.11	Configure Oracle Discussions.....	11-43
11.2.10.12	Test the Configuration	11-43

12 Installing in High Availability Environments: Colocated Identity Management Architecture

12.1	Summary of Installation Steps	12-1
12.2	Installing Oracle Collaboration Suite Colocated Identity Management Architecture...	12-1
12.2.1	Installing and Applying Patch to Oracle Cluster Ready Services	12-2
12.2.1.1	Installing Oracle Cluster Ready Services	12-2
12.2.1.2	Applying Oracle Cluster Ready Services 10.1.0.4.2 Patchset	12-4
12.2.2	Installing the Oracle Collaboration Suite Database on RAC	12-5
12.2.2.1	Prerequisites for Selecting the Types of RAC storage.....	12-5
12.2.2.2	Review Recommendations for Automatic Storage Management (ASM).....	12-6
12.2.2.3	Installation Tasks	12-6
12.2.2.4	Postinstallation Tasks.....	12-7
12.2.2.4.1	Troubleshooting the Installation Errors	12-7
12.2.3	Configuring Load Balancers for Identity Management	12-7
12.2.3.1	Prerequisites for Installing Identity Management on High-Availability Nodes.....	12-7
12.2.3.1.1	Configuring the load balancer.....	12-7
12.2.3.1.2	Synchronize the System Clocks on All Nodes	12-9
12.2.4	Installing Identity Management on High Availability Nodes	12-9
12.2.4.1	Installing First Instance of Identity Management.....	12-9
12.2.4.2	Installing Subsequent Instance of Identity Management	12-11
12.2.4.3	Postinstallation Tasks.....	12-13
12.2.4.3.1	Performing Manual Postinstallation steps.....	12-13
12.2.5	Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants 12-13	
12.2.6	Installing Oracle Calendar Server	12-14
12.2.6.1	Preinstallation Tasks	12-14
12.2.6.1.1	Check if the clusterware is running.....	12-14
12.2.6.1.2	Map the virtual hostname and virtual IP address.....	12-14
12.2.6.1.3	Set Up a File System That Can Be Mounted from Both Nodes	12-16
12.2.6.2	Installation Tasks	12-17
12.2.6.3	Postinstallation tasks.....	12-19
12.2.6.3.1	Troubleshooting the Installation Errors	12-19
12.2.6.3.2	Performing Manual Postinstallation Steps	12-20
12.2.7	Installing the First Instance of Oracle Collaboration Suite Applications (without Oracle Calendar Server) 12-20	
12.2.8	Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer 12-22	

12.2.8.1	Configure the Load Balancer	12-22
12.2.8.2	Configure the Oracle HTTP Server with the Load Balancer	12-23
12.2.8.3	Configure the Parallel Page Engine Loop-Back with the Load Balancer	12-24
12.2.8.4	Modify the Portal Dependency Settings (iasconfig.xml) File.....	12-25
12.2.8.5	Register the OracleAS Portal URLs with the Load Balancer.....	12-26
12.2.8.6	Reset the Oracle Enterprise Manager 10g Link	12-26
12.2.8.7	Configure OracleAS Web Cache with the Load Balancer	12-26
12.2.8.8	Reregister mod_osso	12-27
12.2.8.9	Verify Connectivity for Invalidation Messages from the Database to OracleAS Web Cache on ocs_apps1.mycompany.com through the Load Balancer	12-28
12.2.8.10	Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal	12-28
12.2.8.11	Configuring Oracle Real-Time Collaboration with Load Balancer.....	12-28
12.2.8.12	Updating Oracle Collaboration Suite Service Registry Entries in Oracle Internet Directory to Use the Load Balancer	12-29
12.2.8.13	Test the Configuration	12-32
12.2.9	Installing Subsequent Instance of Oracle Collaboration Suite Applications	12-33
12.2.9.1	Installation Tasks	12-33
12.2.9.2	Postinstallation tasks.....	12-35
12.2.9.2.1	Troubleshooting the Installation Errors	12-35
12.2.9.2.2	Performing Manual Postinstallation Steps	12-36
12.2.10	Post Installation Steps to Redeploy Oracle Collaboration Suite Applications with a Load Balancer	12-36
12.2.10.1	Enable Portal	12-37
12.2.10.2	Configure the Oracle HTTP Server with the Load Balancer	12-38
12.2.10.3	Configure the Parallel Page Engine Loop-Back with the Load Balancer	12-39
12.2.10.4	Modify the Portal Dependency Settings (iasconfig.xml) File.....	12-39
12.2.10.5	Reregister mod_osso	12-39
12.2.10.6	Configure OracleAS Web Cache Clusters.....	12-40
12.2.10.7	Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal	12-41
12.2.10.8	Enable Session Binding on OracleAS Web Cache Clusters	12-42
12.2.10.9	Configure Collaborative Portlets.....	12-42
12.2.10.10	Configure Oracle Collaboration Suite Mobile Collaboration.....	12-43
12.2.10.11	Configuring Oracle Discussions.....	12-43
12.2.10.12	Test the Configuration	12-43

13 Installing in High Availability Environments: Distributed Identity Management Architecture

13.1	Summary of Installation Steps	13-1
13.2	Installing Oracle Collaboration Suite Distributed Identity Management Architecture	13-2
13.2.1	Installing and Applying Patch to Oracle Cluster Ready Services	13-2
13.2.1.1	Installing Oracle Cluster Ready Services	13-2
13.2.1.2	Applying Oracle Cluster Ready Services 10.1.0.4.2 Patchset	13-4
13.2.2	Installing the Oracle Collaboration Suite Database on RAC	13-5
13.2.2.1	Prerequisites for Selecting the Types of RAC storage.....	13-5
13.2.2.2	Review Recommendations for Automatic Storage Management (ASM).....	13-5

13.2.2.3	Installation Tasks	13-6
13.2.2.4	Postinstallation Tasks.....	13-7
13.2.2.4.1	Troubleshooting the Installation Errors	13-7
13.2.3	Configuring Load Balancers for Identity Management	13-7
13.2.3.1	Prerequisites for Installing Identity Management on High-Availability Nodes.....	13-7
13.2.3.1.1	Configuring the load balancer.....	13-7
13.2.3.1.2	Synchronize the System Clocks on All Nodes	13-8
13.2.4	Installing Identity Management on High Availability Nodes	13-8
13.2.4.1	Installing First Instance of Oracle Internet Directory and Directory Integration and Provisioning	13-9
13.2.4.2	Installing Second Instance of Oracle Internet Directory and Directory Integration and Provisioning	13-10
13.2.4.3	Installing First Instance of Delegated Administration Services and OracleAS Single Sign-On	13-12
13.2.4.4	Installing Second Instance of Delegated Administration Services and OracleAS Single Sign-On	13-13
13.2.5	Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants	13-15
13.2.6	Installing Oracle Calendar Server	13-15
13.2.6.1	Preinstallation Tasks	13-15
13.2.6.1.1	Check if the clusterware is running.....	13-15
13.2.6.1.2	Map the virtual host name and virtual IP address.....	13-15
13.2.6.1.3	Set Up a File System That Can Be Mounted from Both Nodes	13-17
13.2.6.2	Installation Tasks	13-18
13.2.6.3	Postinstallation tasks.....	13-20
13.2.6.3.1	Performing Manual Postinstallation Steps	13-20
13.2.7	Installing the First Instance of Oracle Collaboration Suite Applications (without Oracle Calendar Server)	13-21
13.2.8	Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer	13-22
13.2.8.1	Configure the Load Balancer	13-23
13.2.8.2	Configure the Oracle HTTP Server with the Load Balancer	13-24
13.2.8.3	Configure the Parallel Page Engine Loop-Back with the Load Balancer	13-25
13.2.8.4	Modify the Portal Dependency Settings (iasconfig.xml) File.....	13-26
13.2.8.5	Register the OracleAS Portal URLs with the Load Balancer.....	13-26
13.2.8.6	Reset the Oracle Enterprise Manager 10g Link	13-27
13.2.8.7	Configure OracleAS Web Cache with the Load Balancer	13-27
13.2.8.8	Reregister mod_osso	13-28
13.2.8.9	Verify Connectivity for Invalidation Messages from the Database to OracleAS Web Cache on ocs_apps1.mycompany.com through the Load Balancer	13-29
13.2.8.10	Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal	13-29
13.2.8.11	Configuring Real-Time Collaboration with Load Balancer	13-29
13.2.8.12	Updating Oracle Collaboration Suite Service Registry Entries in Oracle Internet Directory to Use the Load Balancer	13-30
13.2.8.13	Test the Configuration	13-33
13.2.9	Installing Subsequent Instance of Oracle Collaboration Suite Applications	13-34
13.2.9.1	Installation Tasks	13-34

13.2.9.2	Postinstallation tasks.....	13-36
13.2.9.2.1	Troubleshooting the Installation Errors.....	13-36
13.2.9.2.2	Performing Manual Postinstallation Steps	13-37
13.2.10	Post Installation Steps to Redeploy Oracle Collaboration Suite Applications with a Load Balancer	13-37
13.2.10.1	Enable Portal	13-38
13.2.10.2	Configure the Oracle HTTP Server with the Load Balancer	13-39
13.2.10.3	Configure the Parallel Page Engine Loop-Back with the Load Balancer	13-40
13.2.10.4	Modify the Portal Dependency Settings (iasconfig.xml) File.....	13-40
13.2.10.5	Reregister mod_osso	13-40
13.2.10.6	Configure OracleAS Web Cache Clusters.....	13-41
13.2.10.7	Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal	13-42
13.2.10.8	Enable Session Binding on OracleAS Web Cache Clusters	13-43
13.2.10.9	Configure Collaborative Portlets.....	13-43
13.2.10.10	Configure Oracle Collaboration Suite Mobile Collaboration.....	13-44
13.2.10.11	Configure Oracle Discussions.....	13-44
13.2.10.12	Test the Configuration	13-44

14 Silent and Noninteractive Installation

14.1	Introduction to Noninteractive Installations	14-1
14.1.1	Silent Installation	14-1
14.1.2	Noninteractive Installation.....	14-2
14.2	Installation Requirements.....	14-2
14.3	Installing Oracle Application Server Certificate Authority	14-2
14.4	Creating Files for Silent and Noninteractive Installation.....	14-3
14.4.1	oraInst.loc File Creation.....	14-3
14.4.2	oratab File Creation	14-3
14.5	Selecting a Response File	14-3
14.6	Editing the Response File.....	14-4
14.7	Creating a Response File Using the Record Mode in the Installer	14-5
14.8	Specifying a Response File and Starting the Installation	14-5
14.9	Running the root.sh Script.....	14-6
14.9.1	root.sh and Silent Installation	14-6
14.9.1.1	Oracle HTTP Server	14-6
14.9.1.2	Using Oracle HTTP Server on a Different Port.....	14-7
14.9.2	root.sh and Noninteractive Installation.....	14-7
14.10	Error Handling	14-7
14.11	Deinstallation.....	14-8
14.12	Using Configuration Assistants in Noninteractive Mode.....	14-8
14.12.1	Response File Error Handling.....	14-9

15 Postinstallation Tasks for Oracle Collaboration Suite

15.1	Setting Environment Variables	15-1
15.2	Modifying Password Settings for Oracle Internet Directory	15-2
15.3	Enabling SSL	15-3

15.4	Performing Component-Specific Tasks	15-4
15.4.1	Configuring Oracle Mail and TNS Listener	15-4
15.4.2	Configuring Oracle Collaboration Suite Search	15-4

16 End-User Documentation Portal Installation

16.1	Installing the End-User Documentation Portal	16-1
16.1.1	Testing PHP	16-1
16.1.2	Installing the DOM XML Extension.....	16-2
16.2	Deploying the End-User Documentation Portal Package.....	16-2
16.3	Restricting Access to End-User Documentation Portal Administration Panel.....	16-3
16.4	Securing End-User Documentation Portal Administration Panel with Apache Authentication	16-3

A What's New in the Installation

A.1	No Manual Configuration	A-1
A.2	Option of Changing Ports During Installation	A-2
A.3	Improved Oracle Collaboration Suite Infrastructure and Applications Installation on a Single Computer	A-2
A.4	Changes in Oracle Collaboration Suite Database (Previously Known as Information Storage)	A-2
A.5	Changes in Applications Tier Installation	A-2
A.6	Support for High Availability Configurations	A-3
A.7	Support for Secure Installation	A-3
A.8	Enhancements in Configuration Assistants	A-3
A.9	More Prerequisite Checks	A-3
A.10	Support for Generating Installation Statistics.....	A-3
A.11	Changed Terminology	A-4
A.12	Oracle Collaboration Suite Database Uses Oracle 10g Database	A-4
A.13	Support for Oracle Internet Directory Replication	A-4

B Installation Checklists for Oracle Collaboration Suite

B.1	Oracle Collaboration Suite 10g Infrastructure Installation Checklist.....	B-1
B.2	Oracle Collaboration Suite 10g Applications Installation Checklist.....	B-2

C Installing Oracle Calendar Standalone

C.1	System Requirements	C-1
C.1.1	Common Requirements	C-2
C.1.2	Oracle Calendar Server Requirements	C-2
C.1.3	Oracle Calendar Application System Requirements	C-2
C.2	Preinstallation.....	C-3
C.2.1	Setting Up Your Directory Server	C-3
C.2.1.1	Terminology for Directory Servers	C-4
C.2.1.2	Setting Up a Sun ONE Directory Server	C-4
C.2.1.3	Setting Up an OpenLDAP Directory Server	C-5
C.2.1.4	Setting Up a Syntegra Aphelion Directory Server.....	C-5

C.2.2	Planning Separate Installations of the Oracle Calendar Application System and the Oracle Calendar Server	C-6
C.3	Installation	C-6
C.3.1	Installing Oracle Calendar Server and the Oracle Calendar Application System	C-6
C.3.2	Installing Oracle Calendar Server Only	C-8
C.3.3	Installing Oracle Calendar Application System Only	C-9
C.3.4	Manually Running the Oracle Calendar Server Configuration Assistant	C-9
C.3.5	Manually Starting and Stopping the Oracle Calendar Application System	C-10
C.4	Upgrades	C-10
C.5	Postinstallation Configuration	C-10
C.5.1	Configuring the Oracle Calendar Application System and Oracle Calendar Administrator	C-11
C.5.2	Configuring the Directory Server	C-11
C.5.2.1	Configuring a Sun ONE Directory Server	C-11
C.5.2.2	Configuring an OpenLDAP	C-11
C.5.2.3	Syntegra Aphelion Directory Server	C-12
C.5.3	Configuring the Oracle Calendar Server	C-12
C.5.3.1	Starting and Stopping the Oracle Calendar Server	C-12
C.5.3.2	Checking Port Values	C-13
C.5.3.3	Opening and Configuring Oracle Calendar Administrator	C-13
C.5.3.4	Setting Up Resource Approval	C-14
C.5.3.5	Working with LD_LIBRARY_PATH	C-14
C.5.3.6	Working with Security Mechanisms	C-14
C.5.4	Checking and Configuring the Oracle Calendar Application System	C-14
C.5.4.1	Checking the Status of the Oracle Calendar Application System	C-15
C.5.4.2	Configuring the Oracle Calendar Application System	C-15
C.5.5	Configuring Oracle Calendar E-mail Delivery	C-16
C.5.6	Configuring Oracle Calendar Web Client with a Traditional Node Network	C-16
C.6	Oracle Calendar Deinstallation	C-17
C.7	General Issues and Workarounds	C-18
C.7.1	Oracle Calendar Server Issues	C-18
C.7.1.1	Installation	C-18
C.7.1.2	Reinstallation	C-18
C.7.1.3	Coexistence and Upgrades	C-18
C.7.1.4	Designates	C-20
C.7.1.5	Other Issues	C-20
C.7.2	Oracle Calendar Application System Issues	C-20
C.7.2.1	Installation-Related Issues	C-20
C.7.2.2	Upgrade-Related Issues	C-21

D Installing Oracle Collaboration Suite Clients

D.1	Installing Oracle Calendar Clients	D-1
D.1.1	Installing the Oracle Calendar Desktop Client	D-1
D.1.1.1	Installing the Oracle Calendar Desktop Client for Linux	D-1
D.1.1.2	Installing the Oracle Calendar Desktop Client for Macintosh	D-3
D.1.1.3	Installing the Oracle Calendar Desktop Client for Solaris	D-3
D.1.1.4	Installing the Oracle Calendar Desktop Client for Windows	D-5

D.1.1.5	Customizing the Oracle Calendar Initialization File.....	D-7
D.1.2	Installing Oracle Calendar Sync	D-7
D.1.2.1	Installing Oracle Calendar Sync for Palm for Macintosh	D-7
D.1.2.2	Installing Oracle Calendar Sync for Palm for Windows.....	D-11
D.1.2.3	Installing Oracle Calendar Sync for Pocket PC	D-13
D.2	Installing Oracle Connector for Outlook	D-15
D.2.1	System Requirements	D-16
D.2.2	Preinstallation Requirements.....	D-17
D.2.3	Installing Oracle Connector for Outlook on the Desktop	D-17
D.2.4	Installing Oracle Connector for Outlook in Interactive Mode	D-18
D.2.4.1	Specifying the Installation Language for a First-Time Installation of Oracle Connector for Outlook	D-18
D.2.4.2	Upgrading Oracle Connector for Outlook.....	D-20
D.2.4.3	Modifying, Repairing, or Removing Oracle Connector for Outlook	D-20
D.2.4.4	Troubleshooting an Oracle Connector for Outlook Installation.....	D-21
D.2.5	Installing Oracle Connector for Outlook in Silent Mode	D-22
D.2.5.1	The Initialization File	D-22
D.2.5.2	Configuring the Initialization File.....	D-23
D.2.5.3	Upgrading, Maintaining, or Removing Oracle Connector for Outlook in Silent Mode	D-25
D.2.6	Installing Oracle Connector for Outlook with Additional Privileges	D-25
D.2.6.1	Setting the AlwaysInstall Elevated Policy	D-26
D.2.6.2	Performing an Advertised Installation of Oracle Connector for Outlook	D-26
D.2.6.3	Deploying the Oracle Connector for Outlook Package Using Group Policy ...	D-26
D.2.7	Using the Configuration Wizard to Configure Oracle Connector for Outlook.....	D-27
D.2.7.1	Interactive Profile Creation and Configuration Mode	D-28
D.2.7.2	Interactive PRF File Creation Mode.....	D-28
D.2.7.3	Silent Profile Creation Mode.....	D-29
D.3	Installing Oracle Real-Time Collaboration Clients	D-30
D.3.1	System Requirements for Oracle Real-Time Collaboration Clients	D-30
D.3.2	Installing the Oracle Web Conferencing Client.....	D-31
D.3.3	Installing the RTC Messenger Client	D-31

E Using Command-Line Options and Variables

E.1	Running Prerequisite Checks	E-1
E.2	Starting Oracle Universal Installer	E-1
E.3	Specifying Custom Ports.....	E-2

F URLs for Components

G Default Port Numbers for Oracle Collaboration Suite Components

G.1	Method of Assigning Default Port Numbers.....	G-1
G.2	Default Port Numbers	G-1

H Deinstallation and Reinstallation

H.1	The Deconfig Tool.....	H-1

H.1.1	Parameters	H-2
H.1.2	Log Files Generated by the Deconfig Tool.....	H-2
H.2	Overview of the Deinstallation Procedure.....	H-2
H.3	Deinstalling Applications Tiers	H-4
H.4	Deinstalling Oracle Collaboration Suite Database	H-5
H.5	Deinstalling Oracle Collaboration Suite Infrastructure.....	H-6
H.5.1	Deinstallation Order.....	H-6
H.5.2	Deinstallation Steps	H-7
H.6	Deinstalling a Single-Computer Installation.....	H-8
H.7	Harmless Errors in the Log File	H-9
H.8	Cleaning Up Oracle Collaboration Suite Processes	H-9
H.9	Reinstallation	H-10

I Troubleshooting

I.1	Verifying Requirements	I-1
I.1.1	Checking Dependencies.....	I-1
I.1.2	Reading the Release Notes	I-1
I.2	Troubleshooting User Interface Problems	I-2
I.3	Troubleshooting Installation Errors	I-2
I.4	Troubleshooting Configuration Assistants	I-2
I.4.1	General Tips.....	I-2
I.4.2	Configuration Assistant Result Codes.....	I-3
I.4.3	Failure During Component Configuration and Startup	I-3
I.4.4	Irrecoverable Errors.....	I-4
I.5	Troubleshooting Administration Errors After Installation.....	I-4
I.5.1	Failure to Restart Oracle Calendar	I-4
I.6	Troubleshooting Oracle Collaboration Suite Web Client Configuration	I-5
I.7	Troubleshooting Oracle Real Application Clusters	I-6
I.8	Need More Help?	I-6

J Sample Load Balancer Configuration For High Availability Installations

Index

List of Figures

1-1	Configuration with Multiple Applications Tiers and an Infrastructure	1-3
1-2	Types of Oracle Collaboration Suite Installations	1-5
2-1	Configuring Both OracleAS Web Cache and Oracle HTTP Server	2-22
2-2	Suggested Directory Structure for Copying DVD Content to Hard Disk	2-33
4-1	Multiple Instances of Oracle Collaboration Suite Database in Use	4-10
4-2	Sequence for the First Few Screens in the Installation	4-15
7-1	Example of Fan-Out Replication (LDAP Replication)	7-2
7-2	Example of Multimaster Replication (Advanced Replication)	7-3
8-1	Sequence of the Screens During Oracle Collaboration Suite Applications Installation ...	8-8
10-1	A Typical Single Cluster Architecture Configuration	10-5
10-2	A Typical Colocated Identity Management Architecture Configuration	10-7
10-3	A Typical Distributed Identity Management Architecture Configuration	10-9
10-4	Oracle Calendar High Availability Configuration	10-21
16-1	Default PHP Page	16-2

List of Tables

1-1	Directories in Which the Installer Writes Files	1-11
2-1	Hardware Requirements for Linux Systems.....	2-2
2-2	Software Requirements for Red Hat Enterprise Linux AS/ES 3.0 Systems.....	2-5
2-3	Software Requirements for Red Hat Enterprise Linux AS/ES 4.0 Systems.....	2-6
2-4	Software Requirements for SUSE Linux Enterprise Server 8 Systems.....	2-8
2-5	Software Requirements for SUSE Linux Enterprise Server 9 Systems.....	2-10
2-6	Kernel Parameter Settings for Linux Systems	2-13
2-7	Location of the staticports.ini File on DVD.....	2-20
2-8	Scenarios and Outcomes While Installing Infrastructure On a Computer Already Having a Database 2-24	
2-9	Privileges for the OSDBA and OSOPER Groups	2-26
2-10	Properties of the Operating System User Who Runs the Installer	2-27
2-11	Environment Variables Summary	2-28
2-12	Prerequisite Checks Performed by the Installer	2-35
4-1	Oracle Collaboration Suite 10g Infrastructure Components	4-1
4-2	Oracle Collaboration Suite 10g Infrastructure Configurations	4-5
4-3	Supported Versions of Oracle Internet Directory	4-8
4-4	Database Registration Scenarios	4-9
4-5	First Few Screens of the Installation.....	4-13
4-6	Screens of Oracle Collaboration Suite Database Installation.....	4-16
4-7	Screens of OracleAS Certificate Authority Installation.....	4-19
4-8	Last Few Screens of the Installation	4-20
4-9	Installation Screens for Collaboration Suite Database and Identity Management Components in a New Database 4-21	
4-10	Screens for Installing Only Collaboration Suite Database in a New Database.....	4-22
4-11	Screens for Installing Identity Management Components Excluding Oracle Internet Directory 4-24	
4-12	Screens for Installing Identity Management Components Including Oracle Internet Directory 4-25	
4-13	Screens for Installing Only Oracle Internet Directory	4-27
4-14	Screens for Installing Oracle Collaboration Suite Infrastructure for an Existing Instance of Oracle Internet Directory 4-28	
4-15	Screens for Installing Only OracleAS Certificate Authority and Collaboration Suite Database 4-30	
5-1	Database Configuration Parameters and Their Minimum Values for Installing Oracle Collaboration Suite in an Existing Database 5-19	
5-2	Screens for Installing Oracle Collaboration Suite in an Existing Database	5-20
6-1	Global Groups	6-2
6-2	Metadata Repository Groups That Are Registered with Oracle Internet Directory	6-3
6-3	Groups Associated with Each Oracle Collaboration Suite Component	6-3
6-4	Oracle Internet Directory Groups Required to Configure Components	6-4
7-1	Installing an Oracle Internet Directory Replica with a New Database.....	7-6
7-2	Installing an Oracle Internet Directory Replica Against an Existing Database	7-8
8-1	Components in Oracle Collaboration Suite Applications.....	8-2
8-2	First Few Screens of the Installation.....	8-9
8-3	Component Installation Screens	8-11
8-4	Remaining Screens of the Installation.....	8-12
9-1	Screens for Single-Computer installation.....	9-2
9-2	Screens for Single-Computer installation.....	9-3
10-1	Differences Among the High Availability Configurations.....	10-10
10-2	Case 1: Screen and Configuration File Values.....	10-15
10-3	Case 2: Screen and Configuration File Values.....	10-16
10-4	Case 3: Screen and Configuration File Values.....	10-16

10-5	Installing Oracle Calendar Server in a Cold Failover Cluster Configuration	10-22
11-1	Installing Oracle Cluster Ready Services.....	11-2
11-2	Installing Oracle Cluster Ready Services.....	11-4
11-3	Installing Oracle Collaboration Suite Database.....	11-6
11-4	Installing First Instance of Identity Management	11-9
11-5	Installing Subsequent instance of Identity Management.....	11-11
11-6	Installing Oracle Calendar Server in Cold Failover Cluster Configuration	11-17
11-7	Installing First Instance of Oracle Collaboration Suite Applications	11-19
11-8	Installing Subsequent Instance of Oracle Collaboration Suite Applications.....	11-33
12-1	Installing Oracle Cluster Ready Services.....	12-2
12-2	Installing Oracle Cluster Ready Services.....	12-4
12-3	Installing Oracle Collaboration Suite Database.....	12-6
12-4	Installing First Instance of Identity Management	12-9
12-5	Installing Subsequent instance of Identity Management.....	12-11
12-6	Installing Oracle Calendar Server in Cold Failover Cluster Configuration	12-17
12-7	Installing First Instance of Oracle Collaboration Suite Applications	12-20
12-8	Installing Subsequent Instance of Oracle Collaboration Suite Applications.....	12-33
13-1	Installing Oracle Cluster Ready Services.....	13-2
13-2	Installing Oracle Cluster Ready Services.....	13-4
13-3	Installing Oracle Collaboration Suite Database.....	13-6
13-4	Installing First Instance of Oracle Internet Directory and Directory Integration and Provisioning	13-9
13-5	Installing Second Instance of Oracle Internet Directory and Directory Integration and Provisioning	13-11
13-6	Installing First Instance of Delegated Administration Services and OracleAS Single Sign-On	13-12
13-7	Installing Second Instance of Delegated Administration Services and Single Sign-On.....	13-13
13-8	Installing Oracle Calendar Server in Cold Failover Cluster Configuration	13-18
13-9	Installing First Instance of Oracle Collaboration Suite Applications	13-21
13-10	Installing Subsequent Instance of Oracle Collaboration Suite Applications.....	13-34
14-1	oratab and oraInst.loc File Locations	14-3
14-2	Response Files	14-4
A-1	Changed Terminology	A-4
B-1	Oracle Collaboration Suite 10g Infrastructure Installation Information.....	B-1
B-2	Oracle Collaboration Suite Applications Installation Information.....	B-2
C-1	Oracle Calendar and Directory Server Concordance	C-4
D-1	System Requirements for Installing the Oracle Calendar Desktop Client for Linux.....	D-2
D-2	System Requirements for Installing the Oracle Calendar Desktop Client for Macintosh.....	D-3
D-3	System Requirements for Installing the Oracle Calendar Desktop Client for Solaris	D-4
D-4	System Requirements for Installing the Oracle Calendar Desktop Client for Windows	D-5
D-5	Command-Line Switches for a Silent Installation of the Oracle Calendar Desktop Client for Windows	D-5
D-6	Files Extracted While Running cal_win_1011x.exe in Administrative Mode	D-7
D-7	System Requirements for Installing Oracle Calendar Sync for Palm for Macintosh	D-8
D-8	System Requirements for Installing Oracle Calendar Sync for Palm for Windows	D-11
D-9	System Requirements for Installing Oracle Calendar Sync on Pocket PC	D-13
D-10	System Requirements for Oracle Connector for Outlook	D-16
D-11	Languages Supported by Oracle Connector for Outlook	D-19
D-12	UI Parameter Values for Configuring Visual Feedback.....	D-25
D-13	System Requirements for Installing Oracle Real-Time Collaboration Client	D-31
F-1	URLs for Components.....	F-1
G-1	Default Port Numbers and Ranges (Grouped by Component)	G-1
H-1	Items to Deinstall	H-3

J-1 Sample Load Balancer Configuration Details for Oracle Collaboration Suite High
Availability Installations J-1

Preface

This manual is your primary source of preinstallation, installation, and postinstallation information for Oracle Collaboration Suite.

This preface contains these topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documents](#)
- [Conventions](#)

Audience

This guide is intended for users who are comfortable running some system administration operations, such as creating users and groups, adding users to groups, and installing operating system patches on the computer where Oracle Collaboration Suite will be installed. Users who install Oracle Collaboration Suite need `root` access to run some scripts.

Documentation Accessibility

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TTY Access to Oracle Support Services

Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, seven days a week. For TTY support, call 800.446.2398.

Related Documents

For more information, refer to the following Oracle resources:

- The Oracle Collaboration Suite 10g Documentation Set, especially
 - *Oracle Collaboration Suite Deployment Guide*
 - *Oracle Collaboration Suite Concepts Guide*
 - *Oracle Collaboration Suite Administrator's Guide*
 - *Oracle Collaboration Suite Upgrade Guide*
 - *Oracle Collaboration Suite Documentation Roadmap*
 - *Oracle Enterprise Manager Configuration for Oracle Collaboration Suite*
 - *Oracle Calendar Administrator's Guide*
- The Oracle Application Server Documentation Set, especially
 - *Oracle Application Server High Availability Guide*
 - *Oracle Internet Directory Administrator's Guide*
 - *Oracle HTTP Server Administrator's Guide*
 - *Oracle Application Server Web Cache Administrator's Guide*
 - *Oracle Application Server Metadata Repository Creation Assistant User's Guide*
- The Oracle Database 10g Documentation Set, especially
 - *Oracle Database SQL Reference*
 - *Oracle Universal Installer Concepts Guide*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What You Should Know Before Installation

Oracle Collaboration Suite 10g release (10.1.1.0.2) consists of three conceptual layers or tiers. The first layer is **Oracle Collaboration Suite Infrastructure** (also known as the **Infrastructure tier**) that consists of **Oracle Collaboration Suite Database** (an Oracle 10g Database) and the necessary **Oracle Identity Management** components. The second layer, **Oracle Collaboration Suite Applications** (also known as the **Applications tier**) consists of the applications that are the heart of Oracle Collaboration Suite. These applications include:

- Oracle Collaboration Suite 10g Calendar
- Oracle Collaboration Suite 10g Content Services
- Oracle Collaboration Suite 10g Discussions
- Oracle Collaboration Suite 10g Mail
- Oracle Collaboration Suite 10g Mobile Collaboration
- Oracle Collaboration Suite 10g Real-Time Collaboration
- Oracle Collaboration Suite 10g Voicemail & Fax
- Oracle Collaboration Suite 10g Workspaces
- Oracle Collaboration Suite 10g Search

Oracle Collaboration Suite also consists of a third tier called **Client tier** that consists of the end-user applications that reside on client devices, such as desktops, laptops, wireless phones, and PDAs.

The aim of this guide is to help you to install Oracle Collaboration Suite. This chapter provides basic information about the installation process.

This chapter contains the following sections:

- [Section 1.1, "Order of Installation"](#)
- [Section 1.2, "Contents of Oracle Collaboration Suite DVD Pack"](#)
- [Section 1.3, "Compatibility with Earlier Versions"](#)
- [Section 1.4, "Where Do I Install Oracle Collaboration Suite?"](#)
- [Section 1.5, "Oracle Home Directory"](#)
- [Section 1.6, "Installing Any Oracle Product for the First Time"](#)
- [Section 1.7, "What Are the Types of Installations Supported by Oracle Collaboration Suite?"](#)
- [Section 1.8, "Installing Support for Additional Languages"](#)

- [Section 1.9, "Oracle Collaboration Suite Instances and Instance Names"](#)
- [Section 1.10, "The ias_admin User and Restrictions on Its Password"](#)
- [Section 1.11, "Where Does the Installer Write Files?"](#)
- [Section 1.12, "Why Do I Need to Log In as root at Certain Times During Installation?"](#)
- [Section 1.13, "Running root.sh During Installation"](#)
- [Section 1.14, "Connecting to Oracle Internet Directory Through SSL"](#)

1.1 Order of Installation

You must install Oracle Collaboration Suite 10g Infrastructure first. It is a prerequisite for all Oracle Collaboration Suite 10g Applications, such as Oracle Collaboration Suite 10g Content Services, Oracle Collaboration Suite 10g Calendar, and other components. Install Applications after you install Infrastructure.

1.2 Contents of Oracle Collaboration Suite DVD Pack

Oracle Collaboration Suite DVD Pack contains the following disks:

- Oracle Collaboration Suite (3 DVDs)
- OracleAS Metadata Repository (2 disks)
- Oracle Enterprise Manager (1 disk)
- Documentation (1 disk)

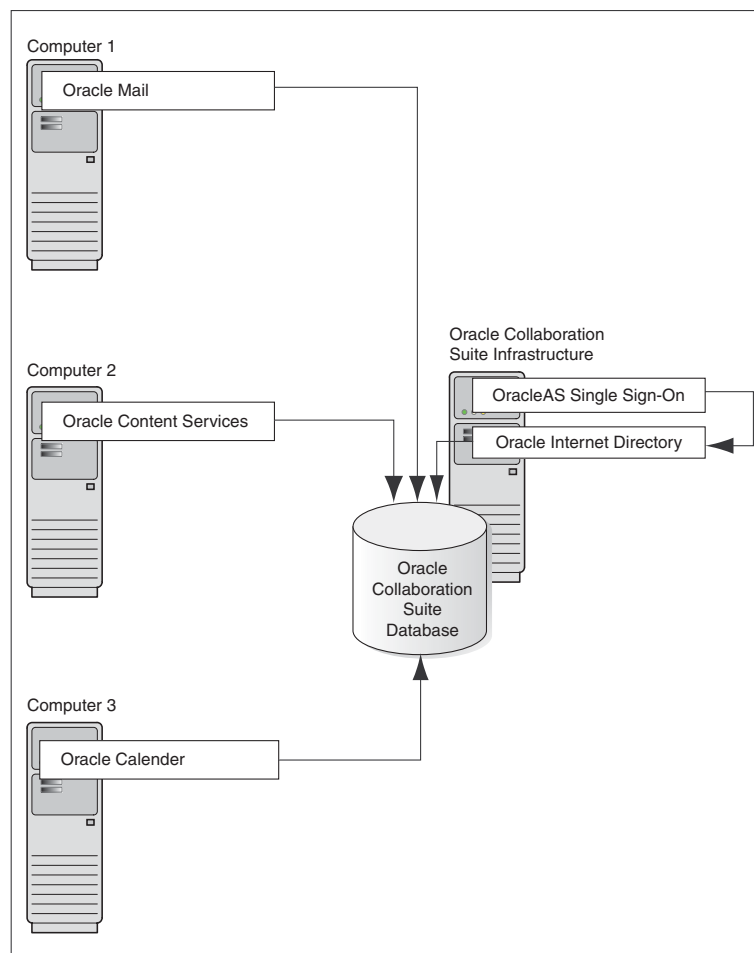
1.3 Compatibility with Earlier Versions

Refer to the *Oracle Collaboration Suite Upgrade Guide* for information about compatibility with earlier versions.

1.4 Where Do I Install Oracle Collaboration Suite?

You can install Oracle Collaboration Suite Infrastructure and components of the [Oracle Collaboration Suite Applications](#) on the same computer or on different computers. For optimum performance, it is recommended that you install Infrastructure on one computer and Applications on different computers.

For example, [Figure 1-1](#) shows a topology with four computers. The Applications tier is distributed on different computers. All applications connect to an instance of Infrastructure, which is installed on a separate computer.

Figure 1–1 Configuration with Multiple Applications Tiers and an Infrastructure

See Also: *Oracle Collaboration Suite Deployment Guide*

1.5 Oracle Home Directory

The directory in which you install Oracle Collaboration Suite is called the Oracle home. During the installation, you must specify the full path and a name for the Oracle home.

For example, you can install Oracle Collaboration Suite Infrastructure in the directory `/home/oracle/OraHome_infra`, and you can name it `InfraHome`.

Oracle Universal Installer does not allow you to install Applications and Infrastructure in the same Oracle home. If you plan to install Applications and Infrastructure on the same computer, then you must install them in different Oracle home directories. Typically, you cannot install Oracle Collaboration Suite in an existing Oracle home.

Refer to [Section 2.10](#) for a list of invalid installation scenarios.

Notes:

- Spaces are not allowed in the Oracle home directory path. For example, you cannot install in the following path:
`/var/opt/oracle/collab suite/infra10_1_1 path`
This is because of the space character in `collab suite`. The installer does not check for this until several screens after you have entered the path.
 - It is not possible to install Applications in an existing Oracle home, for example, when you are trying to add components to the Applications tier.
-

1.6 Installing Any Oracle Product for the First Time

Oracle recommends that you create an operating system user to perform all tasks related to installation of Oracle products. This guide refers to this user as the `oracle` user.

Refer to [Section 2.6](#) for more details about creating an operating system user.

If Oracle Collaboration Suite is the first Oracle product to be installed on a computer, then the installer displays a screen where you specify the location of an inventory directory (the `oraInventory` directory). This inventory directory is used by the installer to keep track of all Oracle products installed on the computer. The inventory directory is different from the Oracle home for Oracle Collaboration Suite.

Users in the `oinstall` group install Oracle products. To ensure that other users in the `oinstall` group have access to the inventory directory, do not use home directory of the `oracle` user because home directories might not have the proper permissions set up for the `oinstall` group. Instead, create the inventory directory in the `/var/opt/oracle` directory. For more information, refer to [Section 2.5.1](#).

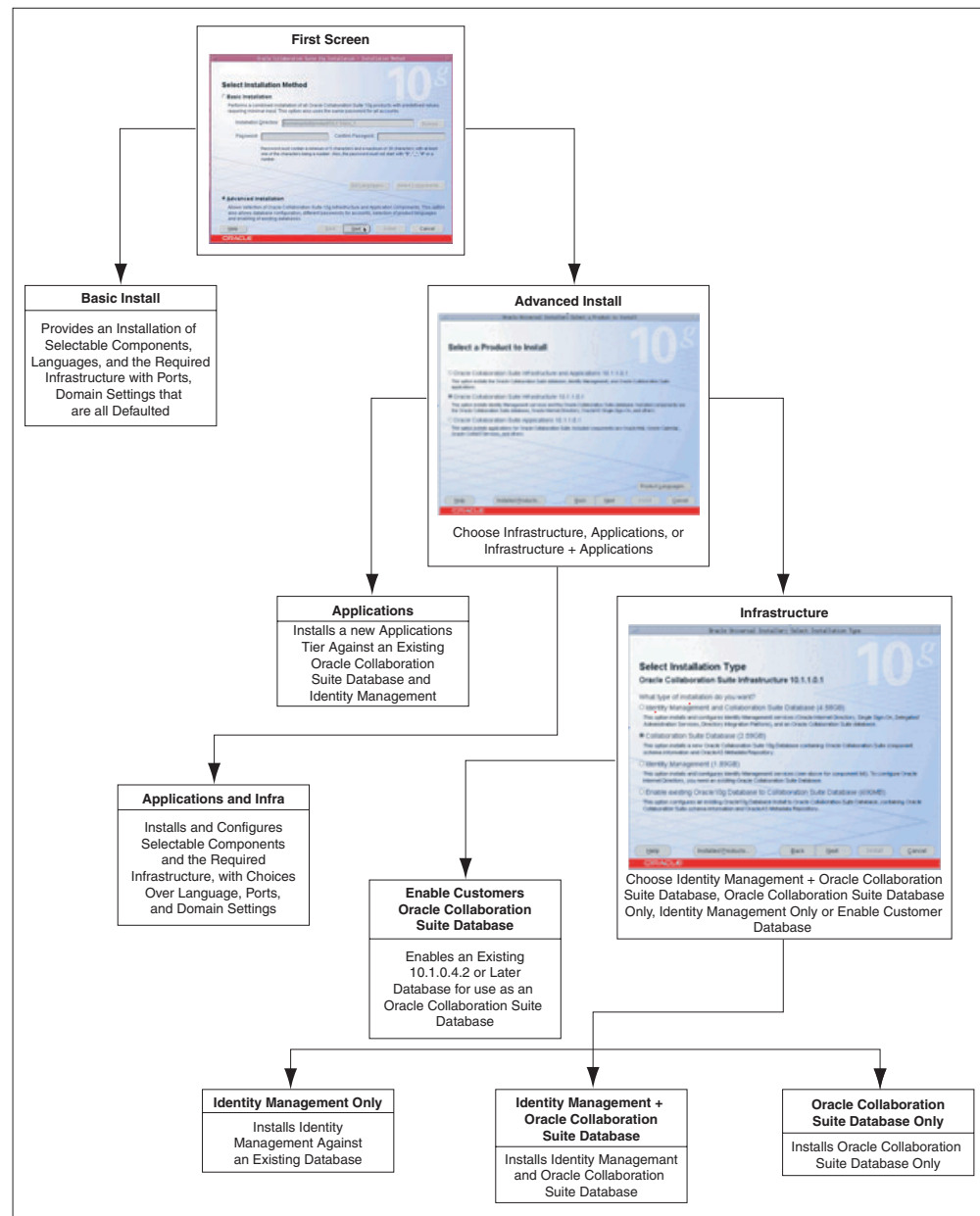
If an Oracle product was installed previously on the computer, then the installer uses the existing inventory directory. To ensure that you have write permissions on that directory, run the installer as the same operating system user who installed the existing Oracle product.

1.7 What Are the Types of Installations Supported by Oracle Collaboration Suite?

Oracle Collaboration Suite 10g Release 1 (10.1.1.0.2) supports the following types of installation:

- [Section 1.7.1, "Basic Installation"](#)
- [Section 1.7.2, "Advanced Installation"](#)

[Figure 1–2](#) illustrates the different types of Oracle Collaboration Suite installations.

Figure 1–2 Types of Oracle Collaboration Suite Installations

1.7.1 Basic Installation

Also known as One-click installation, this installation method enables you to quickly install Oracle Collaboration Suite with minimal inputs.

To complete a Basic installation, you must specify the following information:

- **Installation Directory**

Specify the full path to the directory where you want to install the software (the Oracle home directory).

- **Password**

Specify a common password for the administrative accounts (schema). The password must have a minimum of five alphanumeric characters and at least one

of the characters must be a number. Also, the password can not start with dollar sign (\$), underscore (_), number sign (#), or a number.

You must reenter the password that you specified previously to confirm that it is correct.

- Components that you must select

Click **Select Components** to display the Select Components to Configure screen.

By Default, All Oracle Collaboration Suite components are selected for configuration during an installation. However, you might have one or more components installed on another Oracle Collaboration Suite Applications tier. Or, you may choose not to use some components at all. Deselect any components that you do not want to configure on this Applications tier.

- **Set Languages**

Click **Set Languages** to display the Language Selection screen.

The default language selected in the Selected Languages list is English. However if the language of the operating system of the computer on which you are installing Oracle Collaboration Suite is not English, then that language will also be automatically added to Selected Languages list. As a result, two languages, English and the locale language of your operating system, will be installed as a part of the basic Oracle Collaboration Suite installation.

If you want to install any other languages, ensure that the required languages are added to the Selected Languages list.

During the Basic installation uses the following *defaulted* variables and values:

- Oracle Home name

If there are no Oracle homes already present on the computer where you are installing Oracle Collaboration Suite, then the default value used is OCS_home.

If there is an Oracle home already present on the computer where you are installing Oracle Collaboration Suite, then a new unique value, such as OCS_home1, OCS_home2, ...OCS_homen, which does not exist, is computed.

- Database SID

If there are no database SIDs already present on the computer where you are installing Oracle Collaboration Suite, then the default value used is ocldb.

If there is a database SID already present on the computer where you are installing Oracle Collaboration Suite, then a new unique value, such as ocldb1, ocldb2, ...ocbdbn, which does not exist, is computed.

Note: For Advanced installation, if there are no database SIDs already present on the computer where you are installing Oracle Collaboration Suite, then the default value used is orcl.

If there is a database SID already present on the computer where you are installing Oracle Collaboration Suite, then a new unique value, such as orcl1, orcl2, ...orcln, which does not exist, is computed.

- Configured components

By default, all the components of the Applications tier are selected. However, you can change this by using the Select Components to Configure screen.

- Product Languages

By default, the language is set to English and if the locale language of the operating system of the computer on which you are installing Oracle Collaboration Suite is not English, then this locale language is also defaulted.

During the Basic installation uses the following *computed* variables and values:

- From location

The "From" location is computed to the `install_path/stage/products.xml`. The `install_path` is the directory where `runInstaller` is located.

- Mount point

The value of mount point is computed to `$ORACLE_BASE/oradata`.

For example, if the Oracle home for the Infrastructure installation is `/private/ocs/infra`, then the mount point location will be computed to `/private/ocs/oradata`.

- E-mail domain

The value is computed to the domain name of the computer, such as `us.oracle.com`. The domain name of the computer is determined and is assigned as the e-mail domain.

If the domain name has the occurrences of "-", then it is automatically changed to "_".

- Global database name

The value is computed to `Database_SID.Email_Domain`. For example, `ocsdب.us.oracle.com`.

Note: For Advanced installation, the value is computed to `Database_SID.Email_Domain`. For example, `orcl.us.oracle.com`.

If the domain name has the occurrences of "-", then it is automatically changed to "_".

- Identity Admin context

The value is computed to period-separated values from the e-mail domain. For example, `dc=us,dc=oracle,dc=com`.

- Operators group

The value is computed to the first group available to the user.

- dba group

The value is computed to the same as the operators group.

1.7.2 Advanced Installation

This installation method enables you to complete any of the following tasks:

- Perform a custom software installation or choose a different database configuration.
- Select an installation type.

- Install Oracle Collaboration Suite Applications components of your choice.
- Enables you to install Oracle Collaboration Suite in an existing database.
- Select different product languages.
- Specify different passwords for all schemas.

Advanced installation can be of the following types:

- [Section 1.7.2.1, "Oracle Collaboration Suite Infrastructure Installation"](#)
- [Section 1.7.2.2, "Oracle Collaboration Suite Applications Installation"](#)
- [Section 1.7.2.3, "Oracle Collaboration Suite Infrastructure and Applications Installation"](#)

1.7.2.1 Oracle Collaboration Suite Infrastructure Installation

This Infrastructure installation type offers the following choices for Infrastructure installation:

- Identity Management-only installation
- Oracle Collaboration Suite Database-only installation
- Identity Management and Oracle Collaboration Suite Database installation
- Enable existing Oracle 10g Database to Oracle Collaboration Suite installation

Refer to [Chapter 4](#) for more information on Oracle Collaboration Suite Infrastructure installation.

1.7.2.2 Oracle Collaboration Suite Applications Installation

This installation type enables you to install a new Applications tier against an existing Identity Management and Oracle Collaboration Suite Database.

Refer to [Chapter 8](#) for more information on Oracle Collaboration Suite Applications installation.

1.7.2.3 Oracle Collaboration Suite Infrastructure and Applications Installation

This installation type enables you to install an instance of Oracle Collaboration Suite Infrastructure and Oracle Collaboration Suite Applications on a single computer.

Refer to [Chapter 9](#) for more information on Oracle Collaboration Suite Infrastructure and Oracle Collaboration Suite Applications installation on one computer.

1.8 Installing Support for Additional Languages

By default, the installer installs Oracle Collaboration Suite with text in English and in the operating system language. To install support for additional languages, select the required language or languages from the **Available Languages** list and add them to the **Selected Languages** list on the Language Selection screen.

Selection of additional languages is also possible when you choose the Basic installation mode. Click **Set Languages** to display the Language Selection screen. Refer to [Section 1.7.1](#) for detailed information on Basic installation mode.

Note: You cannot install support for additional languages after installation. You must install support for additional languages during the installation.

If you run Oracle Collaboration Suite in an environment that uses a language that you did not install, then the user interface may display text in that language or in English. It may also display square boxes, which are caused by missing fonts, instead of text.

Note: If you want to install Oracle Collaboration Suite in a language other than English, then you must set the NLS_LANG and LANG variables to the appropriate language.

To set the NLS_LANG variable:

- In Bourne and compatible shells:

```
NLS_LANG=JAPANESE_JAPAN.JA16EUC; export NLS_LANG
```
- In C Shell:

```
setenv NLS_LANG JAPANESE_JAPAN.JA16EUC
```

To set the LANG variable:

- In Bourne and compatible shells:

```
LANG=ja_JP.EUC; export LANG
```
 - In C Shell:

```
setenv LANG ja_JP.EUC
```
-

1.9 Oracle Collaboration Suite Instances and Instance Names

When you install Infrastructure or Applications, an instance of Oracle Collaboration Suite is created. During the installation, the installer prompts you to provide a name for the Oracle Collaboration Suite instance. For example, you can name the instance `infrainstance`. This name can be different from the Oracle home name. You cannot change the instance name after installation.

Oracle Collaboration Suite appends the host name and domain name to the given instance name to form a complete instance name. For example, if you are installing an instance on a computer named `c1`, and you name the instance `infra1`, then the full name of the instance is `infra1.c1.mydomain.com`, assuming the domain name is `mydomain.com`.

Valid characters in instance names can only consist of:

- Alphanumeric characters (A to Z, a to z, 0 to 9)
- The underscore (`_`)
- The dollar sign (`$`)

There is no restriction for the length of instance names.

1.9.1 How Oracle Collaboration Suite Uses Instance Names

Instance names are important because Oracle Collaboration Suite uses them to uniquely identify instances. So, if you install multiple Oracle Collaboration Suite instances on the same computer (for example, an Infrastructure instance and an Applications instance), you must give them different names.

When you administer Oracle Collaboration Suite using Oracle Enterprise Manager, the instance name appears on the screens. Oracle Enterprise Manager Configuration for Oracle Collaboration Suite is a browser-based administration tool for Oracle Collaboration Suite. You can click the instance name to see details about the instance,

such as the components that are installed in that instance, whether the components are running or stopped, and the log files for the components.

Some `dcmctl` commands require an instance name as a parameter. `dcmctl` is a command-line tool for administering Oracle Collaboration Suite instances.

See Also: *Distributed Configuration Management Administrator's Guide* for more details about `dcmctl`

1.10 The ias_admin User and Restrictions on Its Password

The installer prompts you to specify the password for the `ias_admin` user. The `ias_admin` user is the administrative user for Oracle Collaboration Suite instances. To manage Oracle Collaboration Suite Infrastructure instances using Application Server Control, you log in as `ias_admin`.

Note: To manage the Applications tier instances, you must use Application Server Control for Collaboration Suite.

You can install multiple Oracle Collaboration Suite instances on a given computer with a unique name for each instance, but the name of the administrative user is `ias_admin` for all instances. The password for the `ias_admin` user can be different for each instance.

The password for the `ias_admin` user must conform to the password policy of Oracle Internet Directory:

- If you are using the version of Oracle Internet Directory that is shipped with this release of Oracle Collaboration Suite and you did not change the default password policy, then passwords have the following restrictions:
 - The minimum length must be five alphanumeric characters.
 - At least one of the characters must be a number.
- If you are using any other version of Oracle Internet Directory (for example, you are using an existing Oracle Internet Directory), then your Oracle Internet Directory administrator might have defined a different password policy. The password you enter for the `ias_admin` user must conform to the password policy of the existing Oracle Internet Directory.
- In addition to the password policy defined in Oracle Internet Directory, the password for the `ias_admin` user:
 - Must be shorter than 30 characters
 - Can contain only alphanumeric characters from the Database character set, the underscore (`_`), the dollar sign (`$`), and the number sign (`#`)
 - Must begin with an alphabetic character
 - Cannot be Oracle reserved words

Oracle Database SQL Reference lists the reserved words. To refer to the guide, visit Oracle Technology Network at

<http://www.oracle.com/technology/documentation>

Alternatively, avoid using words that sound like they might be reserved words.

Remember the password, because you must enter it in the following cases:

- When you log on to Application Server Control to manage Oracle Collaboration Suite Infrastructure, you log on as the `ias_admin` user.
- When you expand the **Applications tier** by installing more components in Oracle home, you must enter the existing password during the installation.

If you forget the password, you can reset it.

See Also: *Oracle Collaboration Suite Administrator's Guide* for more details on resetting the `ias_admin` password

1.11 Where Does the Installer Write Files?

The installer writes files to the directories listed in [Table 1-1](#).

Table 1-1 Directories in Which the Installer Writes Files

Directory	Description
Oracle home	This directory contains Oracle Collaboration Suite files. You specify this directory during installation.
Inventory	When you install the first Oracle product on a computer, you specify this directory. The installer uses this directory to keep track of Oracle products that are installed on the computer. In subsequent installations, the installer uses the same inventory directory.
/etc	This directory contains information about locations of Oracle homes on the computer. If you installed Oracle9iAS Release 2 (9.0.2) on your computer, then this directory also contains files that provide information for Oracle Enterprise Manager.
/tmp	The installer writes files needed during installation to a temporary directory. By default, the temporary directory is <code>/tmp</code> . To specify a different directory, set the <code>TMP</code> environment variable. Refer to Table 2.7.6 for more information about setting a different temp directory.

1.12 Why Do I Need to Log In as root at Certain Times During Installation?

At least once during installation, the installer prompts you to log in as the `root` user and run a script. You must be the `root` user because the script needs to write to files and directories not owned by the `oracle` user or any other user installing the product.

1.13 Running root.sh During Installation

The installer prompts you to run the `root.sh` script in a separate window. This script creates files in the local `bin` directory, which is `/usr/local/bin`, by default.

If the script finds files of the same name, it prompts you to overwrite the existing files. You should first back up these files, which you can do from another window, and then overwrite them.

1.14 Connecting to Oracle Internet Directory Through SSL

By default, SSL is disabled when you install Oracle Collaboration Suite. However, when you install Infrastructure or Applications, you can specify that Applications must connect to Oracle Internet Directory only through Secure Sockets Layer (SSL) connections. On screens where you specify the host name and port for Oracle Internet Directory, you can select the **Use Only SSL Connections with This Oracle Internet Directory** check box.

See Also: *Oracle HTTP Server Administrator's Guide*

Preparing to Install Oracle Collaboration Suite

Before installing Oracle Collaboration Suite, ensure that your computer meets the requirements described in this chapter.

This chapter contains the following sections:

- [Section 2.1, "Hardware Requirements"](#)
- [Section 2.2, "Software Requirements"](#)
- [Section 2.3, "Kernel Parameters"](#)
- [Section 2.4, "Ports"](#)
- [Section 2.5, "Operating System Groups"](#)
- [Section 2.6, "Operating System User"](#)
- [Section 2.7, "Environment Variables"](#)
- [Section 2.8, "The /etc/hosts File"](#)
- [Section 2.9, "Network Topics"](#)
- [Section 2.10, "Prerequisite Checks Performed by the Installer"](#)

Note: To view updated certification information refer to the *OracleMetaLink* site at

<http://metalink.oracle.com>

2.1 Hardware Requirements

This section lists the hardware configurations required to install Oracle Collaboration Suite.

[Table 2-1](#) lists the system requirements for running Oracle Collaboration Suite.

The installer checks these requirements at the start of the installation process and warns you if any of these requirements are not met. Therefore, to save time, you can manually check only the remaining requirements.

You can also run the system checks performed by the installer without doing an installation by running the following command, where the `runInstaller` executable is on the Oracle Collaboration Suite DVD.

```
# mount_point/runInstaller -executeSysPrereqs
```

The results are displayed on the screen as well as written to a log file. For more information about the subset of checks performed, refer to [Section 2.10](#).

Table 2–1 Hardware Requirements for Linux Systems

Item	Minimum Requirement	Checked by Installer
Processor speed	450 MHz or faster	Yes
Network	You can install Oracle Collaboration Suite on a "standalone" computer that is not connected to a network. If you later change the network configuration, refer to the <i>Oracle Collaboration Suite Administrator's Guide</i> for information on reconfiguring Oracle Collaboration Suite.	No
IP	The IP address of a computer can be static or allocated using DHCP. If you later change the IP configuration, refer to the <i>Oracle Collaboration Suite Administrator's Guide</i> for information on reconfiguring Oracle Collaboration Suite.	No
Memory	The installer checks the amount of memory on your computer and will not let you proceed if your computer does not meet the following minimum memory requirements: Oracle Collaboration Suite 10g Infrastructure: 1 gigabyte (GB) Oracle Collaboration Suite 10g Applications: 1 GB Oracle Collaboration Suite 10g Database: 1 GB Note: For Oracle Collaboration Suite Infrastructure and Applications installation on a single computer, 2 GB or more is recommended. To determine the amount of memory, enter the following command: <pre># grep MemTotal /proc/meminfo</pre> These values assume you are running only one Oracle Collaboration Suite instance for each computer. The memory requirements provided for the various installation types represents enough physical memory to install and run Oracle Collaboration Suite. However, for most production sites, you should configure at least 2 GB of physical memory. For sites with substantial traffic, increasing the amount of memory further may improve your performance. To determine the optimal amount of memory for your installation, you should load test your site. Resource requirements can vary substantially for different applications and different usage patterns. In addition, some operating system utilities for monitoring memory can overstate memory usage (partially because of the representation of shared memory). The preferred method for determining memory requirements is to monitor the improvement in performance resulting from the addition of physical memory in the load test. Refer to your platform vendor documentation for information on how to configure memory and processor resources for testing purposes.	Yes

Table 2–1 (Cont.) Hardware Requirements for Linux Systems

Item	Minimum Requirement	Checked by Installer
Disk space	The installer may display inaccurate disk space requirement figures. The disk space requirements are: Oracle Collaboration Suite 10g Infrastructure: 8 GB Oracle Collaboration Suite 10g Applications: 5 GB Oracle Collaboration Suite 10g Database: 5.4 GB To determine the amount of free disk space, use the <code>df</code> command: <pre># df -k dir</pre> Replace <i>dir</i> with the Oracle home directory or with the parent directory if the Oracle home directory does not exist yet. For example, if you plan to install Oracle Collaboration Suite in <code>/private/oracle/infra</code>, replace <i>dir</i> with <code>/private/oracle</code> or <code>/private/oracle/infra</code>.	No
Space in <code>/tmp</code> directory	250 MB To determine the amount of free disk space in the <code>/tmp</code> directory, use the <code>df</code> command: <pre># df -k /tmp</pre> If the <code>/tmp</code> directory does not have enough free space, you can specify a different directory by setting the <code>TMP</code> environment variable. Refer to Section 2.7.6 for details.	Yes
Swap space	1.5 GB of available swap space To determine the amount of available swap space, enter the following command: <pre># grep SwapTotal /proc/meminfo</pre> If necessary, refer to your operating system documentation for information on how to configure additional swap space.	Yes
Monitor	256 color display To determine the display capabilities of your monitor, enter the following command: <pre># /usr/X11R6/bin/xdpyinfo</pre> Look for the "depths" line. You need a depth of at least 8 bits for each pixel.	Yes

2.1.1 Considerations for Real-Time Collaboration

The Oracle Real-Time Collaboration components perform load balancing as they handle communications between clients and servers. The Redirector determines which multiplexer or communication manager processes are available as it routes requests from clients. The multiplexer determines which Web Conferencing Server processes are available as it routes communications from and to the Web Conferencing clients.

You may also choose to use a Load Balancer to manage processes handled by your Oracle mid-tier servers. If so, then keep these considerations in mind:

- All systems behind the load balancer should have intranet-routable IP addresses and must be directly accessible from the Internet at least on the standard HTTP and HTTPS ports (80 and 443).

- If you use geographic load balancers – that is, load balancers to separate loads between geographic locations – then you must create Oracle Real-Time Collaboration clusters to partition the system based on geographical distribution.

Note: Oracle Messenger also uses ports 5222 and 5223 which in some cases must be open to the Internet.

2.1.2 Tips for Reducing Memory Usage

To reduce memory consumption:

- Configure only the components that you need.
- After installation, start only the components that you need. Refer to the *Oracle Collaboration Suite Administrator's Guide* for details.

2.2 Software Requirements

The installer also checks that your computer contains the required operating system patches. If it determines that some required patches are missing, it displays an error.

In addition to the software requirements for the computer, you must have a compatible browser.

The following browsers are supported:

- Netscape 7.1, 7.2 and later
- Mozilla 1.5 and later. You can download Mozilla from <http://www.mozilla.org>

Note that Firefox, the standalone Mozilla browser, is not certified at the time of publication.

- Safari 1.2 on Apple Macintosh computers

Note: For the most current list of supported operating system-specific software, operating system version, and certified browsers, check Oracle *MetaLink* at <http://metalink.oracle.com>

Depending on your distribution of Linux, refer to one of the following sections for information on checking the software requirements:

- [Section 2.2.1, "Software Requirements for Red Hat Enterprise Linux AS/ES 3.0 Systems"](#)
- [Section 2.2.2, "Software Requirements for Red Hat Enterprise Linux AS/ES 4.0 Systems"](#)
- [Section 2.2.3, "Software Requirements for SUSE Linux Enterprise Server 8 Systems"](#)
- [Section 2.2.4, "Software Requirements for SUSE Linux Enterprise Server 9 Systems"](#)

Oracle does not support customized kernels or modules not supported by the Linux vendor.

You can install Oracle Collaboration Suite 10g Release 1 (10.1.1.0.2) on a Linux system that is not on a network as well as on a Linux system that is configured to use DHCP. To install Oracle Collaboration Suite on a computer that is not on a network you must configure the computer to use either a static IP address or a loopback IP address. You should also configure the computer to resolve the host name of the computer to either the static IP address or the loopback IP address.

2.2.1 Software Requirements for Red Hat Enterprise Linux AS/ES 3.0 Systems

Table 2–2 lists the software requirements for Red Hat 3.0 systems and the procedure that follows the table describes how to ensure your system meets these requirements and any additional requirements for installing Oracle Collaboration Suite.

Table 2–2 Software Requirements for Red Hat Enterprise Linux AS/ES 3.0 Systems

Item	Requirement
Operating System	Red Hat Enterprise Linux AS/ES 3.0 For more information on Red Hat, refer to: http://www.redhat.com The minimum supported kernel and glibc versions are: ■ kernel-2.4.21-27.EL ■ kernel-smp-2.4.21-27.EL ■ kernel-hugemem-2.4.21-27.EL
Red Hat Update	Update 4
Software packages (check that these versions or later versions are installed)	glibc-2.3.2-95.30 glibc-common-2.3.2-95.30 binutils-2.14.90.0.4-35 compat-db-4.0.14-5.1 compat-glibc-7.x-2.2.4.32.6 compat-libstdc++-7.3-2.96.128 compat-libstdc++-devel-7.3-2.96.128 gcc-3.2.3-47 gcc-c++-3.2.3-47 libstdc++-3.2.3-47 libstdc++-devel-3.2.3-47 openmotif21-2.1.30-8 pdksh-5.2.14-21 setarch-1.3-1 make-3.79.1-17 gnome-libs-1.4.1.2.90-34.2 sysstat-5.0.5-5.rhel3 Note: For Red Hat 3.0, the equivalent version of openmotif 2.1.30-8 is openmotif21-2.1.30-8. The openmotif21-2.1.30-8 package can be installed from disk number 3 of the Red Hat Enterprise Linux AS/ES 3.0 distribution by entering: <pre>\$ rpm -ivh openmotif21-2.1.30-8</pre>

To ensure that the system meets all the requirements, follow these steps:

1. Log in as the root user.
2. To determine which distribution and version of Linux is installed, enter the following command:

```
# cat /etc/redhat-release
Red Hat Enterprise Linux AS release 3 (Taroon Update 4)
```

You can also use the preceding command to check that Update 4 is installed

- 3. To determine whether any other package is installed, enter a command similar to the following:

```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```

- 4. If the hugemem kernel is used, set the architecture using following command:

```
# setarch i386
```

The hugemem kernel is used in case if you are installing the software on a multiprocessor computer with more then 4 GB of main memory. This is because some applications and programs, such as older versions of Java, cannot deal with userspace of 3 GB. Using this kernel enables Red Hat Enterprise Linux AS/ES 3.0 to run on systems with up to 64 GB of main memory.

Setting the architecture to `i386`, by using the `setarch` command, restricts the userspace to only 3 GB in size, which is compatible with the `smp` and `uniprocessor` kernels.

You can determine if you are using the hugemem kernel, by using the following command:

```
uname -r
2.6.9-5.0.3.ELhugemem
```

2.2.2 Software Requirements for Red Hat Enterprise Linux AS/ES 4.0 Systems

Table 2–3 lists the software requirements for Red Hat 4.0 systems and the procedure that follows the table describes how to ensure your system meets these requirements and any additional requirements for installing Oracle Collaboration Suite.

This

Table 2–3 Software Requirements for Red Hat Enterprise Linux AS/ES 4.0 Systems

Item	Requirement
Operating System	Red Hat Enterprise Linux AS/ES 4.0 For more information on Red Hat, refer to: http://www.redhat.com The minimum supported kernel and glibc versions are: - kernel-2.6.9-11.EL - kernel-smp-2.6.9-11.EL - kernel-hugemem-2.6.9-11.EL
Red Hat Update	Update 1

Table 2–3 (Cont.) Software Requirements for Red Hat Enterprise Linux AS/ES 4.0

Item	Requirement
Software packages (check that these versions or later versions are installed)	glibc-2.3.4-2.9 glibc-common-2.3.4-2.9 binutils-2.15.92.0.2-13 compat-db-4.1.25-9 compat-glibc-2.3.2-95.30 compat-libstdc++-7-3-2.96.28 compat-libstdc++-devel-7-3-2.96.28 gcc-3.4.3-22.1 gcc-c++-3.4.3-22.1 libstdc++-3.4.3-22.1 libstdc++-devel-3.4.3-22.1 openmotif21-2.1.30-11.RHEL4.4 pdksh-5.2.14-30 setarch-1.6-1 make-3.80-5 gnome-libs-1.4.1.2.90-44.1 sysstat-5.0.5-1 Note: The openmotif21-2.1.30-11.RHEL4.4 package can be installed from disk number 3 of the Red Hat Enterprise Linux AS/ES 4.0 distribution by entering: <pre>\$ rpm -ivh openmotif21-2.1.30-11.RHEL4.4</pre>

To ensure that the system meets all the requirements, follow these steps:

1. Log in as the root user.
2. To determine which distribution and version of Linux is installed, enter the following command:

```
# cat /etc/redhat-release
Red Hat Enterprise Linux AS release 4 (Nahant Update 1)
```

You can also use the preceding command to check that Update 4 is installed

3. To determine whether any other package is installed, enter a command similar to the following:

```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```

4. If the hugemem kernel is used, set the architecture using following command:

```
# setarch i386
```

The hugemem kernel is used in case if you are installing the software on a multiprocessor computer with more than 4 GB of main memory. This is because some applications and programs, such as older versions of Java, cannot deal with userspace of 3 GB. Using this kernel enables Red Hat Enterprise Linux AS/ES 3.0 to run on systems with up to 64 GB of main memory.

Setting the architecture to i386, by using the setarch command, restricts the userspace to only 3 GB in size, which is compatible with the smp and uniprocessor kernels.

You can determine if you are using the hugemem kernel, by using the following command:

```
uname -r
2.6.9-5.0.3.ELhugemem
```

2.2.3 Software Requirements for SUSE Linux Enterprise Server 8 Systems

Table 2–4 lists the software requirements for SUSE Linux Enterprise Server 8 Systems and the procedure that follows the table describes how to ensure your system meets these requirements and any additional requirements for installing Oracle Collaboration Suite.

Note: For the most current list of supported Operating System specific software, for example JDK version, Operating System version, check OracleMetaLink at

<http://www.metalink.com>

Table 2–4 Software Requirements for SUSE Linux Enterprise Server 8 Systems

Item	Requirement
Operating System	SUSE Linux Enterprise Server 8 For more information on SUSE Linux, refer to: http://www.suse.com SP3 is certified for Oracle Collaboration Suite 10g Release 1 (10.1.1.0.2). For SUSE Linux Enterprise Server 8 SP3, the minimum supported kernel and glibc versions are: ■ k_smp-2.4.21-138 ■ k_deflt-2.4.21-138 ■ k_psmtp-2.4.21-138
Software packages (check that these versions or later versions are installed)	glibc-2.2.2-124 gcc-3.2.2-38 gcc-c++-3.2.2-38 pdcksh-5.2.14 openmotif-2.1.30MLI4 sysstat-4.0.3 libstdc++-3.2.2 make-3.79.1-407 binutils-2.12.90.0.15-50

To ensure that the system meets all the requirements, follow these steps:

1. Log in as the root user.
2. To determine which distribution and version of Linux is installed, enter the following command:

```
# cat /etc/issue
Welcome to SUSE Linux Enterprise Server 8 (i586) - Kernel \r (\l)
```

3. To determine the service pack version, enter the following command:

```
# rpm -qf /boot/vmlinuz
```


If the kernel version contains the string 2.4.19, SP2a is installed. Similarly, if the kernel version contains the string 2.4.21, SP3 is installed.

4. To determine whether any other package is installed, enter a command similar to the following:

```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```

5. Create the following symbolic link for the Perl executable if it does not already exist:

```
# ln -sf /usr/bin/perl /usr/local/bin/perl
```

6. Create the following symbolic link for the fuser executable if it does not already exist:

```
# ln -sf /bin/fuser /sbin/fuser
```

7. If the `oracrun` package was installed on a SUSE Linux Enterprise Server system, complete the following steps as the `oracle` user to reset the environment:

- a. Enter the following commands:

```
# cd /etc/profile.d
# mv oracle.csh oracle.csh.bak
# mv oracle.sh oracle.sh.bak
# mv alljava.sh alljava.sh.bak
# mv alljava.csh alljava.csh.bak
```

- b. Use any text editor to convert the following line from the `$HOME/.profile` file in to a comment:

```
. ./oracle
```

- c. Log out of the `oracle` user account.

- d. Log in to the `oracle` user account for the changes to take effect.

8. If any Java packages are installed on the system, unset the Java environment variables, for example `JAVA_HOME`.

Note: Oracle recommends that you do not install any of the Java packages supplied with the SUSE Linux Enterprise Server distribution.

9. Check the `/etc/services` file to make sure that the following port ranges are available on the system:

- ports 3060-3129 required for Oracle Internet Directory
- ports 3130-3199 required for Oracle Internet Directory (SSL)
- ports 1812-1829 required for Oracle Enterprise Manager (console)
- ports 1830-1849 required for Oracle Enterprise Manager (agent)
- ports 1850-1869 required for Oracle Enterprise Manager (RMI)

If necessary, remove entries from the `/etc/services` file and restart the system. To remove the entries, you can use the perl script included with the patch 3167528. This patch is available from

<http://www.metalink.com>

If these ports are not available, the associated configuration assistants will fail during the installation.

10. If you use Network Information Service (NIS):

- a.** Make sure that the following line exists in the `/etc/yp.conf` file:

```
hostname.domainname broadcast
```

- b.** Make sure that the following line exists in the `/etc/nsswitch.conf` file:

```
hosts: files nis dns
```

2.2.4 Software Requirements for SUSE Linux Enterprise Server 9 Systems

Table 2–5 lists the software requirements for SUSE Linux Enterprise Server 9 Systems and the procedure that follows the table describes how to ensure your system meets these requirements and any additional Link requirements for installing Oracle Collaboration Suite.

Note: For the most current list of supported Operating System specific software, for example JDK version, Operating System version, check OracleMetaLink at

<http://www.metalink.com>

Table 2–5 *Software Requirements for SUSE Linux Enterprise Server 9 Systems*

Item	Requirement
Operating System	SUSE Linux Enterprise Server 9 For more information on SUSE Linux, refer to: http://www.suse.com For SUSE Linux Enterprise Server 9 SP3, the minimum supported kernel and glibc versions are: ■ kernel-bigsmpt-2.6.5-7.97 ■ kernel-default-2.6.5-7.97 ■ kernel-smp-2.6.5-7.97
Software packages (check that these versions or later versions are installed)	gcc-3.3.3-43.24 gcc-c++-3.3.3-43.24 glibc-2.3.3-98.28 libstdc++-3.3.3-43.24 libstdc++-devel-3.3.3-43.24 openmotif21-libs-2.1.30MLI4-119.1 pdksh-5.2.14-780.1 make-3.80-184.1 gnome-libs-1.4.1.7-671.1 gnome-libs-devel-1.4.1.7-671.1 sysstat-5.0.1-35.1 binutils-2.15.90.0.1.1-32.5

To ensure that the system meets all the requirements, follow these steps:

1. Log in as the `root` user.
2. To determine which distribution and version of Linux is installed, enter the following command:


```
# cat /etc/issue
Welcome to SUSE Linux Enterprise Server 9.0 (i586) - Kernel \r (\l)
```
3. To determine the kernel version, enter the following command:


```
# uname -r
kernel-bigsm-2.6.5-7.97
```
4. To determine whether any other package is installed, enter a command similar to the following:


```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```
5. Create the following symbolic link for the Perl executable if it does not already exist:


```
# ln -sf /usr/bin/perl /usr/local/bin/perl
```
6. Create the following symbolic link for the `fuser` executable if it does not already exist:


```
# ln -sf /bin/fuser /sbin/fuser
```
7. If the `oracrun` package was installed on a SUSE Linux Enterprise Server system, complete the following steps as the `oracle` user to reset the environment:
 - a. Enter the following commands:


```
# cd /etc/profile.d
# mv oracle.csh oracle.csh.bak
# mv oracle.sh oracle.sh.bak
# mv alljava.sh alljava.sh.bak
# mv alljava.csh alljava.csh.bak
```
 - b. Use any text editor to convert the following line from the `$HOME/.profile` file in to a comment:


```
. ~/.oracle
```
 - c. Log out of the `oracle` user account.
 - d. Log in to the `oracle` user account for the changes to take effect.
8. If any Java packages are installed on the system, unset the Java environment variables, for example `JAVA_HOME`.

Note: Oracle recommends that you do not install any of the Java packages supplied with the SUSE Linux Enterprise Server distribution.

9. Check the `/etc/services` file to make sure that the following port ranges are available on the system:

- ports 3060-3129 required for Oracle Internet Directory
- ports 3130-3199 required for Oracle Internet Directory (SSL)
- ports 1812-1829 required for Oracle Enterprise Manager (console)
- ports 1830-1849 required for Oracle Enterprise Manager (agent)
- ports 1850-1869 required for Oracle Enterprise Manager (RMI)

If necessary, remove entries from the `/etc/services` file and restart the system. To remove the entries, you can use the perl script included with the patch 3167528. This patch is available from:

```
. ./oracle
```

If these ports are not available, the associated configuration assistants will fail during the installation.

10. If you use Network Information Service (NIS):

- a. Make sure that the following line exists in the `/etc/yp.conf` file:

```
hostname.domainname broadcast
```

- b. Make sure that the following line exists in the `/etc/nsswitch.conf` file:

```
hosts: files nis dns
```

2.3 Kernel Parameters

Oracle Collaboration Suite installation requires you to configure your system kernel parameters. Compliance with this requirement is especially important for production environments. Review your kernel parameter settings to ensure that they meet Oracle Collaboration Suite requirements.

Note:

- If the current value of any parameter is higher than the value listed in the table, then *do not* change the value of that parameter.
 - If the installer finds values that are different from the listed values, it displays a warning. You can continue the installation, but you may experience errors during installation or operational errors during run time.
-
-

[Table 2–6](#) shows the kernel parameters and their required minimum settings.

Table 2–6 Kernel Parameter Settings for Linux Systems

Kernel	Recommended Values	Definition	File
semmni	142	The maximum number of semaphore sets in the entire system.	/proc/sys/kernel/sem
semmns	32000	The maximum number of semaphores on the system. This setting is a minimum recommended value for an initial installation only. The <code>semmns</code> parameter should be set to the sum of the <code>initsid.ora PROCESSES</code> parameter for each Oracle Database, adding the largest one twice, and then adding an additional 10 for each database.	/proc/sys/kernel/sem
semopm	100	The maximum number of operations for each <code>semop</code> call.	/proc/sys/kernel/sem
semmsl	256	The minimum recommended number of semaphores for each id for an initial installation only. The <code>semmsl</code> parameter should be set to 10 plus the largest <code>initsid.ora PROCESSES</code> parameter of any Oracle Database on the system.	/proc/sys/kernel/sem
shmmax	2147483648	The maximum allowable size of one shared memory segment. It is 2 GB for SMP kernel. The recommended size is half the RAM size.	/proc/sys/kernel/shmmax
shmmni	4096	The maximum number of shared memory segments in the entire system.	/proc/sys/kernel/shmmni
shmall	3279547	The total amount of shared memory available.	/proc/sys/kernel/shmall
msgmni	2878	The number of message queue identifiers.	/proc/sys/kernel/msgmni
msgmax	8192	The maximum message size.	/proc/sys/kernel/msgmax
msgmnb	65535	The maximum number of bytes on the message queue.	/proc/sys/kernel/msgmnb
file-max	327679	The maximum number of files.	/proc/sys/fs/file-max
ip_local_port_range	1024 65000	The range of local IP ports.	/proc/sys/net/ipv4/ip_local_port_range

Note: The `semmns` parameter should be set to the sum of the `PROCESSES` initialization parameter for Oracle Database, adding the largest one twice, and then adding an additional 10 for each database.

To view the current value or formula specified for these kernel parameters, and to change them if necessary, complete the following steps:

1. Enter the commands similar to the following to view the current values of the kernel parameters:

Parameter	Command
semmns, semopm, and semmni	<pre>#/sbin/sysctl -a grep sem</pre> This command displays the value of the semaphore parameters in the order listed.

Parameter	Command
shmall, shmmax, and semmni	# /sbin/sysctl -a grep shm
msgmax, msgmnb, and msgmni	# /sbin/sysctl -a grep msg
file-max	# /sbin/sysctl -a grep file-max
ip_local_port_range	# /sbin/sysctl -a grep ip_local_port_range

2. If the value of any kernel parameter is different from the recommended value, then complete the following steps:

1. Login as root.
2. Using any text editor, create or edit the `/etc/sysctl.conf` file and add or edit the lines similar to the following:

```
kernel.shmall = 3279547
kernel.shmmax = 4294967295

kernel.shmmni = 4096
#semaphores: semmsl, semmns, semopm, semmni
kernel.sem = 256 32000 100 142
fs.file-max = 327679
net.ipv4.ip_local_port_range = 10000 65000
kernel.msgmni = 2878
kernel.msgmax = 8192
kernel.msgmnb = 65535
```

By specifying the values in the `/etc/sysctl.conf` file, the values persist when you restart the system.

3. Enter the following command to change the current values of the kernel parameters:

```
# /sbin/sysctl -p
```

Review the output from this command to verify that the values are correct. If the values are incorrect, then edit the `/etc/sysctl.conf` file, then enter this command again.

4. On SUSE Linux Enterprise Server only, enter the following command to cause the system to read the `/etc/sysctl.conf` file when it restarts:

```
# chkconfig boot.sysctl on
```

Setting Shell Limits for the oracle User

Note: Refer to [Section 2.6](#) for detailed information on creating an operating system user, such as `oracle`.

To improve the performance or the software on Linux systems, you must increase the following shell limits for the `oracle` account, depending on the default shell of the user:

Bourne or Bash Shell	Korn Shell Limit	C or tcsh Shell Limit	Hard Limit
nofile	nofile	descriptors	65536
nproc	processes	maxproc	16384

To increase the shell limits, complete the following steps:

1. Login as root.
2. Add the following lines to `/etc/security/limits.conf` file:

```
* soft nproc 4096
* hard nproc 16384
* soft nofile 16384
* hard nofile 65536
```

Note: If you are using secure shell (SSH) to login to the computer on which you are installing Oracle Collaboration Suite, then perform the following steps:

1. Edit the `/etc/ssh/sshd_config` file to reflect the following line:
`UsePrivilegeSeparation no.`
 2. Restart the sshd daemon using the following command:
`/sbin/service sshd restart`
-

3. Add the following lines to the `/etc/pam.d/login` file, if it does not already exist:

```
session required /lib/security/pam_limits.so
```

Note: Add the preceding line to the `/etc/pam.d/su` file also, if you use su to switch to the oracle account.

4. Depending on the default shell of oracle account, make the following changes to the default shell start-up file:

- For the Bourne, Bash, or Korn shell, add the following lines to the `/etc/profile` file:

```
if [ $USER = "oracle" ]; then
    if [ $SHELL = "/bin/ksh" ]; then
        ulimit -p 16384
        ulimit -n 65536
    else
        ulimit -u 16384 -n 65536
    fi
fi
```

- For the C or tch shell, add the following lines to the `/etc/csh.login` file:

```
if ( $USER == "oracle" ) then
    limit maxproc 16384
    limit descriptors 65536
endif
```

Determining the Minimum Value for the Process Parameter for the Oracle Collaboration Suite Database

The `processes` parameter for the Oracle Collaboration Suite Database must be the sum of all connections from *all* components of *all* Applications tiers, plus any processes used by other applications.

The default value of the `processes` parameter for the Oracle Collaboration Suite Database is 250. This value for each Applications tier installation is approximately calculated as follows:

- 38 for Oracle Mail (This includes Oracle Discussions, Oracle Web Access Client, and WebMail.)
- 37 for Oracle Real-Time Collaboration (This includes Oracle Messenger.)
- 28 for Oracle Mobile Collaboration
- 25 for Oracle Content Services
- 12 for Oracle Workflow
- 12 for OracleAS Portal
- 9 for Oracle Application Server Single Sign-On
- 5 for Oracle Internet Directory

Additionally, a value of approximately 40 is reserved for internal processes, bringing the total to approximately 200. Providing for additional buffer of 50, the default value is calculated to 250.

This number will be smaller if fewer components are configured. However, in a production environment the `processes` parameter for the Oracle Collaboration Suite Databases must be configured as the sum of the Database connections for each configured component, specific to each deployment.

For example, a deployment may have 3 Applications tiers running SMTP and IMAP. SMTP and IMAP on each Applications tier may be configured by the administrator with 100 database connections each. Therefore, for these processes, the Oracle Mail Database `processes` parameter *must be increased* by $2 \times 3 \times 100 = 600$ to ensure that the Database does not run out of processes.

Note: The optimum number of processes and maximum connections per component is a tuning exercise, performed as more information is learned about usage patterns of the system.

Determining the Minimum Value for the `semms` Parameter

If you are installing the Oracle Collaboration Suite Infrastructure on a computer that is not already running an Oracle Database (that is, the Infrastructure will be the only component running on the computer), then set the `semms` parameter to a minimum of 256.

If you are installing the Infrastructure on a computer that is already running an Oracle Database, then set the `semms` parameter to the sum of the `processes initialization` parameter for each Oracle Database (including the Infrastructure), then adding the largest value twice, and then adding an additional 10 for each database.

The default value of the `processes` parameter for the Oracle Collaboration Suite Database is 250.

Example: The computer is already running an Oracle Database, and its `processes` parameter is set at 250. In this case, you must set the `semms` parameter to at least 920, which is explained as follows:

- Sum of the `processes` parameter for all Oracle Databases: 250 for the existing Database + 150 for the Infrastructure that you are installing = 400
- Add the largest one twice: $250 + 250 = 500$
- Add 10 for each Database: $10 + 10 = 20$
- Total: $400 + 500 + 20 = 920$

To determine the value of the `processes` parameter for an Oracle Database, enter the following command in SQL*Plus:

```
# sqlplus "sys/password as sysdba"
SQL> show parameters processes
```

In the preceding syntax, *password* specifies the password for the SYS user.

2.4 Ports

Components of Oracle Collaboration Suite Infrastructure (such as Oracle HTTP Server, OracleAS Web Cache, and Oracle Enterprise Manager) and Oracle Collaboration Suite Applications use ports. You can have the installer assign default port numbers, or use port numbers that you specify, including the port numbers under 1024.

This section contains the following topics:

- [Section 2.4.1, "Checking If a Port Is in Use"](#)
- [Section 2.4.2, "Using Default Port Numbers"](#)
- [Section 2.4.3, "Using Custom Port Numbers \(The "Static Ports" File\)"](#)
- [Section 2.4.4, "Ports for Oracle HTTP Server and OracleAS Web Cache"](#)
- [Section 2.4.5, "If Port 1521 Is In Use"](#)

Why the Default Port for Oracle HTTP Server Is Port 7777 and Not Port 80

By default, the installer configures Oracle HTTP Server to use port 7777, not port 80. Port 7777 is the default port because on UNIX, components that use port numbers lower than 1024 require additional steps to be done as the `root` user before the components can run. Because the installer does not have `root` access, it must use a port greater than 1024.

If you want Oracle HTTP Server to use a different port, such as port 80, use the static ports feature, which enables you to specify port numbers for components. Although you can change the port number after installation, it is easier to set the port number during installation.

2.4.1 Checking If a Port Is in Use

To check if a port is being used, you can enter the `netstat` command to show the used port as follows:

```
# netstat -an | grep port_num
```

Note: You can also use the `/usr/sbin/lsof -i :port_num` command for the purpose.

In the preceding syntax, *port_num* refers to the port number you want to check.

2.4.2 Using Default Port Numbers

To use the default port numbers for components such as Oracle HTTP Server, OracleAS Web Cache, and Oracle Enterprise Manager, you do not have to do anything. Refer to [Appendix G](#) for a list of default port numbers that the installer will assign to components.

2.4.3 Using Custom Port Numbers (The "Static Ports" File)

Instead of using default ports, you can assign custom port numbers for Oracle Collaboration Suite components during the installation. For this, you must create a file containing the component names and port numbers. [Section 2.4.3.1](#) describes the file format. This file is typically called the `staticports.ini` file, but you can name it anything you want.

To instruct the installer to assign custom port numbers for components, you must specify the path to `staticports.ini` as a parameter to the `runInstaller` command as follows:

```
./runInstaller oracle.ocs.infrastructure:s_staticPorts=path_to_your_ini_file (for installing Oracle Collaboration Suite 10g Infrastructure)
```

```
./runInstaller oracle.ocs.midtier:s_staticPorts=path_to_your_ini_file (for installing Oracle Collaboration Suite 10g Applications)
```

```
./runInstaller oracle.ocs.onebox:s_staticPorts=path_to_your_ini_file (for installing Oracle Collaboration Suite 10g Applications and Infrastructure)
```

If you do not specify the full path to the file, the installer cannot find the file. The installer will then assign default ports for all the components, and it will do this without displaying any warning.

Note: If you specify custom port numbers using the `staticports.ini` file, then the installer will not show the Ports Configuration Options screen.

2.4.3.1 Format of the staticports.ini File

The `staticports.ini` file has the following format. Replace *port_num* with the port number that you want to use for the component.

```
# staticports.ini Template File

# This file is a template for specifying port numbers at installation time.
# To specify a port number, uncomment the appropriate line (remove #) and
# replace "port_num" with the desired port number.
# You can then launch Oracle Universal Installer with special options to use this
# file.
# Please refer to Oracle Collaboration Suite 10.1.1.0.2 Installation Guide for
# instructions.
```

```
# Ports common to Infrastructure and Applications install

# Oracle HTTP Server port = port_num
# Oracle HTTP Server Listen port = port_num
# Oracle HTTP Server SSL port = port_num
# Oracle HTTP Server Listen (SSL) port = port_num
# Oracle HTTP Server Diagnostic port = port_num
# ASG port = port_num
# Application Server Control port = port_num
# Application Server Control RMI port = port_num
# Java Object Cache port = port_num
# Log Loader port = port_num
# DCM Discovery port = port_num
# Oracle Notification Server Request port = port_num
# Oracle Notification Server Local port = port_num
# Oracle Notification Server Remote port = port_num
# Oracle Management Agent port = port_num

# Ports specific to Infrastructure install
# Oracle Internet Directory port = port_num
# Oracle Internet Directory (SSL) port = port_num
# Enterprise Manager Console HTTP port = port_num
# Enterprise Manager Agent port = port_num

# Ports specific to Applications install
# Web Cache HTTP Listen port = port_num
# Web Cache HTTP Listen (SSL) port = port_num
# Web Cache HTTP Administration port = port_num
# Web Cache Invalidation port = port_num
# Web Cache Statistics port = port_num
# Oracle Net Listener = port_num
# Oracle Mail IMAP4 port = port_num
# Oracle Mail IMAP4 Secure port = port_num
# Oracle Mail POP3 port = port_num
# Oracle Mail POP3 Secure port = port_num
# Oracle Mail SMTP port = port_num
# Oracle Mail NNTP port = port_num
# Oracle Mail NNTP Secure port = port_num
# Oracle Calendar server = port_num
# Oracle Calendar server manager (CSM) = port_num
# Wireless PIM Notification Dispatcher = port_num
# Wireless PIMAP UDC Dispatcher = port_num
# RTC Redirector Server port= port_num
# RTC Redirector MX port= port_num
# RTC Redirector XMPP port= port_num
# RTC Redirector Secure XMPP port= port_num
# RTC process monitor port = port_num
# RTC messenger director server first port = port_num
# RTC messenger director server second port = port_num
# RTC messenger multiuser chat port = port_num
# RTC messenger connection manager port = port_num
# RTC messenger statistics collection port = port_num
# RTC messenger server to server connection port = port_num
# RTC messenger group service port = port_num
# RTC messenger voice proxy port = port_num
```

Note: If you plan to install Oracle Collaboration Suite Infrastructure and Oracle Collaboration Suite Applications on a single computer, then you must use the `staticports.ini.onebox` template.

The easiest way to create the file is to use the `staticports.ini` file on the DVD as a template:

1. Copy the `staticports.ini` file from the DVD to your hard disk.

[Table 2-7](#) specifies the location of the `staticports.ini` file on DVD.

Table 2-7 Location of the `staticports.ini` File on DVD

Media	Location of <code>staticports.ini</code> File
DVD-ROM	Disk 1: <code>mount_point/response/staticports.ini</code>

2. Edit the local copy (the file on the hard disk) to include the desired port numbers.

You do not specify port numbers for all components in the `staticports.ini` file. If a component is not listed in the file, then the installer uses the default port number for that component.

You cannot change the port used by the Infrastructure Database listener (port 1521) during installation, but you can do so after installation.

The following example sets the Application Server Control port and some ports for the Web Cache. For components not specified, the installer will assign the default port numbers.

```
Application Server Control port = 2000
Web Cache Administration port = 2001
Web Cache Invalidation port = 2002
Web Cache Statistics port = 2003
```

When installation is complete, you can check the `ORACLE_HOME/install/portlist.ini` file to refer to the assigned ports.

Notes on Choosing Port Numbers:

- Port numbers cannot be greater than 65536.
 - If you use a port number less than 1024 for a component, you must run the component as the `root` user.
 - If you use a port number less than 1024 for a component, the installer cannot start the component at the end of installation. You may need to configure the component first before you can start it. Refer to the appropriate component documentation for details.
 - If you plan to set port numbers for Oracle HTTP Server and OracleAS Web Cache, be sure you read [Section 2.4.4](#).
-

The installer verifies that the ports specified in the file are available by checking memory. This means that it can only detect ports that are being used by running processes. It does not look in configuration files to determine which ports an application is using.

If the installer detects that a specified port is not available, it displays an alert. The installer will not assign a port that is not available. To fix this:

1. Edit the `staticports.ini` file to specify a different port, or shut down the application that is using the port.
2. Click **Retry**. The installer rereads the `staticports.ini` file and verifies the entries in the file again.

Tip: The `staticports.ini` file uses the same format as the `ORACLE_HOME/install/portlist.ini` file, which is created after an Oracle Collaboration Suite installation. If you have installed Oracle Collaboration Suite and you want to use the same port numbers in another installation, you can use the `portlist.ini` file from the first installation as the `staticports.ini` file for subsequent installations.

2.4.3.2 Error Conditions That Will Cause the Installer to Use Default Ports Instead of Specified Ports

Check your `staticports.ini` file carefully, because a mistake can cause the installer to use default ports without displaying any warning. Here are some things that you should check:

- If you specify the same port for more than one component, the installer will use the specified port for the first component, but for the other components, it will use the default ports of the components. The installer does not warn you if you have specified the same port for multiple components.
- If you have syntax errors in the `staticports.ini` file (for example, if you omitted the = character for a line), the installer ignores the line. For the components specified on such lines, the installer assigns the default ports. The installer does not display a warning for lines with syntax errors.
- If you misspell a component name, the installer assigns the default port for the component. Names of components in the file are case-sensitive. The installer does not display a warning for lines with unrecognized names.
- If you specify a nonnumeric value for the port number, the installer ignores the line and assigns the default port number for the component. It does this without displaying any warning.
- If you misspell the parameter on the command line, the installer does not display a warning. It continues and assigns default ports to all components.
- If you specify a relative path to the `staticports.ini` file (for example, `./staticports.ini` or just `staticports.ini`) on the command line, the installer will not find the file. The installer continues without displaying a warning and it will assign default ports to all components. You must specify a full path to the `staticports.ini` file.
- If the parameter you specify on the command line does not match the type of installation that you are performing (for example, if you specify the parameter for Applications but you are installing the Infrastructure), the installer does not give a warning. It continues and assigns default ports to all components.

2.4.4 Ports for Oracle HTTP Server and OracleAS Web Cache

Be sure you understand the following when setting ports for these components.

In the `httpd.conf` file for Oracle HTTP Server, the `Port` and the `Listen` directives specify the ports used by OracleAS Web Cache and Oracle HTTP Server, as shown in [Figure 2–1](#).

Figure 2–1 Configuring Both OracleAS Web Cache and Oracle HTTP Server

	Uses this directive in the <code>httpd.conf</code> file	Line in <code>staticports.ini</code> to set the value for the directive
OracleAS Web Cache	<code>Port</code>	Web Cache HTTP Listen port
Oracle HTTP Server	<code>Listen</code>	Oracle HTTP Server Listen port

1. Set the port for OracleAS Web Cache.

OracleAS Web Cache uses the port specified by the `Port` directive. To set this port, use this line in the `staticports.ini` file:

```
Web Cache HTTP Listen port = port_number
```

To configure the SSL port for OracleAS Web Cache, use the following line:

```
Web Cache HTTP Listen (SSL) port = port_number
```

You cannot set the port number using the `Oracle HTTP Server port` line in this case. If your `staticports.ini` file contains both `Oracle HTTP Server port` and `Web Cache HTTP Listen port`, the `Oracle HTTP Server port` line is ignored. For example, the `Port` directive would be set to 7979, if you had the following lines in `staticports.ini`:

```
Web Cache HTTP Listen port = 7979
Oracle HTTP Server port = 8080
```

2. Set the port for Oracle HTTP Server.

Oracle HTTP Server uses the port specified by the `Listen` directive. To set this port, use this line in the `staticports.ini` file:

```
Oracle HTTP Server Listen port = port_number
```

To configure the SSL Listen port, use the following line:

```
Oracle HTTP Server Listen (SSL) port = port_number
```

2.4.4.1 Examples That Use the `staticports.ini` File

This section describes some common scenarios for using `staticports.ini`.

- [Configuring Oracle HTTP Server to Use Ports 80 and 443 with OracleAS Web Cache as the Front End](#)
- [Configuring Oracle HTTP Server to Use Ports 80 and 443 without OracleAS Web Cache](#)

Configuring Oracle HTTP Server to Use Ports 80 and 443 with OracleAS Web Cache as the Front End

In this scenario, create a `staticports.ini` file that includes the following lines:

```
Web Cache HTTP Listen port = 80
Oracle HTTP Server Listen port = 81
```

```
Web Cache HTTP Listen (SSL) port = 443
Oracle HTTP Server Listen (SSL) port = 444
```

The ports for Oracle HTTP Server Listen and SSL Listen can be any available port. The example uses ports 81 and 444. These port numbers must not be less than 1024. If you select port numbers less than 1024, you must start Oracle HTTP Server and OracleAS Web Cache as the `root` user.

Note: Because you are using port numbers less than 1024, you must configure Oracle HTTP Server and OracleAS Web Cache to run as the `root` user. You can perform the configuration during installation or after installation.

- To perform the configuration during installation, you must follow the steps listed in [Section 4.4.4](#) after running `root.sh` but before clicking **OK**. You run `root.sh` near the end of the installation.
- You can perform the configuration after installation, but the installer will not be able to start the components because they are not yet configured.

For details, refer to the *Oracle HTTP Server Administrator's Guide* and the *Oracle Application Server Web Cache Administrator's Guide*.

Configuring Oracle HTTP Server to Use Ports 80 and 443 without OracleAS Web Cache

In this scenario, create a `staticports.ini` file that includes the following lines:

```
Oracle HTTP Server port = 80
Oracle HTTP Server Listen port = 80
Oracle HTTP Server SSL port = 443
Oracle HTTP Server Listen (SSL) port = 443
```

2.4.5 If Port 1521 Is In Use

If port 1521 on your computer is already in use by an existing application, such as Oracle Database 10g listener or some other application, you might have to take some action before running the installer. Refer to the following sections for details:

- [If Port 1521 Is Being Used by an Existing Oracle Database](#)
- [If Port 1521 Is Being Used by Some Other Application](#)

2.4.5.1 If Port 1521 Is Being Used by an Existing Oracle Database

If you are installing a new database for the Oracle Collaboration Suite Infrastructure on a computer that is already running an Oracle Database, ensure that the listeners for both databases do not conflict.

You might be able to use the same listener for both the existing Oracle Database and the Oracle Collaboration Suite Database. Consider the version of the existing listener as well as the port number. [Table 2–8](#) shows the various scenarios and the respective outcomes.

You can change the Infrastructure listener to use a different port after installation. Refer to the *Oracle Collaboration Suite Administrator's Guide* for details.

Table 2–8 Scenarios and Outcomes While Installing Infrastructure On a Computer Already Having a Database

Version of the Existing Listener	Existing Listener Uses Port 1521	Existing Listener Uses a Port Other Than 1521
Earlier than 10.1.0.2	You need two listeners: one for the existing Database and one for the Oracle Collaboration Suite Infrastructure. Refer to "Scenario 1: Existing Listener Uses Port 1521 and Listener Version Is Earlier Than 10.1.0.2" on page 2-24.	You need two listeners: one for the existing Database and one for the Oracle Collaboration Suite Infrastructure. Refer to "Scenario 3: Existing Listener Uses a Port Other Than 1521" on page 2-25.
10.1.0.2 or later	The existing listener supports both the existing Database and the Oracle Collaboration Suite Infrastructure. Refer to "Scenario 2: Existing Listener Uses Port 1521 and Listener Version Is 10.1.0.2 or Later" on page 2-25.	You need two listeners: one for the existing database and one for the Oracle Collaboration Suite Infrastructure. Refer to "Scenario 3: Existing Listener Uses a Port Other Than 1521" Part .

To check the listener version, enter the following command:

```
# $ORACLE_HOME/bin/lsnrctl VERSION
```

In this command, *ORACLE_HOME* is the home directory for your database.

You can also use the same command to check the listener port.

```
LSNRCTL for UNIX: Version 10.1.0.3.0 - Production on 31-AUG-2004 19:10:54
Copyright (c) 1991, 2004, Oracle Corporation. All rights reserved.
Connecting to
 (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=test-sun.us.oracle.com) (PORT=1521)))
TNSLSNR for UNIX: Version 10.1.0.3.0 - Production
TNS for UNIX: Version 10.1.0.3.0 - Production
Unix Domain Socket IPC NT Protocol Adaptor for UNIX: Version 10.1.0.3.0
-Production
Oracle Bequeath NT Protocol Adapter for UNIX: Version 10.1.0.3.0 -Production
```

Scenario 1: Existing Listener Uses Port 1521 and Listener Version Is Earlier Than 10.1.0.2

Listeners earlier than version 10.1.0.2 are not compatible with the Infrastructure from this Oracle Collaboration Suite release (10.1.1.0.2). What you can do is to install Infrastructure, which installs a version 10.1.0.3 listener, and use this new listener for both databases.

1. Stop the existing listener before you install Infrastructure.
ORACLE_HOME is the home directory for your existing database.
 If you do not stop the existing listener, the installation will fail.
2. Install Infrastructure.
3. Update the configuration file of the new listener, as necessary. The name of the listener configuration file is *listener.ora*, located in the *ORACLE_HOME/network/admin* directory.
 - a. Check network address entries in the configuration file of the existing listener.
 Does the configuration file contain only the following network addresses?
 - * TCP Port 1521
 - * IPC key EXTPROC

If so, you do not have to edit the configuration file of the Infrastructure listener for network addresses.

If the configuration file contains other network addresses, you must add them to the configuration file of the Infrastructure listener.

- b. Check SID_DESC entries in the configuration file of the existing listener.

If the configuration file of the existing listener contains SID_DESC entries for the existing database, you must add these entries to the configuration file of the Infrastructure listener.

- c. Do not start the existing listener (version earlier than 10.1.0.2). The new listener supports both databases, so you do not must run the existing listener.

Note: Step c in the preceding section is very important. You only must run one listener (the new listener) to support both databases.

Scenario 2: Existing Listener Uses Port 1521 and Listener Version Is 10.1.0.2 or Later

The existing listener will support both the existing database and the Infrastructure. The installer will perform this configuration automatically. You do not have to do anything.

The existing listener must be stopped during installation.

Scenario 3: Existing Listener Uses a Port Other Than 1521

You will end up running two listeners: one for the existing database and one for the Infrastructure, regardless of the version of the existing listener.

The existing listener can be running during installation, because it is not using port 1521.

2.4.5.2 If Port 1521 Is Being Used by Some Other Application

If another application is listening on port 1521, you must reconfigure it to listen on a different port. If that is not possible, shut it down while you install Oracle Collaboration Suite Database. After installation, you can reconfigure Oracle Collaboration Suite Database to use a port other than 1521. Refer to the *Oracle Collaboration Suite Administrator's Guide* for instructions.

2.5 Operating System Groups

Create operating system groups in the following situations:

- If you plan to install Oracle Collaboration Suite on a computer that does not have Oracle products, create a group to own the "inventory" directory. Refer to [Section 2.5.1](#).
- If you plan to install Oracle Collaboration Suite 10g Infrastructure in a new database (that is, one created by the installer), create groups for database administrators. Refer to [Section 2.5.2](#).

To create a local operating system group, enter the following command:

```
# /usr/sbin/groupadd oinstall
```

This command creates the `oinstall` group.

For more information about operating system users and groups, refer to your operating system documentation or contact your system administrator.

2.5.1 Create a Group for the Inventory Directory

If you plan to install Oracle Collaboration Suite on a computer that does not have Oracle products already installed, create a group to own the inventory directory. The installer writes its files in the inventory directory to keep track of the Oracle products installed on the computer.

This guide uses the name `oinstall` for this operating system group.

By having a separate group for the inventory directory, you enable different users to install Oracle products on the computer. Users need write permission for the inventory directory. They can achieve this by belonging to the `oinstall` group.

For the first-time installation of any Oracle product on a computer, the installer displays a screen where you enter a group name for the inventory directory, and a screen where you enter the location of the inventory directory.

The default name of the inventory directory is `oraInventory`.

To determine if an inventory directory already exists on the computer, look in the `/etc/oraInst.loc` file. This file lists the location of the inventory directory and the group who owns it. If the file does not exist, the computer does not have Oracle products installed on it. To ensure that you have write permissions on that director run the installer as the same operating system user who installed the existing Oracle product.

2.5.2 Create Groups for Database Administrators

This section applies only if you plan to install Oracle Collaboration Suite Infrastructure in a new database created by the installer.

When the database is not mounted and database authentication is unavailable, the database uses operating system groups to determine user privileges. The database recognizes the groups and privileges listed in [Table 2–9](#).

Table 2–9 Privileges for the OSDBA and OSOPER Groups

Group	Description
OSDBA	This is the database administrator group. Users in this group are granted SYSDBA privileges.
OSOPER	Users in this group are granted SYSOPER privileges, which comprise privileges required for basic maintenance. These include database startup and shutdown, and other privileges required for database operation. SYSOPER privileges are a subset of SYSDBA privileges.

You must create operating system groups for these groups.

If you want an operating system group called `dba` to have SYSDBA privileges:

1. Create the `dba` group.
2. Ensure that the user running the installer is a member of the `dba` group.

If you want a different operating system group to have SYSDBA privileges, or to associate SYSDBA and SYSOPER privileges with different groups, ensure that the user running the installer does not belong to the `dba` group.

If the user running the installer does not belong to the `dba` group, the installer displays a screen where you can enter the names of groups to have the database administrator privileges. The screen has two fields: one for the `OSDBA` group and one for the `OSOPER` group (refer to [Table 2-9](#)). You can enter the same operating system group for both fields.

2.6 Operating System User

Create an operating system user to install and upgrade Oracle products. This guide refers to this user as the oracle user. The oracle user running the installer must have write permission for these directories:

- The Oracle home directory, which contains files for the product you are installing
- The inventory directory, which is used by the installer for all Oracle products

If the computer contains other Oracle products, you might already have a user for this purpose. Look in the `/var/opt/oracle/oraInst.loc` file. This file lists the location of the inventory directory and the group who owns it. If the file does not exist, the computer does not have Oracle products installed on it.

If you do not already have a user for installing Oracle products, create a user with the properties listed in [Table 2-10](#).

Table 2-10 *Properties of the Operating System User Who Runs the Installer*

Item	Description
Login name	You can use any name for the user. This guide refers to the user as the oracle user.
Group identifier	The primary group of the oracle user must have write permission for the <code>oraInventory</code> directory. Refer to Section 2.5.1 for more information about this group. You can use any name for the group. This guide uses the name <code>oinstall</code> .
Home directory	The home directory for the oracle user can be consistent with the home directories of other users.
Login shell	The default login shell can be the C, Bourne, or Korn shell.

Note: Use the oracle user only for installing and running Oracle products. Do not use `root` as the oracle user.

To create a local operating system user, perform the following steps:

1. To create the oracle user, enter a command similar to the following:

```
# /usr/sbin/useradd -g oinstall -G dba[,oper] oracle
```

In this command:

- The `-g` option specifies the primary group, which must be the Oracle Inventory group, for example, `oinstall`.
- The `-G` option specifies the secondary groups, which must include the `OSDBA` group and if required, the `OSOPER` group, for example `dba` or `dba,oper`.

2. Set the password of the oracle user:

```
# passwd oracle
```

To check which groups an operating system user belongs to, enter the `groups` command with the name of the user. For example:

```
# groups oracle
```

For more information about operating system users and groups, refer to your operating system documentation or contact your system administrator.

2.7 Environment Variables

The operating system user who installs Oracle Collaboration Suite needs to set or unset certain environment variables.

[Table 2–11](#) summarizes whether you set or unset an environment variable.

Table 2–11 *Environment Variables Summary*

Environment Variable	Set or Unset
ORACLE_HOME and ORACLE_SID	Must not be set.
PATH , CLASSPATH , and Shared Library Path Environment Variables	Must not contain references to directories in any Oracle home directories.
DISPLAY	Set it to the monitor where you want the installer window to appear.
TMP and TMPDIR	Optional. If unset, defaults to <code>/tmp</code> .
TNS_ADMIN	Unset.
ORA_NLS	Unset.
LD_BIND_NOW	Unset.

2.7.1 Environment Variable Tips

Here are some tips when working with environment variables:

- If you set environment variables in the `.profile` file, they might not be read. To ensure that environment variables are set to the correct values, check their values in the shell where you will be running the installer.
- To check the value of environment variables, use the `env` command. This displays all the currently defined environment variables and their values.

```
# env
```

- If you use the `su` command to switch users (for example, switching from the `root` user to the `oracle` user), check the environment variables when you are the new user because the environment variables might not be passed to the new user. This can happen even if you enter `su` with the `-` parameter (`su - user`).

```
# /* root user */  
# su - oracle  
# env
```

2.7.2 ORACLE_HOME and ORACLE_SID

`ORACLE_HOME` and `ORACLE_SID` must not be set.

2.7.3 PATH, CLASSPATH, and Shared Library Path Environment Variables

Edit your `PATH`, `CLASSPATH`, and shared library path environment variables so that they do not reference any Oracle home directories.

The library path variable that you must check is: `LD_LIBRARY_PATH`.

2.7.4 DISPLAY

Set the `DISPLAY` environment variable to point to the X server that will display the installer. The format of the `DISPLAY` environment variable is:

hostname:display_number.screen_number

Example (C shell):

```
# setenv DISPLAY test.mydomain.com:0.0
```

Example (Bourne or Korn shell):

```
# DISPLAY=test.mydomain.com:0.0; export DISPLAY
```

You can test the display by running the `xclock` program:

```
# /usr/openwin/bin/xclock &
```

Oracle Collaboration Suite requires a running X server during installation only. The frame buffer X server installed with your operating system requires that you remain logged in and have the frame buffer running during installation. If you do not wish to do this, then you must use a virtual frame buffer, such as X Virtual Frame Buffer (XVFB) or Virtual Network Computing (VNC).

For information about obtaining and installing XVFB or other virtual frame buffer solutions, visit Oracle Technology Network at

<http://www.oracle.com/technology/index.html>

Search OTN for "frame buffer".

2.7.5 TNS_ADMIN

This section describes two requirements:

- The `TNS_ADMIN` environment variable must not be set.
- The `/etc` and the `/var/opt/oracle` directories must not contain a `tnsnames.ora` file.

These requirements are necessary to prevent conflicts between the Net configuration files for different Oracle products.

To set `TNS_ADMIN` or if you have the `tnsnames.ora` file in `/etc` or `/var/opt/oracle`, perform the following steps before installing Oracle Collaboration Suite.

1. If the `tnsnames.ora` file is in the `/etc` or `/var/opt/oracle` directory, move the file to a different directory or you can rename the file.
2. Make sure the `TNS_ADMIN` environment variable is not set.

Example (C shell):

```
# unsetenv TNS_ADMIN
```

Example (Bourne or Korn shell):

```
# unset TNS_ADMIN
```

After installation, you can merge the contents of the newly created `tnsnames.ora` file with your existing `tnsnames.ora` file.

2.7.6 TMP and TMPDIR

The installer uses a temporary directory for swap space. The installer checks for the `TMP` and `TMPDIR` environment variable to locate the temporary directory. By default, the installer uses the `/tmp` directory.

If you want the installer to use a directory other than `/tmp`, set `TMP` and `TMPDIR` to the full path of an alternate directory. The directory must meet the requirements listed in [Section 2.1](#).

Example (C shell):

```
% setenv TMP /tmp2
% setenv TMPDIR /tmp2
```

Example (Bourne or Korn shell):

```
$ TMP=/tmp2; export TMP
$ TMPDIR=/tmp2; export TMPDIR
```

If you do not set this environment variable, and the default directory does not have enough space, then the installer displays an error message that says the environment variable is not set. You can either set the environment variable to point to a different directory or free up enough space in the default directory. In either case, you must restart the installation.

2.7.7 LD_BIND_NOW

To ensure that the Oracle Collaboration Suite installation completes successfully on Linux systems, unset this environment variable.

Example:

```
$ unset LD_BIND_NOW
```

2.7.8 ORA_NLS

To ensure that the installation completes successfully, unset this environment variable:

```
$ unset ORA_NLS
```

2.8 The /etc/hosts File

The contents of the `/etc/hosts` file affect the following:

- [Location of the Default Identity Management Realm](#)
- [Host Name for Oracle Application Server Single Sign-On](#)

The installer provides alternative methods for you to enter the values that you want without editing the `hosts` file as explained in [Section 2.8.1](#) and [Section 2.8.2](#).

2.8.1 Location of the Default Identity Management Realm

The installer reads the `hosts` file to construct the location of the default Identity Management realm. It displays this location in the "Specify Namespace in Internet Directory" screen.

The `hosts` file should use the following format:

```
ip_address    fully_qualified_hostname    short_hostname
```

Example:

```
123.45.67.89    primaryHost.mydomain.com    primaryHost
```

In the preceding example, the location of the default Identity Management realm would display as "dc=mydomain, dc=com".

If the file uses a different format, the installer displays an incorrect value in the screen. For example, suppose the `hosts` file contains the following line:

```
123.45.67.89    primaryHost    primaryHost.mydomain.com    <--- incorrect format
```

Then the installer would display "dc=primaryHost, dc=com" as the default Identity Management realm. This is probably not the value that you want for the default Identity Management realm.

Note: If you need the `hosts` file to use a different format, you can edit the file to use the required format, perform the installation, then revert the file back to its original format after installation.

If you are unable, or unwilling, to edit the `hosts` file, you can enter the desired value for the default Identity Management realm in the Custom Namespace field on the "Specify Namespace in Internet Directory" screen.

2.8.2 Host Name for Oracle Application Server Single Sign-On

If you are installing Oracle Application Server Single Sign-On and your `hosts` file contains only the host name of your computer (without the domain name) then you will only be able to sign on to the OracleAS Single Sign-On server using the host name by itself (without the domain name).

To require a domain name when connecting to the OracleAS Single Sign-On server, you can edit the `hosts` file to include the domain name. If you do not want to edit the file, you can use the `OUI_HOSTNAME` command-line parameter to the installer to override the value in `hosts`. For example:

```
# mount_point/runInstaller OUI_HOSTNAME=myserver.mydomain.com
```

2.9 Network Topics

Typically, the computer on which you want to install Oracle Collaboration Suite is connected to the network, has local storage to contain the Oracle Collaboration Suite installation, has a display monitor, and has an appropriate disk drive.

This section describes how to install Oracle Collaboration Suite on computers that do not meet the typical scenario. It covers the following cases:

- [Section 2.9.1, "Installing Oracle Collaboration Suite on a DHCP Host"](#)
- [Section 2.9.2, "Installing Oracle Collaboration Suite on Multihomed Computers"](#)

- [Section 2.9.3, "Copying the DVD to a Hard Drive"](#)
- [Section 2.9.4, "Installing Oracle Collaboration Suite from a Remote DVD-ROM Drive"](#)
- [Section 2.9.5, "Installing Oracle Collaboration Suite on Remote Computers"](#)
- [Section 2.9.6, "Installing Oracle Collaboration Suite on NFS-Mounted Storage"](#)
- [Section 2.9.7, "Support for NIS and NIS+"](#)

2.9.1 Installing Oracle Collaboration Suite on a DHCP Host

If you are installing Oracle Collaboration Suite in a DHCP network you must use a loopback configuration. To access Oracle Collaboration Suite, you must use a local browser. Perform the following steps to install Oracle Collaboration Suite in a DHCP network:

1. Find the IP address allocated from the DHCP server by running the following command:

```
$ /sbin/ifconfig -a
```

The IP address is associated with the interface configured to use DHCP.

2. Configure the host to resolve host name to loopback IP address:
 - a. Configure the host to resolve host name to loopback IP address, by modifying the `/etc/hosts` file to contain the following entries:

```
127.0.0.1 hostname.domainname hostname
127.0.0.1 localhost.localdomain localhost
```

- b. Check that the host name resolves to the loopback IP address by entering the following command:

```
$ /bin/ping hostname.domainname
```

3. Complete the Oracle Collaboration Suite installation as described in this guide using the host name used in Step 2.

2.9.2 Installing Oracle Collaboration Suite on Multihomed Computers

If you are installing Oracle Collaboration Suite on a computer with multiple network cards, then the installer uses the first names in the `/etc/hosts` file to determine the host name to use for IP address lookup.

If this is not the name that you want to use, then you can:

- Reorder the lines in the `/etc/hosts` file so the desired host name appears first, run the installer, then revert the file back to its original state after installation.
- Start up the installer with the `OUI_HOSTNAME` parameter, if you do not want to edit the `/etc/hosts` file. Specify the host name that you want to use in this parameter. For example:

```
# mount_point/runInstaller OUI_HOSTNAME=myserver.mydomain.com
```

2.9.3 Copying the DVD to a Hard Drive

Instead of installing from the Oracle Collaboration Suite DVD, you can copy the contents of the DVD to a hard drive and install the product from there. This might be easier if you plan to install many instances of Oracle Collaboration Suite on your

network, or if the computers where you want to install Oracle Collaboration Suite do not have DVD-ROM drives.

You can also install Oracle Collaboration Suite from remote DVD-ROM drives. Refer to [Section 2.9.4](#) for more information.

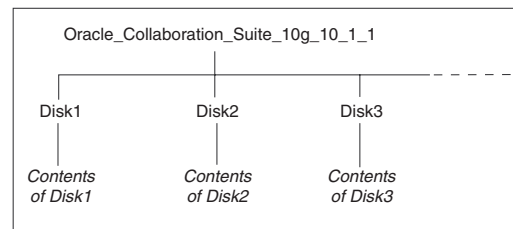
Checking the Space Requirement

Ensure that the hard drive contains enough space to hold the contents of the Oracle Collaboration Suite DVD.

Copying the Content of DVD-ROMs

1. Create a directory structure on your hard drive as shown in [Figure 2–2](#). First create a parent directory (called `OCS_10g_10_1_1` in the figure, but you can name it anything you like), and, under the parent directory, create subdirectories called `Disk1`, `Disk2`, and so on. The names of the subdirectories must be `DiskN`, where *N* is the disk number.

Figure 2–2 Suggested Directory Structure for Copying DVD Content to Hard Disk



2. Copy the contents of each disk in to the corresponding directory.

```
# cp -pr /dvd_mount_point/* /path/to/hard/drive/Disk1/
# cp -pr /dvd_mount_point/* /path/to/hard/drive/Disk2/
... Repeat for each disk
```

To run the installer from the copied files, invoke the `runInstaller` executable from the root directory. Run it from the computer that will be running Oracle Collaboration Suite.

2.9.4 Installing Oracle Collaboration Suite from a Remote DVD-ROM Drive

If the computer where you want to install Oracle Collaboration Suite does not have a DVD-ROM drive, then you can copy the discs to the hard drive of a computer with the proper disk drive as described in [Section 2.9.3](#) and then perform a remote installation from that computer using the instructions described in [Section 2.9.5](#).

2.9.5 Installing Oracle Collaboration Suite on Remote Computers

You can run the installer on a remote computer (`remote_computer`), but display the installer screens on your local computer (`local_computer`). The installer will install Oracle Collaboration Suite on the remote computer.

1. Allow `remote_computer` to appear on `local_computer`. Use the following command on the console of the local computer.

```
local_computer> xhost +remote_computer
```

If you do not run `xhost`, you might get an Xlib error similar to "Failed to connect to server", "Connection refused by server," or "Can't open display" when starting the installer.

2. On `local_computer`, perform a remote login (using `telnet` or `rlogin`) to `remote_computer`. Log in as the oracle user, as described in [Section 2.6](#). Ensure that the user has set the environment variables correctly, as described in [Section 2.7](#).

```
local_computer> rlogin -l oracle remote_computer.mydomain.com
```

OR

```
local_computer> telnet remote_computer.mydomain.com
```

3. Set the `DISPLAY` environment variable on `remote_computer` to point to `local_computer`.

Example (C shell):

```
remote_computer> setenv DISPLAY local_computer.mydomain.com:0.0
```

Example (Bourne or Korn shell):

```
remote_computer> DISPLAY=local_computer.mydomain.com:0.0; export DISPLAY
```

4. Run the installer. Refer to [Section 3.4](#).

2.9.6 Installing Oracle Collaboration Suite on NFS-Mounted Storage

Currently, Oracle Collaboration Suite is certified to run on the following Network File Storage (NFS)-mounted storage system:

- Network Appliance filers

The NFS-mounted system should be exported to at least the remote install user and remote root user. You can do this using `exportfs` command:

```
# exportfs -i /vol/vol1
```

To check the latest certification list for any updates, visit the Oracle Technology Network at

<http://www.oracle.com/technology/index.html>

2.9.7 Support for NIS and NIS+

You can install and run Oracle Collaboration Suite in Network Information System (NIS) and NIS+ environments.

2.10 Prerequisite Checks Performed by the Installer

[Table 2-12](#) lists the checks performed by the installer.

Table 2–12 Prerequisite Checks Performed by the Installer

Item	Description
Operating system version	Refer to Section 2.2 for supported versions.
Operating system patches	Refer to Section 2.2 for a list of required patches.
Operating system packages	Refer to Section 2.2 for a list of required packages.
Operating system kernel parameters	Refer to Section 2.3 for a list of required kernel parameters.
Monitor	Refer to Section 2.1 for monitor requirements.
Display permission	The installer checks that the user has permissions to display on the monitor specified by the DISPLAY environment variable.
Operating system version	Refer to Section 2.2 for supported versions.
Operating system patches	Refer to Section 2.2 for a list of required patches.
Operating system kernel parameters	Refer to Section 2.3 for a list of required kernel parameters.
Memory	Refer to Section 2.1 for recommended values.
Swap space	Refer to Section 2.1 for recommended values.
TMP space	Refer to Section 2.1 for recommended values.
Oracle home directory name	The installer checks that the Oracle home directory name does not contain any spaces.
Path to the Oracle home directory	The installer checks that the path to the Oracle home directory is not longer than 127 characters.
Oracle home directory contents	The installer checks that the Oracle home directory does not contain any files that might interfere with the installation.
Oracle home directory	Always install Oracle Collaboration Suite in a new directory, unless you are expanding a Oracle Collaboration Suite 10g Applications. Refer to Section 8.7. Here are some examples of installations that are <i>not allowed</i>: ■ Any type of Oracle Collaboration Suite in to an Oracle Database Release 8.0, 8i, 9.0.1, or 9.2 database Oracle home ■ Any type of Oracle Collaboration Suite in to an Oracle Management Service Oracle home ■ Any type of Oracle Collaboration Suite in to an Oracle HTTP Server standalone Oracle home ■ Any type of Oracle Collaboration Suite in to an OracleAS Web Cache standalone Oracle home ■ Any type of Oracle Collaboration Suite in to an Oracle9i Developer Suite Release 9.0.2 Oracle home ■ Any type of Oracle Collaboration Suite in to an Oracle Application Server Containers for J2EE standalone Oracle home ■ Any type of Oracle Collaboration Suite in to an Oracle9iAS 1.0.2.2 Oracle home ■ Oracle Collaboration Suite Applications tier in to an Infrastructure Release 9.0.2 or 10g Release 1 (10.1.1.0.2) Oracle home ■ Oracle Collaboration Suite Applications tier in to an Oracle9iAS Release 9.0.2 or 9.0.3 middle tier Oracle home ■ Oracle Collaboration Suite Infrastructure in to any Oracle9iAS Release 9.0.2 Oracle home

Table 2–12 (Cont.) Prerequisite Checks Performed by the Installer

Item	Description
Port 1521	The installer displays a warning if port 1521 is in use by any application, including database listeners of any version. You must stop the application that is using port 1521, then click Retry in the warning dialog. If a database listener is using port 1521, you might be able to use it for Oracle Collaboration Suite Database. Refer to Section 2.4.5 for details. If it is another application that is using port 1521, you must stop it or configure it to use a different port. Alternatively, you can change the database listener to use a port other than 1521, but you can do this only after installation. Refer to the <i>Oracle Collaboration Suite Administrator's Guide</i> for details.
Static port conflicts	The installer checks the ports listed in the <code>staticports.ini</code> file, if specified. Refer to Section 2.4 .
DISPLAY environment variable	The installer checks that the DISPLAY environment variable is set.
TNS_ADMIN environment variable	The TNS_ADMIN environment variable must not be set. There must not be a <code>tnsnames.ora</code> file in the <code>/etc</code> or <code>/var/opt/oracle</code> directories.
Cluster file system	The installer checks that you are not installing Oracle Collaboration Suite in a cluster file system (CFS).
Oracle Enterprise Manager directories are writable	The installer runs this check only if you are expanding Oracle Collaboration Suite 10g Applications or if you are reinstalling Oracle Collaboration Suite in the same Oracle home. The installer checks that these directories are writable by the operating system user running the installer: ■ <code>ORACLE_HOME/sysman/emd</code> ■ <code>ORACLE_HOME/sysman/config</code> ■ <code>ORACLE_HOME/sysman/webapps/emd/WEB-INF/config</code>
Oracle Enterprise Manager files exist	The installer runs this check only if you are expanding Oracle Collaboration Suite 10g Applications or if you are reinstalling Oracle Collaboration Suite in the same Oracle home. The installer checks that these files exist: ■ <code>ORACLE_HOME/sysman/config/iasadmin.properties</code> ■ <code>ORACLE_HOME/sysman/webapps/emd/WEB-INF/config/consoleConfig.xml</code>
Kernel check on Linux systems	Refer to Section 2.3 for a list of required kernel parameters..
glibc version check on Linux	Refer to Section 2.2 for the correct version of glibc.
Packages check on Linux	The installer runs this check only if you are installing on Linux. The installer makes sure that the mandatory packages are installed. For example, it checks the <code>gcc</code> , <code>sysstat</code> , and <code>openmotif</code> packages as specified in Section 2.2 .

Starting the Oracle Collaboration Suite Installation

This chapter describes how to get started with Oracle Collaboration Suite installations. You must follow the procedures in this chapter to ensure that the installation process is successful.

This chapter contains the following sections:

- [Section 3.1, "Installing Oracle Collaboration Suite from the DVDs"](#)
- [Section 3.2, "Installing Oracle Collaboration Suite from a Hard Drive"](#)
- [Section 3.3, "Understanding Oracle Universal Installer"](#)
- [Section 3.4, "Starting Oracle Universal Installer"](#)

3.1 Installing Oracle Collaboration Suite from the DVDs

Oracle Collaboration Suite includes DVD-ROMs for installing the following products:

- Oracle Collaboration Suite
- Oracle Calendar server Standalone
- Oracle Voicemail & Fax and Oracle Web Conferencing Conversion Servers for Microsoft Windows
- Patches (Portal, Oracle Database, and other required patches)
- Oracle Collaboration Suite clients
- Oracle Cluster Ready Services 10.1.0.4.2

Oracle Collaboration Suite is also shipped with three CD-ROMs that provide additional support, such as:

- OracleAS Metadata Repository Creation Assistant
- OracleAS Metadata Repository Upgrade Assistant and Utilities
- Documentation

You can either choose to install Oracle Collaboration Suite directly from the DVDs, or copy the DVD content and then install from your system hard drive. You must complete the procedures required for the installation method you choose before starting Oracle Universal Installer.

For operating systems that do not support automatic mounting of DVDs, the DVDs must be mounted manually. You must have `root` privileges to mount or unmount a DVD. Be sure to unmount a DVD before removing it from the drive.

3.1.1 Mounting DVDs for Linux

Mount the first DVD to start the installation. Use the following procedures to mount the DVDs:

- [Mounting DVD-ROMs with Auto-Mounting Software](#)
- [Mounting DVDs Manually](#)

3.1.1.1 Mounting DVD-ROMs with Auto-Mounting Software

If you are using an auto-mounting software, then the DVD is mounted automatically to the directory specified in your automount configuration when you insert it in to the DVD-ROM drive. Proceed to [Section 3.4](#) on page 3-5.

To check if you have automounting software, use the following command:

```
$ ps -aux | grep automount
```

If you have automounting software, then the output must be similar to the following:

```
root 628 0.0 0.2 1148 588 ? S 17:32 0:00 /usr/sbin/automount /misc file
/etc/auto.misc
```

In the preceding output, the `/etc/auto.misc` entry defines the directory under the `/misc` file where the DVD-ROM is to be mounted.

- If the auto mounting software is running and configured properly, then the DVD is mounted automatically. Proceed to [Section 3.4](#) on page 3-5.
- If no lines are returned, the automounting software is not running, then you must mount the DVD-ROM manually. Proceed to [Section 3.1.1.2](#) to do so.

Follow these steps to mount subsequent DVDs, if required:

1. Remove the DVD from the DVD-ROM drive by using the following commands:

```
$ cd /
$ eject
```

2. If required, insert the next DVD in to the DVD-ROM drive and enter the correct mount point.

3.1.1.2 Mounting DVDs Manually

To mount the DVD-ROM manually, use the following steps:

1. Place the first DVD in the DVD-ROM drive.
2. Log in as the `root` user and, if necessary, create a DVD mount point directory by using the following commands:

```
$ su root
# mkdir dvdrom_mount_point_directory
```

3. Mount the DVD-ROM drive on the mount point directory by using the following commands:

```
# mount options device_name dvdrom_mount_point_directory
```

4. Log out of the `root` account:

```
# exit
```

If you are unsure of the correct *device_name*, then consult your system administrator. Typically, the *device_name* is `/dev/cdrom` or `/dev/dvdrom`, depending on your Linux distribution. For example:

```
$ su root
# mkdir /dvdrom
# mount -t /dev/cdrom /cdrom
# exit
```

If you run Oracle Universal Installer while the current working directory is in the DVD, then follow these steps to mount the next DVD:

1. Change directories to the root directory of your system and log in as the `root` user by using the following commands:

```
$ cd /
$ su root
```

2. Unmount the DVD by using the following command:

```
# umount dvdrom_mount_point_directory
```

3. Remove the DVD from the DVD-ROM drive.
4. If required, insert the next DVD in to the DVD-ROM drive and then use the following command to mount it:

```
# mount dvdrom_mount_point_directory
```

3.2 Installing Oracle Collaboration Suite from a Hard Drive

You can avoid the need to mount and unmount DVD-ROMs during installation by copying the contents of each DVD to your system hard drive. You must have a file system that is not in use by other applications and enough disk space available.

1. Copy the content of each DVD to your system hard drive under a directory named `Disk1` for the first DVD, and so on (depending upon the number of the DVDs in the sequence of disks that comprises the set).
2. Start Oracle Universal Installer.

See Also:

- [Section 2.1](#) for hard disk requirements for your platform
- [Section 3.1](#) for instructions on mounting and unmounting DVD-ROMs

3.3 Understanding Oracle Universal Installer

Oracle Collaboration Suite uses Oracle Universal Installer to guide you through each step of the installation process. Oracle Universal Installer provides the following features:

- Describes installation options for Oracle Collaboration Suite
- Detects preset environment variables and configuration settings
- Sets environment variables and configuration during installation
- Deinstalls Oracle Collaboration Suite products

This section describes the following Oracle Universal Installer features:

- [oraInventory Directory and Installation Session Log Files](#)
- [Additional Component Installations with Oracle Universal Installer](#)

3.3.1 oraInventory Directory and Installation Session Log Files

Oracle Collaboration Suite creates the oraInventory directory the first time it is run on a computer. The oraInventory directory keeps an inventory of products that Oracle Collaboration Suite installs on your computer, as well as other installation information. If you have previously installed Oracle products, then you might already have an oraInventory directory.

The UNIX group that owns Oracle Collaboration Suite must have permission to write to the oraInventory directory. Attempts to run Oracle Collaboration Suite without this permission fail. For more information, refer to [Section 2.5](#).

The location of oraInventory is defined in a file named oraInst.loc, located in the directory /etc/oraInst.loc on your operating system.

The log file of the most recent installation is as follows:

```
$ORACLE_BASE/oraInventory/logs/installActionstodays_date_time.log
```

In this specification, *\$ORACLE_BASE* is the location for your installation files and *todays_date_time* is the date and time of installation.

Do not delete or manually alter the oraInventory directory or its contents. Doing so can prevent Oracle Universal Installer from locating products that you have installed on your system.

Note: The make.log file in the *ORACLE_HOME/install* directory contains a log of every make file action executed during the installation process. The make.log file also records any link errors during installation. Do not delete or alter the make.log file.

3.3.2 Additional Component Installations with Oracle Universal Installer

If you plan to install a subsequent Oracle Collaboration Suite or Oracle Collaboration Suite 10g Infrastructure installation on the same host, Oracle recommends the following steps:

1. Review [Chapter 2](#) for preinstallation tasks.
2. Stop the Oracle Enterprise Manager Web site. For more information, refer to the *Oracle Collaboration Suite Administrator's Guide*.
3. Ensure that all other previously installed Oracle Collaboration Suite instances are running when you begin installation.
4. Specify a different Oracle home than the first Oracle Collaboration Suite installation.
5. Use the same oraInventory directory for subsequent Oracle Collaboration Suite installations.

See Also: [Section 3.3.1, "oraInventory Directory and Installation Session Log Files"](#)

3.4 Starting Oracle Universal Installer

To start Oracle Universal Installer, perform the following steps:

1. If your computer does not mount DVDs automatically, you must set the mount point manually.
2. Log in as the `oracle` user.
3. Insert the Oracle Collaboration Suite DVD-ROM in to the DVD-ROM drive.

Notes:

- Ensure that you are not logged in as the `root` user when you start Oracle Universal Installer. If you perform the installation with the `root` user, then only the `root` user will have permissions to manage Oracle Collaboration Suite.
 - Do not use `dvd_mount_point` as your working directory when you start Oracle Universal Installer. If you do, then you cannot eject the first DVD during the installation step to insert the second DVD, if required.
 - Oracle recommends using the same operating system user account when installing and configuring additional Oracle Collaboration Suite Applications on the same host.
-
-

4. Insert the first DVD in to the DVD-ROM drive.
5. Run the Oracle Universal Installer using the command:

```
# cd  
# /dvdrom/runInstaller
```

This starts Oracle Universal Installer, through which you can install Oracle Collaboration Suite.

Installing Oracle Collaboration Suite 10g Infrastructure

This chapter contains the following sections:

- [Section 4.1, "Types of Infrastructure Installation"](#)
- [Section 4.2, "Order of Infrastructure Installation"](#)
- [Section 4.3, "Preparing to Install Oracle Collaboration Suite 10g Infrastructure"](#)
- [Section 4.4, "Understanding Common Installation Screens"](#)
- [Section 4.5, "Installing Oracle Collaboration Suite 10g Infrastructure"](#)

4.1 Types of Infrastructure Installation

Oracle Collaboration Suite 10g Infrastructure components can be grouped in to Identity Management components and components associated with Oracle Collaboration Suite 10g Database. [Table 4–1](#) describes these components.

Table 4–1 Oracle Collaboration Suite 10g Infrastructure Components

Infrastructure Components	Description
Identity Management components	These components provide directory, security, and user management functionality. Some of these components, such as OracleAS Single Sign-On, have schemas in Oracle Collaboration Suite Database. The components are: ■ Oracle Internet Directory ■ OracleAS Single Sign-On ■ Oracle Delegated Administration Services ■ Oracle Directory Integration and Provisioning ■ OracleAS Certificate Authority

Table 4–1 (Cont.) Oracle Collaboration Suite 10g Infrastructure Components

Infrastructure Components	Description
Oracle Collaboration Suite Database	Oracle Collaboration Suite Database is a collection of schemas used by other components of Oracle Collaboration Suite Infrastructure and Oracle Collaboration Suite Applications. The schemas can be grouped in to the following categories: ■ Product metadata ■ Identity Management metadata ■ Management metadata ■ Oracle Collaboration Suite Applications components

When you install the Infrastructure, you can install Identity Management components, Oracle Collaboration Suite Database, or both. The following types of installation are available for installing Infrastructure:

- Identity Management and Oracle Collaboration Suite Database
- Identity Management
- Oracle Collaboration Suite Database
- Enable existing 10g Database to Collaboration Suite Database

In addition to the components listed in [Table 4–1](#), when you install Infrastructure, the following components are also installed:

- Oracle HTTP Server
- Oracle Enterprise Manager 10g components

These components are always installed, regardless of the type of installation that you select.

4.1.1 Why Would I Select Different Types of Installation?

By separating the Infrastructure in to Identity Management components and Oracle Collaboration Suite Database, the installer enables you to install Infrastructure components on multiple computers. For example, you can install Oracle Collaboration Suite Database on one computer and Identity Management components on another computer. Within the Identity Management option, you can install Identity Management components on multiple computers as well.

The options for selecting different types of installations also enable you to create a new database or use an existing database for Oracle Collaboration Suite Database. If you select the "Oracle Collaboration Suite Database" or the "Identity Management and Oracle Collaboration Suite Database" option, then the installer creates a new database and populates it with schemas of Oracle Collaboration Suite Database. To use an existing database, refer to [Chapter 5](#).

4.2 Order of Infrastructure Installation

If you plan to install both Identity Management components and Oracle Collaboration Suite Database on the same computer, then select the Identity Management and Oracle Collaboration Suite Database option. The installer installs the components in the correct order.

If you plan to install the Infrastructure components on separate computers, then you must install them in the following order:

1. Install Oracle Collaboration Suite Database.

You can run the installer to create a new database and populate it with the schemas of Oracle Collaboration Suite Database. Alternatively, you can use the **Enable existing 10g Database to Collaboration Suite Database** option to install Oracle Collaboration Suite Database in an existing database.

Note: You cannot register the Oracle Collaboration Suite Database with Oracle Internet Directory at this point, because you do not have an instance of Oracle Internet Directory yet. The registration is done in the next step.

2. Install Identity Management components.

The installer prompts you to enter information that is used as connect information for Oracle Collaboration Suite Database. Refer to [Section 4.5.5](#) for more information about this procedure.

The installer registers the Oracle Collaboration Suite Database with the newly created instance of Oracle Internet Directory. Refer to [Section 4.3.5](#) for more information about registration.

Note: Installing only Oracle Collaboration Suite Database does not give you an Oracle Collaboration Suite instance.

If you install only Oracle Collaboration Suite Database during the installation of the Infrastructure, then the installer creates a new database and populates it with schemas of Oracle Collaboration Suite Database. The installer also creates a new instance of Oracle Collaboration Suite that is different from other Oracle Collaboration Suite instances in the following ways:

- The installer does not prompt you to name this Oracle Collaboration Suite instance.
- At the end of the installation, Oracle Enterprise Manager 10g Application Server Control is not started, because it is not configured for this instance. You do not need Application Server Control to manage this instance, which consists of only Oracle Collaboration Suite Database.

To manage this instance, you use database management tools.

See Also: *Oracle Collaboration Suite Administrator's Guide*

- At the end of the installation, Oracle HTTP Server is also not started, because you do not need it to manage this instance.

4.3 Preparing to Install Oracle Collaboration Suite 10g Infrastructure

This section explains the different types of Infrastructure installations and answers some common questions about the installation of the Infrastructure.

This section covers the following sections:

- [Section 4.3.1, "Can I Install Components on Separate Computers?"](#)

- [Section 4.3.2, "Tips for Installing Identity Management Components Separately"](#)
- [Section 4.3.3, "Do I Need the Oracle Delegated Administration Services or Oracle Directory Integration and Provisioning Components?"](#)
- [Section 4.3.4, "Can I Use an Existing Instance of Oracle Internet Directory?"](#)
- [Section 4.3.5, "How Do I Register Oracle Collaboration Suite Database in Oracle Internet Directory and Randomize the Password"](#)
- [Section 4.3.6, "Can I Use Multiple Oracle Collaboration Suite Databases?"](#)
- [Section 4.3.7, "What High Availability Options Does Oracle Collaboration Suite Support?"](#)
- [Section 4.3.8, "What are the Restrictions on the Passwords for the SYS and SYSTEM Users?"](#)
- [Section 4.3.9, "What Do I Enter in the Specify Namespace in Internet Directory Screen?"](#)
- [Section 4.3.10, "How Do I Determine Port Numbers Used by Components?"](#)

4.3.1 Can I Install Components on Separate Computers?

You can install components on separate computers. The distribution of components over multiple computers is especially useful for Infrastructure components. Such a distribution can improve performance, security, scalability, and availability of Infrastructure services.

For example, you can install Oracle Collaboration Suite Database on a single computer. The Infrastructure uses Oracle Collaboration Suite Database to contain the schemas of Oracle Collaboration Suite Database. You can install Identity Management components in the Infrastructure separately, on one or more computers.

[Table 4–2](#) shows some possible Oracle Collaboration Suite 10g Infrastructure configurations.

Table 4–2 Oracle Collaboration Suite 10g Infrastructure Configurations

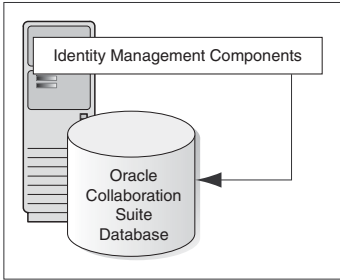
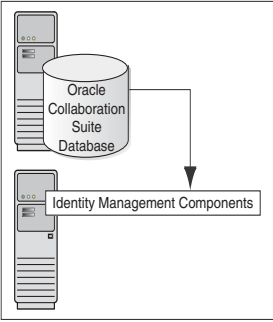
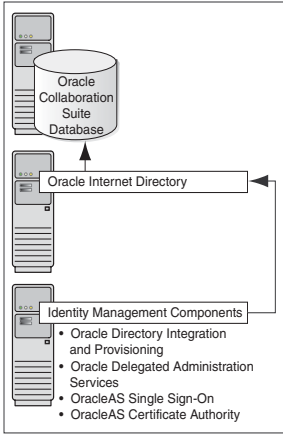
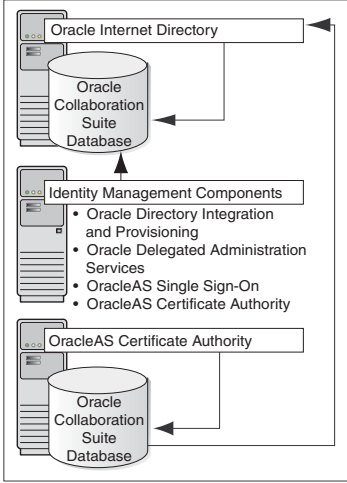
Configuration	Description / How to Install
	In this configuration, the Oracle Collaboration Suite Database and the Identity Management components run from the same Oracle home. To install this configuration, install the Oracle Collaboration Suite Database and the Identity Management components at the same time. For installation steps, refer to Section 4.5.1.

Table 4–2 (Cont.) Oracle Collaboration Suite 10g Infrastructure Configurations

Configuration	Description / How to Install
 The diagram shows two separate server icons. The top server contains a cylinder labeled 'Oracle Collaboration Suite Database'. The bottom server contains a box labeled 'Identity Management Components'. An arrow points from the database cylinder to the components box, indicating a dependency or connection.	In this configuration, the Oracle Collaboration Suite Database and the Identity Management components run on separate computers. To install this configuration: 1. Install the Oracle Collaboration Suite Database first. Refer to Section 4.5.2. Alternatively, you can install the Oracle Collaboration Suite Database in an existing database. Refer to Chapter 5. 2. Then install the Identity Management components. Refer to Section 4.5.5.
 The diagram shows three separate server icons. The top server contains a cylinder labeled 'Oracle Collaboration Suite Database'. The middle server contains a box labeled 'Oracle Internet Directory'. The bottom server contains a box labeled 'Identity Management Components' with a list of sub-components: 'Oracle Directory Integration and Provisioning', 'Oracle Delegated Administration Services', 'OracleAS Single Sign-On', and 'OracleAS Certificate Authority'. Arrows point from the database cylinder to the Internet Directory box, and from the Internet Directory box to the components box.	In this configuration, the Oracle Collaboration Suite Database runs on one computer, Oracle Internet Directory runs on a second computer, and the remaining Identity Management components run on a third computer. To install this configuration: 1. Install the Oracle Collaboration Suite Database first. Refer to Section 4.5.2. Alternatively, you can install the Oracle Collaboration Suite Database in an existing database. Refer to Chapter 5. 2. Install Oracle Internet Directory. Refer to Section 4.5.6. 3. Install the remaining Identity Management components. Refer to Section 4.5.4.
 The diagram shows three separate server icons. The top server contains a box labeled 'Oracle Internet Directory' and a cylinder labeled 'Oracle Collaboration Suite Database'. The middle server contains a box labeled 'Identity Management Components' with a list of sub-components: 'Oracle Directory Integration and Provisioning', 'Oracle Delegated Administration Services', 'OracleAS Single Sign-On', and 'OracleAS Certificate Authority'. The bottom server contains a box labeled 'OracleAS Certificate Authority' and a cylinder labeled 'Oracle Collaboration Suite Database'. Arrows point from the database cylinder on the top server to the Internet Directory box, and from the Internet Directory box to the components box on the middle server. Another arrow points from the database cylinder on the bottom server to the Certificate Authority box.	In this configuration, you want Oracle Application Server Certificate Authority to use its own Oracle Collaboration Suite Database for security reasons. Other Identity Management components use another Oracle Collaboration Suite Database. To install this configuration: 1. Install Oracle Collaboration Suite Database and Identity Management components, but not Oracle Application Server Certificate Authority. You can install all these items in the same Oracle home (refer to the first configuration), or you can distribute them. The figure shows a distributed configuration. 2. Install Oracle Application Server Certificate Authority with its own Oracle Collaboration Suite Database. Refer to Section 4.5.7.

See Also: *Oracle Collaboration Suite Deployment Guide*

4.3.2 Tips for Installing Identity Management Components Separately

To install Identity Management components separately, consider the following guidelines when selecting the components that you want to configure on the Select Configuration Options screen:

- You cannot install and configure more than one instance of OracleAS Certificate Authority for the same Oracle Collaboration Suite Database. You *can* install and configure more than one instance of OracleAS Single Sign-On, Oracle Delegated Administration Services, and Oracle Directory Integration and Provisioning for the same Oracle Collaboration Suite Database.

See Also: *Oracle Internet Directory Administrator's Guide* for more details about configuring more than one instance of Oracle Internet Directory for the same Oracle Collaboration Suite Database

- You must select at least one component for configuration. Otherwise, the installation will not complete successfully.
- If you configure OracleAS Single Sign-On and Oracle Delegated Administration Services in separate installations for the same instance of Oracle Internet Directory, then ensure that you configure OracleAS Single Sign-On before Oracle Delegated Administration Services installation. This is because Oracle Delegated Administration Services depends on `mod_osso`, which will not be set up during installation unless the Oracle Internet Directory it points to already has OracleAS Single Sign-On configured.

Note: You can install Identity Management, Oracle Collaboration Suite Database, and the Applications tier in any order you wish. However, if you install Oracle Collaboration Suite Database before Identity Management, then later you must register the Database with Identity Management.

The recommended order of installation is Identity Management, Oracle Collaboration Suite Database, and then finally the Applications tier.

4.3.3 Do I Need the Oracle Delegated Administration Services or Oracle Directory Integration and Provisioning Components?

These components are required and you must install them before you install Oracle Collaboration Suite Applications. This is because they provide the following services:

- Oracle Delegated Administration Services provides a browser-based interface to Oracle Internet Directory. You can use this interface to perform tasks such as changing passwords, searching for other users in the directory, and creating groups. If you have the required privileges, then you can also create additional users.
- Oracle Directory Integration and Provisioning enables you to integrate different applications and third-party LDAP directories with Oracle Internet Directory. You can also use Oracle Directory Integration and Provisioning to synchronize data in all directories and send notifications to applications when data in Oracle Internet Directory changes (for example, when you add users or groups to Oracle Internet Directory).

4.3.4 Can I Use an Existing Instance of Oracle Internet Directory?

You can use an existing instance of Oracle Internet Directory instead of having the installer create a new one. You might want to do this if your applications must authenticate users whose information is already stored in the existing instance of Oracle Internet Directory.

Note: To use an existing instance of Oracle Internet Directory during the Infrastructure installation, do not select the Oracle Internet Directory option in the Select Configuration Options screen.

You must provide the connect information (host name, port, user name, password) for the existing instance of Oracle Internet Directory.

Table 4–3 shows the supported versions of Oracle Internet Directory. However, you must upgrade these versions to the Oracle Internet Directory shipped with Oracle Collaboration Suite 10g Release 1 (10.1.1.0.2).

Table 4–3 Supported Versions of Oracle Internet Directory

Version	Notes
9.2.0.x	This version of Oracle Internet Directory is shipped with Oracle9i Database Release 2 (9.2). You must upgrade it to 10g Release 1 (10.1.1.0.2) before you can use it with Oracle Collaboration Suite. For details on how to upgrade, refer to the <i>Oracle Collaboration Suite Upgrade Guide</i>.
9.0.2	This version of Oracle Internet Directory is shipped with Oracle9i Application Server Release 2 (9.0.2). You can run this version of Oracle Internet Directory with 10g Release 1 (10.1.1.0.2) components, but you need 9.0.2 metadata repository for the 9.0.2 Oracle Internet Directory. You can also upgrade Oracle Internet Directory Release 9.0.2 Oracle Internet Directory to 10g Release 1 (10.1.1.0.2). For details on how to upgrade, refer to the <i>Oracle Collaboration Suite Upgrade Guide</i>.

To determine the version of Oracle Internet Directory, ensure that it is up and running. Then enter the following command:

```
oidldapd -version
```

The output of the command should be similar to the following:

```
oidldapd: Release 9.2.0.1.0 - Production on Fri Feb 28 09:26:53 2003
(c) Copyright 2001 Oracle Corporation. All rights reserved.
```

The `oidldapd` command can be found in the `ORACLE_HOME/bin` directory, where `ORACLE_HOME` is the root directory of Oracle Collaboration Suite containing Oracle Internet Directory.

4.3.5 How Do I Register Oracle Collaboration Suite Database in Oracle Internet Directory and Randomize the Password

Oracle Collaboration Suite Database and Oracle Internet Directory work together closely. In most cases, you must ensure that Oracle Collaboration Suite Database is registered with Oracle Internet Directory before you can use it.

Table 4–4 lists the scenarios where the installer automatically registers Oracle Collaboration Suite Database with Oracle Internet Directory, and the scenarios where you decide whether to register it or not.

Table 4–4 Database Registration Scenarios

Scenario	Registration	Schema Passwords
Install and configure the Oracle Collaboration Suite Database and Oracle Internet Directory in the same installation session.	Automatic	Randomized
Install Oracle Collaboration Suite Database for an existing Oracle Internet Directory	Automatic	Randomized
Install Oracle Internet Directory for an existing Oracle Collaboration Suite Database	Automatic	Randomized (the Oracle Collaboration Suite Database schemas are given new randomized passwords)
Install Oracle Collaboration Suite Database only (without installing Identity Management components) and you choose to register it with Oracle Internet Directory This scenario applies to installing it in a new database or in an existing database.	Yes	Randomized
Install Oracle Collaboration Suite Database only (without installing Identity Management components) and you choose not to register it with Oracle Internet Directory. This scenario applies to installing it in a new database or in an existing database.	No	The schemas are locked, and the passwords are expired.

4.3.6 Can I Use Multiple Oracle Collaboration Suite Databases?

You can install multiple Oracle Collaboration Suite Databases to increase performance. This enables different components in your topology to use different databases.

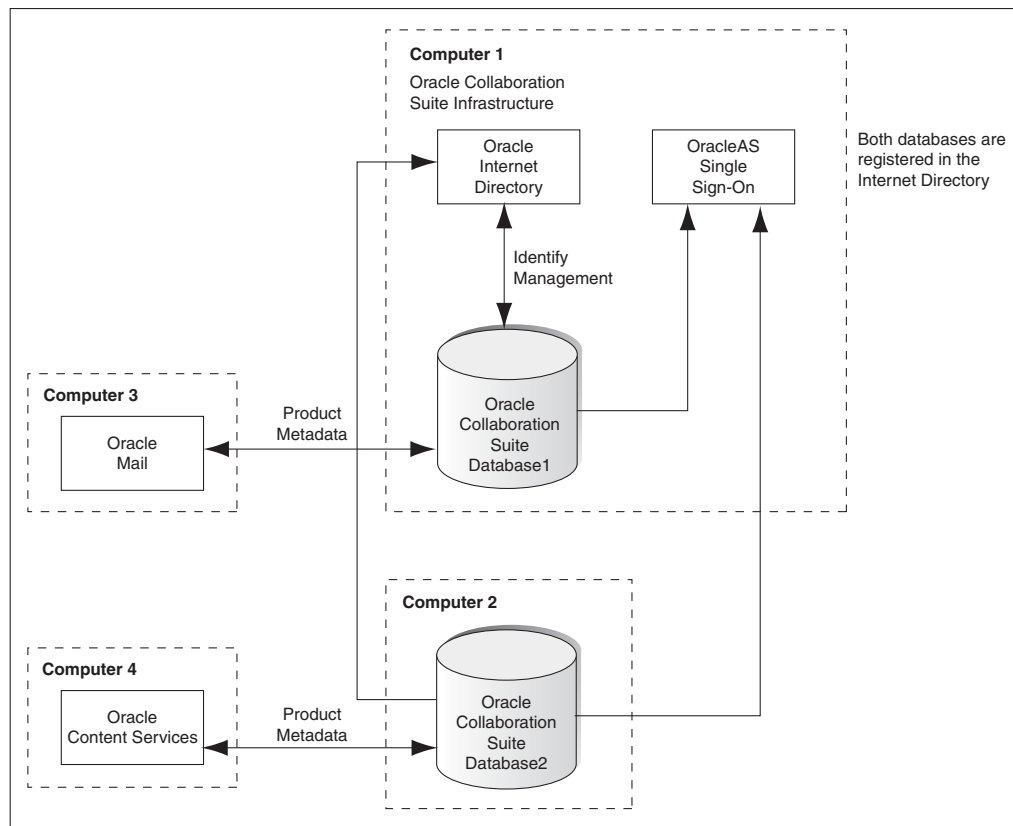
Figure 4–1 shows a topology that involves two databases. It uses four computers:

Computer 1 runs an instance of Oracle Collaboration Suite Database and Identity Management components. The Identity Management components use this database.

Computer 2 has an instance of Oracle Collaboration Suite Database that is registered with the Oracle Internet Directory running on Computer 1.

Computer 3 has an instance of Oracle Mail. This Applications tier uses the database on Computer 1 for its product metadata because it was registered with that database during installation.

Computer 4 has an instance of Oracle Collaboration Suite 10g Content Services. This Applications tier uses the database on Computer 2 for its product metadata because it was registered with that database during installation.

Figure 4–1 Multiple Instances of Oracle Collaboration Suite Database in Use**Note:**

- If you are installing multiple databases on the same computer, each database must have a unique global database name and system identifier (SID).
- If you are registering databases with the same Oracle Internet Directory, each database must have a unique global database name and SID. If not, the Oracle Internet Directory Configuration Assistant will fail when you install the second database with the same name.

4.3.7 What High Availability Options Does Oracle Collaboration Suite Support?

Refer to [Chapter 10](#) for more information on installing Oracle Collaboration Suite in high availability environments.

Note: Hardware clustering is supported for Infrastructure only. It is not supported for Applications.

4.3.8 What are the Restrictions on the Passwords for the SYS and SYSTEM Users?

When you install Oracle Collaboration Suite Database in a new database, the installer prompts you to set passwords for the SYS and SYSTEM users. These users are privileged users of the database. These passwords have certain restrictions. These passwords:

- Must be shorter than 30 characters
- Can contain only alphanumeric characters from the database character set, the underscore (_), the dollar sign (\$), and the number symbol (#)
- Must begin with an alphabetic character
Passwords cannot begin with a number, the underscore (_), the dollar sign (\$), or the number sign (#).
- Cannot be Oracle reserved words
Oracle Database SQL Reference guide lists the reserved words. To access the guide, visit the Oracle Technology Network at
<http://www.oracle.com/technology/documentation>
Alternatively, avoid using words that sound like they might be reserved words.
- Cannot be the default passwords, which are `change_on_install` and `manager`

4.3.9 What Do I Enter in the Specify Namespace in Internet Directory Screen?

The distinguished name (DN) that you specify in the Specify Namespace in Internet Directory screen will be designated as the namespace in Oracle Internet Directory, where users and groups are administered.

A suggested namespace appears on the screen. The installer determines the suggested namespace from the `/etc/hosts` file. If it meets your deployment requirements, then select it. If not, enter another DN in the Custom Namespace field.

Refer to [Section 2.8](#).

If you plan to integrate your Identity Management components with a third-party directory, then you should enter the DN of a namespace that matches the DN of the default namespace in the third-party directory.

See Also: *Oracle Internet Directory Administrator's Guide*

4.3.10 How Do I Determine Port Numbers Used by Components?

During installation, you might need to know the port numbers used by certain Oracle Collaboration Suite components. For example, if you install Infrastructure for an existing instance of Oracle Internet Directory, then the installer prompts for the Oracle Internet Directory host name and port number.

Refer to [Appendix G](#) for the list of ports used by Oracle Collaboration Suite components.

Alternatively, you can assign custom port numbers, which are different from the default port numbers. Refer to [Section 2.4.3](#) for more details on how to assign custom port numbers to components.

After installation, you can get a list of port numbers by:

- Using Oracle Enterprise Manager 10g Application Server Control.
- Clicking the Ports link on the Oracle Enterprise Manager home page. This takes you to a page that lists all ports in use and the suggested port ranges for different components.
- Looking in the `ORACLE_HOME/install/portlist.ini` file. `ORACLE_HOME` refers to the path to the directory containing the Oracle Collaboration Suite installation.

Note: If you change the port number of a component after installation, then the `portlist.ini` file is not updated because the `portlist.ini` file is not updated after installation.

4.4 Understanding Common Installation Screens

This section describes screens that are common to most installation procedures of the Infrastructure.

This section covers the following sections:

- [Section 4.4.1, "First Few Screens of the Installation"](#)
- [Section 4.4.2, "Screens of Oracle Collaboration Suite Database Installation"](#)
- [Section 4.4.3, "Screens of OracleAS Certificate Authority Installation"](#)
- [Section 4.4.4, "Last Few Screens of the Installation"](#)

4.4.1 First Few Screens of the Installation

The first few screens of the installer are the same for all installations. All installation procedures in this chapter refer to this section as their starting point.

[Table 4–5](#) describes these screens.

Note: Oracle Universal Installer uses the `/etc/hosts` file to determine the host name. The host name that you specified in the `hosts` file may or may not be fully qualified. However, host names that are not fully qualified may not be usable outside the domain.

For example, if the fully-qualified domain name for a server is `myserver.acme.uk`, and the `hosts` file only registers the name `myserver`, then clients in the `acme.co.uk` domain have no trouble communicating with this host. However connections made by users in the `acme.co.de` domain may fail.

Also, ensure that the host name that you specify corresponds exactly to the host name you have, whether fully qualified or not.

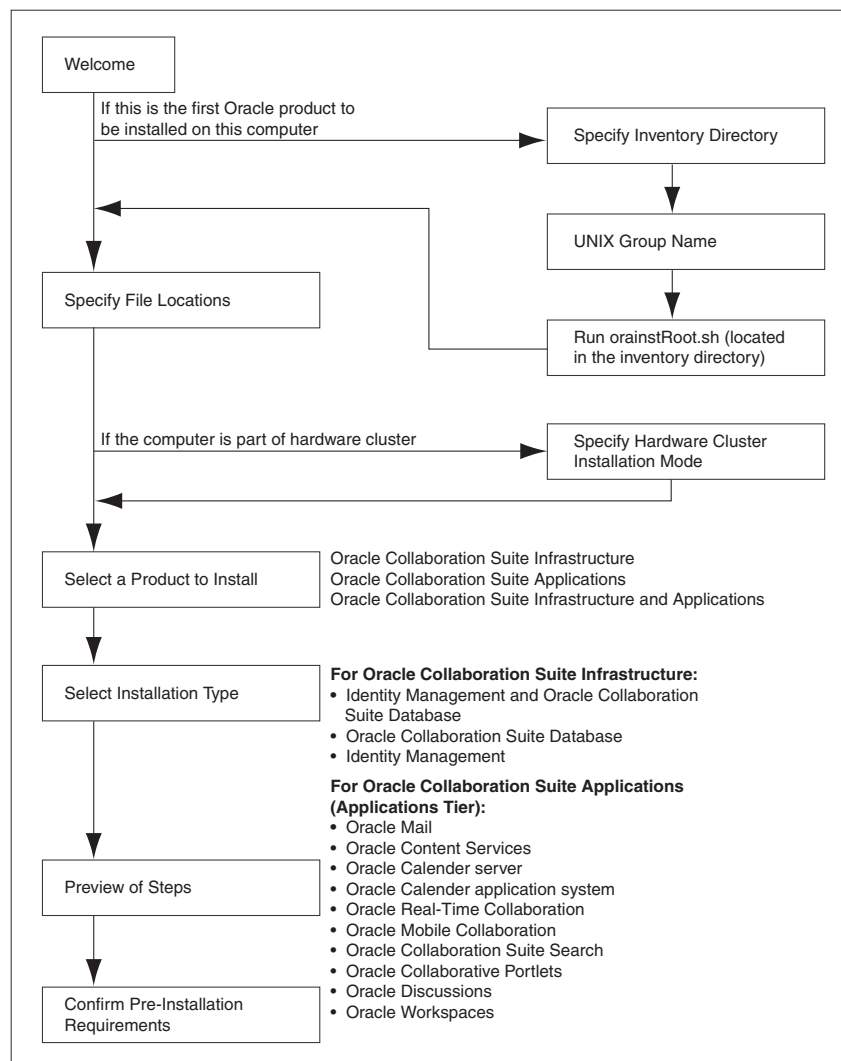
Table 4–5 First Few Screens of the Installation

Step	Screen	Action
1.	None	Start the installer. Refer to, Section 3.4 for more information about starting the installer.
2.	Select Installation Method	Basic Installation: Select this installation method to quickly install Oracle Collaboration Suite. This installation method requires minimal user input. It installs the software using the following information that you specify on this screen: ■ Installation Directory: Specify the full path to the directory where you want to install the software (the Oracle home directory). ■ Password: Specify a common password for the administrative accounts (schema). ■ Confirm Password: Reenter the password you specified previously to confirm that it is correct. ■ Click Select Components to display the Select Components to Configure screen. This screen enables you to deselect the components that you do not want to configure during the install. ■ Click Set Languages to display the Language Selection dialog box. This screen enables you to select the language in which Oracle Collaboration Suite will be installed. Advanced Installation : Select this installation method to: ■ Perform a custom software installation, or choose a different database configuration. ■ Select an installation type. ■ Enable an existing database. ■ Select different product languages. ■ Specify different passwords for administrative schemas. Note : Refer to Section 1.7.1 for detailed information on Basic and Advanced installations. Select Advanced Installation. Click Next.
3.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path of the inventory directory. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>var/opt/oracle/oraInventory</code> Enter the name of the operating system group that will have write permission for the inventory directory. Example: <code>oinstall</code> Click Next.
4.	Run <code>oraInstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. After running the script, click Continue.

Table 4–5 (Cont.) First Few Screens of the Installation

Step	Screen	Action
5.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source. Enter a name to identify the Oracle home in the Name field for Destination. The name cannot contain spaces and has a maximum length of 16 characters. Example: OH_INFRA_10_1_1 Enter the full path to the destination directory in the Path field for Destination. This is the Oracle home. If the directory does not exist, the installer creates it. To create the directory beforehand, create it as the <code>oracle</code> user. Do not create the directory as the <code>root</code> user. Example: <code>/home/oracle/infra_10_1_1</code> Click Next.
6.	Specify Hardware Cluster Installation Mode (Advanced installation only)	This screen appears only if the computer is part of a hardware cluster. Select the computers in the hardware cluster where you want to install the Infrastructure. You can select multiple computers, or you can just select the current computer. Click Next.
7.	Select a Product to Install (Advanced installation only)	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2. If you need to install support for additional languages, then click Product Languages. Refer to Section 1.8 for more information about how to install support for support for additional languages. Click Next.
8.	Select Installation Type (Advanced installation only)	The options displayed on this screen depend on what you select in the Select Product to Install screen. The installation types for Infrastructure are: ■ Identity Management and Collaboration Suite Database ■ Identity Management ■ Oracle Collaboration Suite Database ■ Enable existing Oracle 10g Database to Oracle Collaboration Suite Database Click Next.
9.	Product-specific Prerequisite Checks (Advanced installation only)	The installer verifies requirements such as memory, disk space, and operating system version. If any check fails, make the required changes and click Retry. Refer to Section 2 for the list of hardware and software requirements. Note: If the kernel parameter check fails and you click Retry after making the required changes, the installer does not rerun the check. After changing the kernel parameters, select User Verified and proceed. To validate the changes, you may want to restart the installer. Click Next.
10.	Language Selection (Advanced installation only)	This screen enables you to select the language in which Oracle Collaboration Suite components will run. Select the required language or languages from the Available Languages list and add them to the Selected Languages list. Click Next.

Figure 4–2 summarizes the screen sequence.

Figure 4–2 Sequence for the First Few Screens in the Installation

4.4.2 Screens of Oracle Collaboration Suite Database Installation

If you are installing Oracle Collaboration Suite Database in a new database, then the installer displays the screens listed in [Table 4–6](#).

Table 4–6 Screens of Oracle Collaboration Suite Database Installation

Step	Screen	Action
1.	Specify Database Configuration Options (Advanced installation only)	Global Database Name: Enter a name for the Oracle Collaboration Suite Database. Append a domain name to the database name. This domain name for the global database name can be different from your network domain name. The domain name portion of the global database name has the following naming restrictions: ■ Can contain only alphanumeric, underscore (_), and number sign (#) characters ■ Must not be longer than 128 characters The database name portion of the global database name has the following naming restrictions: ■ Must contain alphanumeric characters only ■ Must not be longer than eight characters ■ Must not contain PORT or HOST in uppercase characters If you want the name to contain "host" or "port", use lowercase characters. Example: <code>orcl.mydomain.com</code> Note: Be sure that you do not enter two or more periods together, for example, <code>orcl..mydomain.com</code>. The installer does not check for this, and this will lead to errors later during the installation process. SID: Enter the system identifier for the Oracle Collaboration Suite Database database. Typically this is the same as the global database name, but without the domain name. The SID must be unique across all databases. SIDs have the following naming restrictions: ■ Must contain alphanumeric characters only ■ Must not be longer than eight characters ■ Must not contain PORT or HOST in uppercase characters. If you want the name to contain "host" or "port", use lowercase characters. Example: <code>orcl</code> Database File Location: Enter the full path to the parent directory for the data files directory. This parent directory must already exist, and you must have write permissions in this directory. The installer will create a subdirectory in this parent directory, and the subdirectory will have the same name as the SID. The data files will be placed in this subdirectory. Example: If you enter <code>/u02/oradata</code>, and the SID is <code>orcl</code>, then the data files will be located in <code>/u02/oradata/ORCL</code>. Click Next.
2.	Select Database Management Option (Advanced installation only)	This screen appears if you selected the option of installing only Oracle Collaboration Suite Database, without Identity Management components. To centrally manage the database, select Use Grid Control for Database Management and enter the name of the Management Service through which you want to centrally manage your database. To locally manage the database, select Use Database Control for Database Management. To receive alerts, select Enable Email Notifications and enter the SMTP Server name and an e-mail address.

Table 4–6 (Cont.) Screens of Oracle Collaboration Suite Database Installation

Step	Screen	Action
3.	Specify Database File Storage Option (Advanced installation only)	This screen appears if you selected the option of installing only Oracle Collaboration Suite Database, without Identity Management components. To store the database files on a file system, select File System. For RAC installations, the file system that you choose must be a cluster file system or be on a certified network attached storage (NAS) device. To store the database files in an automatic storage management (ASM) disk group, select Automatic Storage Management. ASM disk groups are created by specifying one or more disk devices that will be managed by a separate Oracle ASM instance. For RAC installations, the disk devices that you add to the ASM disk group must be shared by all nodes of the cluster. To store the database files on raw devices (raw partitions or raw volumes), select Raw Devices. To select this option, the required raw devices must already exist. For RAC installations, you must create the raw devices on disk devices that are shared by all nodes of the cluster.
4.	Specify Backup and Recovery Options (Advanced installation only)	This screen appears if you selected the option of installing only Oracle Collaboration Suite Database, without Identity Management components. To manually back up the database, select Do Not Enable Automated Backups. For automatic backup, select Enable Automated Backup.
5.	Specify Database Schema Passwords (Advanced installation only)	Set passwords for privileged database accounts, which are used for database management and postinstallation tasks. Refer to Section 4.3.8 for rules on setting passwords for these accounts. Set passwords for privileged Oracle Collaboration Suite Application accounts. The rules for setting the passwords that apply to the SYS and SYSTEM users also apply to these schemas. Click Next.
6.	Privileged Operating System Groups (Advanced installation only)	This screen appears if you are running the installer as a user who is not in the OSDBA or the OSOPER operating system group. Enter a name for the Database Administrator (OSDBA) Group. Example: dbadmin Enter a name for the Database Operator (OSOPER) Group. Example: dbadmin Click Next.

Note: At the end of this Oracle Collaboration Suite Infrastructure installation, when you click **Release Information**, then no information might be displayed:

In this case, for more information refer to

`http://Infrastructure_host:infra_port_
number/relnotes/toc.htm`

Note: If you only install an Oracle Collaboration Suite Database and want that this database should show up as OracleAS Metadata Repository during the Applications tier installation, then you must perform the following tasks:

1. Run Metadata Repository Configuration Assistant (MRCA) on the Oracle Collaboration Suite Database home.
Use the OracleAS Metadata Repository Configuration Assistant CD-ROM, which is shipped with the Oracle Collaboration Suite software.
2. Select to register just that Database in the corresponding Oracle Internet Directory.

The preceding steps register the Database information in the Oracle Internet Directory and the Database shows up as a Metadata Repository.

4.4.3 Screens of OracleAS Certificate Authority Installation

If you select OracleAS Certificate Authority in the Select Configuration Options screen when you are installing Infrastructure, then the installer displays the screens listed in [Table 4-7](#).

Note: You cannot install more than one OracleAS Certificate Authority for the same Oracle Collaboration Suite Database.

When you are installing only Identity Management components for an existing instance of Oracle Collaboration Suite Database, ensure that the database does not already have an instance of OracleAS Certificate Authority configured for it.

For example, suppose you install Oracle Collaboration Suite Database and Identity Management components including OracleAS Certificate Authority on a computer. If you try to install additional Identity Management components, including OracleAS Certificate Authority on the same or different computer for the same Oracle Collaboration Suite Database, then the installation will fail.

Table 4–7 Screens of OracleAS Certificate Authority Installation

Step	Screen	Action
1.	Select Oracle Collaboration Suite Database (Advanced installation only)	This screen appears only if you are: ■ Configuring OracleAS Certificate Authority ■ Using an existing instance of Oracle Internet Directory ■ Using an existing instance of Oracle Collaboration Suite Database The Oracle Internet Directory must contain the registration information for the Oracle Collaboration Suite Database that you want to use. Select the Oracle Collaboration Suite Database that you want OracleAS Certificate Authority to use. Click Next.
2.	Specify OCA Distinguished Name (Advanced installation only)	OracleAS Certificate Authority uses the DN specified on this screen to populate the Issuer field of certificates that it issues. Use the Typical DN section if your DN uses only the attributes listed in this section. You do not have to fill in all the attributes specified in this section. Only the o (organization) attribute is required. Note that the ' (single quotation mark) character is not a valid character in any of the attributes. Enter the name that you want on the certificate in the Common Name field. This name must be different from your host name. Example: John Doe Enter the name of your division or department in the Organizational Unit field. Example: Sales Enter the name of your company or organization in the Organization field. Example: Oracle Select country. If your DN uses attributes not listed in the Typical DN section, then specify your DN in Custom DN section. Click Next.
3.	Select OCA Key Length (Advanced installation only)	Select the key length used in RSA algorithm to sign all certificates issued by OracleAS Certificate Authority. It is recommended that you use at least a 2048-bit key length. Longer key lengths provide greater security, but require more time to issue each new certificate. Click Next.
4.	Specify OCA Administrator's Password (Advanced installation only)	Enter and confirm the password for the OracleAS Certificate Authority administrator. The first character of the password must not be a number. It must contain at least: ■ Eight characters ■ One alphabetic character ■ One nonalphabetic character You need this password to manage OracleAS Certificate Authority. OracleAS Certificate Authority Configuration Assistant also uses this password. You can change the password after installation using the <code>ocactl</code> command. Refer to OracleAS Certificate Authority Online help for details. Click Next.

4.4.4 Last Few Screens of the Installation

The last few screens of the installer are the same for all installations. All installation procedures in this chapter refer to this section as their end point.

Table 4–8 describes these screens.

Table 4–8 Last Few Screens of the Installation

Step	Screen	Action
1.	Summary	Verify your selections and click Install .
2.	Install Progress	This screen shows the progress of the installation.
3.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. - When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory for this instance. - Click OK. Note: During the <code>root.sh</code> prompt, you might get some warning messages. Ignore the messages and continue with the installation.
4.	Configuration Assistants	This screen shows the list of Configuration Assistants that run for the selected components.
5.	End of Installation	Click Exit to quit the installer.

Note: The information displayed at the end of the installation is also available in the `$ORACLE_HOME/install/setupinfo.txt` file. This file contains summarized information about Oracle Collaboration Suite and links to the URLs.

4.5 Installing Oracle Collaboration Suite 10g Infrastructure

This section explains the different ways of installing the Infrastructure. It describes the different scenarios of the installation process in detail.

This section covers the following topics:

- [Section 4.5.1, "Installing Oracle Collaboration Suite Database and Identity Management Components in a New Database"](#)
- [Section 4.5.2, "Installing Only Oracle Collaboration Suite Database in a New Database"](#)
- [Section 4.5.3, "Installing Oracle Collaboration Suite Database in an Existing Database"](#)
- [Section 4.5.4, "Installing Identity Management Components Excluding Oracle Internet Directory"](#)
- [Section 4.5.5, "Installing Identity Management Components Including Oracle Internet Directory"](#)
- [Section 4.5.6, "Installing Only Oracle Internet Directory"](#)
- [Section 4.5.7, "Installing Oracle Collaboration Suite 10g Infrastructure for an Existing Instance of Oracle Internet Directory"](#)
- [Section 4.5.8, "Installing Only Oracle Application Server Certificate Authority and Oracle Collaboration Suite Database"](#)
- [Section 4.5.9, "Running the OCSdbSchemaReg Script"](#)
- [Section 4.5.10, "Using an Existing Instance of Identity Management from Oracle Application Server"](#)

- [Section 4.5.11, "Using an Existing Instance of OracleAS Portal from Oracle Application Server"](#)

4.5.1 Installing Oracle Collaboration Suite Database and Identity Management Components in a New Database

As a part of Oracle Collaboration Suite Infrastructure installation, this option enables you to install and configure Identity Management services, such as Oracle Internet Directory, Oracle Application Server Single Sign-On, Oracle Delegated Administration Services, and Oracle Directory Integration and Provisioning, and Oracle Collaboration Suite Database.

Perform the procedure listed in [Table 4–9](#) to install Oracle Collaboration Suite Database and Identity Management components in a new database. This procedure provides a complete Infrastructure in a single Oracle home.

Table 4–9 Installation Screens for Collaboration Suite Database and Identity Management Components in a New Database

Step	Screen	Action
1.	None	Start the installer and perform the required actions on the first few screens. Refer to Section 4.4.1 for details. Note that you must select Identity Management and Collaboration Suite Database in the Select Installation Type screen.
2.	Select Configuration Options (Advanced installation only)	Select Oracle Internet Directory . Select OracleAS Single Sign-On . Select Oracle Delegated Administration Services . Select Oracle Directory Integration and Provisioning . Select OracleAS Certificate Authority to configure your own certificate authority, which can issue certificates for users and servers. Do not select High Availability and Replication . Click Next .
3.	Specify Namespace in Internet Directory (Advanced installation only)	Select the suggested namespace, or enter a custom namespace for the location of the default Identity Management realm. Ensure that the value shown in Suggested Namespace meets your deployment needs. Refer to Section 4.3.9 for more details. Click Next .
4.	Specify Port Configuration Options (Advanced installation only)	To use default ports for the components, select Automatic . If you do not want to use the default ports, then select Manually Specify Ports and select the component for which you want to specify the port. Refer to Section 2.4.3 for more details about how to manually specify ports. Click Next .
5.	Guest Account Password (Advanced installation only)	Enter and confirm password for the guest account, <code>orclguest</code> , that is created automatically for Oracle Collaboration Suite components that use the Oracle Internet Directory specified in Step 3. Click Next .
6.	OracleAS Certificate Authority Screens (Advanced installation only)	If you select OracleAS Certificate Authority in the Select Configuration Options screen, then the installer displays screens where you must enter OracleAS Certificate Authority information. Refer to Section 4.4.3 for more details.

Table 4–9 (Cont.) Installation Screens for Collaboration Suite Database and Identity Management Components in a New Database

Step	Screen	Action
7.	Oracle Database 10g Screens (Advanced installation only)	Enter information for Oracle Collaboration Suite Database. Refer to Section 4.4.2 for more details.
8.	Specify Instance Name and <code>ias_admin</code> Password (Advanced installation only)	Enter a name for the Infrastructure in the Instance Name field. Instance names can contain the dollar sign (\$) and underscore (_) in addition to any alphanumeric characters. If you have more than one Oracle Collaboration Suite instance on a computer, then the instance names must be unique. Example: <code>infra_10_1_1</code> Enter a password for the <code>ias_admin</code> user in the <code>ias_admin</code> Password field. Enter the password again in the Confirm Password field. This password will also be the Oracle Internet Directory administrator password for the Infrastructure. Refer to Section 4.3.8 for restrictions on the password. Example: <code>welcome99</code> Click Next.
9.	None	Refer to Section 4.4.4 to complete the installation of the Infrastructure.

4.5.2 Installing Only Oracle Collaboration Suite Database in a New Database

As a part of Oracle Collaboration Suite Infrastructure installation, this option enables you to install and configure Oracle Collaboration Suite Database on the specified computer.

Perform the procedure listed in [Table 4–10](#) to create a new database and populate it with schemas of Oracle Collaboration Suite Database. This procedure does not install any components of Identity Management.

Table 4–10 Screens for Installing Only Collaboration Suite Database in a New Database

Step	Screen	Action
1.	None	Start the installer and perform the required actions on the first few screens. Refer to Section 4.4.1 for details. Note that you must select Collaboration Suite Database on the Select Installation Type screen.
2.	Database Creation (Advanced installation only)	Select Yes .
3.	Register Oracle Collaboration Suite Database (Advanced installation only)	If you already have an instance of Oracle Internet Directory and you know its connect information, then select Yes. Enter the name of the computer where Oracle Internet Directory is running and the port number. If you do not know the port number, then refer to Section 4.3.10. If you want Oracle Collaboration Suite components to use SSL to connect to Oracle Internet Directory, then select Use SSL to connect to Oracle Internet Directory. If you do not have an Oracle Internet Directory, or do not know its connect information, then select No. Click Next.

Table 4–10 (Cont.) Screens for Installing Only Collaboration Suite Database in a New Database

Step	Screen	Action
4.	Specify Username and Password for Oracle Internet Directory (Advanced installation only)	This screen appears only if you selected Yes on the previous screen. Enter the user name for logging in to the Oracle Internet Directory in the Username field. Enter the password in the Password field. The Realm field appears only if your Oracle Internet Directory contains multiple realms. Enter the name of the realm for which you want to authenticate the user. Click Next.
5.	Oracle Database 10g screens (Advanced installation only)	Enter information for Oracle Collaboration Suite Database. Refer to Section 4.4.2 for more details.
6.	None	Refer to Section 4.4.4 to complete the installation of the Infrastructure.

4.5.3 Installing Oracle Collaboration Suite Database in an Existing Database

As a part of Oracle Collaboration Suite Infrastructure installation, this option enables you to configure Oracle Collaboration Suite Database in an existing Oracle 10g Database.

Refer to [Chapter 5](#) for more information.

4.5.4 Installing Identity Management Components Excluding Oracle Internet Directory

You already might an existing instance of Oracle Internet Directory taht you might want to use instead of having the installer create a new one. You might want to do this if your applications must authenticate users whose information is already stored in the existing instance of Oracle Internet Directory.

Perform the procedure listed in [Table 4–11](#) to install Identity Management components such as OracleAS Single Sign-On, Oracle Delegated Administration Services, and Oracle Directory Integration and Provisioning components for an existing instance of Oracle Internet Directory. Oracle Collaboration Suite Database and Oracle Internet Directory are not installed.

Note: Oracle Collaboration Suite Database and Oracle Internet Directory must be installed on the computer before this procedure is performed.

Table 4–11 Screens for Installing Identity Management Components Excluding Oracle Internet Directory

Step	Screen	Action
1.	None	Start the installer and perform the required actions on the first few screens. Refer to Section 4.4.1 for details. Note that you must select Identity Management on the Select Installation Type screen.
2.	Select Configuration Options (Advanced installation only)	Do not select Oracle Internet Directory. Select OracleAS Single Sign-On. If you need the services provided by Oracle Delegated Administration Services or Oracle Directory Integration and Provisioning or both, then select the components. Refer to Section 4.3.3 for more details. To configure your own certificate authority, which can issue certificates for users and servers, select OracleAS Certificate Authority. Do not select High Availability and Replication. Click Next.
3.	Register with Oracle Internet Directory (Advanced installation only)	Enter the name of the computer where Oracle Internet Directory is running and the port number. If you do not know the port number, then refer to Section 4.3.10. If you want Oracle Collaboration Suite components to use SSL to connect to Oracle Internet Directory, then select Use SSL to Connect to Oracle Internet Directory. Click Next.
4.	Specify Oracle Internet Directory Login (Advanced installation only)	Enter the user name for logging in to the Oracle Internet Directory in the Username field. Enter the password in the Password field. The Realm field appears only if your Oracle Internet Directory contains multiple realms. Enter the name of the realm for which you want to authenticate the user. Click Next.
5.	Specify ODS Password (Advanced installation only)	Enter password for OracleAS Metadata Repository schema.
6.	Enter information to configure OracleAS Certificate Authority (Advanced installation only)	If you select OracleAS Certificate Authority on the Select Configuration Options screen, then the installer displays screens where you must enter OracleAS Certificate Authority information. Refer to Section 4.4.3 for more details.
7.	Specify Instance Name and ias_admin Password (Advanced installation only)	Enter a name for the Infrastructure in the Instance Name field. Instance names can contain the dollar sign (\$) and underscore (_) in addition to any alphanumeric characters. If you have more than one Oracle Collaboration Suite instance on a computer, then the instance names must be unique. Example: infra_10_1_1 Enter a password for the ias_admin user in the ias_admin Password field. Enter the password again in the Confirm Password field. This password will also be the Oracle Internet Directory administrator password for the Infrastructure. Refer to Section 4.3.8 for restrictions on the password. Example: welcome99 Click Next.
8.	None	Refer to Section 4.4.4 to complete the installation of the Infrastructure. After the installation, you must register the database with Oracle Internet Directory by running OCSdbSchemaReg script. Refer to Section 4.5.9 for more information.

4.5.5 Installing Identity Management Components Including Oracle Internet Directory

As a part of Oracle Collaboration Suite Infrastructure installation, this option enables you to install and configure Identity Management services, such as Oracle Internet Directory, Oracle Application Server Single Sign-On, Oracle Delegated Administration Services, and Oracle Directory Integration and Provisioning.

To configure Oracle Internet Directory successfully, you need an existing instance of Oracle Collaboration Suite Database.

Perform the procedure listed in [Table 4–12](#) to install Identity Management components without installing Oracle Collaboration Suite Database.

This procedure is mainly useful to configure Oracle Internet Directory for a remote Oracle Collaboration Suite Database. The Oracle Collaboration Suite Database might be installed in a new database or in an existing database.

Note: Oracle Collaboration Suite Database must be installed on the computer before you can perform this procedure. It must not be registered with any Oracle Internet Directory.

Table 4–12 Screens for Installing Identity Management Components Including Oracle Internet Directory

Step	Screen	Action
1.	None	Start the installer and perform the required actions on the first few screens. Refer to Section 4.4.1 for details. Note that you must select Identity Management on the Select Installation Type screen.
2.	Select Configuration Options (Advanced installation only)	Select Oracle Internet Directory . Select OracleAS Single Sign-On . If you need the services provided by Oracle Delegated Administration Services or Oracle Directory Integration and Provisioning or both, then select the components. Refer to Section 4.3.3 for more details. To configure your own certificate authority, which can issue certificates for users and servers, select OracleAS Certificate Authority . Do not select High Availability and Replication . Click Next .
3.	Specify Oracle Collaboration Suite Database Location and Login information (Advanced installation only)	Enter the user name for logging in to the Oracle Collaboration Suite Database, in the Username field. The user must have DBA privileges. Enter a password for the user in the Password field. Enter the name of the computer where the database is running, in the Hostname field. Enter the number of the port on which it is listening in the Hostname field. The host name must be in the following format: host:port Enter the service name of the database in the Service Name field. Note that the service name must include the database domain name. Example: orcl.mydomain.com Click Next .

Table 4–12 (Cont.) Screens for Installing Identity Management Components Including Oracle Internet

Step	Screen	Action
4.	Enter information to configure OracleAS Certificate Authority (Advanced installation only)	If you select OracleAS Certificate Authority in the Select Configuration Options screen, then the installer displays screens where you must enter OracleAS Certificate Authority information. Refer to Section 4.4.3 for more details.
5.	Specify Instance Name and ias_admin Password (Advanced installation only)	Enter a name for the Infrastructure in the Instance Name field. Instance names can contain the dollar sign (\$) and underscore (_) in addition to any alphanumeric characters. If you have more than one Oracle Collaboration Suite instance on a computer, then the instance names must be unique. Example: idmgmt_10_1_1 Enter a password for the ias_admin user in the ias_admin Password field. Enter the password again in the Confirm Password field. This password will also be the Oracle Internet Directory administrator password for the Infrastructure. Refer to Section 4.3.8 for restrictions on the password. Example: welcome99 Click Next.
6.	None	Refer to Section 4.4.4 to complete the installation of the Infrastructure. After the installation, you must register the database with Oracle Internet Directory by running OCSdbSchemaReg script. Refer to Section 4.5.9 for more information.

4.5.6 Installing Only Oracle Internet Directory

You can choose to install and configure only Oracle Internet Directory as a part of Identity Management services.

Perform the procedure listed in [Table 4–13](#) to install Oracle Internet Directory.

Note: Oracle Collaboration Suite Database must be installed on the computer before you can perform this procedure

Table 4–13 Screens for Installing Only Oracle Internet Directory

Step	Screen	Action
1.	None	Start the installer and perform the required actions on the first few screens. Refer to Section 4.4.1 for details. Note that you must select Identity Management on the Select Installation Type screen.
2.	Select Configuration Options (Advanced installation only)	Select Oracle Internet Directory . Do not select OracleAS Single Sign-On . Do not select Oracle Delegated Administration Services . Do not select Oracle Directory Integration and Provisioning . Do not select OracleAS Certificate Authority . Do not select High Availability and Replication . Click Next .
3.	Specify Oracle Collaboration Suite Database Location and Login information (Advanced installation only)	Enter the user name for logging in to the Oracle Collaboration Suite Database, in the Username field. The user must have DBA privileges. Enter a password for the user in the Password field. Enter the name of the computer where the database is running, in the Hostname field. Enter the number of the port on which it is listening in the Hostname field. The host name must be in the following format: <code>host:port</code> Enter the service name of the database in the Service Name field. Note that the service name must include the database domain name. Example: <code>orcl.mydomain.com</code> Click Next .
4.	Specify Instance Name and <code>ias_admin</code> Password (Advanced installation only)	Enter a name for the Infrastructure in the Instance Name field. Instance names can contain the dollar sign (\$) and underscore (_) in addition to any alphanumeric characters. If you have more than one Oracle Collaboration Suite instance on a computer, then the instance names must be unique. Example: <code>infra_10_1_1</code> Enter a password for the <code>ias_admin</code> user in the <code>ias_admin</code> Password field. Enter the password again in the Confirm Password field. This password will also be the Oracle Internet Directory administrator password for the Infrastructure. Refer to Section 4.3.8 for restrictions on the password. Example: <code>welcome99</code> Click Next .
5.	None	Refer to Section 4.4.4 to complete the installation of the Infrastructure.

4.5.7 Installing Oracle Collaboration Suite 10g Infrastructure for an Existing Instance of Oracle Internet Directory

If you already have an existing instance of Oracle Internet Directory, then you can install Oracle Collaboration Suite Infrastructure against it.

Perform the procedure listed in [Table 4–14](#) to install Identity Management components (except Oracle Internet Directory) and Oracle Collaboration Suite Database.

Note: Oracle Internet Directory must be installed on the computer before you can perform this procedure.

This procedure is mainly useful when you already have an Oracle Internet Directory and its associated Oracle Collaboration Suite Database, and you want to implement any one of the following scenarios:

- Install OracleAS Certificate Authority with its own Oracle Collaboration Suite Database
- Install another Oracle Collaboration Suite Database for Oracle Internet Directory replication

It is unlikely that you would use this procedure to install other Identity Management components (OracleAS Single Sign-On, Oracle Delegated Administration Services, or Oracle Directory Integration and Provisioning), because this procedure installs a new instance of Oracle Collaboration Suite Database.

Table 4–14 Screens for Installing Oracle Collaboration Suite Infrastructure for an Existing Instance of Oracle Internet Directory

Step	Screen	Action
1.	None	Start the installer and perform the required actions on the first few screens. Refer to Section 4.4.1 for details. Note that you must select Identity Management and Collaboration Suite Database on the Select Installation Type screen.
2.	Select Configuration Options (Advanced installation only)	Do not select Oracle Internet Directory because you want to use an existing one. Do not select OracleAS Single Sign-On . If you need the services provided by Oracle Delegated Administration Services or Oracle Directory Integration and Provisioning or both, then select the components. Refer to Section 4.3.3 for more details. To configure your own certificate authority, which can issue certificates for users and servers, select OracleAS Certificate Authority . Do not select High Availability and Replication . Click Next .
3.	Specify Port Configuration Options (Advanced installation only)	To use default ports for the components, select Automatic . If you do not want to use the default ports, then select Manually Specify Ports and select the component for which you want to specify the port. Refer to Section 2.4.3 for more details about how to manually specify ports. Click Next .
4.	Guest Account Password (Advanced installation only)	Enter and confirm password for the guest account, <code>orclguest</code> , that is created automatically for Oracle Collaboration Suite components that use the Oracle Internet Directory specified in Step 3. Click Next .
5.	Register with Oracle Internet Directory (Advanced installation only)	Enter the name of the computer where Oracle Internet Directory is running and the port number. If you do not know the port number, then refer to Section 4.3.10 . If you want Oracle Collaboration Suite components to use only SSL to connect to Oracle Internet Directory, then select Use Only SSL Connections with this Oracle Internet Directory . Click Next .
6.	Specify Username and Password for Oracle Internet Directory (Advanced installation only)	Enter the user name for logging in to the Oracle Internet Directory in the Username field. Enter the password in the Password field. The Realm field appears only if your Oracle Internet Directory contains multiple realms. Enter the name of the realm for which you want to authenticate the user. Click Next .

Table 4–14 (Cont.) Screens for Installing Oracle Collaboration Suite Infrastructure for an Existing Instance of Oracle Internet Directory

Step	Screen	Action
7.	Enter information to configure OracleAS Certificate Authority (Advanced installation only)	If you select OracleAS Certificate Authority in the Select Configuration Options screen, then the installer displays screens where you must enter OracleAS Certificate Authority information. Refer to Section 4.4.3 for more details.
8.	Oracle Database 10g screens (Advanced installation only)	Enter information for Oracle Collaboration Suite Database. Refer to Section 4.4.2 for more details.
9.	Specify Instance Name and ias_admin Password (Advanced installation only)	Enter a name for the Infrastructure in the Instance Name field. Instance names can contain the dollar sign (\$) and underscore (_) in addition to any alphanumeric characters. If you have more than one Oracle Collaboration Suite instance on a computer, then the instance names must be unique. Example: infra_10_1_1 Enter a password for the ias_admin user in the ias_admin Password field. Enter the password again in the Confirm Password field. This password will also be the Oracle Internet Directory administrator password for the Infrastructure. Refer to Section 4.3.8 for restrictions on the password. Example: welcome99 Click Next.
10.	None	Refer to Section 4.4.4 to complete the installation of the Infrastructure.

4.5.8 Installing Only Oracle Application Server Certificate Authority and Oracle Collaboration Suite Database

You can install only OCA and Oracle Collaboration Suite Database as a part of Oracle Collaboration Suite Infrastructure installation.

Perform the procedure listed in [Table 4–15](#) to install only OracleAS Certificate Authority and Oracle Collaboration Suite Database.

Note: Oracle Internet Directory must be installed on the computer before you can perform this procedure.

Table 4–15 Screens for Installing Only OracleAS Certificate Authority and Collaboration Suite Database

Step	Screen	Action
1.	None	Start the installer and perform the required actions on the first few screens. Refer to Section 4.4.1 for details. Note that you must select Identity Management and Collaboration Suite Database on the Select Installation Type screen.
2.	Select Configuration Options (Advanced installation only)	Select Oracle Internet Directory . Do not select OracleAS Single Sign-On . Do not select Oracle Delegated Administration Services . Do not select Oracle Directory Integration and Provisioning . Select OracleAS Certificate Authority . Do not select High Availability and Replication . Click Next .
3.	Register with Oracle Internet Directory (Advanced installation only)	Enter the name of the computer where Oracle Internet Directory is running and the port number. If you do not know the port number, then refer to Section 4.3.10 . If you want Oracle Collaboration Suite components to use SSL to connect to Oracle Internet Directory, then select Use SSL Connections to connect to Oracle Internet Directory . Click Next .
4.	Specify Username and Password for Oracle Internet Directory (Advanced installation only)	Enter the user name for logging in to the Oracle Internet Directory in the Username field. Enter the password in the Password field. The Realm field appears only if your Oracle Internet Directory contains multiple realms. Enter the name of the realm for which you want to authenticate the user. Click Next .
5.	Enter information to configure OracleAS Certificate Authority (Advanced installation only)	Refer to Section 4.4.3 for more details.
6.	Oracle Database 10g Oracle Database 10g screens (Advanced installation only)	Enter information for Oracle Collaboration Suite Database. Refer to Section 4.4.2 for more details.
7.	None	Refer to Section 4.4.4 to complete the installation of the Infrastructure.

4.5.9 Running the OCSdbSchemaReg Script

If you selected **Identity Management Components** on the Select Installation Type screen for a distributed Infrastructure installation, then after the installation you must run the OCSdbSchemaReg script on the computer that contains the Database instance.

This script registers the Database instance with Identity Management instance and runs the backend Oracle Collaboration Suite Configuration Assistants.

To register the database with Oracle Internet Directory, execute OCSdbSchemaReg.sh as follows:

```
sh OCSdbSchemaReg.sh compulsory_arguments [optional_parameters]
```


Refer to the following section for a list of compulsory arguments and optional parameters.

You can find the log file for script output at `ORACLE_HOME/install/OCSdbSchemaReg.log`.

Compulsory Arguments and Optional Parameters of OCSdbSchemaReg

The compulsory arguments of the OCSdbSchemaReg script are as follows:

- **-h** *Oracle Internet Directory host*
- **-p** *Oracle Internet Directory non-SSL port*
- **-x** *Oracle Internet Directory SSL port*
- **-u** *Oracle Internet Directory user name*
- **-w** *Oracle Internet Directory user password*
- **-g** *Global database name*
- **-s** *Database SYS password*
- **-t** *Database SYSTEM password*
- **-e** *Oracle Mail schema password*
- **-v** *Oracle Voicemail & Fax schema password*
- **-o** *Oracle Voicemail & Fax ovfMetrics schema password*
- **-r** *Oracle Real-Time Collaboration schema password*
- **-c** *Oracle Calendar Server schema password*
- **-i** *Oracle Content Services schema password*
- **-b** *Oracle Workspaces password*
- **-a** *Oracle Collaboration Suite Web Access system password*
- **-k** *Oracle Collaboration Suite Web Access metrics password*
- **-k** *Oracle Collaboration Suite Database schema password*

Note: This password is used for all Oracle Collaboration Suite Database schema passwords. If you set this argument, then arguments, such as `-e`, `-r`, `-c`, `-v`, `-i`, `-b`, `-a`, `-k`, `-o` will be ignored, even if they are set.

- **-y** *Host list*

The list must be comma-separated and the entries must be in the form of `db_hostname:listener_port`.

- **-F** *Filesystem type*

The value of this argument can be `fs` (directory path to the datafile storage), `asm` (ASM disk group, such as `+DATA`), or `raw` (path to the rawconfig mapping file).

Optional Parameters

The optional arguments of OCSdbSchemaReg are as follows:

- **-l**

Pass this parameter if the Oracle Internet Directory port is the SSL port (no argument required). If this switch is not passed, the default is the standard Oracle Internet Directory port that you are using.

■ **-z**

Pass this parameter if you want to only register the database in to Oracle Internet Directory without running component backend Configuration Assistants.

You can use the following parameter if you want to bypass the command-line arguments and use a parameter file instead:

■ **-f** *ini filename*

Pass this parameter to bypass the command-line arguments and use a file that contains values for all compulsory arguments.

Refer to `OCSdbSchemaReg.ini.sample` located in `ORACLE_HOME/install` for a sample `.ini` file.

If you pass `-f` argument, no other command-line arguments will be processed. You must either enter all compulsory arguments or an `-f` argument pointing to the `.ini` file.

Note: Passwords are in plain text format.

Functions of OCSDBSchemaReg

The main functions of the `OCSdbSchemaReg` script are:

- Registering database in to Oracle Internet Directory. The script will optionally create the `ORACLE_HOME/ldap/admin/ldap.ora` file if it does not already exist. The entries in the `ldap.ora` file, if it exists, must match with the Oracle Internet Directory host that the script is configured against.

Note:

If the script detects that a database entry already exists in Oracle Internet Directory, it will assume that the database has already been properly registered. Component Configuration Assistants will attempt to use the connect string contained in that registration.

- Running Configuration Assistants for:
 - Oracle Real-Time Collaboration
 - Oracle Mail
 - Oracle Voicemail & Fax
 - Oracle Collaboration Suite Search
 - Oracle Content Services
 - Oracle Collaborative Workspaces
 - Oracle Web Access Client
- Keeping track of the processes that have succeeded. You can rerun the script if any tool fails after fixing the issue. You will only have to run those Configuration Assistants that did not succeed. The file containing these results is located in `ORACLE_HOME/install/schemaReg.results`

4.5.10 Using an Existing Instance of Identity Management from Oracle Application Server

If you have already installed Oracle Application Server, then you can use the existing instance of Identity Management for Oracle Collaboration Suite. Depending on the version of Identity Management you want to use, follow the steps mentioned in the following sections:

Starting with Identity Management 9.0.2.x

If you are planning to use the following instance of Identity Management 9.0.2.x:

- Identity Management 9.0.2.0.1

The upgrade will fail during the Applications tier upgrade, if you do not apply the appropriate patch. You must apply Portal Patch 9.0.2.3, which is a mandatory patch.

- Identity Management 9.0.2.3

If you do not apply any patch, you will be prompted to complete the upgrade of Oracle Collaborative Portlets, as documented in Section 7.8 of the Oracle Collaboration Suite Upgrade Guide.

If you applied Portal patch 9.0.2.6 before upgrade, you do not have to do extra steps as documented in Section 7.8 of the *Oracle Collaboration Suite Upgrade Guide*.

Note: For all the above cases, you must apply the required Portal 10g patch after the Applications-tier upgrade and before you run OracleAS Metadata Repository Upgrade Assistant, as documented in Section 7.3.1.1 in *Oracle Collaboration Suite Upgrade Guide*.

Starting with Identity Management 9.0.4.0 and Later

To use an instance of Identity Management 9.0.4.0 and later, you do not need to apply any patch before the upgrade.

Refer to Chapter 4 in *Oracle Collaboration Suite Upgrade Guide* for details.

4.5.11 Using an Existing Instance of OracleAS Portal from Oracle Application Server

If you have already installed Oracle Application Server, then it is possible to use the existing instance of OracleAS Portal for Oracle Collaboration Suite.

Depending on the version of OracleAS Portal you want to use, refer to the information in the following sections.

Starting with OracleAS Portal 9.0.2.x

You would not have to do anything if you are starting with OracleAS Portal 9.0.2.x.

Starting with OracleAS Portal 9.0.4.0

You would not have to do anything if you are starting with OracleAS Portal 9.0.4.0.

Starting with OracleAS Portal 9.0.4.1

If you are starting with OracleAS Portal 9.0.4.1, then you must apply the Portal 9.0.2.6 patchset or the iAS 9.0.4 patch before you start the upgrade.

After you apply the Portal 9.0.2.6 patchset, you must then apply the Portal 3923448 patch.

Refer to *Oracle Collaboration Suite Upgrade Guide* for more information. You can also find more information at OracleMetaLink at:

<http://metalink.oracle.com>

Installing Oracle Collaboration Suite Database in an Existing Database

You might have an existing Database that you might want to use for storing Oracle Collaboration Suite data. You can use the **Enable existing 10g Database to Collaboration Suite Database** option during the installation process to do so. This option seeds the Oracle Collaboration Suite schemas in the specified Database and then registers the Database within Oracle Internet Directory so that the applications can be configured against this Database for a subsequent Applications tier installation.

This chapter contains the following sections:

- [Section 5.1, "Preparing to Install"](#)
- [Section 5.2, "Installing Oracle Collaboration Suite Database in an Existing Database"](#)
- [Section 5.3, "Split Configuration"](#)

5.1 Preparing to Install

To be able to install Oracle Collaboration Suite in an existing Database, you must complete the following requirements:

- System requirements

Refer to [Chapter 2](#) for detailed information.

- Oracle Collaboration Suite 10g Infrastructure requirements

You need an operational Oracle Internet Directory to register your Database.

- Database requirements

You need Oracle Database 10g (10.1.0.4.2) for the Oracle Collaboration Suite installation to be successful. If you have an earlier version of database, for example Oracle Database 10g (10.1.0.2) or Oracle Database 10g (10.1.0.3), then you must apply the Oracle Database 10g Release 1 (10.1.0.4.2) Patchset to this existing Database.

Refer to [Section 5.2.1](#) for detailed information on applying the Patchset.

- Character set requirements

The Oracle Database 10g (10.1.0.4.2) you select must be configured with the AL32UTF8 character set, which is the supported character set for Oracle Collaboration Suite. However, for upgrade from a previous release the UTF8 character set is also supported, although the AL32UTF8 character set is recommended.

You may either choose another database with a supported character set or migrate the Database character set following the procedures in the Globalization Support Whitepaper available at:

http://www.oracle.com/technology/tech/globalization/pdf/TWP_AppDev_Unicode_10gR2.pdf

5.2 Installing Oracle Collaboration Suite Database in an Existing Database

This section contains the following topics:

- [Section 5.2.1, "Applying the 10g Release 1 \(10.1.0.4.2\) Patchset"](#)
- [Section 5.2.2, "Installing Oracle Collaboration Suite"](#)

5.2.1 Applying the 10g Release 1 (10.1.0.4.2) Patchset

You need Oracle Database 10g (10.1.0.4.2) for the Oracle Collaboration Suite installation to be successful. If you have an earlier version of database, for example Oracle Database 10g (10.1.0.2) or Oracle Database 10g (10.1.0.3), then you must apply the Oracle Database 10g Release 1 (10.1.0.4.2) Patchset to this existing Database.

This section contains the following topics:

- [Preinstallation Requirements](#)
- [Preinstallation Tasks](#)
- [Installation Tasks](#)
- [Postinstallation Tasks](#)

5.2.1.1 Preinstallation Requirements

The following are the system requirements for this patchset:

- Linux
- Oracle Database 10g (10.1.0.2) or later

5.2.1.2 Preinstallation Tasks

Complete the following preinstallation tasks before installing the patchset:

- [Review Known Preinstallation Issues](#)
- [Identify the Oracle Database Installation](#)
- [Check Postrelease Updates](#)
- [Extract the Installation Software](#)
- [Set the ORACLE_HOME and ORACLE_SID Environment Variables](#)
- [Shut Down Oracle Databases](#)
- [Stop All Processes](#)
- [Back Up the System](#)

Review Known Preinstallation Issues

Review the information in the following sections. If any of the issues apply to your Oracle installation, then follow the instructions before installing the patchset:

- [Adding a Second Node to An Existing Single-Node Oracle Real Application Clusters Installation](#)
- [Upgrading to or Installing Release Oracle Database 10g Release \(10.1.0.4.2\) on a Fujitsu PRIMECLUSTER System](#)
- [Upgrading Oracle E-Business Suite Databases](#)
- [Upgrading Installations that use Physical or Logical Standby Databases](#)
- [Rolling Upgrades Using Oracle Data Guard SQL Apply](#)
- [Upgrading Preconfigured Standard Edition Databases](#)
- [Upgrading Oracle Workspace Manager and Oracle Messaging Gateway](#)
- [Upgrading Installations that use Java Virtual Machine or Oracle interMedia](#)
- [Upgrading Oracle Cluster Ready Services](#)

Adding a Second Node to An Existing Single-Node Oracle Real Application Clusters Installation

If you installed Oracle Real Application Clusters, 10g release 1 (10.1.0.2 or 10.1.0.3) on a single node and created a database during the installation, then the initialization parameter `DB_RECOVERY_FILE_DEST` might be set incorrectly if you made the following choices:

- You specified a local directory path for the Oracle home directory
- You chose the General Purpose, Data Warehousing, or Transaction Processing database configuration option
- You chose not to enable automated backups

If you made these choices, then the `DB_RECOVERY_FILE_DEST` parameter incorrectly specifies a directory on the local file system (either `$ORACLE_BASE/flash_recovery_area` or `$ORACLE_HOME/flash_recovery_area`, depending on your environment settings). Because this directory is not shared, this setting prevents you from adding another node to your Oracle Real Application Clusters installation.

Note: This problem does not occur if you choose the Custom installation type or choose the Advanced database configuration option during the installation or use the DBCA to create an Oracle Real Application Clusters database after you have installed the software.

This issue is tracked with Oracle bug 3480750.

Upgrading to or Installing Release Oracle Database 10g Release (10.1.0.4.2) on a Fujitsu PRIMECLUSTER System

For information on how to upgrade to or install Oracle Database 10g release 1 (10.1.0.4.2) on a Fujitsu PRIMECLUSTER system, refer to the following documents:

- Document 263719.1 available on the *OracleMetaLink* Web site:
<http://metalink.oracle.com>
- `SMAWrac10g.readme.html`, available on the Fujitsu Web site:
<http://uc.fujitsu.com/Oracle/downloads/SMAWrac10g.readme.html>

Upgrading Oracle E-Business Suite Databases

If you are an Oracle E-Business Suite customer and you want to upgrade your Oracle E-Business Suite release 11i database server to this patchset, then you must check the latest certification status and Interoperability Notes available on the Oracle*MetaLink* Web site:

<http://metalink.oracle.com>

Upgrading Installations that use Physical or Logical Standby Databases

Before applying this patchset to an Oracle Database 10g release 1 (10.1.0.2 or 10.1.0.3) installation that uses one or more physical or logical standby databases, review the following Oracle*MetaLink* documents:

- For information about physical standby databases, review document 278641.1.
- For information about logical standby databases, review document 278643.1.

These documents are available on the Oracle*MetaLink* Web site:

<http://metalink.oracle.com>

Rolling Upgrades Using Oracle Data Guard SQL Apply

If you use logical standby databases, then you can use Oracle Data Guard SQL Apply to perform rolling upgrades to upgrade Oracle Database 10g release 1 (10.1.0.3) to release 1 (10.1.0.4.2). During a rolling upgrade, you can run different releases of the Oracle software on the primary and logical standby databases while you upgrade them one at a time. If you do this, then you will incur minimal downtime on the primary database. For information and instructions on rolling upgrades with logical standby databases, review document 300479.1, available on the Oracle*MetaLink* Web site:

<http://metalink.oracle.com>

Upgrading Preconfigured Standard Edition Databases

If you are using an Oracle Database 10g release 1 (10.1.0.2 or 10.1.0.3) preconfigured Standard Edition database, then the database contains the following components that are not supported by the Standard Edition:

- Oracle Data Mining
- Oracle OLAP Catalog
- Oracle OLAP Analytic Workspace
- Oracle OLAP API
- Spatial

The `catpatch.sql` script does not run the patch scripts for these components. It sets the component STATUS to `OPTION OFF` in the `DBA_REGISTRY` view. The original versions of the dictionary objects for the components remain in the database but the `catpatch.sql` script does not apply the patch to them.

Upgrading Oracle Workspace Manager and Oracle Messaging Gateway

Oracle Workspace Manager and Oracle Messaging Gateway are not upgraded by this patchset installation. If the Oracle Database 10g release 1 (10.1.0.2 or 10.1.0.3) installation includes these components, then upgrade them separately with patches specific to these products.

Upgrading Installations that use Java Virtual Machine or Oracle interMedia

If any of the databases use Java Virtual Machine or Oracle interMedia, then install the Oracle Database 10g Products installation type from the Oracle Database 10g Companion DVD before installing the 10.1.0.4.2 patchset.

For information about installing the Oracle Database 10g Products installation type from the Companion DVD, refer to *Oracle Database 10g Installation Guide* or *Oracle Database 10g Companion CD Installation Guide* available at

<http://metalink.oracle.com>

This installation type includes the Natively Compiled Java Libraries (NCOMP) files to improve Java performance. If you do not install the NCOMP files, then the "ORA-29558:JAccelerator (NCOMP) not installed" error occurs when a database that uses Java VM is upgraded to the patch release.

Upgrading Oracle Cluster Ready Services

The Oracle Cluster Ready Services software (CRS) must be at the same or newer level as the Oracle software in the Oracle Real Application Clusters Oracle home. Therefore, you should always upgrade CRS before you upgrade Oracle Real Application Clusters.

However, before you upgrade CRS to 10.1.0.4.2, you must apply the patch for Oracle bug 3671865 to all the release 10.1.0.2 Oracle Real Application Clusters Oracle home directories that are part of your cluster database environment. This patch is required so that 10.1.0.2 Oracle Real Application Clusters Oracle homes can operate with the upgraded 10.1.0.4.2 CRS software.

You must apply this patch to the Oracle Real Application Clusters Oracle homes even if you later upgrade the Oracle homes to 10.1.0.4.2 after you upgrade CRS.

Identify the Oracle Database Installation

This is not a complete software distribution. You must install it in an existing Oracle Database 10g Oracle home. To identify Oracle home directories, view the `/var/opt/oracle/oratab` file.

If you are installing this patchset on an existing Oracle Real Applications Cluster 10g release 10.1.0.2 or 10.1.0.3 installation, then you must run Oracle Universal Installer from the same node from which the Oracle Database software was installed.

Check Postrelease Updates

Before installing this patchset in a production environment, review document 263719.1, ALERT: Oracle 10g Release 1 (10.1) Support Status and Alerts, available on the OracleMetaLink Web site:

<http://metalink.oracle.com>

To locate this document:

1. Log on to OracleMetaLink.
2. Click Advanced at the top of the OracleMetaLink page.
3. Enter 263719.1 in the Document ID field, then click Submit.

This document is created by Oracle Support Services and provides information about the status of issues discovered after this patchset was released. If you are unable to access this site, then contact Oracle Support Services before installing this patchset in a production environment.

Extract the Installation Software

To extract the patchset installation software:

1. Extract the appropriate patchset from the Oracle Collaboration Suite Supplemental DVD to a directory that is not the Oracle home directory or under the Oracle home directory.
2. Enter the following command to unzip and extract the installation files:

```
$ unzip patchset_name.zip
```

In the preceding command, `patchset_name` represents the appropriate patchset for your platform.

Set the ORACLE_HOME and ORACLE_SID Environment Variables

Enter the following commands to set the `ORACLE_HOME` and `ORACLE_SID` environment variables:

- Bourne, Bash, or Korn shell:

```
$ ORACLE_HOME=oracle_home  
$ ORACLE_SID=sid  
$ export ORACLE_HOME ORACLE_SID
```

- C shell:

```
% setenv ORACLE_HOME oracle_home  
% setenv ORACLE_SID sid
```

In these examples, `oracle_home` is the Oracle home directory where the Oracle Database 10g installation that you want to upgrade is installed, and `sid` is the SID of the database that you want to upgrade.

Shut Down Oracle Databases

Shut down any existing Oracle Database instances with normal or immediate priority. On Oracle Real Application Clusters systems, shut down all instances on each node.

If Automatic Storage Management (ASM) is running, then shut down all databases that use ASM, then shut down the ASM instance on each node of the cluster.

Note: If you are using CRS, then you must shut down all Oracle Database instances on all cluster nodes before applying the patchset to the CRS installation. All Oracle Database instances are restarted during the CRS patchset installation. After the CRS patchset installation is complete, you must shut down all Oracle Database and ASM instances running in the Oracle Real Application Clusters Oracle home before patching the Oracle Real Application Clusters Oracle home.

Stop All Processes

Stop all listener and other processes running in the Oracle home directory where you want to install the patchset.

Note: If you shut down ASM instances, then you must first shut down all database instances that use ASM, even if these databases run from different Oracle homes.

- If you are upgrading a single instance installation, then shut down the following Oracle Database 10g services before installing the patchset:

Note: You must perform these steps in the order listed.

1. Shut down any processes in the Oracle home that might be accessing a database, for example Oracle Enterprise Manager Database Control or iSQL*Plus.

Note: Before you shut down any processes that are monitored by Enterprise Manager Grid Control, set a blackout in Grid Control for the processes that you intend to shut down. This is necessary so that the availability records for these processes indicate that the shutdown was planned downtime rather than an unplanned system outage.

2. Shut down all database instances.
3. Shut down the ASM instance, if the ASM instance is running in the Oracle home to be patched.
4. Shut down all listeners.
5. Shut down the Oracle Cluster Synchronization Services (CSS) daemon as the root user:

```
# /etc/init.d/init.cssd stop
```

- If you are upgrading a CRS installation, then shut down the following Oracle Database 10g services before installing the patchset:

Note: You must perform these steps in the order listed.

1. Shut down any processes in the Oracle home on each node that might be accessing a database, for example Oracle Enterprise Manager Database Control.

Note: Before you shut down any processes that are monitored by Enterprise Manager Grid Control, set a blackout in Grid Control for the processes that you intend to shut down. This is necessary so that the availability records for these processes indicate that the shutdown was planned downtime rather than an unplanned system outage.

2. Shut down all Oracle Real Application Clusters instances on all nodes. To shut down all Oracle Real Application Clusters instances for a database, enter the following command where db_name is the name of the database:

```
$ oracle_home/bin/srvctl stop database -d db_name
```

3. Shut down all ASM instances on all nodes. To shut down an ASM instance, enter the following command, where node is the name of the node where the ASM instance is running:

```
$ oracle_home/bin/srvctl stop asm -n node
```

4. Stop all node applications on all nodes. To stop node applications running on a node, enter the following command, where `node` is the name of the node where the applications are running:

```
$ oracle_home/bin/srvctl stop nodeapps -n node
```

5. Shut down the CRS process by entering the following command on all nodes as the root user:

```
# /etc/init.d/init.crs stop
```

Note: If the CRS installation is not on a shared Oracle home, then you can upgrade the CRS installation one node at a time. To do this, perform the preceding steps only on the first node that you are upgrading, then follow the instructions on the installer screen.

- If you are upgrading an Oracle Real Application Clusters installation and node applications are running in the Oracle Real Application Clusters Oracle home, then shut down the following Oracle Database 10g services before installing the patchset:

Note: You must perform these steps in the order listed.

1. Shut down any processes in the Oracle home on each node that might be accessing a database, for example Oracle Enterprise Manager Database Control.

Note: Before you shut down any processes that are monitored by Enterprise Manager Grid Control, set a blackout in Grid Control for the processes that you intend to shut down. This is necessary so that the availability records for these processes indicate that the shutdown was planned downtime rather than an unplanned system outage.

2. Shut down all Oracle Real Application Clusters instances on all nodes. To shut down all Oracle Real Application Clusters instances for a database, enter the following command where `db_name` is the name of the database:

```
$ oracle_home/bin/srvctl stop database -d db_name
```

3. Shut down all ASM instances on all nodes. To shut down an ASM instance, enter the following command, where `node` is the name of the node where the ASM instance is running:

```
$ oracle_home/bin/srvctl stop asm -n node
```

4. Stop all node applications on all nodes. To stop node applications running on a node, enter the following command, where `node` is the name of the node where the applications are running:

```
$ oracle_home/bin/srvctl stop nodeapps -n node
```

Back Up the System

Oracle recommends that you create a backup of the Oracle Database 10g installation before you install the patchset. After the patchset is installed, there is no way to remove it.

5.2.1.3 Installation Tasks

You can install the patchset either interactively or noninteractively. Refer to one of the following sections for information about how to complete the installation:

- To install the patchset interactively, refer to [Installing the Oracle Database 10g Patchset Interactively](#).
- To install the patchset noninteractively, refer to [Installing the Oracle Database 10g Patchset Noninteractively](#).

Installing the Oracle Database 10g Patchset Interactively

To install the Oracle Database 10g patchset interactively:

Note: If you attempt to install this patchset in an Oracle home directory that does not contain an Oracle Database 10g release (10.1.0.2 or 10.1.0.3) installation, then Oracle Universal Installer displays a warning dialog with the following error:

```
There are no patches that need to be applied from the patchset
Oracle Database 10g Patchset 2 10.1.0.4.2
```

The Oracle Universal Installer does not allow the installation to proceed. Click **OK**, then click **Cancel** to end the installation.

1. Log in as the `oracle` user.
2. If you are not installing the software on the local system, then enter the following command to direct X applications to display on the local system:

- Bourne, Bash, or Korn shell:

```
$ DISPLAY=local_host:0.0 ; export DISPLAY
```

- C shell:

```
% setenv DISPLAY local_host:0.0
```

In this example, `local_host` is the host name or IP address of the system that you want to use to display Oracle Universal Installer (your workstation or PC).

3. Enter the following commands to start Oracle Universal Installer, where `patchset_directory` is the directory where you unzipped the patchset software:

```
% cd patchset_directory/Disk1
% ./runInstaller
```

Note: If you want to install the Oracle9i globalization support locale definition files, then enter the following commands to run Oracle Universal Installer:

```
% ./runInstaller oracle.rsfnlsrtl_rsf:b_cr9idata=true
```

4. On the Welcome screen, click **Next**.
5. On the Specify File Locations screen, click **Browse** next to the Path field in the Source section.
6. Select the `products.xml` file from the stage directory where you unpacked the patchset files, then click **Next**. For example:
`directory_path/stage/products.xml`
7. In the Name field in the Destination section, select the name of the Oracle home that you want to update from the drop-down list, then click **Next**.
8. If you are installing the patchset on an Oracle Real Application Clusters cluster, then click **Next** when the Selected Nodes screen appears.

Note: The Selected Nodes screen lists the existing Oracle Real Application Clusters 10g release 1 nodes. The first node in the list is the node from where the Oracle Real Application Clusters 10g release 1 software was installed. You must install the patchset software from this node. If this is not the node where you are running Oracle Universal Installer, then exit Oracle Universal Installer and install the patchset software from the first node in the list of nodes.

Alternatively, reset the node order as follows:

1. Exit Oracle Universal Installer.
2. Enter a command similar to the following, where the node that you want to install the patchset from is the first node in the list of nodes:

```
$ runInstaller -updateNodeList "CLUSTER_NODES=node2,
node1,node3" -local
ORACLE_HOME=oracle_home_path
```

In this example, the Oracle Real Application Clusters 10g release 1 software was installed from node1, but the patchset will be installed from node2.

3. Start Oracle Universal Installer from the first node in the list.
-

9. On the Summary screen, click **Install**.

This screen lists all the patches available for installation.

10. When prompted, run the `$ORACLE_HOME/root.sh` script as the `root` user. If you are applying the patchset to an Oracle Real Application Clusters installation, then run the `root.sh` script on each node of the cluster.

Note: If you are applying this patchset to a CRS installation:

- If you shut down all CRS services on all nodes as described in [Section 5.2.1.2](#) before starting the installation, then complete all the steps except the first step in the instructions displayed by the installer screen.
- If you did not shut down all CRS services on all nodes, then complete all the steps in the instructions displayed by the installer screen.

In either case, you will not be prompted to run the `root.sh` script.

The CRS installation instructions displayed by the installer screen are also available in the `CRS_HOME/install/readme.txt` file.

11. On the End of Installation screen, click **Exit**, then click **Yes** to exit from Oracle Universal Installer.

Installing the Oracle Database 10g Patchset Noninteractively

To install the Oracle Database 10g patchset noninteractively

1. Copy the response file template provided in the response directory where you unpacked the patchset archive file.
2. Edit the values for all fields labeled as `<Value Required>` as described by the comments and examples in the template

Note: If you want to install the Oracle9i globalization support locale definition files, then set the `b_cr9idata` variable to `True` in the response file.

For Oracle Real Application Clusters installations, make sure the `CLUSTER_NODES` variable specifies all the nodes used in the original Oracle Real Application Clusters installation.

3. To run Oracle Universal Installer, enter a command similar to the following, where `response_file` is the full path to the response file that you edited:

```
% ./runInstaller -silent -responseFile response_file
```

4. After the installation, run the `$ORACLE_HOME/root.sh` script as the `root` user. If you are applying the patchset to an Oracle Real Application Clusters installation, then run the `root.sh` script on each node of the cluster.

Note: If you are applying this patchset to a CRS installation:

- If you shut down all CRS services on all nodes as described in [Section 5.2.1.2](#) before starting the installation, then complete all the steps except the first step in the `CRS_HOME/install/readme.txt` file.
 - If you did not shut down all CRS services on all nodes, then complete all the steps in the `CRS_HOME/install/readme.txt` file.
-

5.2.1.4 Postinstallation Tasks

Review the information in this section before using the upgraded software. This section lists required and optional postinstallation tasks, depending on the installation type and the products that you want to use.

- [Upgrading Release 9.2 and Earlier Databases Directly to Oracle Database 10g Release 1 \(10.1.0.4.2\)](#)
- [Upgrading an Oracle9i Database to Oracle Database 10g](#)
- [Upgrading a Release 9.2 Database Not Using OLS](#)
- [Required Postinstallation Tasks](#)
- [Running the configPatch.pl Script on an Oracle RAC Cluster](#)
- [Resetting the DBMS_SCHEDULER Time Zone](#)
- [Oracle Enterprise Manager Postinstallation Steps for Database Console](#)
- [Automatically Restarting Oracle Notification Service](#)

Upgrading Release 9.2 and Earlier Databases Directly to Oracle Database 10g Release 1 (10.1.0.4.2)

After you have installed the patchset software, use one of the following methods to upgrade Oracle Databases from a previous release, as described in the Oracle Database Upgrade Guide:

- Run the `u0902000.sql`, `u0900010.sql`, `u0801070.sql`, or `u0800060.sql` upgrade scripts. These scripts are installed in the `$ORACLE_HOME/rdbms/admin` directory.
- Use the Database Upgrade Assistant to perform the upgrades. If you are upgrading an Oracle Real Application Clusters database, then the Database Upgrade Assistant might display the following message:

The database `databasename` does not have the cluster configuration and also not listed in the registry of remote cluster nodes. Do you want the Database Upgrade Assistant to continue upgrading it as non cluster database?

If this message appears, then do one of the following:

- From the database Oracle home, run the `srvctl` command to add the database configuration information to the Oracle Cluster Register (OCR).

See Also: *Oracle Real Application Clusters Administrator's Guide*

- On all nodes of the cluster, add the following entry to the `oratab` file:

```
databasename:oraclehome:N
```

Upgrading an Oracle9i Database to Oracle Database 10g

If you upgrade an Oracle9i database to Oracle Database 10g release 1, then Oracle Flashback features using a timestamp may fail. To work around this problem, enter the following SQL script from the Oracle Database 10g database:

```
SQL> DELETE FROM smon_scn_time WHERE orig_thread <> 0;
SQL> COMMIT;
```

This issue is tracked with Oracle bug 3994270.

Upgrading a Release 9.2 Database Not Using OLS

If you want to upgrade an Oracle9i release 9.2 preconfigured database, and you are not using Oracle Label Security (OLS), then complete the following steps to avoid errors during the upgrade:

1. Use Oracle Universal Installer release 9.2 to install OLS using the Custom installation type.
2. Run the `$ORACLE_HOME/rdbms/admin/catnools.sql` script with the SYSDBA privilege to remove OLS components from the database.

Required Postinstallation Tasks

Review the [Check Tablespace Sizes and Set Parameter Values](#) section and complete the steps in the [Upgrade the Release 10.1 Database](#) section after you have installed the patchset software.

Check Tablespace Sizes and Set Parameter Values

Review the following sections before upgrading a database.

- [Check SYSTEM Tablespace Size](#)
- [Check XDB Tablespace Size](#)
- [Set the SHARED_POOL_SIZE and JAVA_POOL_SIZE Initialization Parameters](#)

Check SYSTEM Tablespace Size

If JServer is part of the installation, then ensure that there is at least 10 MB of free space allocated to the SYSTEM tablespace.

Check XDB Tablespace Size

For Oracle Real Application Clusters installations, ensure that there is at least 50 MB of free space allocated to the XDB tablespace.

Set the SHARED_POOL_SIZE and JAVA_POOL_SIZE Initialization Parameters

Set the value of the SHARED_POOL_SIZE and the JAVA_POOL_SIZE initialization parameters, as follows:

1. Start the database:

```
SQL> STARTUP
```

2. If necessary, enter the following command to determine whether the system uses an initialization parameter file (init.ora) or a server parameter file (spfile.ora):

```
SQL> SHOW PARAMETER PFILE;
```

This command displays the name and location of the server parameter file or the initialization parameter file.

3. Determine the current values of these parameters:

```
SQL> SHOW PARAMETER SHARED_POOL_SIZE
```

```
SQL> SHOW PARAMETER JAVA_POOL_SIZE
```

4. If the system is using a server parameter file:

- a. If necessary, set the value of the SHARED_POOL_SIZE initialization parameter to at least 150 MB:

```
SQL> ALTER SYSTEM SET SHARED_POOL_SIZE='150M' SCOPE=spfile;
```

- b.** If necessary, set the value of the JAVA_POOL_SIZE initialization parameter to at least 150 MB:

```
SQL> ALTER SYSTEM SET JAVA_POOL_SIZE='150M' SCOPE=spfile;
```

- 5.** If the system uses an initialization parameter file, then, if necessary, change the values of the SHARED_POOL_SIZE and the JAVA_POOL_SIZE initialization parameters to at least 150 MB in the initialization parameter file (init.ora).
 - 6.** Ensure that the value of the SGA_TARGET initialization parameter size is greater than the sum of the values of the SHARED_POOL_SIZE and the JAVA_POOL_SIZE initialization parameters.
 - 7.** Shut down the database:

```
SQL> SHUTDOWN
```

Upgrade the Release 10.1 Database

After you install the patchset, you must perform the following steps on every database associated with the upgraded Oracle home:

Note: If you do not run the `catpatch.sql` script, as described in this section and you start up a database for normal operation, then "ORA-13516: SWRF Operation failed: CATPROC not valid" errors will occur.

- 1.** Log in as the Oracle software owner user.
- 2.** For Oracle Real Application Clusters installations, start node applications on each node of the cluster as follows:

```
$ srvctl start nodeapps -n nodename
```

- 3.** If you are using ASM, then start the ASM instance.
 - 4.** For single-instance installations, start the listener, as follows:

```
$ lsnrctl start
```

Note: If you are using the Oracle OLAP option, then make sure that the listener is running.

- 5.** For single-instance installations, use SQL*Plus to log in to the database as the SYS user with SYSDBA privileges:

```
$ sqlplus /nolog
SQL> CONNECT / AS SYSDBA
```

- 6.** For Oracle Real Application Clusters installations:
 - a.** Start the database, where `db_name` is the database name and `inst_name` is the local instance name:

```
$ srvctl start instance -d db_name -i inst_name
```

- b. Use SQL*Plus to log in to the database as the SYS user with SYSDBA privileges:

```
$ sqlplus /nolog
SQL> CONNECT / AS SYSDBA
```

- c. Set the CLUSTER_DATABASE initialization parameter to FALSE:

```
SQL> ALTER SYSTEM SET CLUSTER_DATABASE=FALSE SCOPE=spfile;
```

- d. Shut down the database:

```
SQL> SHUTDOWN
```

7. Enter the following SQL*Plus commands:

```
SQL> STARTUP UPGRADE
SQL> SPOOL patch.log
SQL> @?/rdbms/admin/catpatch.sql
SQL> SPOOL OFF
```

8. Review the patch.log file for errors and inspect the list of components that is displayed at the end of catpatch.sql script. This list provides the version and status of each SERVER component in the database.
9. If necessary, rerun the catpatch.sql script after correcting any problems.
10. Restart the database:

```
SQL> SHUTDOWN
SQL> STARTUP
```

11. Run the utlrlp.sql script to recompile all invalid PL/SQL packages now instead of when the packages are accessed for the first time. This step is optional but recommended.

```
SQL> @?/rdbms/admin/utlrlp.sql
```

Note: When the 10.1.0.4.2 patchset is applied to an Oracle Database 10g Standard Edition database, there may be 42 invalid objects after the utlrlp.sql script runs. These objects belong to the unsupported components and do not affect the database operation.

Ignore any messages indicating that the database contains invalid recycle bin objects similar to the following:

```
BIN$41z1jWit9gfgMFeM2hVSoA==$0
```

12. If you are using the Oracle Recovery Manager catalog, then enter the following command:

```
$ rman catalog username/password@alias
RMAN> UPGRADE CATALOG;
```

13. For Oracle Real Application Clusters installations:

- a. Set the CLUSTER_DATABASE initialization parameter to TRUE:

```
SQL> ALTER SYSTEM SET CLUSTER_DATABASE=TRUE SCOPE=spfile;
```

- b. Restart the database:

```
SQL> SHUTDOWN
SQL> STARTUP
```

- c. Start any services that you want to use:

```
srvctl start service -d db_name -s service_name
```

Running the configPatch.pl Script on an Oracle RAC Cluster

The `configPatch.pl` script updates the Oracle Enterprise Manager Database Control files. Although Oracle Universal Installer copies the `configPatch.pl` script to all the Oracle homes on the cluster, it runs the script only on the node running Oracle Universal Installer.

If you install this patch on an Oracle Real Application Clusters installation that does not use a shared Oracle home directory, then you must manually run the `$ORACLE_HOME/sysman/install/configPatch.pl` script on each node of the cluster, except on the node from which you ran Oracle Universal Installer.

Note: These instructions do not apply to Oracle Real Application Clusters installations where the nodes of the cluster share the same Oracle home.

Resetting the DBMS_SCHEDULER Time Zone

If you created a preconfigured database during the Oracle Database 10g release 1 installation, then specify the local time zone, as follows:

1. Start SQL*Plus:

```
$ sqlplus "/ AS SYSDBA"
```

2. If necessary, start the database:

```
SQL> STARTUP
```

3. Enter the following command:

```
SQL> SELECT TZNAME FROM V$TIMEZONE_NAMES;
```

The output from this command lists the different time zone settings for the TZNAME attribute.

4. From the output of the preceding command, identify the time zone for your location.
5. Reset the `DEFAULT_TIMEZONE` attribute for the scheduler, where `timezone` is the time zone that you identified in the previous step:

```
SQL> BEGIN
DBMS_SCHEDULER.SET_SCHEDULER_ATTRIBUTE('DEFAULT_TIMEZONE','timezone');
END ;
/
```

The `DEFAULT_TIMEZONE` attribute determines the time zone that the maintenance windows use.

This issue is tracked with Oracle bug 3721687.

Oracle Enterprise Manager Postinstallation Steps for Database Console

If you upgraded a release 10.1.0.2 or 10.1.0.3 database configured to use Oracle Enterprise Manager Database Console to release 10.1.0.4.2, then you must perform the following steps:

Note: On Oracle Real Application Clusters, perform these steps on each node of the cluster.

1. Enter the following command:

```
SQL> SELECT TZNAME FROM V$TIMEZONE_NAMES;
```

The output from this command lists the different time zone settings for the TZNAME attribute.

2. Set the TZ environment variable to your time zone:

- Bourne, Bash, or Korn shell:

```
$ TZ=timezone; export TZ
```

- C shell:

```
% setenv TZ timezone
```

3. Set the ORACLE_SID environment variable:

- Bourne, Bash, or Korn shell:

```
$ ORACLE_SID=sid ; export ORACLE_SID
```

- C shell:

```
% setenv ORACLE_SID sid
```

4. If you tried unsuccessfully to start the Database Console after you upgraded the database, then enter the following command:

```
$ oracle_home/bin/emctl stop dbconsole
```

5. Enter the following command:

```
$ oracle_home/bin/emctl resetTZ agent
```

This command updates the `$ORACLE_HOME/hostname_sid/sysman/config/emd.properties` file to match the value of the TZ environment variable. It also returns the command required in step 7.

6. Connect to the database as an Enterprise Manager Repository user (SYSMAN):

```
$ sqlplus SYSMAN/sysman_password
```

Note: Alternatively, you can connect as the SYS user with SYSDBA privileges, as follows:

```
$ sqlplus SYS/sys_password AS SYSDBA
```

After you connect as the SYS user, alter the session to run as SYSMAN:

```
SQL> ALTER SESSION SET current_schema = SYSMAN;
```

7. Enter the command displayed in step 5, for example:

```
SQL> EXEC MGMT_TARGET.SET_AGENT_TZRGN('host_name.domain_name:1830','PST8PDT')
SQL> COMMIT
```

8. Exit SQL*Plus.

```
SQL> EXIT;
```

9. Start Oracle Enterprise Manager Database Console:

```
$ emctl start dbconsole
```

This issue is tracked with Oracle bug 4132656.

Automatically Restarting Oracle Notification Service

For Oracle Database 10g release 1 (10.1.0.2) installations, the Oracle Notification Service (ONS) AUTO_START parameter is set to 0 on each node of the cluster. For this reason, CRS does not automatically start ONS when the node is restarted.

To work around this issue, perform the following steps as the CRS owner for each ONS resource:

1. Change directory to the crs_home/crs/public directory.
2. Use the following command to create a file containing the profile resources:

```
$ crs_home/bin/crs_stat -p ora.nodename.ons > ora.nodename.ons.cap
```

3. Enter the following command to change the AUTO_START parameter value to 1 in the ora.nodename.ons.cap file:

```
$ crs_home/bin/crs_profile -update ora.nodename.ons -o as=1
```

4. Enter the following command to update the resource profile:

```
$ crs_home/bin/crs_register -u ora.nodename.ons
```

This issue is tracked with Oracle bug 4011834.

5.2.2 Installing Oracle Collaboration Suite

This section contains the following topics:

- [Preinstallation Tasks](#)
- [Installation Tasks](#)

5.2.2.1 Preinstallation Tasks

Before you start to install Oracle Collaboration Suite in an existing Database, ensure that the kernel parameters are set as listed in [Table 5-1](#):

Table 5-1 Database Configuration Parameters and Their Minimum Values for Installing Oracle Collaboration Suite in an Existing Database

Kernel Parameter	Minimum Value of the Parameter
pga_aggregate_target	203423744
db_cache_size	150994944
session_max_open_files	50
processes	250
sga_max_size	629145600
aq_tm_processes	1
db_recovery_file_dest_size	2147483648
star_transformation_enabled	TRUE
sga_target	629145600
compatible	10.1.0.4.2
shared_pool_size	184549376
sessions	400
job_queue_processes	10
java_pool_size	125829120
dml_locks	200
max_commit_propagation_delay	1
dispatchers	(PROTOCOL=TCP) (SERVICE={SID}XDB)
open_cursors	400
db_block_size	8192
remote_login_passwordfile	EXCLUSIVE
undo_management	AUTO
db_file_multiblock_read_count	32

5.2.2.2 Installation Tasks

Perform the steps [Table 5-2](#) in to install Oracle Collaboration Suite in an existing Database.

Note: Oracle Universal Installer uses the `/etc/hosts` file to determine the host name. The host name that you specified in the `hosts` file may or may not be fully qualified. However, host names that are not fully qualified may not be usable outside the domain.

For example, if the fully-qualified domain name for a server is `myserver.acme.uk`, and the `hosts` file only registers the name `myserver`, then clients in the `acme.co.uk` domain have no trouble communicating with this host. However connections made by users in the `acme.co.de` domain may fail.

Also, ensure that the host name that you specify corresponds exactly to the host name you have, whether fully qualified or not.

Table 5–2 Screens for Installing Oracle Collaboration Suite in an Existing Database

Step	Screen	Action
1.	None	Start the installer. Refer to Section 3.4 for more information about starting the installer.
2.	Select Installation Method	Select Advanced Installation . Note: Refer to Section 1.7.1 for detailed information on Basic and Advanced installations. Click Next .
3.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path of the inventory directory. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>var/opt/oracle/oraInventory</code> Enter the name of the operating system group that will have write permission for the inventory directory. Example: <code>oinstall</code> Click Next .
4.	Run <code>oraInstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. After running the script, click Continue .
5.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source. Enter a name to identify the Oracle home in the Name field for Destination. The name cannot contain spaces and has a maximum length of 16 characters. Example: <code>OH_INFRA_10_1_1</code> Enter the full path to the destination directory in the Path field for Destination. This is the Oracle home. If the directory does not exist, the installer creates it. To create the directory beforehand, create it as the <code>oracle</code> user. Do not create the directory as the <code>root</code> user. Example: <code>/home/oracle/infra_10_1_1</code> Click Next .

Table 5–2 (Cont.) Screens for Installing Oracle Collaboration Suite in an Existing Database

Step	Screen	Action
6.	Specify Hardware Cluster Installation Mode (Advanced installation only)	This screen appears only if the computer is part of a hardware cluster. Select the computers in the hardware cluster where you want to install the Infrastructure. You can select multiple computers, or you can just select the current computer. Click Next .
7.	Select a Product to Install (Advanced installation only)	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Refer to Section 1.8 for more information about how to install support for support for additional languages. Click Next .
8.	Select Installation Type (Advanced installation only)	The options displayed on this screen depend on what you select in the Select Product to Install screen. The installation types for Infrastructure are: ■ Identity Management and Oracle Collaboration Suite Database ■ Identity Management ■ Oracle Collaboration Suite Database ■ Enable existing Oracle 10g Database to Oracle Collaboration Suite Database Select Enable existing Oracle 10g Database to Oracle Collaboration Suite Database and click Next .
9.	Product-Specific Prerequisite Checks (Advanced installation only)	The installer verifies requirements such as memory, disk space, and operating system version. If any check fails, make the required changes and click Retry . Refer to Chapter 2 for the list of hardware and software requirements. Click Next .
10.	Language Selection (Advanced installation only)	This screen enables you to select the language in which Oracle Collaboration Suite components will run. Select the required language or languages from the Available Languages list and add them to the Selected Languages list. Click Next .
11.	Specify Oracle Internet Directory (Advanced installation only)	Host: Enter the name of the computer where Oracle Internet Directory is running. Port: Enter the port number at which Oracle Internet Directory is listening. If you do not know the port number, refer to Section 8.5 . Use SSL to connect to Oracle Internet Directory: Select this option if you want Oracle Collaboration Suite components to use only SSL to connect to Oracle Internet Directory. Click Next .
12.	Oracle Internet Directory (Advanced installation only)	Username: Enter the user name to use to log in to Oracle Internet Directory. Password: Enter the user password. Click Next . Note: Use <code>cn=orcladmin</code> as the user name if you are the Oracle Internet Directory Superuser.

Table 5–2 (Cont.) Screens for Installing Oracle Collaboration Suite in an Existing Database

Step	Screen	Action
13.	Specify Database Identification (Advanced installation only)	Username: Enter a database administrator name to log in to the existing Database against which you want to install Oracle Collaboration Suite. Password: Enter the password for the database administrator account you specified in the Username field. Hostname and Port: Enter the host name of the computer where the database that you want to use is installed. Also, specify the port that this database is using, as follows: <i>hostname:port</i> Service Name: Enter the service name for the database you want to use. SID: Enter the system identifier for the existing database that you want to use. Typically this is the same as the global database name, but without the domain name. Click Next.
14.	Specify Database File Storage Option (Advanced installation only)	Select the storage mechanism that you would like to use for your Database files. To store the database files on a file system, select File System. For RAC installations, the file system that you choose must be a cluster file system or be on a certified network attached storage (NAS) device. To store the database files in an automatic storage management (ASM) disk group, select Automatic Storage Management. ASM disk groups are created by specifying one or more disk devices that will be managed by a separate Oracle ASM instance. For RAC installations, the disk devices that you add to the ASM disk group must be shared by all nodes of the cluster. To store the database files on raw devices (raw partitions or raw volumes), select Raw Devices. To select this option, the required raw devices must already exist. For RAC installations, you must create the raw devices on disk devices that are shared by all nodes of the cluster. Click Next. Note: Depending on the option that you select in this screen, the following screen might differ from the one listed in the next step.
15.	Specify Database File Location (Advanced installation only)	Directory for Database Files: Specify the location of the directory where you would like to store the Database files. Note: For best database performance, it is recommended that you install Database files (data files, control files, and redo logs) and the Database on separate disks. Click Next.
16.	Specify Database Schema Passwords (Advanced installation only)	Set passwords for privileged database accounts, which are used for database management and postinstallation tasks. Refer to Section 4.3.8 for rules on setting passwords for these accounts. Set passwords for privileged Oracle Collaboration Suite Application accounts. The rules for setting the passwords that apply to the SYS and SYSTEM users also apply to these schemas. Click Next.
17.	Summary	Verify your selections and click Install .
18.	Install Progress	This screen displays the progress of the installation.

Table 5–2 (Cont.) Screens for Installing Oracle Collaboration Suite in an Existing Database

Step	Screen	Action
19.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog appears. 1. When you see this dialog, run the <code>root.sh</code> script in a different shell as the root user. The script is located in the Oracle home directory of this instance. 2. Click OK.
20.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
21.	End of Installation	Click Exit to quit the installer.

Note: At the end of this Oracle Collaboration Suite Infrastructure installation, when you click **Release Information**, then no information might be displayed:

In this case, for more information refer to

`http://Infrastructure_host:infra_port_
number/relnotes/toc.htm`

5.3 Split Configuration

You can also enable an existing remote Oracle 10g Database database to Collaboration Suite Database. This is known as split configuration.

For detailed information on split configuration, refer to *Oracle MetaLink* at

<http://metalink.oracle.com>

Configuring Oracle Internet Directory for Installation Privileges

When you install certain Oracle Collaboration Suite 10g Applications or infrastructure components, the installer prompts you for a user name to log in to Oracle Internet Directory. For the installation to end successfully, this user must belong to certain groups in Oracle Internet Directory. The groups that are required for installation depend on the components that you are installing.

The `cn=orcladmin` user is the superuser, who has rights to perform all operations, including installation. Users need not log in as the superuser to perform installations. To enable other users to perform installations, add users to specific groups.

This chapter contains the following sections:

- [Section 6.1, "Default Users in Oracle Internet Directory"](#)
- [Section 6.2, "Groups in Oracle Internet Directory"](#)
- [Section 6.3, "Groups Required to Configure or Deinstall Components"](#)
- [Section 6.4, "Groups Required to Install Oracle Collaboration Suite Database"](#)
- [Section 6.5, "Creating Users in Oracle Internet Directory"](#)
- [Section 6.6, "Adding Users to Groups in Oracle Internet Directory"](#)
- [Section 6.7, "Contents of a New Oracle Internet Directory"](#)
- [Section 6.8, "User Name and Realm for Logging In to Oracle Internet Directory"](#)

6.1 Default Users in Oracle Internet Directory

When you install Oracle Internet Directory, the following users are automatically created:

- `cn=orcladmin`

The `cn=orcladmin` user is the Oracle Internet Directory superuser. This user has all the privileges to perform all tasks in Oracle Internet Directory. The initial password for the `cn=orcladmin` user is the same as the password for the `ias_admin` user for the Oracle Collaboration Suite instance, which you specified during installation.

The `cn=orcladmin` user is the owner of the objects created during the same installation session. For example, when you install Oracle Internet Directory, Oracle Collaboration Suite 10g Database, and Oracle Delegated Administration Services, the `cn=orcladmin` user is automatically created and made a member of

the Repository Owners group, the DAS Component Owners group, and the IAS Admins group.

Note: You *cannot* log in to Oracle Internet Directory as the `cn=orcladmin` user by using Oracle Delegated Administration Services. To log in as the `cn=orcladmin` user, you must use the Oracle Directory Manager.

- `orcladmin`

The DN for the `orcladmin` user is: `cn=orcladmin,cn=users,[default realm DN]`. The initial password for the `orcladmin` user is the same as the password for the `ias_admin` user for the Oracle Collaboration Suite instance, which you specify during installation.

To manage other Oracle Internet Directory users, you can log in to Oracle Internet Directory as the `orcladmin` user by using Oracle Delegated Administration Services. You can do this because the `orcladmin` user is a valid Oracle Application Server Single Sign-On user.

6.2 Groups in Oracle Internet Directory

Groups in Oracle Internet Directory can be classified in to these categories:

- [Section 6.2.1, "Global Groups"](#)
- [Section 6.2.2, "Groups for Each Oracle Collaboration Suite 10g Database"](#)
- [Section 6.2.3, "Groups for Each Component"](#)

6.2.1 Global Groups

[Table 6–1](#) describes the groups that concern all Oracle Collaboration Suite instances and components registered with Oracle Internet Directory.

Table 6–1 Global Groups

Group	Description
IAS Admins DN: cn=IASAdmins, cn=groups, cn=OracleContext	Members of the IAS Admins group have the privileges required to: ■ Install and register new Oracle Collaboration Suite 10g Database. However, this group does not have the privileges required to manage existing databases already registered with Oracle Internet Directory. ■ Install OracleAS Portal, Collaborative Portlets, Oracle Collaboration Suite 10g Voicemail & Fax, Oracle Real-Time Collaboration, Oracle Wireless and Voice, and Oracle Search.
Trusted Application Admins DN: cn=Trusted Application Admins, cn=groups, cn=OracleContext	To install OracleAS Portal, Collaborative Portlets, or Oracle Mail, you must belong to several groups, one of which is the Trusted Application Admins group. Table 6–4 lists the groups required for each component.
User Management Application Admins DN: cn=IAS and User Mgmt Admins, cn=groups, cn=OracleContext	To install Identity Management, OracleAS Portal, Collaborative Portlets, Oracle Mobile Collaboration, Oracle Content Services, Oracle Calendar, or Oracle Mail, or you must belong to several groups, one of which is User Management Application Admins group. Table 6–4 lists the groups required for each component.

6.2.2 Groups for Each Oracle Collaboration Suite 10g Database

Each Oracle Collaboration Suite Database registered with Oracle Internet Directory has its own groups, which are described in [Table 6–2](#). This enables you to assign different owners and users for each repository.

Table 6–2 Metadata Repository Groups That Are Registered with Oracle Internet Directory

Group	Description
Repository Owners DN: cn=Repository Owners, orclReferenceName=dbName , cn=IAS Infrastructure Databases, cn=IAS, cn=Products, cn=OracleContext	The user who installs Oracle Collaboration Suite Database becomes a member of this group. Members of the Repository Owners group have the privileges required to: ■ Add or remove users to or from the group ■ Unregister the repository ■ Add or remove users to or from the Application-Tier Administrators group for this database ■ Add or remove Applications instances to or from the database The group also has all the privileges of the Application-Tier Administrators group.
Application-Tier Administrators DN: cn=Repository Mid-tiers, orclReferenceName=dbName , cn=IAS Infrastructure Databases, cn=IAS, cn=Products, cn=OracleContext	Members of the Mid-Tier Administrators group have the privileges required to: ■ Add or remove Applications instances from the Associated Applications Tiers group for this repository ■ Install Applications or configure an Applications component to use a different repository ■ Access metadata for the repository database object
Associated Application Tiers DN: cn=Associated Mid-tiers, orclReferenceName=dbName , cn=IAS Infrastructure Databases, cn=IAS, cn=Products, cn=OracleContext	Members of this group are Applications instances associated with this database. Instances of Applications are added to this group during installation. You do not need to manually add the instances to this group. Members of the Associated Middle Tiers group have the privileges required to access metadata for the repository database object and its schemas.

6.2.3 Groups for Each Component

Oracle Collaboration Suite components also have groups in Oracle Internet Directory. Each component has a Component Owners group and an Associated Middle Tiers group. These groups are described in [Table 6–3](#).

Table 6–3 Groups Associated with Each Oracle Collaboration Suite Component

Group	Description
Component Owners	Members of the Component Owners group have the privileges required to: ■ Add or remove owners for the component. ■ Unregister the component. ■ Associate additional Applications with the component.
Associated Application Tiers	Members of Associated Middle Tiers group are Oracle Collaboration Suite Applications instances.

6.3 Groups Required to Configure or Deinstall Components

You must belong to specific groups to configure or deinstall Oracle Collaboration Suite components. These groups are described in [Table 6–4](#). You become the owner of the components that you install.

Table 6–4 Oracle Internet Directory Groups Required to Configure Components

To Configure This Component	User Must Be a Member of <i>All</i> the Listed Groups:
Infrastructure Components	
Oracle Collaboration Suite Database	To register Oracle Collaboration Suite Database with Oracle Internet Directory, you must log in to Oracle Internet Directory as a user who belongs to the IAS Admins group.
Oracle Internet Directory	In OracleAS Cluster (Identity Management) environments, to install subsequent Oracle Internet Directory instances after the first one, you must be the Oracle Internet Directory superuser, cn=orcladmin.
Oracle Delegated Administration Services	■ Trusted Application Admins ■ IAS Admins ■ Application-Tier Admins group for the database used by Oracle Application Server Single Sign-On If you are not sure about the database that is used by Oracle Application Server Single Sign-On, then refer to "To Determine the Database Used by OracleAS Single Sign-On". ■ Component Owners for the Oracle Delegated Administration Services component Note: You must be a member of the Component Owners for the Oracle Delegated Administration Services component <i>only</i> if you are installing multiple instances of Oracle Delegated Administration Services. When you are installing the second and subsequent instances, then you only need to belong to the Component Owners group. You do not need to be a member of the group when you install the first Oracle Delegated Administration Services instance. Refer to Section 6.6.1 for the steps add users to groups.
OracleAS Single Sign-On	You must install Oracle Application Server Single Sign-On as the cn=orcladmin user.
Oracle Directory Integration and Provisioning	■ IAS Admins ■ Trusted Application Admins ■ Admin for Oracle Directory Integration and Provisioning, which is identified by cn=dipadmingrp,cn=odi,cn=Oracle Internet Directory ■ Mid-Tier Admins group for the database used by Oracle Application Server Single Sign-On. If you are not sure about the database that is used by Oracle Application Server Single Sign-On, refer to "To Determine the Database Used by OracleAS Single Sign-On".
Oracle Application Server Certificate Authority, configured against an existing Oracle Collaboration Suite Database	■ Trusted Application Admins ■ IAS Admins ■ Repository Owners group for the existing database
Oracle Application Server Certificate Authority, configured against a new Oracle Collaboration Suite Database	■ Trusted Application Admins ■ IAS Admins

Table 6–4 (Cont.) Oracle Internet Directory Groups Required to Configure Components

To Configure This Component	User Must Be a Member of <i>All</i> the Listed Groups:
Identity Management Access only	■ IAS Admins
Identity Management Access and OracleAS Cluster (Database-Based or File-Based)	■ IAS Admins ■ Mid-Tier Admins or Repository Owners group for the database
OracleAS Portal	■ Trusted Application Admins ■ IAS and User Management Application Admins ■ IAS Admins ■ Mid-Tier Admins or Repository Owners group for the database ■ Component Owners group for the OracleAS Portal component Note: Membership of this group is required if you need to install additional OracleAS Portal instances. It does not apply for the first OracleAS Portal installation. For subsequent OracleAS Portal installations, you can perform the installation as the same Oracle Internet Directory user who performed the first installation. To allow a different Oracle Internet Directory user to install OracleAS Portal, then you must add this user to the Component Owners group for the OracleAS Portal application entity.
OracleAS Wireless	■ IAS and User Management Application Admins ■ IAS Admins ■ Mid-Tier Admins or Repository Owners group for the database ■ Component Owners group for the Oracle Collaboration Suite Wireless component Note: Membership of this group is required if you need to install additional Oracle Collaboration Suite Wireless instances. It does not apply for the first Oracle Collaboration Suite Wireless installation. For subsequent OracleAS Portal installations, you can perform the installation as the same Oracle Internet Directory user who performed the first installation. To allow a different Oracle Internet Directory user to install Oracle Collaboration Suite Wireless, then you must add this user to the Component Owners group for the Wireless application entity.
Application Tier Components	
Oracle Calendar Server	■ IAS Admin ■ Trusted Application Admin ■ Oracle Internet Directory Schema Admin ■ Service Registry Admin
Oracle Mail	■ Trusted Application Admins ■ User Management Application Admins ■ Oracle Internet Directory Schema Admin
Oracle Content Services	User Management Application Admins
Oracle Real-Time Collaboration	IAS Admin

Table 6–4 (Cont.) Oracle Internet Directory Groups Required to Configure Components

To Configure This Component	User Must Be a Member of <i>All</i> the Listed Groups:
Oracle Search	IAS Admin
Oracle Voicemail & Fax	IAS Admin
Oracle Wireless and Voice	■ IAS Admin ■ User Management Application Admins

To Determine the Database Used by OracleAS Single Sign-On

1. Enter the following command (all on one line):

```
# $ORACLE_HOME/bin/ldapsearch -h oidhostname -p oidport -D cn=orcladmin -w
password
-b "orclapplicationcommonname=orasso_ssoserver,cn=sso,cn=products,
cn=oraclecontext"
-s base "objectclass=*" seealso
```

The values that you must provide are:

- *oidhostname* - name of the computer running Oracle Internet Directory
Example: dbmachine.mydomain.com
 - *oidport* - port number on which Oracle Internet Directory is listening
Example: 389
 - *password* - password for the cn=orcladmin user
2. If the command in Step 1 does not return the name of the database, then enter the following commands:

- a. Enter the following command first to get the orclreplicaid value:

```
# $ORACLE_HOME/bin/ldapsearch -h oidhostname -p oidport -D cn=orcladmin -w
password
-b "" -s base "objectclass=*" orclreplicaid
```

This returns something like:

```
orclreplicaid=broeser-sun_iocsdbs
```

- b. Use the orclreplicaid value obtained by running the preceding command when you run the following command:

```
# $ORACLE_HOME/bin/ldapsearch -h oidhostname -p oidport -D cn=orcladmin -w
password
-b "orclreplicaid=value_from_previous_command,cn=replication
configuration"
-s base "objectclass=*" seealso
```

This command returns a seealso value in the format: cn=Metadata repository DB Name,cn=oraclecontext.

This returns something like:

```
orclreplicaid=broeser-sun_ocsdb,cn=replication configuration
seealso=cn=OCSDb,cn=OracleContext
```

6.4 Groups Required to Install Oracle Collaboration Suite Database

To install additional databases, a user must be a member of the IAS Admins group. After installation, the user then becomes a member of the Repository Owners group for that database.

6.5 Creating Users in Oracle Internet Directory

You can create users in Oracle Internet Directory by using Self-Service Console, which is part of Oracle Delegated Administration Services.

See Also: *Oracle Internet Directory Administrator's Guide* for details

Note: You cannot connect to Oracle Internet Directory as the `cn=orcladmin` superuser using Oracle Delegated Administration Services. To connect to Oracle Internet Directory as the superuser, use Oracle Directory Manager.

6.6 Adding Users to Groups in Oracle Internet Directory

To add users to groups in Oracle Internet Directory, you can use one of the following tools:

- Oracle Directory Manager

This is a Java-based tool for managing Oracle Internet Directory.

- Oracle Delegated Administration Services

This is a Web-based tool intended to enable end users to perform tasks such as changing their passwords and editing their personal information. If users have the proper privileges, then they can also use this tool to create groups and users.

Note: You cannot log in to Oracle Internet Directory as the `cn=orcladmin` superuser by using Oracle Delegated Administration Services. When you log in as the superuser to add users to groups (or to perform other Oracle Internet Directory-related tasks), you must use Oracle Directory Manager.

6.6.1 Using Oracle Directory Manager to Add Users to Groups

When you must log in as the `cn=orcladmin` superuser to add users to groups, you must use Oracle Directory Manager, instead of Oracle Delegated Administration Services.

To add users to groups using Oracle Directory Manager:

1. Use the following commands to start Oracle Directory Manager:

```
# cd $ORACLE_HOME/bin
# ./oidadmin
```

In the preceding command, `ORACLE_HOME` refers to the home directory where Oracle Internet Directory is installed.

2. In the Oracle Directory Manager Connect screen, enter the connect information for Oracle Internet Directory:

- Enter `cn=orcladmin` in the User field.
 - Enter the password for `cn=orcladmin` in the Password field.
 - Click the icon at the right of the field to enter the name of the computer running Oracle Internet Directory in the Server field.
 - Enter the port number on which Oracle Internet Directory is listening, in the Port field.
 - Click **Login**.
3. On the left side, navigate to the group to which you want to add users. Select the group on the left side to display its attributes on the right side.
- For instructions on navigation to global groups, refer to [Section 6.6.1.1](#).
- For instructions on navigation to repository groups, refer to [Section 6.6.1.2](#).
- For instructions on navigation to, refer to [Section 6.6.1.3](#).
4. Add the DN's of the users to the `uniquemember` attribute.

6.6.1.1 Navigating to Global Groups

The global groups are listed in [Table 6–1](#). The general navigation path is as follows:

1. Click the top-level entry, **Oracle Internet Directory Servers**, then click the specific Oracle Internet Directory.
2. Click **Entry Management** and then click `cn=OracleContext`.
3. Click `cn=Groups`.
4. Click the group to which you want to add users.

6.6.1.2 Navigating to Oracle Collaboration Suite Database Groups

The database groups are listed in [Table 6–2](#). The general navigation path is as follows:

1. Click the top-level entry, **Oracle Internet Directory Servers**, then click the specific Oracle Internet Directory.
2. Click **Entry Management** and then click `cn=OracleContext`.
3. Click `cn=Products` and then click `cn=IAS`.
4. Click `cn=IAS Infrastructure Databases`.
5. Click `orclReferenceName=dbName`, where *dbName* is the name of the database.
6. Click the group to which you want to add users.

6.6.1.3 Navigating to Component Groups

The component groups are listed in [Table 6–3](#).

The general navigation path is as follows:

1. Click the top-level entry, **Oracle Internet Directory Servers** and then click the specific Oracle Internet Directory.
2. Click **Entry Management** and then click `cn=OracleContext`.
3. Click `cn=Products`.
4. Click the particular component, for example, `cn=DAS` or `cn=Apps`, to whose groups you want to add users.

5. Click **orclApplicationCommonName=appName**, where *appName* is specific to the component and Collaboration Suite instance. If you have installed multiple instances of a component, then multiple instances of this entry appear on the screen.
6. Click the group to which you want to add users.

6.6.2 Using Deployment Delegation Console to Add Users to Groups

Using the Deployment Delegation Console, which is installed as part of Oracle Delegated Administration Services, you can add users to, or remove users from the following groups:

- Repository Owners
- Mid-Tier Administrators
- Component Owners

Note: You can add users to these groups only if these groups have existing members other than the `cn=orcladmin` superuser. If the only member of these groups is the superuser, then you must use Oracle Directory Manager to add users to these groups. Refer to [Section 6.6.1](#) for more information.

To add users to these groups:

1. Ensure that Oracle Delegated Administration Services and Oracle Internet Directory are running.
2. Display the Deployment Delegation Console page.

The URL is:

`http://hostname:port/oiddas/ui/oidinstallhome`

Here, *hostname* specifies the name of the computer where you installed Oracle Delegated Administration Services and *port* specifies the port on which Oracle HTTP Server is listening.

3. Click **Login**.
4. Enter a user name and password to log in to Oracle Internet Directory, and click **Login**.

The login user must have sufficient privileges to enable you to add users to the desired group:

To Add Users to This Group:	Log in as a User Who Belongs to:
Repository Owners	The same Repository Owners group
Mid-Tier Administrators	The Repository Owners group for the same repository
Component Owners	The same Component Owners group

5. Perform these steps to add users to the desired group:

To Add Users to the Repository Owners Group	To Add Users to the Mid-Tier Administrators Group	To Add Users to the Component Owners Group
1. Click the Repository tab. This displays all the metadata repositories for which you are an owner. 2. Select the database to which you want to add a user, and click Manage Owners. 3. On the page that displays the current owners, click Add. 4. Enter the first few characters of the user name in the Search field, and click Go. If you leave the Search field empty and click Go, then you would get a list of all the users in Oracle Internet Directory. 5. Select the user that you want to add to the Repository Owners group, and click Select. 6. Click Submit on the Manage Repository Owners page.	1. Click the Repository tab. This displays all the metadata repositories for which you are an owner. 2. Select the database to which you want to add a user, and click Manage Administrators. 3. On the page that displays the current administrators, click Add. 4. Enter the first few characters of the user name in the Search field, and click Go. If you leave the Search field empty and click Go, then you would get a list of all the users in Oracle Internet Directory. 5. Select the user that you want to add to the Mid-Tier Administrators group, and click Select. 6. Click Submit on the Manage Administrators page.	1. Click the Components tab. This displays all the components for which you are an owner. 2. Select the component to which you want to add a user, and click Manage Owners. 3. On the page that displays the current component owners, click Add. 4. Enter the first few characters of the user name in the Search field, and click Go. If you leave the Search field empty and click Go, then you would get a list of all the users in Oracle Internet Directory. 5. Select the user that you want to add to the Component Owners group, and click Select. 6. Click Submit on the Manage Component Owners page.

6.7 Contents of a New Oracle Internet Directory

When you install Oracle Collaboration Suite 10g Infrastructure with Oracle Internet Directory, Oracle Collaboration Suite Database, and Oracle Delegated Administration Services, the Oracle Internet Directory contains the following objects:

- The Global groups, which are listed in [Table 6-1](#)
- The `cn=orcladmin` superuser
- The `orcladmin` user belonging to the default realm
- An entry for the instance of Oracle Collaboration Suite Database registered with the Oracle Internet Directory

This database is associated with the groups listed in [Table 6-2](#). The `cn=orcladmin` superuser is a member of the Repository Owners group.

- An application entity entry for the Oracle Delegated Administration Services component

This component is associated with the groups listed in [Table 6-3](#). The `cn=orcladmin` superuser is a member of the Component Owners group.

To enable other users to install additional instances of Oracle Delegated Administration Services, log in as `cn=orcladmin` in Oracle Directory Manager and add the users to the Component Owners group. Refer to [Section 6.6.1](#).

6.8 User Name and Realm for Logging In to Oracle Internet Directory

The installer displays the Specify Login for Oracle Internet Directory screen in each of the following scenarios:

- You are installing Oracle Collaboration Suite 10g Infrastructure and using an existing Oracle Internet Directory.
- You are installing an Applications tier that requires an Infrastructure.

This screen prompts you to enter the login details and realm required to log in to Oracle Internet Directory.

Username

Enter either the simple user name or the DN of the user in the Username field.

Example of a simple user name: `jdoe`

Example of a DN: `cn=ocsadmin`

The user must belong to specific groups for installing and configuring certain components. Refer to [Table 6-4](#) for details.

To specify the superuser, enter `cn=orcladmin` instead of `orcladmin` in the Username field.

Realm

The Realm field appears only if your Oracle Internet Directory contains more than one realm. The user name that you enter is authenticated against the specified realm. If you are not sure about the name of the realm, then contact your Oracle Internet Directory administrator.

Examples of names of realms are:

- In a hosted deployment, the realm name might be similar to the name of the hosted company: `XYZCorp`.
- Within an enterprise, you might have separate realms for internal users and external users. The realm name for the external users could be `externalUsers`.

Installing Oracle Internet Directory in Replicated Mode

This chapter describes how to install Oracle Internet Directory in replicated mode, that is, how to install Oracle Internet Directory masters and replicas.

This chapter contains the following sections:

- [Section 7.1, "Oracle Internet Directory Replication Overview"](#)
- [Section 7.2, "Requirements"](#)
- [Section 7.3, "Installation Order"](#)
- [Section 7.4, "Installing a Master Oracle Internet Directory"](#)
- [Section 7.5, "Installing an Oracle Internet Directory Replica"](#)
- [Section 7.6, "Accessing Oracle Application Server Single Sign-On and Oracle Delegated Administration Services"](#)

7.1 Oracle Internet Directory Replication Overview

To run Oracle Internet Directory in a replication environment means that you have more than one Oracle Internet Directory, each with its own Oracle Collaboration Suite 10g Database. The Oracle Internet Directory instances synchronize the data in the metadata repositories so that the data in the repositories are loosely consistent. This means that the data in the repositories are not guaranteed to be synchronized in real time, but the data become identical within an acceptable time interval.

For More Information

This chapter provides information from an installation point of view. For in-depth information about replication, refer to the following guides:

- For information about Oracle Internet Directory replication concepts and administration, refer to the *Oracle Internet Directory Administrator's Guide*.
- For information about Oracle Internet Directory replication deployment scenarios, refer to the *Oracle Identity Management Concepts and Deployment Planning Guide*.

Types of Replication

There are two types of replication. During installation, you select the type of replication that you want.

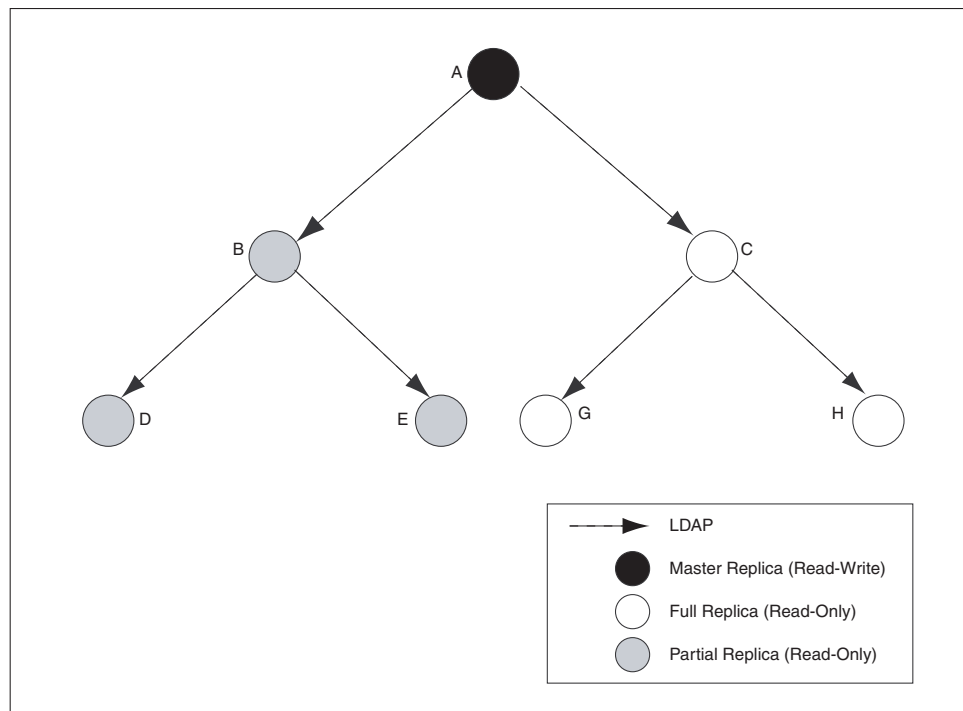
- [Section 7.1.1, "Fan-Out Replication \(LDAP Replication\)"](#)
- [Section 7.1.2, "Multimaster Replication \(Advanced Replication\)"](#)

7.1.1 Fan-Out Replication (LDAP Replication)

As shown in [Figure 7–1](#), in fan-out replication, one Oracle Internet Directory is the master, and the other Oracle Internet Directory instances are called the Oracle Internet Directory replicas.

Clients modify the data in the master Oracle Internet Directory only. The master then propagates the changes to the replicas. These replicas, in turn, can update other Oracle Internet Directory replicas.

Figure 7–1 Example of Fan-Out Replication (LDAP Replication)



In fan-out replication, Oracle Internet Directory instances use the LDAP protocol to communicate with each other. The Select Oracle Internet Directory Replication Mode screen in the installer uses the term **LDAP Replication** to refer to fan-out replication.

The procedure for installing a master Oracle Internet Directory is the same as installing a regular (non-replicated) Oracle Internet Directory.

The procedure for installing replicas is different. When installing a replica, you must select the **High Availability and Replication** option in the Select Configuration Options screen, and you must provide connect information to the master Oracle Internet Directory.

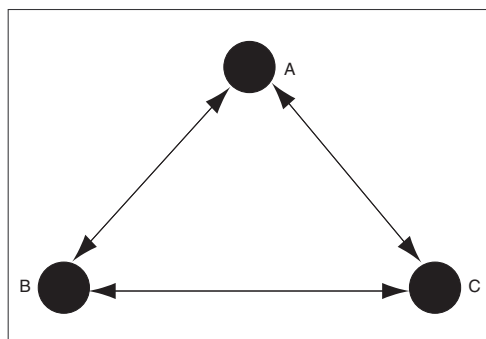
The Oracle Collaboration Suite instance that runs the Oracle Internet Directory (master or replica) can also run other Oracle Collaboration Suite components, such as Oracle Collaboration Suite Database, Oracle Application Server Single Sign-On, Oracle Delegated Administration Services, or Oracle Directory Integration and Provisioning or both.

7.1.2 Multimaster Replication (Advanced Replication)

As shown in [Figure 7–2](#), in multimaster replication, you have one or more master Oracle Internet Directory instances. You can also have other Oracle Internet Directory instances that are replicas. Clients can update data in any Oracle Internet Directory

(master or replica). The Oracle Internet Directory instances propagate the changes among themselves.

Figure 7–2 Example of Multimaster Replication (Advanced Replication)



In multimaster replication, Oracle Internet Directory instances use the Oracle Database Advanced Replication protocol to communicate with each other. The Select Oracle Internet Directory Replication Mode screen in the installer uses the term **Advanced Replication** to refer to multimaster replication.

The procedure for installing a master Oracle Internet Directory is the same as installing a regular (non-replicated) Oracle Internet Directory.

The procedure for installing replicas is different. When installing a replica, you must select the **High Availability and Replication** option in the Select Configuration Options screen, and you must provide connect information to the master Oracle Internet Directory.

The Oracle Collaboration Suite instance that runs the Oracle Internet Directory (master or replica) can also run other Oracle Collaboration Suite components, such as Oracle Collaboration Suite Database, Oracle Application Server Single Sign-On, Oracle Delegated Administration Services, or Oracle Directory Integration and Provisioning or both.

7.2 Requirements

Check that you meet the following requirements for installing Oracle Internet Directory in replication mode:

- [Section 7.2.1, "Database Requirements"](#)
- [Section 7.2.2, "Clock Synchronization"](#)

7.2.1 Database Requirements

Each Oracle Internet Directory, whether master or replica, needs its own Oracle Collaboration Suite Database. You can install it with a new Oracle Collaboration Suite Database, or against an existing Oracle Collaboration Suite Database.

If installing against an existing Oracle Collaboration Suite Database, you can create an existing Oracle Collaboration Suite Database in two different ways:

- You can install it by selecting the **Oracle Collaboration Suite Database** option in the Select Installation Type screen.
- You can install the Oracle Collaboration Suite Database in an existing database. Refer to the *Oracle Application Server Metadata Repository Creation Assistant User's*

Guide for details on how to load the Oracle Collaboration Suite Database in an existing database.

If you are installing against an existing Oracle Collaboration Suite Database, the Oracle Collaboration Suite Database must not be already registered with another Oracle Internet Directory. If you specify an instance of Oracle Collaboration Suite Database that is already registered with an Oracle Internet Directory, the installer assumes you are installing a high availability environment, and it does not display the replication options.

7.2.2 Clock Synchronization

Check that the clocks on the computers running the masters and replicas are within 250 seconds of each other.

7.3 Installation Order

To install Oracle Internet Directory in replicated mode, you need a master Oracle Internet Directory and one or more Oracle Internet Directory replicas. You install them in the following order:

1. Install the master Oracle Internet Directory.
2. Install the Oracle Internet Directory replicas. The installer will prompt you to enter connect information for the master Oracle Internet Directory.

7.4 Installing a Master Oracle Internet Directory

The procedure for installing a master Oracle Internet Directory is the same as installing a regular (non-replicated) Oracle Internet Directory. You can install the master Oracle Internet Directory against an existing database, or you can install it with a new database.

Notes:

- In the Select Configuration Options screen, you must select **Oracle Internet Directory**. You can select other components to configure, as desired.
- Also in the Select Configuration Options screen, you do not need to select **High Availability and Replication**. Select this option only if you are installing this Oracle Collaboration Suite instance in a high availability configuration.
- If you select the **High Availability and Replication** option in Select Configuration Options screen, the installer displays the Select High Availability Option screen. In this, **do not** select the **Replication** option, because this option is for installing a replica Oracle Internet Directory, not a master Oracle Internet Directory.

You can use any of the procedures in [Chapter 4](#) to install a master Oracle Internet Directory. Examples:

- To install a master Oracle Internet Directory with a new database, follow the procedure in [Section 4.5.1](#).
- To install a master Oracle Internet Directory with an existing database, follow the procedure in [Section 4.5.6](#) or [Section 4.5.5](#).

7.5 Installing an Oracle Internet Directory Replica

You can install an Oracle Internet Directory replica against an existing database, or you can install it with a new database.

This section contains the following topics:

- [Section 7.5.1, "Overview of Installing a Replica"](#)
- [Section 7.5.2, "Installing an Oracle Internet Directory Replica with a New Database"](#)
- [Section 7.5.3, "Installing an Oracle Internet Directory Replica Against an Existing Database"](#)

7.5.1 Overview of Installing a Replica

When you install an Oracle Internet Directory replica, remember the following:

- In the Select Configuration Options screen, you must select **Oracle Internet Directory** and **High Availability and Replication**.
- In the Select High Availability Option screen, select **Replication**.
- When the installer prompts you to enter connect information for the master Oracle Internet Directory, you must connect as the Oracle Internet Directory superuser (cn=orcladmin). You must know the password for the superuser.
- The master Oracle Internet Directory must not already contain a registration for a database with the same global database name or SID as the Oracle Collaboration Suite Database to be used for the replica.
- The Oracle Collaboration Suite Database for the replica cannot already be registered with any Oracle Internet Directory.

7.5.2 Installing an Oracle Internet Directory Replica with a New Database

Follow the steps listed in [Table 7–1](#) to install an Oracle Internet Directory replica with a new database.

Table 7–1 Installing an Oracle Internet Directory Replica with a New Database

Step	Screen	Action
1.	None	Start the installer and complete the first few screens. Refer to Section 4.4.1 for details. Notes: ■ In the Select a Product to Install screen, select Oracle Collaboration Suite Infrastructure 10.1.1.0.2. ■ In the Select Installation Type screen, select Identity Management and Oracle Collaboration Suite Database.
2.	Select Configuration Options	Select Oracle Internet Directory. Select High Availability and Replication. The other options on this screen are optional: Select OracleAS Single Sign-On, Delegated Administration Services, OracleAS Directory Integration and Provisioning or OracleAS Certificate Authority or both if you need these components. Click Next.
3.	Specify Port Configuration Options	To use default ports for the components, select Automatic. If you do not want to use the default ports, then select Manually Specify Ports and select the component for which you want to specify the port. Click Next.
4.	Select High Availability Option	This screen is required to install a replica. This screen appears only if you selected High Availability and Replication in the Select Configuration Options screen. Select Replication, and click Next.
5.	Select Oracle Internet Directory Replication Mode	Select LDAP Replication if you want fan-out replication. Select Advanced Replication if you want multimaster replication. Click Next.
6.	Specify Oracle Internet Directory Master Node	Hostname: Enter the name of the computer running the master Oracle Internet Directory. Port: Enter the port at which the master Oracle Internet Directory is listening. Do not select Use only SSL connections with this Oracle Internet Directory. If you want Oracle Internet Directory to run in SSL-only mode, you can make this configuration change after installation. Refer to the <i>Oracle Collaboration Suite Administrator's Guide</i> for details. Click Next.
7.	Specify Master Oracle Internet Directory Login	Username: Enter <code>cn=orcladmin</code> because you must connect to the master Oracle Internet Directory as the superuser. Password: Enter the password for the superuser. Click Next.
8.	Specify Namespace in Internet Directory	Select the suggested namespace, or enter a custom namespace for the location of the default Identity Management realm. Ensure that the value shown in Suggested Namespace meets your deployment needs. If not, enter the desired value in Custom Namespace. Click Next.
9.	OCA screens	If you selected OracleAS Certificate Authority in the Select Configuration Options screen, the installer displays screens for configuring Oracle Application Server Certificate Authority. Refer to Section 4.4.3 for details.

Table 7–1 (Cont.) Installing an Oracle Internet Directory Replica with a New Database

Step	Screen	Action
10.	Specify Database Configuration Options	Global Database Name: Enter a name for Oracle Collaboration Suite Database. Append the domain name of your computer to the database name. Example: <code>orcl.mydomain.com</code> Note: Ensure that the master Oracle Internet Directory does not already contain a registration for a database with the same global database name or SID. (The installer checks this for you.) SID: Enter the system identifier for the Oracle Collaboration Suite Database. Typically this is the same as the global database name, but without the domain name. The SID must be unique across all databases. The SID cannot be longer than eight characters. Example: <code>orcl</code> Select Database Character Set: Select the character set to use. Specify Database File Location: Enter the full path to the parent directory for the data files directory. This parent directory must already exist, and you must have write permissions in this directory. The installer will create a subdirectory in this parent directory, and the subdirectory will have the same name as the SID. The data files will be placed in this subdirectory. Click Next.
11.	Specify Database Schema Passwords	Set the passwords for these privileged database schemas: SYS, SYSTEM, SYSMAN, and DBSNMP. You can set different passwords for each schema, or you can set the same password for all the schemas. Click Next.
12.	Specify Instance Name and ias_admin Password	Instance Name: Enter a name for this infrastructure instance. Instance names can contain alphanumeric characters and the _ (underscore) character. If you have more than one Oracle Collaboration Suite instance on a computer, the instance names must be unique. Example: <code>infra_10_1_1</code> ias_admin Password and Confirm Password: Enter and confirm the password for the ias_admin user. This is the administrative user for this infrastructure instance. This password will also become the password for the following users: ■ Oracle Internet Directory superuser <code>cn=orcladmin</code> ■ Oracle Internet Directory database user <code>ods</code> ■ The replication DN, which is the identity used by the replication server. The DN is: "<code>cn=replication dn, orclreplicaid=replica_ID, cn=replication configuration</code>", where <i>replica_ID</i> is the replica ID of the Oracle Internet Directory being installed. Example: <code>welcome99</code> Click Next.
13.	None	Finish the installation. Refer to Section 4.4.4 for details.

7.5.3 Installing an Oracle Internet Directory Replica Against an Existing Database

Follow the steps listed in [Table 7–2](#) to install an Oracle Internet Directory replica against an existing database.

Table 7–2 Installing an Oracle Internet Directory Replica Against an Existing Database

Step	Screen	Action
1.	None	Start the installer and complete the first few screens. Refer to Section 4.4.1 for details. Notes: ■ In the Select a Product to Install screen, select Oracle Collaboration Suite Infrastructure 10.1.1.0.2. ■ In the Select Installation Type screen, select Identity Management.
2.	Select Configuration Options	Select Oracle Internet Directory. Select High Availability and Replication. The other options on this screen are optional: Select OracleAS Single Sign-On, Delegated Administration Services, OracleAS Directory Integration and Provisioning, or OracleAS Certificate Authority or both, if you need these components. Click Next.
3.	Specify Port Configuration Options	To use default ports for the components, select Automatic. If you do not want to use the default ports, then select Manually Specify Ports and select the component for which you want to specify the port. Click Next.
4.	Specify Repository	Enter information for the Oracle Collaboration Suite Database that you want to use for the replica. Notes: ■ This Oracle Collaboration Suite Database cannot already be registered with any Oracle Internet Directory. ■ The master Oracle Internet Directory, which you will specify in Step 7, must not already contain a registration for a database with the same global database name or SID as this Oracle Collaboration Suite Database. (The installer does not check this for you.) Username: Enter the user name to use to log in to the Oracle Collaboration Suite Database. The user must have DBA privileges. Password: Enter the user password. Hostname and Port: Enter the name of the computer where the database is running, and the port number at which it is listening. Use the format: <code>host:port</code>. Service Name: Enter the service name of the database. Note that the service name must include the database domain name. Example: <code>orcl.mydomain.com</code> Click Next.
5.	Select High Availability Option	This screen is required to install a replica. If you do not see this screen, return to the Select Configuration Options screen and ensure that you selected High Availability and Replication. Select Replication. Click Next.
6.	Select Oracle Internet Directory Replication Mode	Select LDAP Replication if you want fan-out replication. Select Advanced Replication if you want multimaster replication. Click Next.

Table 7–2 (Cont.) Installing an Oracle Internet Directory Replica Against an Existing Database

Step	Screen	Action
7.	Specify Oracle Internet Directory Master Node	Hostname: Enter the name of the computer running the master Oracle Internet Directory. Port: Enter the port at which the master Oracle Internet Directory is listening. Do not select Use only SSL connections with this Oracle Internet Directory. If you want Oracle Internet Directory to run in SSL-only mode, you can make this configuration change after installation. Refer to the <i>Oracle Collaboration Suite Administrator's Guide</i> for details. Click Next.
8.	Specify Master Oracle Internet Directory Login	Username: Enter <code>cn=orcladmin</code> because you must connect to the master Oracle Internet Directory as the superuser. Password: Enter the password for the superuser. Click Next.
9.	Specify Namespace in Internet Directory	Select the suggested namespace, or enter a custom namespace for the location of the default Identity Management realm. Ensure that the value shown in Suggested Namespace meets your deployment needs. If not, enter the desired value in Custom Namespace. Click Next.
10.	OCA screens	If you selected OracleAS Certificate Authority in the Select Configuration Options screen, the installer displays screens for configuring Oracle Application Server Certificate Authority. Refer to Section 4.4.3 for details.
11.	Specify OracleAS Instance Name and ias_admin Password	Instance Name: Enter a name for this Infrastructure instance. Instance names can contain alphanumeric characters and the <code>_</code> (underscore) character. If you have more than one Oracle Collaboration Suite instance on a computer, the instance names must be unique. Example: <code>idmgmt_10_1_1</code> ias_admin Password and Confirm Password: Set the password for the <code>ias_admin</code> user. This is the administrative user for the instance. This password will also become the password for the following users: ■ Oracle Internet Directory superuser <code>cn=orcladmin</code> ■ Oracle Internet Directory database user <code>ods</code> ■ The replication DN, which is the identity used by the replication server. The DN is: <code>"cn=replication dn, orclreplicaid=replica_ID, cn=replication configuration"</code>, where <code>replica_ID</code> is the replica ID of the Oracle Internet Directory being installed. Example: <code>welcome99</code> Click Next.
12.	None	Finish the installation. Refer to Section 4.4.4 for details.

7.6 Accessing Oracle Application Server Single Sign-On and Oracle Delegated Administration Services

To access Oracle Application Server Single Sign-On or Oracle Delegated Administration Services on the replica node, you must use the password for the `orcladmin` user on the master Oracle Internet Directory, not the replica Oracle Internet Directory.

Example:

1. Enter the URL for Oracle Application Server Single Sign-On or Oracle Delegated Administration Services in your browser:

For Oracle Application Server Single Sign-On, the URL is:

`http://host:port/pls/orasso.`

For Oracle Delegated Administration Services, the URL is:

`http://host:port/oiddas.`

host specifies the name of the computer where you installed the Oracle Internet Directory replica.

port specifies the port number on which Oracle HTTP Server is listening.

2. To log in, enter `orcladmin` as the user name and the password you entered when you installed the **master Oracle Internet Directory**. If you enter the password for the replica Oracle Internet Directory, the login will not succeed.

Installing Oracle Collaboration Suite 10g Applications

This chapter contains the following sections:

- [Section 8.1, "Oracle Collaboration Suite 10g Applications and Oracle Collaboration Suite 10g Infrastructure"](#)
- [Section 8.2, "Components in Oracle Collaboration Suite Applications"](#)
- [Section 8.3, "Which Components Do I Need?"](#)
- [Section 8.4, "Component Dependencies"](#)
- [Section 8.5, "How Can I Determine the Port Numbers Used by Components?"](#)
- [Section 8.6, "Installing Oracle Collaboration Suite Applications Against an Upgraded Oracle Internet Directory"](#)
- [Section 8.7, "Configuring Additional Applications-Tier Components After Installation"](#)
- [Section 8.8, "Can I Upgrade and Expand Oracle Collaboration Suite 10g Applications at the Same Time?"](#)
- [Section 8.9, "Can I Use a Specific Oracle Calendar Server Node ID During the Installation?"](#)
- [Section 8.10, "Installing Oracle Collaboration Suite Applications"](#)

8.1 Oracle Collaboration Suite 10g Applications and Oracle Collaboration Suite 10g Infrastructure

Oracle Collaboration Suite 10g Applications, sometimes also known as the Applications tier, requires an Oracle Collaboration Suite 10g Infrastructure instance. This is because Applications components must access their schemas in Oracle Collaboration Suite 10g Database, which is installed as a part of the Infrastructure. In addition, the components of Applications must be authenticated against Oracle Internet Directory and Oracle Application Server Single Sign-On.

8.2 Components in Oracle Collaboration Suite Applications

[Table 8-1](#) shows the components that are installed as a part of Oracle Collaboration Suite 10g Applications.

Table 8–1 Components in Oracle Collaboration Suite Applications

Component	Description
Oracle Calendar	Provides an enterprise-wide scheduling server
Oracle Calendar Web client	Provides the client framework for the enterprise-wide scheduling server
Oracle Collaboration Suite Search	Provides highly-configurable, all-in-one search solution across Oracle Collaboration Suite Applications.
Oracle Collaboration Suite Web Access	Provides a rich Web-based interface to mail and contacts
Oracle Content Services	A Content Management application for storing and sharing files
Oracle Discussions	Provides the online forums and threaded discussion service
Oracle Mail	Provides standards-based e-mail message delivery and retrieval facility
Oracle Mobile Collaboration	Provides access to content with mobile devices and voice gateways
Oracle Collaborative Portlets	Provides a rich portal interface to all Oracle Collaboration Suite components and services
Oracle Real-Time Collaboration	Provides Web conferencing and instant messaging service
Oracle Workspaces	Provides framework within which the collaborative efforts can be organized

8.3 Which Components Do I Need?

You deploy your applications on Applications instances. If you know what components you will be using, you can choose them during the installation. For example, if you need e-mail, content management, and real-time collaboration functionality, you can choose Oracle Mail, Oracle Content Services, and Oracle Real-Time Collaboration. You can also select Oracle Collaborative Portlets if you must provide an interface to Oracle Collaboration Suite components.

8.4 Component Dependencies

This section contains the following topics:

- [Section 8.4.1, "Component Dependency on Oracle Mail"](#)
- [Section 8.4.2, "Component Dependency on an Existing Instance of OracleAS Portal and Oracle Collaborative Portlets"](#)

Note: You can not install Oracle Web Access Client as a standalone product.

8.4.1 Component Dependency on Oracle Mail

If you select Oracle Discussions, ensure that you have selected Oracle Mail. This is because Oracle Discussions is dependent on schemas in the Oracle Mail database.

If you select Oracle Discussions without selecting Oracle Mail, a Warning dialog box will be displayed during the installation. You must go back to the Select Components to Configure screen and select Oracle Mail to ensure that the component is installed and configured properly.

If you are installing Oracle Discussions against an existing Infrastructure that already has an Oracle Mail instance configured against it, and you did not select Oracle Mail, then a list of configured Oracle Mail domains will be displayed. Select an appropriate domain and continue with the installation.

Oracle Content Services, Oracle Real-time Collaboration, Oracle Voicemail & Fax, and Oracle Workspaces are not directly dependent on Oracle Mail. However, they use the same SMTP server as Oracle Mail. Therefore, if you select any of these Applications components without selecting Oracle Mail, an additional screen will be displayed during installation. You must specify the SMTP server host and port and continue with the installation.

8.4.2 Component Dependency on an Existing Instance of OracleAS Portal and Oracle Collaborative Portlets

During the installation of an Applications tier, the installer checks the OracleAS Metadata Repository for both OracleAS Portal and Oracle Collaborative Portlets schemas.

If both Oracle Collaborative Portlets and OracleAS Portal were not detected in the OracleAS Metadata Repository, then the **Oracle Collaborative Portlets** option is displayed in the Select Components to Configure screen, during the installation. Oracle Collaborative Portlets and OracleAS Portal will be detected in the Metadata Repository, only if you have already installed them on a different Applications tier.

If you do not choose to configure Oracle Collaborative Portlets, neither OracleAS Portal nor Oracle Collaborative Portlets will be configured. In Oracle Collaboration Suite installations, you cannot configure OracleAS Portal without Oracle Collaborative Portlets.

If you do choose to configure Oracle Collaborative Portlets:

- If OracleAS Portal was detected in the OracleAS Metadata Repository then you have the option to create a new OracleAS Portal by overwriting the older instance, or use the existing OracleAS Portal. This could be the case if you previously installed a non-Oracle Collaboration Suite instance of OracleAS Portal.
- If an OracleAS Portal installation is not detected in the OracleAS Metadata Repository, then the installer will configure both the Oracle Collaborative Portlets and OracleAS Portal on that Applications tier.

If both OracleAS Portal and Oracle Collaborative Portlets are detected in the OracleAS Metadata Repository, then Oracle Collaborative Portlets will not be offered in the Configurable Components panel.

Note: If you choose to host instances of Oracle Collaborative Portlets on different Applications tiers than OracleAS Portal (for example, if OracleAS Portal is configured on `appstier1` and Oracle Collaborative Portlets is configured on `appstier2`), then the images within the Oracle Collaborative Portlets will break.

This is because the images are stored with relative pathnames on the assumption that OracleAS Portal can locate Oracle Collaborative Portlets images on the same machine.

To fix this problem:

- Edit the `ocsprovs.properties` file in the Applications tier Oracle home that is hosting the OracleAS Portal instance with broken images:


```
[ORACLE_HOME]/ocsprovs/classes/oracle/webdb/install/resource/ocsprovs.properties
```
 - Change each image path to point to the URL of an Applications tier hosting Oracle Collaborative Portlets.
 - Fix the Oracle Collaboration Suite logo from the OracleAS Portal configuration page. In other words, change the relative URL to an absolute URL of the Applications tier hosting Oracle Collaborative Portlets.
-

8.5 How Can I Determine the Port Numbers Used by Components?

During installation, you might need to know port numbers used by certain components. For example, when you install Applications, the installer prompts for the Oracle Internet Directory port.

You can get a list of port numbers in the following ways:

- Use Oracle Enterprise Manager Application Server Control.

Click the Ports link on the Oracle Enterprise Manager home page. This takes you to a page that lists all ports in use and the suggested port ranges for different components.
- Look in the `ORACLE_HOME/install/portlist.ini` file. `ORACLE_HOME` refers to the directory containing the Oracle Collaboration Suite installation.

Note that if you change the port number of a component after installation, the `portlist.ini` file is not updated. The `portlist.ini` file is not updated after installation.

8.6 Installing Oracle Collaboration Suite Applications Against an Upgraded Oracle Internet Directory

If you plan to install Applications against an Oracle Internet Directory that was upgraded from an earlier version, make sure you followed the steps on upgrading Oracle Internet Directory as documented in the *Oracle Collaboration Suite Upgrade Guide*.

8.7 Configuring Additional Applications-Tier Components After Installation

After installing Oracle Collaboration Suite Applications, you may decide that you need a component that you did not select during installation. For example, you selected Oracle Mail, Oracle Content Services, and Oracle Calendar and much later you realize that you need Oracle Collaboration Suite Search as well.

The installer installs *all* the components, irrespective of the components you select. However only those components that you select during installation are *configured*.

You can use Oracle Collaboration Suite Control to configure any components that were not configured during the installation.

8.8 Can I Upgrade and Expand Oracle Collaboration Suite 10g Applications at the Same Time?

To upgrade Oracle Collaboration Suite 10g Applications and expand it at the same time, you must perform two procedures:

1. Upgrade Oracle Collaboration Suite 10g Applications. This procedure is documented in the *Oracle Collaboration Suite Upgrade Guide*.
2. Expand Oracle Collaboration Suite 10g Applications. Refer to [Section 8.7](#) for details.

8.9 Can I Use a Specific Oracle Calendar Server Node ID During the Installation?

This section contains the following topics:

- [Selecting a Node ID](#)
- [Not Connecting a Node](#)

8.9.1 Selecting a Node ID

During the installation of Applications tier, an Oracle Calendar Server node ID is automatically selected for you when the node is configured. However, there may be cases when you might want to use a specific node ID while configuring a new Oracle Calendar Server.

Note: This is recommended only for expert users, who have prior knowledge or have done this earlier.

If you want to specify a particular Oracle Calendar Server node number during the configuration, then use the following command to start the installation:

```
./runInstaller oracle.cal.server:s_nodeID="1234"
```

8.9.2 Not Connecting a Node

While configuring a new Oracle Calendar Server, any slave nodes are automatically connected to its node network. Use the following command to disable this feature:

```
./runInstaller oracle.cal.server:s_override="-noconnectnodes"
```

8.10 Installing Oracle Collaboration Suite Applications

This section describes the screens of the installation process of Oracle Collaboration Suite 10g Applications.

This section covers the following topics:

- [Section 8.10.1, "Preinstallation Tasks"](#)
- [Section 8.10.2, "First Few Screens of the Installation"](#)
- [Section 8.10.3, "Component Installation Screens"](#)
- [Section 8.10.4, "Last Few Screens of the Installation"](#)

8.10.1 Preinstallation Tasks

You must perform the preinstallation tasks discussed in the following sections:

- [Sendmail-Related Tasks](#)
- [Oracle Collaboration Suite Search-Related Tasks](#)

8.10.1.1 Sendmail-Related Tasks

Check if sendmail is running using the following command:

```
prompt> ps -elf | grep sendmail
```

If sendmail is running, shut it down as follows:

```
prompt> service sendmail stop
```

Disable sendmail by using the following command:

```
prompt> chkconfig sendmail off
```

On SUSE systems, if you are using PostFix instead of sendmail, then shutdown and disable PostFix using the following commands:

```
prompt> /etc/init.d/postfix stop  
prompt> chkconfig postfix off
```

8.10.1.2 Oracle Collaboration Suite Search-Related Tasks

If you are configuring Oracle Collaboration Suite Search as a part of your Applications tier, then you must provide the same Oracle Internet Directory credentials you provided for installing Oracle Collaboration Suite Database.

If you do not have the Oracle Internet Directory credentials with which you installed the associated Oracle Collaboration Suite Database, then perform the following steps:

1. Navigate to the Oracle Collaboration Suite Search Store using the oidadmin tool.

The path to Oracle Collaboration Suite Search backend is as follows:

Entry Management, *your_realm*, cn=Products, cn=Portal, cn=UltraSearch, cn=Database Instances, cn=orclApplicationCommonName=*your_Search_Store*

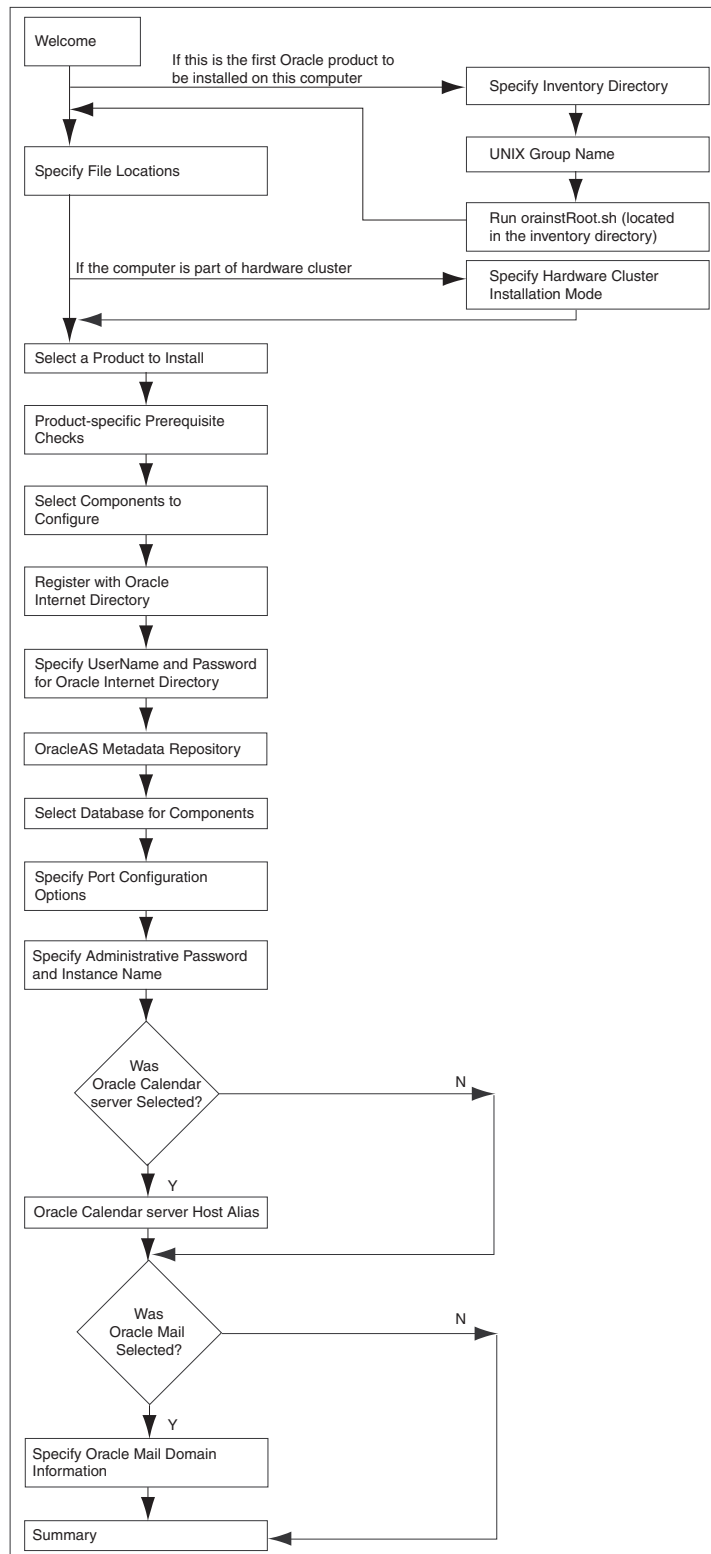
2. Add the Oracle Internet Directory user as a unique member of the cn=Component Owners node for the Oracle Collaboration Suite Search store.

By performing the preceding steps, Then this OID user will be able to see the search store showing up as an available database during Midtier Install.

8.10.2 First Few Screens of the Installation

[Figure 8–1](#) summarizes the screen sequence for installing Oracle Collaboration Suite 10g Applications.

Figure 8–1 Sequence of the Screens During Oracle Collaboration Suite Applications Installation



Note: Oracle Universal Installer uses the `/etc/hosts` file to determine the host name. The host name that you specified in the `hosts` file may or may not be fully qualified. However, host names that are not fully qualified may not be usable outside the domain.

For example, if the fully-qualified domain name for a server is `myserver.acme.uk`, and the `hosts` file only registers the name `myserver`, then clients in the `acme.co.uk` domain have no trouble communicating with this host. However connections made by users in the `acme.co.de` domain may fail.

Also, ensure that the host name that you specify corresponds exactly to the host name you have, whether fully qualified or not.

Table 8–2 describes the first few screens of the installation.

Table 8–2 First Few Screens of the Installation

Step	Screen	Action
1.	None	Start the installer. Refer to Section 3.4, "Starting Oracle Universal Installer" .
2.	Select Installation Method	Select Advanced Installation. Note: Refer to Section 1.7.1 for detailed information on Basic and Advanced installations. Click Next.
3.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path for the inventory directory: Enter a full path to a directory for the installer files. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>/private/oracle/oraInventory</code> Click OK.
4.	UNIX Group Name (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the name of the operating system group to have write permission for the inventory directory. Example: <code>dba</code> Click Next.
5.	Run <code>orainstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>orainstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. Click Continue.

Table 8–2 (Cont.) First Few Screens of the Installation

Step	Screen	Action
6.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source, if required. Name: Enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters. Example: OH_apptier_10_1_1 Destination Path: Enter the full path to the destination directory. This is the Oracle home. If the directory does not exist, the installer creates it. To create the directory beforehand, create it as the oracle user. Do not create it as the root user. Example: /private/oracle/OH_apptier_10_1_1 Click Next.
7.	Specify Hardware Cluster Installation Mode (Advanced installation only)	This screen appears only if the computer is part of a hardware cluster. When you are installing Applications, select Local Installation because hardware cluster is not supported for Applications. Click Next.
8.	Select a Product to Install (Advanced installation only)	Select Oracle Collaboration Suite Applications 10.1.1.0.2 to install Applications. If you need to install additional languages, click Product Languages. Refer to Section 1.8, "Installing Support for Additional Languages" for details. Click Next.
9.	Product-specific Prerequisite Checks (Advanced installation only)	The installer verifies requirements such as memory, disk space, and operating system version. If any check fails, make the required changes and click Retry. Refer to Chapter 2, "Preparing to Install Oracle Collaboration Suite" for the list of hardware and software requirements. Note: If the kernel parameter check fails and you click Retry after making the required changes, the installer does not rerun the check. After changing the kernel parameters, select User Verified and proceed. To validate the changes, you may want to restart the installer. Click Next. Note: If the kernel parameter check fails and you click the Retry button after making the required changes, the installer does not rerun the check. After changing the kernel parameters, select User Verified and proceed. To validate the changes, you may want to restart the installer.
10.	Language Selection (Advanced installation only)	This screen enables you to select the language in which Oracle Collaboration Suite components will run. Select the required language or languages from the Available Languages list and add them to the Selected Languages list. Click Next.

See Also: [Section 1.7.1](#) for detailed information on Basic installation

8.10.3 Component Installation Screens

[Table 8–3](#) describes the component install screens of the installer.

Table 8–3 Component Installation Screens

Step	Screen	Action
1.	Select Components to Configure (Advanced installation only)	Select the components that you would like to configure during the installation. The selected components will automatically start at the end of the installation. Note: If you select Oracle Discussions, ensure that you have selected Oracle Mail. This is because Oracle Discussions is dependent on schemas in Oracle Mail database. If you select this component without selecting Oracle Mail, you might get a warning during the installation. You can continue with the installation. However, later, you must install Oracle Mail to ensure that this component functions properly. Note: You can also configure any component after installation. Refer to Section 8.7. Click Next.
2.	Register with Oracle Internet Directory (Advanced installation only)	Host: Enter the name of the computer where Oracle Internet Directory is running. Port: Enter the port number at which Oracle Internet Directory is listening. If you do not know the port number, refer to Section 8.5. Use SSL to connect to Oracle Internet Directory: Select this option if you want Oracle Collaboration Suite components to use only SSL to connect to Oracle Internet Directory. Click Next.
3.	Specify UserName and Password for Oracle Internet Directory (Advanced installation only)	Username: Enter the user name to use to log in to Oracle Internet Directory. Password: Enter the user password. Click Next. Note: Use <code>cn=orcladmin</code> as the user name if you are the Oracle Internet Directory Superuser.
4.	OracleAS Metadata Repository (Advanced installation only)	Database Connection String: Select the OracleAS Metadata Repository that you want to use for this Applications tier instance. The installer will register this instance with the selected OracleAS Metadata Repository. Click Next.
5.	Select Database for Components (Advanced installation only)	This screen shows the database to be used for each of the components that were earlier selected in the "Select Components to Configure" screen. Click Next. Note: If multiple instances of Oracle Collaboration Suite Databases are available in Oracle Internet Directory, then you must click on the Database Name column and then select the correct database for each component from the drop-down list. However, when you click Next to go to the next screen, the selection might not be retained. To ensure that the selection is retained, you must click the Database Name column again after selecting the required database for each component.
6.	Specify Port Configuration Options (Advanced installation only)	Select the method in which you want the ports to be configured for Oracle Collaboration Suite. Click Next. Note: If you manually configure the ports, then you must specify the port values for each port.

Table 8–3 (Cont.) Component Installation Screens

Step	Screen	Action
7.	Specify Administrative Password and Instance Name (Advanced installation only)	Instance Name: Specify the name of the OracleAS instance for the Oracle Collaboration Suite administrative accounts. Administrative Password: Specify the initial password for the Oracle Collaboration Suite administrative accounts. Confirm Password: Confirm the password. Click Next .
8.	Oracle Calendar Server Host Alias (Advanced installation only)	Host or Alias: Specify either the host address or the alias of the Calendar server instance. Click Next . Note: Oracle recommends that you use alias in place of host name if later you want to move the calendar server instance or change the host name. Specify the host name if an alias is not configured.
9.	Specify Oracle Mail Domain Information (Advanced installation only)	Local Domain: Specify the domain of the local network for IMAP/SMTP, or other mail protocols. Click Next .

Note: If at any time during the installation (before you click the **Install** button) you need to make changes to the list of applications that you want configured, then you must exit out of the installation and restart it.

8.10.4 Last Few Screens of the Installation

Table 8–4 describes the remaining screens of the installation.

Note that most installation procedures in this chapter refer to this section as their end point.

Table 8–4 Remaining Screens of the Installation

Step	Screen	Action
1.	Summary	Verify your selections and click Install .
2.	Install Progress	This screen displays the progress of the installation.
3.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog appears. - When you see this dialog, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. - Click OK.
4.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
5.	End of Installation	Click Exit to quit the installer.

Note: The information displayed at the end of the installation is also available in the `$ORACLE_HOME/install/setupinfo.txt` file. This file contains summarized information about Oracle Collaboration Suite and links to the URLs.

Installing Oracle Collaboration Suite on a Single Computer

Although Oracle recommends that you install Oracle Collaboration Suite 10g Infrastructure and Oracle Collaboration Suite 10g Applications on different computers for better performance, you can perform a Oracle Collaboration Suite Infrastructure and Applications installation on a single computer also.

You can perform the Oracle Collaboration Suite Infrastructure and Applications installation on a single computer in the following ways:

- [Section 9.1, "Using Basic Installation for Single-Computer Installation"](#)
- [Section 9.2, "Using Advanced Installation for Single-Computer Installation"](#)

9.1 Using Basic Installation for Single-Computer Installation

Perform the steps listed in [Table 9-1](#) to install Oracle Collaboration Suite on one computer using the Basic installation method.

Note: Oracle Universal Installer uses the `/etc/hosts` file to determine the host name. The host name that you specified in the `hosts` file may or may not be fully qualified. However, host names that are not fully qualified may not be usable outside the domain.

For example, if the fully-qualified domain name for a server is `myserver.acme.uk`, and the `hosts` file only registers the name `myserver`, then clients in the `acme.co.uk` domain have no trouble communicating with this host. However connections made by users in the `acme.co.de` domain may fail.

Also, ensure that the host name that you specify corresponds exactly to the host name you have, whether fully qualified or not.

Table 9–1 Screens for Single-Computer installation

Step	Screen	Action
1.	None	Start the installer. Refer to Section 3.4 for more information about starting the installer.
2.	Select Installation Method	Select Advanced Installation . Note: Refer to Section 1.7.1 for detailed information on Basic and Advanced installations. Click Next .
3.	Specify Inventory Directory and Credentials	This screen appears only if this is the first installation of any Oracle product on this computer. Enter a full path to the inventory directory. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>/opt/oracle/oraInventory</code> Specify operating system group name: Select the operating system group that will have write permission for the inventory directory. Example: <code>oinstall</code> Click Next .
4.	Run <code>oraInstRoot.sh</code>	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. After running the script, click Continue .
5.	Summary	Verify your selections and click Install .
6.	Install Progress	This screen displays the progress of the installation.
7.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog appears. 1. When you see this dialog, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK .
8.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
9.	End of Installation	Click Exit to quit the installer.

9.2 Using Advanced Installation for Single-Computer Installation

This section contains the following topics:

- [Section 9.2.1, "Starting Single-Computer Installation"](#)
- [Section 9.2.2, "Performing Single-Computer Installation"](#)

9.2.1 Starting Single-Computer Installation

To perform Oracle Collaboration Suite Infrastructure and Applications installation on a single computer, you must first start the Oracle Universal Installer. Refer to [Section 3.4](#) for more details.

Note: Oracle Universal Installer uses the `/etc/hosts` file to determine the host name. The host name that you specified in the `hosts` file may or may not be fully qualified. However, host names that are not fully qualified may not be usable outside the domain.

For example, if the fully-qualified domain name for a server is `myserver.acme.uk`, and the `hosts` file only registers the name `myserver`, then clients in the `acme.co.uk` domain have no trouble communicating with this host. However connections made by users in the `acme.co.de` domain may fail.

Also, ensure that the host name that you specify corresponds exactly to the host name you have, whether fully qualified or not.

9.2.2 Performing Single-Computer Installation

Perform the steps listed in [Table 9–2](#) to install Oracle Collaboration Suite on a single computer:

Note: You will not be prompted for an e-mail domain during this installation. This is because the e-mail domain is defaulted to the system on which you are performing the single-computer installation.

Table 9–2 Screens for Single-Computer installation

Step	Screen	Action
1.	None	Start the installer. Refer to Section 3.4 for more information about starting the installer.
2.	Select Installation Method	Select Advanced Installation . Note: Refer to Section 1.7.1 for detailed information on Basic and Advanced installations. Click Next .
2.	Specify Inventory Directory and Credentials	This screen appears only if this is the first installation of any Oracle product on this computer. Enter a full path to the inventory directory. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>/opt/oracle/oraInventory</code> Specify operating system group name: Select the operating system group that will have write permission for the inventory directory. Example: <code>oinstall</code> Click Next .
3.	Run <code>oraInstRoot.sh</code>	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. After running the script, click Continue .

Table 9–2 (Cont.) Screens for Single-Computer installation

Step	Screen	Action
4.	Specify File Locations (Advanced installation only)	Enter the full path of the source directory in the Path field for Source. Enter a name to identify the Oracle home in the Name field for Destination. The name cannot contain spaces and has a maximum length of 16 characters. Example: <code>infra_home_10_1_1</code> Enter the full path to the destination directory in the Path field for Destination. This is the Oracle home. If the directory does not exist, the installer creates it. To create the directory beforehand, create it as the <code>oracle</code> user. Do not create the directory as the <code>root</code> user. Example: <code>/home/oracle/infra_10_1_1</code> Click Next.
5.	Select Product to Install (Advanced installation only)	Select Oracle Collaboration Suite Infrastructure and Applications 10.1.1.0.2. If you need to install support for additional languages, then click Product Languages. Refer to Section 1.8 for more details. Click Next.
6.	Product-specific Prerequisite Checks (Advanced installation only)	The installer verifies requirements such as memory, disk space, and operating system version. If any check fails, make the required changes and click Retry. Refer to Chapter 2, "Preparing to Install Oracle Collaboration Suite" for the list of hardware and software requirements. Note: If the kernel parameter check fails and you click Retry after making the required changes, the installer does not rerun the check. After changing the kernel parameters, select User Verified and proceed. To validate the changes, you may want to restart the installer. Click Next.
7.	Language Selection (Advanced installation only)	This screen enables you to select the language in which Oracle Collaboration Suite components will run. Select the required language or languages from the Available Languages list and add them to the Selected Languages list. Click Next.
8.	Collaboration Suite Infrastructure and Applications Methodology (Advanced installation only)	Read the instructions on the screen carefully. Click Next.
9.	Select Components to Configure (Advanced installation only)	Select the Applications components that you want to install. Click Next.
10.	Specify Namespace in Internet Directory (Advanced installation only)	Select the suggested namespace, or enter a custom namespace for the location of the default Identity Management realm. Ensure that the value shown in Suggested Namespace meets your deployment needs. If it does not, then enter the desired value in Custom Namespace. Refer to Section 4.3.9 for more details. Click Next.

Table 9–2 (Cont.) Screens for Single-Computer installation

Step	Screen	Action
11.	Specify Database Configuration Options (Advanced installation only)	Enter a name for the Oracle Collaboration Suite 10g Database in the Global Database Name field. Append the domain name of your computer to the database name. Example: <code>orcl.mydomain.com</code> Enter the system identifier for Oracle Collaboration Suite Database in the SID field. Typically this is the same as the global database name, but without the domain name. The SID must be unique across all databases. The SID cannot be longer than eight characters. Example: <code>orcl</code> Click Next.
12.	Specify Database Schema Passwords (Advanced installation only)	Set passwords for privileged database accounts, which are used for database management and postinstallation tasks. Refer to Section 4.3.8 for more details.
13.	Specify Application Passwords (Advanced installation only)	Depending on the type of installation you selected, enter a password for administrative accounts of: ■ Oracle Collaboration Suite 10g Infrastructure (<code>ias_admin</code>) ■ Oracle Collaboration Suite 10g Applications (<code>ias_admin</code>) ■ Guest Account (<code>orclguest</code>)
14.	Specify Oracle Mail Domain Information (Advanced installation only)	If you are installing the first instance of Oracle Mail, you must enter the domain name for the e-mail server, else select the domain name from the list. Click Next.
15.	Specify Port Configuration Options (Advanced installation only)	To use default ports for the components, select Automatic. If you do not want to use the default ports, then select Manually Specify Ports and select the component for which you want to specify the port. Refer to Section 2.4.3 for more details about how to manually specify ports. Click Next.
16.	Summary	Verify your selections and click Install .
17.	Install Progress	This screen displays the progress of the installation.
18.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog appears. 1. When you see this dialog, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
19.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
20.	End of Installation	Click Exit to quit the installer.

Installing Oracle Collaboration Suite in High Availability Environments

This chapter contains the following sections:

- [Section 10.1, "Understanding High Availability Configurations: Overview and Common Requirements"](#)
- [Section 10.2, "Preparing to Install Oracle Collaboration Suite in High Availability Environments"](#)
- [Section 10.3, "Installing Oracle Calendar Server in High Availability Environments"](#)

10.1 Understanding High Availability Configurations: Overview and Common Requirements

This section provides an overview of the high availability configurations supported by Oracle Collaboration Suite.

This section contains the following topics:

- [Section 10.1.1, "Understanding the Common High Availability Principles"](#)
- [Section 10.1.2, "Overview of High Availability Configurations"](#)
- [Section 10.1.3, "Installation Order for High Availability Configurations"](#)
- [Section 10.1.4, "Requirements for High Availability Configurations"](#)

10.1.1 Understanding the Common High Availability Principles

Oracle Collaboration Suite High Availability Solutions installation includes the following primary components:

- [Oracle Collaboration Suite Database Tier](#)
- [Identity Management Service](#)
- [Oracle Calendar](#)
- [Oracle Collaboration Suite Applications Tier](#)

10.1.1.1 Oracle Collaboration Suite Database Tier

The Oracle Collaboration Suite Database tier is built on Oracle Database 10g that serves as the repository for the Oracle Collaboration Suite schema information and OracleAS 10g Release 10.1.2.0.1 Metadata Repository. The default version of the database when installed from Oracle Collaboration Suite is 10.1.0.4.

The processes in this tier are the database instance processes and the database listener. For high availability, Oracle recommends that this database be deployed as an Oracle Real Application Clusters database in an active-active configuration.

Oracle home is installed on each node of the hardware cluster. All Oracle homes use a single shared `oraInventory` on each node.

The hardware requirements for the Oracle Collaboration Suite Database tier are as follows:

- Hardware cluster with vendor clusterware or Oracle Cluster Ready Services or both
- Shared storage for the Oracle Real Application Clusters database files and CRS registry and quorum device. Oracle Database files can be on RAW devices, Network Attached Storage (NAS), OCFS for Linux, or use Oracle Automatic Storage Management (ASM).
- A virtual IP address for each cluster node

10.1.1.2 Identity Management Service

The Identity Management tier consists of the following:

- Oracle Internet Directory tier

The Oracle Internet Directory tier may be colocated with the database tier or the OracleAS Single Sign-On tier or may be deployed separately. The colocation can be in terms of being on the same computer and in many cases, sharing the same Oracle home.

The main processes in this tier are the Oracle Internet Directory and Oracle Directory Integration and Provisioning processes.

For high availability, Oracle recommends that multiple instances of this tier be deployed or that the deployment be designed to fail over the service to any available computer. An active-active deployment of this tier requires a hardware load balancer.

- OracleAS Single Sign-On tier

This tier is colocated with the Oracle Internet Directory tier or may be deployed separately. The colocation can be in terms of their being on the same computer and in many cases, sharing the same Oracle home. Also, typically the OracleAS Single Sign-On and Oracle Delegated Administration Services services are deployed together.

The main processes in this tier are the Oracle HTTP Server and the OC4J instances hosting the OracleAS Single Sign-On and Oracle Delegated Administration Services applications.

For high availability, Oracle recommends that multiple instances of this tier be deployed or that the deployment be designed to fail over the service to any available computer. An active-active deployment of this tier requires a hardware load balancer.

Oracle home is on each node of the hardware cluster. All Oracle homes use a single shared `oraInventory` on each node.

The hardware requirements for the Identity Management tier are as follows:

- Single node
- Local storage

- A load balancer functions as a frontend of the nodes and routes requests to the Identity Management services on both nodes of the cluster

10.1.1.3 Oracle Calendar

Oracle Calendar includes the file system-level database that stores all Calendar-related data. This database is not an Oracle Database, and therefore cannot provide the same high availability features of the Oracle Database.

To ensure an Oracle Collaboration Suite high availability solution, Oracle Calendar Server (one server for each calendar node) is placed on a Cold Failover Cluster because it is a single point of failure. This Cold Failover Cluster installation requires shared storage for the Oracle home and `oraInventory` directory trees. The Oracle Calendar Server file system database is contained under the Oracle home directory tree. To facilitate a cold failover cluster, a virtual IP address and host are required.

Oracle home and `oraInventory` are located on a dedicated shared storage of the hardware cluster. This Oracle home should have a separate `oraInventory` from the Oracle home of other components so that when the shared file system is failed over, the `oraInventory` is also failed over with it using the same mount point.

The hardware requirements for Oracle Calendar are as follows:

- Hardware cluster with vendor clusterware. In case of Linux, Oracle Cluster Ready Services and the Red Hat Cluster Manager cannot coexist. As a result, the failover should be manual or Oracle Calendar should be put on a cluster separate from the Oracle Real Application Clusters database.
- Shared storage for the Calendar Server `ORACLE_HOME` and `oraInventory` directory
- A virtual IP address

10.1.1.4 Oracle Collaboration Suite Applications Tier

This tier contains all the Oracle Collaboration Suite Applications components, except Oracle Calendar, that are installed independently on multiple nodes. Typically, the applications tiers are deployed in the demilitarized zone (DMZ). A load balancer virtual server, forms the front end for multiple applications tiers. Client requests to the Oracle Collaboration Suite Applications tiers are load balanced across the Applications nodes by the load balancer using the load balancer virtual server.

Oracle home is installed on each node of the hardware cluster. All Oracle homes use a single shared `oraInventory` on each node.

The hardware requirements for Applications tier are as follows:

- Single node
- Local storage
- Load Balancer virtual server

10.1.2 Overview of High Availability Configurations

This section provides a brief overview of the typical high availability configurations supported by Oracle Collaboration Suite. For a detailed description of the configurations, refer to the *Oracle Collaboration Suite Deployment Guide*.

Oracle Collaboration Suite supports the following types of high availability configurations:

- [Single Cluster Architecture](#)

- [Colocated Identity Management Architecture](#)
- [Distributed Identity Management Architecture](#)

[Section 10.1.2.4](#) summarizes the differences among the high availability configurations.

10.1.2.1 Single Cluster Architecture

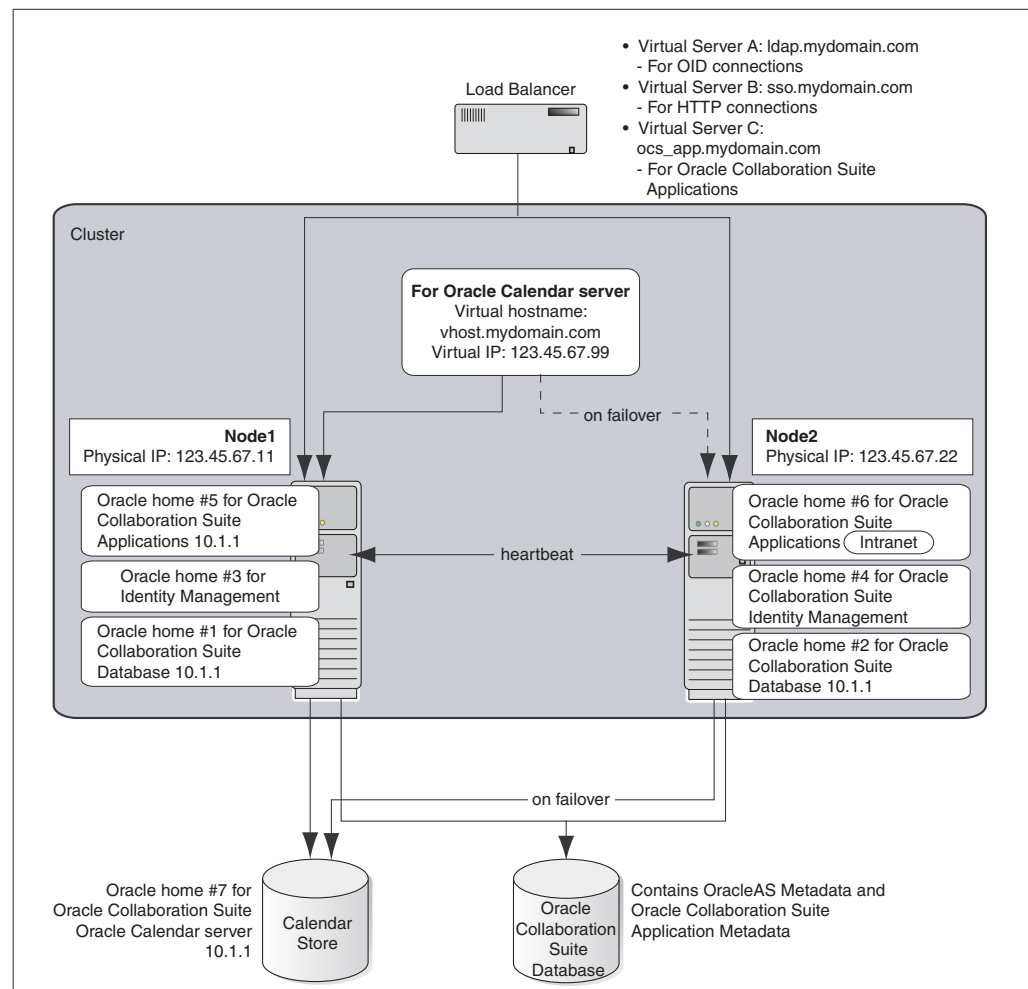
This is a minimal configuration where all Oracle Collaboration Suite High Availability components, Oracle Collaboration Suite Database, Identity Management, Oracle Calendar, and Applications, are installed on a single cluster. This architecture is not an out-of-box solution and requires multiple installations of Oracle Collaboration Suite and manual postinstallation configuration.

In this architecture, both Identity Management and Applications are configured as an active-active high availability configuration. The high availability configuration for Oracle Collaboration Suite Database is also active-active.

A Single Cluster Architecture configuration has the following characteristics:

- **Active nodes.** All the nodes in a Single Cluster Architecture configuration are active. This means that all the nodes can handle requests. If a node fails, the remaining nodes handle all the requests.
- **Shared disk:** Typically, you install Oracle Collaboration Suite on the shared disk. All nodes have access to the shared disk, but only one node mounts the shared disk at any given time. However, Oracle Collaboration Suite Database is not on the shared disk that is mounted by a node at any given time. Also, all nodes running the Oracle Real Application Clusters database must have concurrent access to the shared disk.
- **Hardware cluster.** This can be vendor-specific clusterware, Oracle Cluster Ready Services, or both. For Linux, the hardware cluster is only limited to Oracle Cluster Ready Services.
- **Load balancer.** You need a load balancer to load-balance the requests to all the active nodes. The load balancer is only required for Identity Management and Applications-related requests. The requests for Applications tier are routed through the virtual IP address and the requests for Oracle Real Application Clusters database are routed through Oracle Net using the virtual IP addresses for the cluster nodes.

[Figure 10–1](#) illustrates a typical Single Cluster Architecture configuration.

Figure 10–1 A Typical Single Cluster Architecture Configuration

Refer to [Chapter 11](#) for details on Single Cluster Architecture installation.

10.1.2.2 Colocated Identity Management Architecture

This architecture separates the Oracle Collaboration Suite Database tier and the Identity Management tier rather than sharing nodes as in the Single Cluster architecture. This architecture is not an out-of-box solution and requires multiple installations of Oracle Collaboration Suite and manual postinstallation configuration.

As the name suggests, Colocated Identity Management Architecture is used for installing Identity Management components in a high availability configuration.

In this architecture, both Identity Management and Oracle Collaboration Suite Database are configured as an active-active high availability configuration.

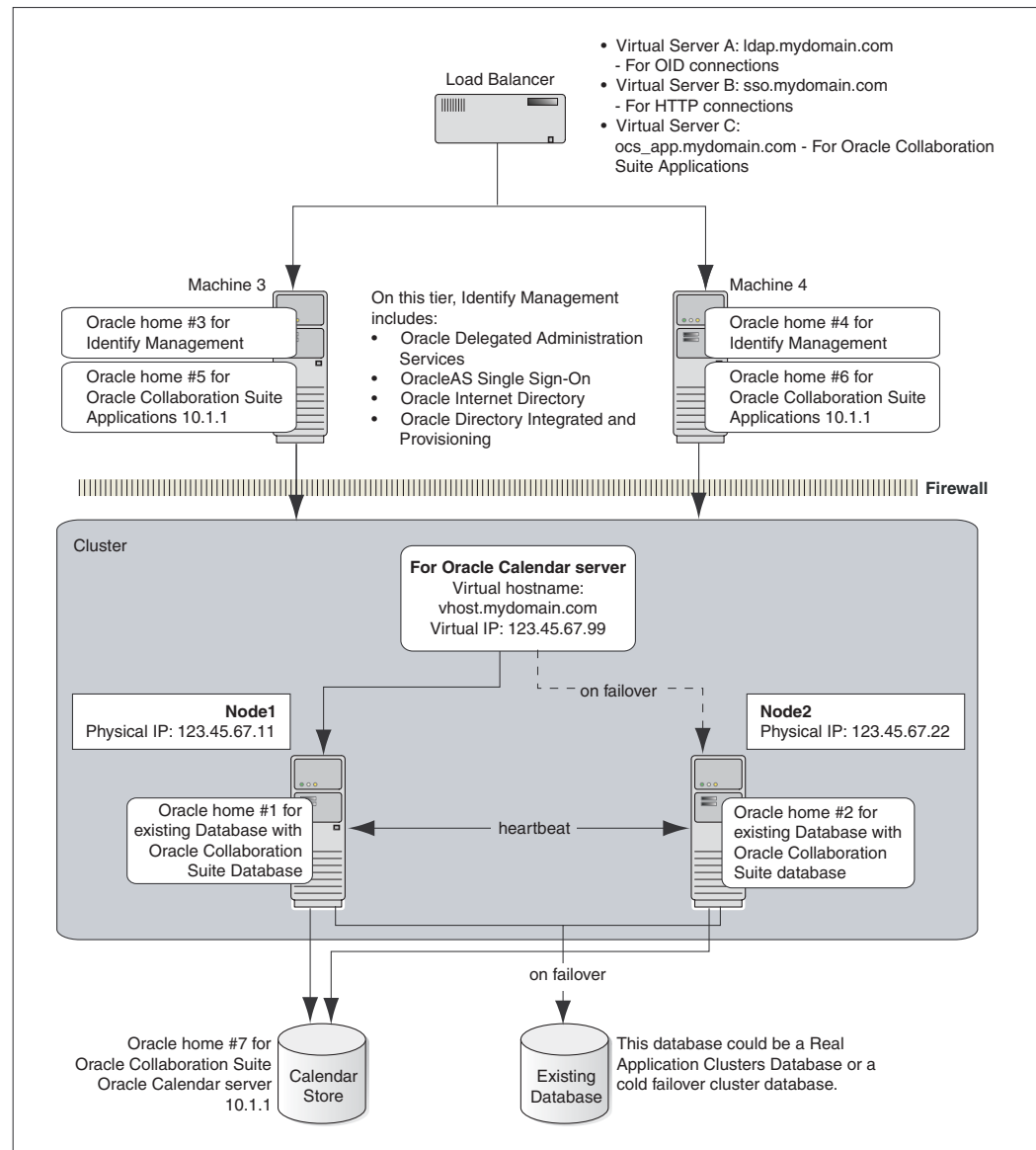
A Colocated Identity Management Architecture configuration has the following characteristics:

- **Active nodes:** The active node handles all the requests. The passive node becomes the active node when the active node fails. If a node fails, the remaining nodes handle all the requests.
- **Shared disk:** Typically, you install Oracle Collaboration Suite on the shared disk. All nodes have access to the shared disk, but only one node mounts the shared disk at any given time. However, Oracle Collaboration Suite Database is not on the

shared disk that is mounted by a node at any given time. Also, all nodes running the Oracle Real Application Clusters database must have concurrent access to the shared disk.

- Hardware cluster. This can either be vendor-specific clusterware or Oracle Cluster Ready Services if Oracle Real Application Clusters is used.
- Load balancer. A hardware load balancer is a front end to the nodes with the Identity Management tier and load balances the Identity Management traffic.
- Nonclustered servers. You need multiple nonclustered servers for the Identity Management tier.
- Virtual IP and host name: You must set up a virtual IP and host name for the nodes. During installation, you provide the virtual host name. Clients use the virtual host name to access Oracle Collaboration Suite in an Active Failover Cluster Configuration (for example, the virtual host name is used in URLs). The virtual IP and host name points to an active node. If the active node fails, the virtual IP and host name switches to point to any other active node.

[Figure 10-2](#) illustrates a typical Colocated Identity Management Architecture configuration.

Figure 10–2 A Typical Colocated Identity Management Architecture Configuration

Refer to [Chapter 12](#) for details about Colocated Identity Management Architecture installation.

10.1.2.3 Distributed Identity Management Architecture

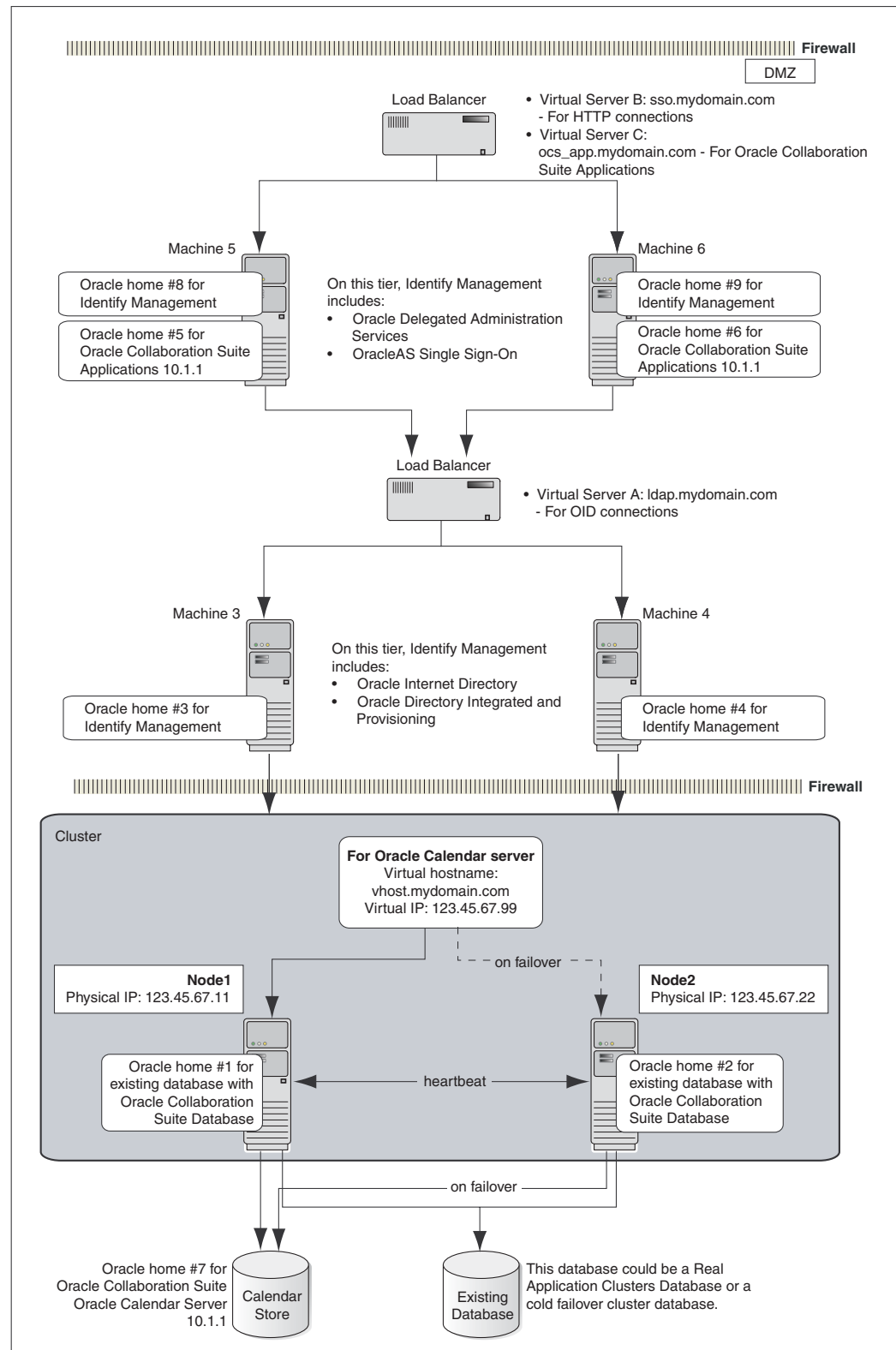
This configuration is similar to Colocated Identity Management Architecture except that the Identity Management components, Oracle Internet Directory and Oracle Application Server Single Sign-On, are distributed across multiple nonclustered servers in a demilitarized zone.

In this architecture, Oracle Internet Directory as well as Oracle Application Server Single Sign-On shares an active-active high availability configuration. However, the high availability configuration for Oracle Collaboration Suite Database can either be active-active or active-passive.

A Distributed Identity Management Architecture configuration has the following characteristics:

- Active nodes: The active node handles all the requests.
- Shared disk: Typically, you install Oracle Collaboration Suite on the shared disk. The active and passive nodes have access to the shared disk, but only one node (the active node) mounts the shared disk at any given time.
- Hardware cluster. This can either be vendor-specific clusterware or Oracle Cluster Ready Services if Oracle Real Application Clusters is used.
- Load balancer. You need a load balancer to load-balance the requests to all the active nodes. During installation, you enter the virtual server name configured on your load balancer. During run time, clients use the virtual server name to access the OracleAS Cluster (Identity Management) configuration. The load balancer then directs the request to the appropriate node.
- Nonclustered servers. You need multiple nonclustered servers both for Oracle Internet Directory as well as Oracle Application Server Single Sign-On.
- Virtual IP and host name: You must set up a virtual IP and host name for the nodes. During installation, you provide the virtual host name. Clients use the virtual host name to access the Oracle Collaboration Suite in an Active Failover Cluster Configuration (for example, the virtual host name is used in URLs). The virtual IP and host name points to an active node. If the active node fails, the virtual IP and host name switches to point to any other active node.

[Figure 10-3](#) illustrates a typical Distributed Identity Management Architecture configuration.

Figure 10-3 A Typical Distributed Identity Management Architecture Configuration

Refer to [Chapter 13](#) for details about Distributed Identity Management Architecture installation.

10.1.2.4 Summary of Differences

Table 10–1 summarizes the differences among the high availability configurations.

Table 10–1 Differences Among the High Availability Configurations

	Single Cluster Architecture	Colocated Identity Management Architecture	Distributed Identity Management Architecture
Node configuration	Active-Active	Active-Active	Active-Active
Hardware cluster	Yes	Yes	Yes
Virtual host name	No	Yes	Yes
Load balancer	Yes	Yes	Yes
Shared storage	Yes	Yes	Yes
Nonclustered servers	No	Yes (Combined for the Identity Management tier)	Yes

10.1.3 Installation Order for High Availability Configurations

For all high availability configurations, you install the components in the following order:

1. Oracle Collaboration Suite Database
2. Identity Management components

If you are distributing the Identity Management components, you install them in the following order:

- a. Oracle Internet Directory and Oracle Directory Integration and Provisioning
- b. Oracle Application Server Single Sign-On and Oracle Delegated Administration Services
3. Oracle Collaboration Suite application components

10.1.4 Requirements for High Availability Configurations

If you are plan to install Oracle Collaboration Suite in high availability environments, remember the following requirements:

- Database requirement
You need an existing Oracle Real Application Clusters database. You will install the OracleAS Metadata Repository on this database using the Metadata Repository Creation Assistant.
- OracleAS Metadata Repository requirement
When you perform the installation on the first node, you must specify an OracleAS Metadata Repository that is not registered with any Oracle Internet Directory. The installer checks for this. If the installer finds that the OracleAS Metadata Repository is already registered with an Oracle Internet Directory, then it assumes that you are installing on subsequent nodes, and that you want to join the cluster that was created when you installed on the first node. It prompts you for the existing cluster name and the connect information for the Oracle Internet Directory.
- Components requirement

Because the installer clusters the components in an Identity Management configuration, you must select the same components in the Select Configuration Options screen for all the nodes in the cluster.

For example, if you select Oracle Internet Directory, OracleAS Single Sign-On, and Oracle Delegated Administration Services for the installation on node 1, then you must select the same set of components in subsequent installations.

Clustering will fail if you select different components in each installation.

The requirements common to all high availability configurations are:

- [Check Minimum Number of Nodes](#)
- [Check That Groups Are Defined Identically on All Nodes](#)
- [Check the Properties of the oracle User](#)
- [Check for Previous Oracle Installations on All Nodes](#)

In addition to these common requirements, each configuration has its own specific requirements. Refer to the individual chapters for details.

Note: In addition to the requirements specific to the high availability configuration that you plan to use, you still must meet the requirements listed in [Chapter 2](#).

10.1.4.1 Check Minimum Number of Nodes

You need at least two nodes in a high availability configuration. If a node fails for any reason, the second node takes over.

10.1.4.2 Check That Groups Are Defined Identically on All Nodes

Check that the `/etc/group` file on all nodes in the cluster contains the operating system groups that you plan to use. You should have one group for the `oraInventory` directory, and one or two groups for database administration. The group names and the group IDs must be the same for all nodes.

Refer to [Section 2.5](#) for details.

10.1.4.3 Check the Properties of the oracle User

Check that the `oracle` operating system user that you must log in as to install Oracle Collaboration Suite, has the following properties:

- It belongs to the `oinstall` group and to the `osdba` group. The `oinstall` group is for the `oraInventory` directory, and the `osdba` group is a database administration group. Refer to [Section 2.5](#) for details.
- It has write privileges on remote directories.

10.1.4.4 Check for Previous Oracle Installations on All Nodes

Check that all the nodes where you want to install Oracle Collaboration Suite in a high availability configuration do not have existing `oraInventory` directories.

You must do this because you want the installer to prompt you to enter a location for the `oraInventory` directory. The location of the existing `oraInventory` directory might not be ideal for the Oracle Collaboration Suite instance that you are about to install. For example, you want the `oraInventory` directory to be on the shared

storage. If the installer finds an existing `oraInventory` directory, it will automatically use it and will not prompt you to enter a location.

To check if a node contains an `oraInventory` directory that could be detected by the installer:

1. On each node, check for the `/etc/oraInst.loc` file.

If a node does not contain the file, then it does not have an `oraInventory` directory that will be used by the installer. You can check the next node.

2. For nodes that contain the `oraInst.loc` file, rename the `oracle` directory to something else so that the installer does not see it. The installer then prompts you to enter a location for the `oraInventory` directory.

The following example renames the `oracle` directory to `oracle.orig` (you must be `root` to do this):

```
# su
Password: root_password
# /etc
# mv oracle oracle.orig
```

When you run the installer to install Oracle Collaboration Suite, the installer creates a new `/etc/oracle` directory and new files in it. You might need both `oracle` and `oracle.orig` directories. Do not delete either directory or rename one over the other.

The installer uses the `/etc/oracle` directory and its files. Be sure that the right `oracle` directory is in place before running the installer (for example, if you are deinstalling or expanding a product).

10.2 Preparing to Install Oracle Collaboration Suite in High Availability Environments

This section covers the following topics:

- [Section 10.2.1, "Preinstallation Steps"](#)
- [Section 10.2.2, "About Oracle Internet Directory Passwords"](#)
- [Section 10.2.3, "About Configuring SSL and Non-SSL Ports for Oracle HTTP Server"](#)

10.2.1 Preinstallation Steps

Before installing an Identity Management configuration, you must set up the following tasks:

- [Use the Same Path for the Oracle Home Directory \(Recommended\)](#)
- [Synchronize Clocks on All Nodes](#)
- [Configure Virtual Server Names and Ports for the Load Balancer](#)
- [Configure Your LDAP Virtual Server to Direct Requests to Node 1 Initially](#)
- [Set Up Cookie Persistence on the Load Balancer](#)

10.2.1.1 Use the Same Path for the Oracle Home Directory (Recommended)

For all the nodes that will be running Identity Management components, use the same full path for the Oracle home. This practice is recommended, but not required.

10.2.1.2 Synchronize Clocks on All Nodes

Synchronize the system clocks on all nodes.

10.2.1.3 Configure Virtual Server Names and Ports for the Load Balancer

Configure your load balancer with two virtual server names and associated ports:

- Configure a virtual server name for LDAP connections. For this virtual server, you must configure two ports: one for SSL and one for non-SSL connections.

Note: Ensure that the same ports that you configured for the LDAP virtual server are available on the nodes on which you will be installing Oracle Internet Directory.

The installer will configure Oracle Internet Directory to use the same port numbers that are configured on the LDAP virtual server. In other words, Oracle Internet Directory on all the nodes and the LDAP virtual server will use the same port number.

- Configure a virtual server name for HTTP connections. For this virtual server, you also must configure two ports: one for SSL and one for non-SSL connections.

Note: The ports for the HTTP virtual server can be different from the Oracle HTTP Server `Listen` ports.

The installer will prompt you for the virtual server names and port numbers.

In addition, check that the virtual server names are associated with IP addresses and are part of your DNS. The nodes that will be running Oracle Collaboration Suite must be able to access these virtual server names.

10.2.1.4 Configure Your LDAP Virtual Server to Direct Requests to Node 1 Initially

Note that this procedure applies only to the LDAP virtual server configured on your load balancer. This does not apply to the HTTP virtual server configured on your load balancer.

Before you start the installation, configure your LDAP virtual server to direct requests to node 1 only. After you complete an installation on a node, then you can add that node to the virtual server.

For example, if you have three nodes:

1. Configure the LDAP virtual server to direct requests to node 1 only.
2. Install Identity Management components on node 1.
3. Install Identity Management components on node 2.
4. Add node 2 to the LDAP virtual server.
5. Install Identity Management components on node 3.
6. Add node 3 to the LDAP virtual server.

10.2.1.5 Set Up Cookie Persistence on the Load Balancer

On your load balancer, set up cookie persistence for HTTP traffic. Specifically, set up cookie persistence for URIs starting with `/oiddas/`. This is the URI for Oracle

Delegated Administration Services. If your load balancer does not allow you to set cookie persistence at the URI level, then set the cookie persistence for all HTTP traffic. In either case, set the cookie to expire when the browser session expires.

Refer to your load balancer documentation for details.

10.2.2 About Oracle Internet Directory Passwords

In Identity Management configurations, you install Oracle Internet Directory on multiple nodes, and in each installation, you enter the instance password in the Specify Instance Name and `ias_admin` Password screen.

The password specified in the first installation is used as the password for the `cn=orcladmin` and `orcladmin` users not just in the first Oracle Internet Directory, but in all Oracle Internet Directory installations in the cluster.

This means that to access the Oracle Internet Directory on any node, you must use the password that you entered in the first installation. You cannot use the passwords that you entered in subsequent installations.

Accessing the Oracle Internet Directory includes:

- Logging in to Oracle Delegated Administration Services (URL: `http://hostname:port/oiddas`)
- Logging in to Oracle Application Server Single Sign-On (URL: `http://hostname:port/pls/orasso`)
- Connecting to Oracle Internet Directory using the Oracle Directory Manager

You still need the passwords that you entered in installations for logging in to Application Server Control.

10.2.3 About Configuring SSL and Non-SSL Ports for Oracle HTTP Server

When you are installing Identity Management configurations, the installer displays the Specify HTTP Load Balancer Host and Listen Ports screen.

This screen has the following two sections:

- In the load balancer section, you specify the HTTP virtual server name and port number of the load balancer. You also indicate whether the port is for SSL or non-SSL requests.
- In the Oracle HTTP Server section, you specify the port number that you want for the Oracle HTTP Server `Listen` port. You also indicate whether the port is for SSL or non-SSL requests.

The virtual server and the Oracle HTTP Server `Listen` port can use different port numbers.

You can use this screen to set up the type of communication (SSL or non-SSL) between client, load balancer, and Oracle HTTP Server. Three cases are possible:

- Case 1: Communications between clients and the load balancer use HTTP, and communications between the load balancer and Oracle HTTP Server also use HTTP. Refer to [Section 10.2.3.1](#).
- Case 2: Communications between clients and the load balancer use HTTPS (secure HTTP), and communications between the load balancer and Oracle HTTP Server also use HTTPS. Refer to [Section 10.2.3.2](#).

- Case 3: Communications between clients and the load balancer use HTTPS, but communications between the load balancer and Oracle HTTP Server use HTTP. Refer to [Section 10.2.3.3](#).

Note: Because the values you specify in this dialog override the values specified in the `staticports.ini` file, you should not specify port numbers for the Oracle HTTP Server `Listen` port in the `staticports.ini` file.

10.2.3.1 Case 1: Client and the Load Balancer Use HTTP and the Load Balancer and Oracle HTTP Server Also Use HTTP for Communication

To set up this type of communication, specify the following values:

HTTP Listener: Port: Enter the port number that you want to use as the Oracle HTTP Server `Listen` port. This will be the value of the `Listen` directive in the `httpd.conf` file.

Enable SSL: Do not select this option. The installer tries the default port number for the SSL port.

HTTP Load Balancer: Hostname: Enter the name of the virtual server on the load balancer configured to handle HTTP requests.

HTTP Load Balancer: Port: Enter the port number that the HTTP virtual server listens on. This will be the value of the `Port` directive in the `httpd.conf` file.

Enable SSL: Do not select this option.

[Table 10–2](#) lists the screen and configuration file values.

Table 10–2 Case 1: Screen and Configuration File Values

Values in Screen	Resulting Values in Configuration Files
HTTP Listener: Port: 8000	In httpd.conf :
Enable SSL: Unchecked	Port 80
HTTP Load Balancer: Port: 80	Listen 8000
Enable SSL: Unchecked	In ssl.conf :
	Port <default port number assigned by installer>
	Listen <default port number assigned by installer>

10.2.3.2 Case 2: Client and the Load Balancer Use HTTPS and the Load Balancer and Oracle HTTP Server Also Use HTTPS for Communication

To set up this type of communication, specify the following values:

HTTP Listener: Port: Enter the port number that you want Oracle HTTP Server to listen on. This will be the value of the `Listen` directive in the `ssl.conf` file.

Enable SSL: Select this option.

HTTP Load Balancer: Hostname: Enter the name of the virtual server on the load balancer configured to handle HTTPS requests.

HTTP Load Balancer: Port: Enter the port number that the HTTP virtual server listens on. This will be the value of the `Port` directive in the `ssl.conf` file.

Enable SSL: Select this option.

In `opmn.xml`, the installer sets the `ssl-enabled` line in the Oracle HTTP Server section to `true`.

[Table 10–3](#) lists the screen and resulting configuration file values.

Table 10–3 Case 2: Screen and Configuration File Values

Values in Screen	Resulting Values in Configuration Files
HTTP Listener: Port: 90	In httpd.conf :
Enable SSL: Checked	Port <default port number assigned by installer>
HTTP Load Balancer: Port: 443	Listen <default port number assigned by installer>
Enable SSL: Checked	In ssl.conf :
	Port 443
	Listen 90

10.2.3.3 Case 3: Client and the Load Balancer Use HTTPS and the Load Balancer and Oracle HTTP Server Use HTTP for Communication

To set up this type of communication, specify the following values:

HTTP Listener: Port: Enter the port number that you want Oracle HTTP Server to listen on. This will be the value of the `Listen` directive in the `httpd.conf` file.

Enable SSL: Do not select this option.

HTTP Load Balancer: Hostname: Enter the name of the virtual server on the load balancer configured to handle HTTPS requests.

HTTP Load Balancer: Port: Enter the port number that the HTTP virtual server listens on. This will be the value of the `Port` directive in the `httpd.conf` file.

Enable SSL: Select this option.

The installer will change the following lines:

- In `opmn.xml`, the installer sets the `ssl-enabled` line in the Oracle HTTP Server section to `true`.
- In `httpd.conf`, the installer adds the following lines:


```
LoadModule certheaders_module libexec/mod_certheaders.so
SimulateHttps on
```

[Table 10–4](#) lists the screen and configuration file values.

Table 10–4 Case 3: Screen and Configuration File Values

Values in Screen	Resulting Values in Configuration Files
HTTP Listener: Port: 9000	In httpd.conf :
Enable SSL: Unchecked	Port 443
HTTP Load Balancer: Port: 443	Listen 9000
Enable SSL: Checked	In ssl.conf :
	Port <default port number assigned by installer>
	Listen <default port number assigned by installer>

10.3 Installing Oracle Calendar Server in High Availability Environments

This section describes how to install Oracle Calendar Server in Cold Failover configurations.

- [Section 10.3.1, "High Availability Configuration for Oracle Calendar"](#)

- [Section 10.3.2, "Preinstallation Steps for Installing Oracle Calendar in High Availability Environments"](#)
- [Section 10.3.3, "Installing Oracle Calendar"](#)

10.3.1 High Availability Configuration for Oracle Calendar

In the Oracle Collaboration Suite high availability architectures, a Cold Failover Cluster configuration is used for the Oracle Calendar. In a Cold Failover Cluster configuration, you have an active and a passive node, and shared storage that can be accessed by either node.

During normal operation, the active node runs Oracle Calendar Server processes and manages requests from clients. If the active node fails, then a failover event occurs. The passive node takes over and becomes the active node. It mounts the shared storage and runs the processes.

10.3.2 Preinstallation Steps for Installing Oracle Calendar in High Availability Environments

Before installing Oracle Calendar Server in a high availability environment, perform the following tasks:

- [Section 10.3.2.1, "Check That Clusterware Is Running"](#)
- [Section 10.3.2.2, "Map the Virtual Host Name and Virtual IP Address"](#)
- [Section 10.3.2.3, "Set Up a File System That Can Be Mounted from Both Nodes"](#)
- [Section 10.3.2.4, "Review Recommendations for Automatic Storage Management \(ASM\)"](#)

10.3.2.1 Check That Clusterware Is Running

For Cold Failover Cluster, each node in a cluster must be running hardware vendor clusterware. If you are running Oracle Cluster Ready Services, you still need the clusterware from the hardware vendor. Running Oracle Cluster Ready Services without the hardware vendor clusterware is not supported for Cold Failover Cluster.

Note: On Linux, clusterware runs on specific ports. You cannot have Oracle Real Application Clusters, Oracle Cluster Ready Services, and Linux cluster manager running at the same time.

To check that the clusterware is running, use the command appropriate for your clusterware.

10.3.2.2 Map the Virtual Host Name and Virtual IP Address

Each node in an Oracle Calendar Server Cold Failover Cluster configuration is associated with its own physical Internet Protocol (IP) address. In addition, the active node in the cluster is associated with a virtual host name and virtual IP address. This enables clients to access the Cold Failover Cluster using the virtual host name.

Virtual host names and virtual IP addresses are any valid host name and IP address in the context of the subnet containing the hardware cluster.

Note: Map the virtual host name and virtual IP address only to the active node. Do not map the virtual host name and IP address to both active and secondary nodes at the same time. When you fail over the current active node, only then do you map the virtual host name and IP address to the secondary node, which is now the active node.

The following example configures a virtual host name called `vhost.mydomain.com`, with a virtual IP of `138.1.12.191`:

Note: Before attempting to complete this procedure, ask the system or network administrator to review all the steps required. The procedure will reconfigure the network settings on the cluster nodes and may vary with differing network implementations.

1. Register the virtual host name and IP address with DNS for the network.

For example, register the `vhost.mydomain.com/138.1.12.191` pair with DNS.

2. Add the following line to the `/etc/hosts` file on the active node:

```
ip_address hostname.domain hostname
```

For example:

```
138.1.12.191    vhost.mydomain.com    vhost
```

3. Determine the primary public network interface.

The primary public network interface for Ethernet encapsulation is typically `eth0` on Linux. Use the following command to determine the primary public network interface that has an `inet addr` value of the physical IP address of the node:

```
/sbin/ifconfig
```

4. Find an available index number for the primary public network interface.

Using the same commands as described in the previous step, determine an available index number for an additional IP address to the primary public network interface.

5. Add the virtual IP address to the primary public network interface as the `root` user:

Note: You must use the same `NETMASK` and `BROADCAST` values for this interface as those used for the primary public network interface (`lan0` and `eth0` in the examples). Modify the `ifconfig` commands in this step to include the appropriate `netmask` and `broadcast` options.

Enter the following command using the available index number from the previous step:

```
/sbin/ifconfig primary_public_interface:available_index ip_address
```

For example, enter the following command if `eth0:1` is available:

```
/sbin/ifconfig eth0:1 138.1.12.191
```

6. Check that the virtual IP address is configured correctly:

- a. Use the instructions listed in Step 3 to confirm the new entry for the `primary_public_interface:available_index` entry created in Step 5.
- b. Try to connect to the node using the virtual host name and virtual IP address from another node. For example, entering both of the following commands from a different node should provide a login to the node you configured in this procedure:

```
telnet hostname.domain
telnet ip_address
```

For example, enter:

```
telnet vhost.mydomain.com
telnet 138.1.12.191
```

On Failover

If the active node fails, then the secondary node takes over. If you do not have a clusterware agent to map the virtual IP from the failed node to the secondary node, then you must do it manually. Remove the virtual IP mapping from the failed node and map it to the secondary node.

Note: If the failed node is offline or rebooted, the first step is not required because the failed node will not be configured with the virtual host name or IP address.

1. On the failed node, remove the virtual IP address as the `root` user. Enter the following command:

```
/sbin/ifconfig configured_interface down
```

For example, enter the following command if `eth0:1` is configured with the virtual IP address:

```
/sbin/ifconfig eth0:1 down
```

Note: Use the commands in Step 3 of the previous procedure to confirm that the virtual IP address has been removed.

2. On the secondary node, add the virtual IP address.

On the secondary node, follow Steps 2 to 6 of the previous procedure to add and confirm the virtual IP address on the secondary node.

10.3.2.3 Set Up a File System That Can Be Mounted from Both Nodes

Although the hardware cluster has shared storage, you must create a file system on this shared storage such that both nodes of the Oracle Calendar Server Cold Failover Cluster can mount this file system. You will use this file system for the following directories:

- Oracle home directory for the Infrastructure
- The oraInventory directory

For more information about disk space requirements, refer to [Section 2.1](#).

If you are running a volume manager on the cluster to manage the shared storage, refer to the volume manager documentation for steps to create a volume. Once a volume is created, you can create the file system on that volume.

If you do not have a volume manager, you can create a file system on the shared disk directly. Ensure that the hardware vendor supports this, that the file system can be mounted from either node of the Oracle Calendar Cold Failover Cluster, and that the file system is repairable from either node if a node fails.

To check that the file system can be mounted from either node, perform the following steps:

1. Set up and mount the file system from node 1.
2. Unmount the file system from node 1.
3. Mount the file system from node 2 using the same mount point that you used in Step 1.
4. Unmount the file system from node 2, and mount it on node 1, because you will be running the installer from node 1.

Note: Only one node of the Oracle Calendar Cold Failover Cluster should mount the file system at any given time. File system configuration files on all nodes of the cluster should not include an entry for the automatic mount of the file system upon a node restart or execution of a global mount command. For example, on UNIX platforms, do not include an entry for this file system in `/etc/fstab` file.

10.3.2.4 Review Recommendations for Automatic Storage Management (ASM)

If you plan to use ASM instances for the OracleAS Metadata Repository database, consider these recommendations:

- If you plan to use ASM with Oracle Database instances from multiple database homes on the same node, then you should run the ASM instance from an Oracle home that is different from the database homes.
- The ASM home should be installed on every cluster node. This prevents the accidental removal of ASM instances that are in use by databases from other homes during the deinstallation of a database Oracle home.

10.3.3 Installing Oracle Calendar

[Figure 10–4](#) shows an Oracle Calendar Server high availability configuration.

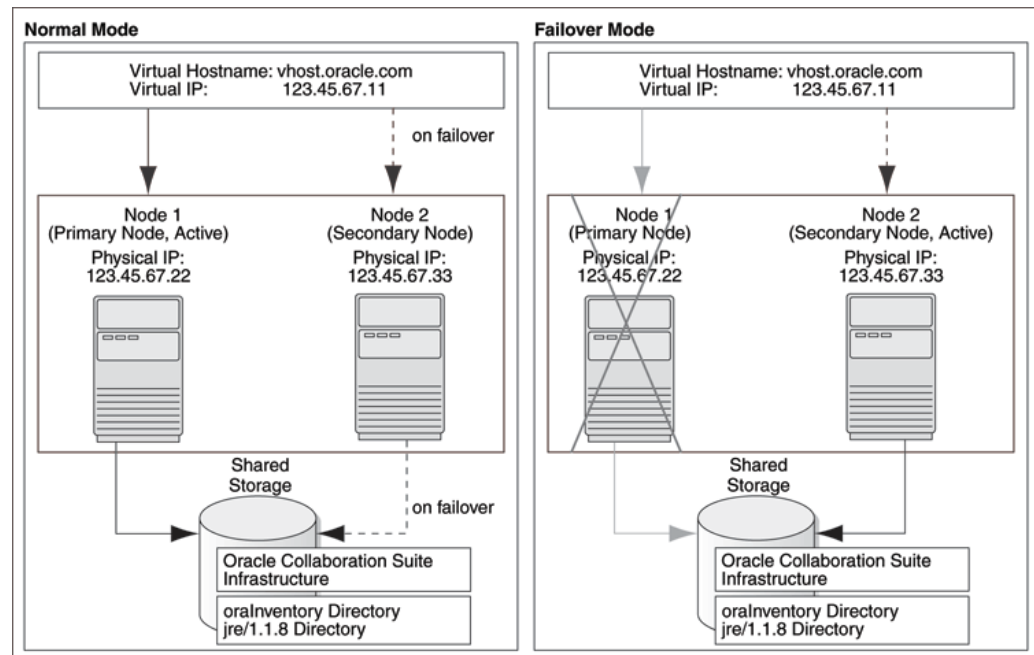
Figure 10–4 Oracle Calendar High Availability Configuration

Figure 10–4 depicts:

- Two nodes running clusterware.
- Storage devices local to each node.
- Storage device that can be accessed by both nodes. You install Infrastructure on this shared storage device.

During normal operation, one node ("node 1") acts as the active node. It mounts the shared storage to access Infrastructure, runs Oracle Collaboration Suite 10g Infrastructure processes, and handles all requests.

If the active node goes down for any reason, the clusterware fails over Oracle Collaboration Suite Infrastructure processes to the other node ("node 2"), which now becomes the active node. It mounts the shared storage, runs the processes, and handles all requests.

These nodes appear as one computer to clients through the use of a virtual address. To access the Oracle Collaboration Suite 10g Infrastructure, clients, including Applications tier components, use the virtual address associated with the cluster. The virtual address is associated with the active node (node 1 during normal operation, node 2 if node 1 goes down). Clients do not need to know which node (node 1 or node 2) is servicing requests.

You use the virtual host name in URLs that access the Infrastructure. For example, if `vhost.mydomain.com` is the virtual host name, the URLs for the Oracle HTTP Server and the Application Server Control would look like the following:

URL for:	Example URL
Oracle HTTP Server, Welcome page	<code>http://vhost.mydomain.com:7777</code>
Oracle HTTP Server, secure mode	<code>https://vhost.mydomain.com:4443</code>
Application Server Control	<code>http://vhost.mydomain.com:1810</code>

To install Oracle Calendar in a Oracle Application Server Cold Failover Cluster configuration, perform the steps listed the following topics:

- [Installing Oracle Calendar Server in a Cold Failover Cluster Configuration](#)
- [Performing the Postinstallation Steps](#)
- [Installing Oracle Collaboration Suite Applications](#)

10.3.3.1 Installing Oracle Calendar Server in a Cold Failover Cluster Configuration

Before installing Oracle Calendar in a Cold Failover Cluster configuration, make sure that the virtual IP address and host name is enabled on the install node.

To install Oracle Calendar in a Cold Failover Cluster configuration, follow the steps listed in [Table 10–5](#).

Table 10–5 Installing Oracle Calendar Server in a Cold Failover Cluster Configuration

Step	Screen	Action
1.	None	Start the installer. Refer to Section 3.4, "Starting Oracle Universal Installer" .
2.	Select Installation Method	Select Advanced Installation. Note: Refer to Section 1.7.1 for detailed information on Basic and Advanced installations. Click Next.
3.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path for the inventory directory: Enter a full path to a directory for the installer files. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>/private/oracle/oraInventory</code> Click OK.
4.	UNIX Group Name (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the name of the operating system group to have write permission for the inventory directory. Example: <code>dba</code> Click Next.
5.	Run <code>orainstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>orainstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. Click Continue.
6.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source, if required. Name: Enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters. Example: <code>OH_apptier_10_1_1</code> Destination Path: Enter the full path to the destination directory. This is the Oracle home. If the directory does not exist, the installer creates it. To create the directory beforehand, create it as the <code>oracle</code> user; do not create it as the <code>root</code> user. Example: <code>/private/oracle/OH_apptier_10_1_1</code> Click Next.

Table 10–5 (Cont.) Installing Oracle Calendar Server in a Cold Failover Cluster

Step	Screen	Action
7.	Specify Hardware Cluster Installation Mode (Advanced installation only)	This screen appears only if the computer is part of a hardware cluster. When you are installing Oracle Collaboration Suite Applications, select Local Installation because hardware cluster is not supported for Oracle Collaboration Suite Applications. Click Next .
8.	Select a Product to Install (Advanced installation only)	Select Oracle Collaboration Suite Applications 10.1.1.0.2 to install Oracle Collaboration Suite Applications. If you need to install additional languages, click Product Languages . Refer to Section 1.8 for details. Click Next .
9.	Product-specific Prerequisite Checks (Advanced installation only)	The installer verifies requirements such as memory, disk space, and operating system version. If any check fails, make the required changes and click Retry . Refer to Chapter 2 for the list of hardware and software requirements. Click Next .
10.	Select Components to Configure (Advanced installation only)	Select the components that you would like to configure during the installation. The selected components will automatically start at the end of the installation. Note: You can also configure any component after installation. Refer to Section 8.7 for more information. Click Next .
11.	Register with Oracle Internet Directory (Advanced installation only)	Host: Enter the name of the computer where Oracle Internet Directory is running. Port: Enter the port number at which Oracle Internet Directory is listening. If you do not know the port number, refer to Section 8.5 . Use SSL to connect to Oracle Internet Directory: Select this option if you want Oracle Collaboration Suite components to use only SSL to connect to Oracle Internet Directory. Click Next .
12.	Specify UserName and Password for Oracle Internet Directory (Advanced installation only)	Username: Enter the user name to use to log in to Oracle Internet Directory. Password: Enter the user password. Click Next . Note: Use <code>cn=orcladmin</code> as the user name if you are the Oracle Internet Directory Superuser.
13.	OracleAS Metadata Repository (Advanced installation only)	Database Connection String: Select the OracleAS Metadata Repository that you want to use for this Applications tier instance. The installer will register this instance with the selected OracleAS Metadata Repository. Click Next .
14.	Select Database for Components (Advanced installation only)	This screen shows the database to be used for each of the components that were earlier selected in the "Select Components to Configure" screen. Click Next . Note: If multiple instances of Oracle Collaboration Suite Databases are available in Oracle Internet Directory, then you must click on the Database Name column and then select the correct database for each component from the drop-down list. However, when you click Next to go to the next screen, the selection might not be retained. To ensure that the selection is retained, you must click the Database Name column again after selecting the required database for each component.

Table 10–5 (Cont.) Installing Oracle Calendar Server in a Cold Failover Cluster

Step	Screen	Action
15.	Specify Port Configuration Options (Advanced installation only)	Select the method in which you want the ports to be configured for Oracle Collaboration Suite. Click Next . Note: If you manually configure the ports, then you must specify the port values for each port.
16.	Specify Administrative Password and Instance Name (Advanced installation only)	Instance Name: Specify the name of the OracleAS instance for the Oracle Collaboration Suite administrative accounts. Administrative Password: Specify the initial password for the Oracle Collaboration Suite administrative accounts. Confirm Password: Confirm the password. Click Next .
17.	Oracle Calendar Server Host Alias (Advanced installation only)	Host or Alias: Specify either the host address or the alias of the Calendar server instance. Click Next . Note: Oracle recommends that you use alias in place of host name if later you want to move the calendar server instance or change the host name. Specify the host name if an alias is not configured.
18.	Summary	Verify your selections and click Install .
19.	Install Progress	This screen displays the progress of the installation.
20.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog appears. 1. When you see this dialog, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK .
21.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
22.	End of Installation	Click Exit to quit the installer.

10.3.3.2 Performing the Postinstallation Steps

You might have to perform the postinstallation steps for the following problems:

- [About the chmod Warning While the root.sh Script Is Running](#)

About the chmod Warning While the root.sh Script Is Running

While the `root.sh` script is running, you might get a `chmod: warning`. This warning appears because corresponding `set-ID` is disabled on `emtgct12` because `set-ID` requires the `execute` permission.

Ignore the warning and continue with the installation process.

10.3.3.3 Installing Oracle Collaboration Suite Applications

You can install and run the Applications tiers on other nodes (nodes that are not running Infrastructure). During installation, you set up the Applications tiers to use services from the Oracle Collaboration Suite 10g Infrastructure installed on the shared storage device.

Installing in High Availability Environments: Single Cluster Architecture

This chapter contains the following sections:

- [Section 11.1, "Summary of Installation Steps"](#)
- [Section 11.2, "Installing Oracle Collaboration Suite Single Cluster Architecture"](#)

11.1 Summary of Installation Steps

The order for the installation of Oracle Collaboration Suite Single Cluster Architecture is as follows:

1. Install Oracle Cluster Ready Services. This is a prerequisite for the installation of Oracle Collaboration Suite Database in an Oracle Real Application Clusters database.

Apply the Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform. The Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform is located on the Oracle Database 10g Patchset (10.1.0.4.2) for Linux x86 DVD.
2. Install Oracle Collaboration Suite Database on RAC.
3. Configure load balancers for the Identity Management tier appropriately.
4. Install Identity Management on high availability nodes. The virtual server name of the load balancer must be specified in the Specify LDAP Virtual Host and Ports and the Specify HTTP Load Balancer Host and Ports screens during installation.
5. Run `OCSdbSchemaReg.sh` script on a database node. This script registers the database with Oracle Internet Directory and runs the component Configuration Assistants that create schema objects for each Oracle Collaboration Suite component.
6. Install Oracle Calendar Server in Cold Failover Cluster Configuration. It must use a virtual host name, such as `vhost.mydomain.com`. Install the `oraInventory` directory and `ORACLE_HOME` on a shared device that can be mounted to the other node for a cold failover. For Linux, OCSFS Version 1.x cannot support this.
7. Install Oracle Collaboration Suite Applications (without Oracle Calendar Server).

11.2 Installing Oracle Collaboration Suite Single Cluster Architecture

This section contains the following topics:

- [Section 11.2.1, "Installing and Applying Patch to Oracle Cluster Ready Services"](#)

- [Section 11.2.2, "Installing the Oracle Collaboration Suite Database on RAC"](#)
- [Section 11.2.3, "Configuring Load Balancers for Identity Management"](#)
- [Section 11.2.4, "Installing Identity Management on High Availability Nodes"](#)
- [Section 11.2.5, "Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants"](#)
- [Section 11.2.6, "Installing Oracle Calendar Server"](#)
- [Section 11.2.7, "Installing the First Instance of Oracle Collaboration Suite Applications \(without Oracle Calendar Server\)"](#)
- [Section 11.2.8, "Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer"](#)
- [Section 11.2.9, "Installing Subsequent Instance of Oracle Collaboration Suite Applications"](#)
- [Section 11.2.10, "Post Installation Steps for Subsequent Instances of Oracle Collaboration Suite Applications to Work with the Load Balancer"](#)

11.2.1 Installing and Applying Patch to Oracle Cluster Ready Services

This section explains the installation steps for Oracle Cluster Ready Services. It also explains the steps involved in applying the patch to Oracle Cluster Ready Services.

11.2.1.1 Installing Oracle Cluster Ready Services

Perform the steps listed in [Table 11–1](#) to install Oracle Cluster Ready Services.

For Installation steps for Cluster Ready Services, refer to the Oracle Real Application Clusters Installation and Configuration Guide at

http://otn.oracle.com/pls/db10g/portal.portal_demo3?selected=16

Install the Oracle Cluster Ready Services software from the Oracle Collaboration Suite Supplemental DVD.

Table 11–1 *Installing Oracle Cluster Ready Services*

Step	Screen	Action
1.	None	Log in as the <code>oracle</code> user and set the <code>ORACLE_BASE</code> environment variable to specify the Oracle base directory that you created previously. For example: <code>/u01/app/oracle</code>
2.	None	Set the <code>ORACLE_HOME</code> environment variable to specify the CRS home directory that you created previously. For example: <code>/u01/crs/oracle/product/10.1.0/crs_1</code>
3.	None	Run the <code>runInstaller</code> command from the top-level directory of the Oracle Cluster Ready Services Release 1 CD-ROM or the <code>crs</code> directory on the DVD-ROM. These are separate CD-ROMs and DVD-ROMs that contain the Cluster Ready Services software.
4.	Welcome page	Click Next .

Table 11–1 (Cont.) Installing Oracle Cluster Ready Services

Step	Screen	Action
5.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path for the inventory directory: Enter a full path to a directory for the installer files. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>/private/oracle/oraInventory</code> Click OK.
6.	UNIX Group Name (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the name of the operating system group to have write permission for the inventory directory. Example: <code>dba</code> Click Next.
7.	Run <code>oraInstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. Click Continue.
8.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source, if required. Name: Enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters. Example: <code>OH_apptier_10_1_1</code> Destination Path: Enter the full path to the destination directory. This is the Oracle home. If the directory does not exist, the installer creates it. To create the directory beforehand, create it as the <code>oracle</code> user; do not create it as the <code>root</code> user. Example: <code>/private/oracle/OH_apptier_10_1_1</code> Click Next.
9.	Language Selection (Advanced installation only)	Select the required language from the Available Languages list and add it to the Selected Languages list. Click Next.
10.	Cluster Configuration (Advanced installation only)	Cluster Name: Specify the cluster name. Specify the host name under Public Node Name. Similarly, specify the private name under Private Node Name. These names will be used to interconnect the node names within the cluster. Note: The private name cannot be the same as the public name. However, the private name can be an IP address. Click Next.
11.	Specify Network Interface Usage (Advanced installation only)	Select the interface name, subnet, and interface type for the node in the cluster from the respective list. The interface that you mark private will only be used for RAC internode traffic. Note: If there is more than one subnet associated with an interface, then specify the subnet that you want to associate with the interface type.

Table 11–1 (Cont.) Installing Oracle Cluster Ready Services

Step	Screen	Action
12.	Oracle Cluster Registry (Advanced installation only)	Specify OCR Location: Specify the shared raw device or the cluster file system file that will be visible to all nodes of the cluster . Note: At least 100 MB of disk space is required for the OCR. Click Next .
13.	Voting Disk (Advanced installation only)	Enter voting disk file name: Specify the raw device or the cluster file system file for voting disk. Ensure that the raw device and the cluster file system is on a shared location. Click Next . Note: At least 20 MB of disk space is required for the OCR.
14.	Summary	Verify your selections and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
17.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
18.	End of Installation	Click Exit to quit the installer.

11.2.1.2 Applying Oracle Cluster Ready Services 10.1.0.4.2 Patchset

After installing Oracle Cluster Ready Services, you must apply Oracle Cluster Ready Services 10.1.0.4.2 Patchset. The Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform is located on the Oracle Database 10g Patchset (10.1.0.4.2) for Linux x86 DVD.

The steps to do so are listed in [Table 11–2](#).

Table 11–2 Installing Oracle Cluster Ready Services

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter the full path of the Source directory in the Path field for Source, if required. Destination Path: Enter the full path to the destination directory. This is the Oracle home. Both source and destination will be same as that provided during the installation of Oracle Cluster Ready Services.
3.	Selected Nodes	Verify the nodes listed in the Node Names list and click Next .
4.	Summary	Verify your selections and click Install .
	None	Run <code>/etc/init.d/init.crs stop</code> and <code>\$OH/install/root10104.sh</code> from every node.
5.	End of Installation	Click Exit to quit the installer.

11.2.2 Installing the Oracle Collaboration Suite Database on RAC

To install Oracle Collaboration Suite Database on clustered hardware, follow the steps listed in Table.

11.2.2.1 Prerequisites for Selecting the Types of RAC storage

The following table shows the storage options supported for storing Oracle Cluster Ready Services (CRS) files, Oracle Database files, and Oracle Database recovery files. Oracle Database files include datafiles, control files, redo log files, the server parameter file, and the password file. Oracle CRS files include the Oracle Cluster Registry (OCR) and the CRS voting disk.

For all installations, you must choose the storage option that you want to use for Oracle CRS files and Oracle Database files. If you want to enable automated backups during the installation, you must also choose the storage option that you want to use for recovery files (the flash recovery area). You do not have to use the same storage option for each file type.

Storage Option	File Types Supported		
	CRS	Database	Recovery
Automatic Storage Management	No	Yes	Yes
Cluster file system	Yes	Yes	Yes
Note: Requires a supported cluster file system			
NFS file system	Yes	Yes	Yes
Note: Currently supported only with Fujitsu PRIMECLUSTER and a certified NAS device (SPARC only)			
Shared raw logical volumes (SPARC only)	Yes	Yes	No
Shared raw partitions	Yes	Yes	No

Use the following guidelines when choosing the storage options that you want to use for each file type:

- You can choose any combination of the supported storage options for each file type as long as you satisfy any requirements listed for the chosen storage options.
- Oracle recommends that you choose ASM as the storage option for database and recovery files.
- For Standard Edition installations, ASM is the only supported storage option for database or recovery files.
- You cannot use Automatic Storage Management to store Oracle CRS files, because these files must be accessible before any Oracle instance starts.

11.2.2.2 Review Recommendations for Automatic Storage Management (ASM)

If you plan to use ASM instances for the OracleAS Metadata Repository database, consider these recommendations:

- If you plan to use ASM with Oracle Database instances from multiple database homes on the same node, then you should run the ASM instance from an Oracle home that is different from the database homes.

- The ASM home should be installed on every cluster node. This prevents the accidental removal of ASM instances that are in use by databases from other homes during the deinstallation of a database Oracle home.

11.2.2.3 Installation Tasks

To install Oracle Collaboration Suite Database on RAC, follow the steps listed in [Table 11–3](#).

Table 11–3 Installing Oracle Collaboration Suite Database

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Oracle Collaboration Suite Database. Click Next .
3.	Specify Hardware Cluster Installation Mode	Select Cluster Installation and the nodes where you want to install the Oracle software. The local node will always be selected. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Collaboration Suite Database . Click Next .
6.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Database Creation	Select Yes for Do you want to create a new database at this time? Click Next .
8.	Information Storage Registration	Select No for Do you want to register the information store at this time? Click Next .
9.	Specify Database Identification	Enter the global database name and the SID that you want to use for this install in the Global Database Name and SID fields. Click Next .
10.	Specify Database Management Option	Select Use Grid Control for Database Management or Use Database Control for Database Management . Click Next .
11.	Specify Database File Storage Option	Select Automated Storage Management (ASM) . Click Next .
12.	Specify Backup and Recovery Options	Select Do not enable Automated Backups . Oracle recommends that you disable automated backup. Note that if you enable automated backup, then this option will only backup the Oracle Collaboration Suite Database and not any other Oracle Collaboration Suite files. Click Next .
13.	Specify Database Schema Passwords	Enter password for each account or use the same password for all the accounts. Click Next .
14.	Summary	Ensure that all the settings and choices are correct for the installation. Click Install .

Table 11–3 (Cont.) Installing Oracle Collaboration Suite Database

Step	Screen	Action
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in this instance's Oracle home directory. 2. Click OK.
17.	The Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.

11.2.2.4 Postinstallation Tasks

The postinstallation tasks involve troubleshooting any installation errors.

11.2.2.4.1 Troubleshooting the Installation Errors You might have to perform the postinstallation steps to solve the following problems:

- Database instance on the remote node does not start. To resolve this error, start it manually using `srvctl start instance -d <db_name> -i <instance_name>`.
- Enterprise Manager configuration fails. To resolve this error, run `$OH/bin/emca -c -r` manually from the local node.

11.2.3 Configuring Load Balancers for Identity Management

This section explains the implementation of load balancing for Identity Management in a high-availability environment.

11.2.3.1 Prerequisites for Installing Identity Management on High-Availability Nodes

This section discusses the prerequisites for the installation of Identity Management on high-availability nodes.

11.2.3.1.1 Configuring the load balancer A load balancer should be configured to detect service down on a node and automatically stop traffic to that node. Also, the load balancer is recommended to be in a fault tolerant mode. This section provides instructions for configuring a load balancer for Identity Management.

To configure a load balancer for OracleAS Cluster (Identity Management), perform the following steps:

1. Verify that the load balancer virtual server name you select does not contain the physical hostnames of the nodes in the Identity Management.

When the installer copies files to different nodes in the Identity Management, it replaces the current hostname in the files with the hostname of the target node. Ensure that the load balancer's virtual server name does not contain the hostnames of the nodes in the cluster, or the installer might change the virtual server name of the load balancer as well.

For example, if you are installing on nodes named `rac-1` and `rac-2`, be sure that the load balancer virtual server name does not contain `"rac-1"` or `"rac-2"`. When the installer is installing files to `rac-2`, it searches for the string `"rac-1"` in the files and replaces it with `"rac-2"`. If the load balancer's virtual server name happens to be

LB-rac-1x, the installer sees the string "rac-1" in the name and replaces it with "rac-2", thus mangling the virtual server name to LB-rac-2x.

2. Configure your load balancer with virtual server names and associated ports as follows:
 - a. Configure a virtual server name for LDAP connections. For this virtual server, you must configure one port for SSL connections and the other for non-SSL connections.
 - b. Configure a virtual server name for HTTP connections. For this virtual server, you must configure one port for SSL connections and the other for non-SSL connections.
 - c. Configure your LDAP server to direct response to the first node initially. This procedure applies only to the LDAP virtual server configured on the load balancer. Note that this procedure applies only to the LDAP virtual server configured on your load balancer. This does not apply to the HTTP virtual server configured on the load balancer.
 - d. The installer will prompt you for the virtual server names and port numbers.
3. After you complete installation on a node, then you can add that node to the virtual server. For example, if you have three nodes, then perform the following steps:
 - a. Configure the LDAP virtual server to direct requests to node 1 only.
 - b. Install Identity Management components on node 1.
 - c. Install Identity Management components on node 2.
 - d. Add node 2 to the LDAP virtual server.
 - e. Install Identity Management components on node 3.
 - f. Add node 3 to the LDAP virtual server.
4. Set up cookie persistence for HTTP traffic on the load balancer. Specifically, set up cookie persistence for URIs starting with `/oiddas/`. This is the URI for Oracle Delegated Administration Services. If your load balancer does not allow you to set cookie persistence at the URI level, then set the cookie persistence for all HTTP traffic. In either case, set the cookie to expire when the browser session expires. Refer to your load balancer documentation for details.
5. To configure the load balancer for automatic monitoring of the Oracle Internet Directory and OracleAS Single Sign-On, Oracle Delegated Administration Services, set up monitors for the following:
 - LDAP port
 - LDAP SSL port
 - HTTP or HTTPS listen port (depending on the deployment type)

It is recommended that these monitors use the respective protocols to monitor the services. That is LDAP for the LDAP port, LDAP over SSL for the LDAP SSL port, and HTTP/HTTPS for the web server port. If the load balancer does not offer one or all of these monitors, consult the load balancer documentation for details on the best method to set up the load balancer.

11.2.3.1.2 Synchronize the System Clocks on All Nodes Identity Management cluster nodes must all have their clocks synchronized for the Identity Management cluster to function properly.

11.2.4 Installing Identity Management on High Availability Nodes

This section describes how to install Identity Management on high availability nodes.

11.2.4.1 Installing First Instance of Identity Management

To install first instance of Identity Management, follow the steps listed in [Table 11–4](#).

Table 11–4 *Installing First Instance of Identity Management*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Identity Management. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Identity Management . Click Next .
6.	Product-Specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Select Configuration Options	Select Oracle Internet Directory . Select OracleAS Single Sign-On . Select OracleAS Delegated Administration Services . Select OracleAS Directory Integration and Provisioning . Do not select OracleAS Certificate Authority (OCA) . Select High Availability and Replication . Click Next .
8.	Specify repository	Username: Enter the username to use to log in to the Oracle Collaboration Suite Database. The user must have DBA privileges. Password: Enter the user password. Hostname and Port: Enter the names of all the nodes where the Oracle Collaboration Suite Database is running and the port numbers. Use the format: Host1.domain.com:port1,Host2.domain.com:port2,... Service Name: Enter the service name of the database. Note that the service name must include the database domain name. Click Next .
9.	Select High Availability or Replication Option	Select OracleAS Cluster (Identity Management) . Click Next .
10.	Specify New Oracle Application Server Cluster Name	Specify a cluster name you want to create for the OracleAS Cluster (Identity Management) in the New Oracle Application Server Cluster Name field. Click Next .

Table 11–4 (Cont.) Installing First Instance of Identity Management

Step	Screen	Action
11.	Specify Namespace in Internet Directory	Enter a new namespace for Oracle Internet Directory or select the Suggested Namespace: dc=us,dc=oracle,dc=com Click Next .
12.	Specify LDAP Virtual Host and Ports	Hostname: Enter the fully qualified virtual server name of the LDAP virtual server configured on your load balancer. SSL Port: Enter the SSL port number for Oracle Internet Directory. Non-SSL Port: Enter the port number for Oracle Internet Directory. Click Next .
13.	Specify HTTP Load Balancer Host and Ports	HTTP Listener: Port: Enter the port number that you want Oracle HTTP Server to listen on. Enable SSL: Select this option if you want to configure Oracle HTTP Server for SSL on this port. HTTP Load Balancer: Hostname: Enter the name of the HTTP virtual server configured on your load balancer. HTTP Load Balancer: Port: Enter the port of the HTTP virtual server. Enable SSL: Select this option if this port is for SSL communications only. Click Next .
14.	Guest Account Password	Enter the password for the <code>orclguest</code> account. Click Next .
15.	Specify Instance Name and <code>ias_admin</code> Password	Instance Name: Enter a name for this Identity Management instance. ias_admin Password and Confirm Password: Set the password for the <code>ias_admin</code> user. This is the administrative user for the instance. Click Next .
16.	Summary	Verify your selection and click Install .
17.	Install Progress	This screen displays the progress of the installation.
18.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK .
19.	The Configuration Assistant	This screen shows the progress of the configuration assistants.
20.	End of Installation	Click Exit to quit the installer.

11.2.4.2 Installing Subsequent Instance of Identity Management

Before installing the subsequent instance of Identity Management, you must perform the preinstallation tasks.

Preinstallation Tasks

The preinstallation tasks for the installation of subsequent instance of Identity Management are as follows:

- Please ensure that the system time on this Identity Management node is in sync with the time on the other Identity Management nodes that are part of this Oracle Application Server Cluster (Identity Management) configuration. Failure to ensure

this may result in unwanted instance failovers, inconsistent operational attributes in directory entries and potential inconsistent behavior of password state policies.

- To install the current OracleAS (Identity Management) node correctly, setup your load balancer LDAP virtual server to direct requests to any existing OracleAS Cluster (Identity Management) node that is already running. After you complete the installation on this node, then you can add it to the load balancer LDAP virtual server.

Installation Tasks

To install the subsequent instance of Identity Management, follow the steps listed in [Table 11–5](#).

Table 11–5 *Installing Subsequent instance of Identity Management*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Identity Management. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Oracle Collaboration Suite Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Identity Management . Click Next .
6.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Select Configuration Options	Select Oracle Internet Directory . Select OracleAS Single Sign-On . Select OracleAS Delegated Administration Services . Select OracleAS Directory Integration and Provisioning . Do not select OracleAS Certificate Authority (OCA) . Select High Availability and Replication . Click Next .
8.	Specify repository	Username: Enter the username to use to log in to the Oracle Collaboration Suite Database. The user must have DBA privileges. Password: Enter the user password. Hostname and Port: Enter the names of all the nodes where the Oracle Collaboration Suite Database is running and the port numbers. Use the format: Host1.domain.com:port1,Host2.domain.com:port2,... Service Name: Enter the service name of the database. Note that the service name must include the database domain name. Click Next .

Table 11–5 (Cont.) Installing Subsequent instance of Identity Management

Step	Screen	Action
		Warning: Please ensure that the system time on this Identity Management Node is in sync with the time on other Identity Management Nodes that are part of this Oracle Application Server Cluster (Identity Management) configuration. Failure to ensure this may result in unwanted instance failovers, inconsistent operational attributes in directory entries and potential inconsistent behavior of password state policies. Click OK.
9.	Specify Existing OracleAS Cluster Name. Enter ODS password	Specify an existing OracleAS Cluster (Identity Management) name for the current instance to join. The cluster was created as part of the first Oracle Collaboration Suite Identity Management install. Click Next and enter the ODS password.
10.	Specify LDAP Virtual Host and Ports	Hostname: Enter the fully qualified virtual server name of the LDAP virtual server configured on your load balancer. SSL PORT: Enter the SSL port number for Oracle Internet Directory. Non-SSL Port: Enter the port number for Oracle Internet Directory. Click Next. Warning: To configure the current OracleAS (Identity Management) node correctly, setup your LDAP virtual server to direct requests to any existing OracleAS Cluster (IM) node that is already running. After you complete the installation on this node, then you can add it to the LDAP virtual server. Click OK.
11.	Specify Oracle Internet Directory Login	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (cn=orcladmin). Password: Enter the password for the username Click Next.
12.	Specify HTTP Load Balancer Host and Ports	HTTP Listener: Port: Enter the port number that you want Oracle HTTP Server to listen on. Enable SSL: Select this option if you want to configure Oracle HTTP Server for SSL on this port. HTTP Load Balancer: Hostname: Enter the name of the HTTP virtual server configured on your load balancer. HTTP Load Balancer: Port: Enter the port of the HTTP virtual server. Enable SSL: Select this option if this port is for SSL communications only. Click Next.
13.	Guest Account Password	Enter the password for the orclguest account. Click Next.
14.	Specify Instance Name and ias_admin Password	Instance Name: Enter a name for this Identity Management instance. ias_admin Password and Confirm Password: Set the password for the ias_admin user. This is the administrative user for the instance. Click Next.
15.	Summary	Verify your selection and click Install .
16.	Install Progress	This screen displays the progress of the installation.

Table 11–5 (Cont.) Installing Subsequent instance of Identity Management

Step	Screen	Action
17.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. - When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. - Click OK.
18.	The Configuration Assistant	This screen shows the progress of the configuration assistants.
19.	End of Installation	Click Exit to quit the installer.

11.2.4.3 Postinstallation Tasks

The postinstallation tasks involve performing manual postinstallation steps.

11.2.4.3.1 Performing Manual Postinstallation steps Ensure that the load balancer is routing requests to all active Identity Management nodes.

11.2.5 Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants

The Oracle Collaboration Suite Database needs to be registered in the Oracle Internet Directory for Oracle Collaboration Suite to work correctly. Additionally, the database schemas for each Oracle Collaboration Suite Applications component must be created in the Oracle Collaboration Suite Database. The `ORACLE_HOME/install/OCSdbSchemaReg.sh` script accomplishes both of these tasks. This script only needs to be run on a single database node.

The `OCSdbSchemaReg.sh` script is located in `ORACLE_HOME/install` directory on the Oracle Collaboration Suite Database nodes.

- Copy `ORACLE_HOME/install/OCSdbSchemaReg.ini.sample` to `ORACLE_HOME/install/OCSdbSchemaReg.ini`.
- Modify the `ORACLE_HOME/install/OCSdbSchemaReg.ini` script with the appropriate values.
- Run `OCSdbSchemaReg.sh` from `ORACLE_HOME/install` directory in RAC mode by entering multiple hosts in the `$hostList` option of the `OCSdbSchemaReg.ini` file from one of the Oracle Collaboration Suite Database machine.
- Run the following script.

```
OCSdbSchemaReg.sh -f OCSdbSchemaReg.ini
```
- Check `ORACLE_HOME/install/schemaReg.results`, `OCSdbSchemaReg.sh` and `OCSdbSchemaReg.log` to see if all Configuration Assistants succeeded.

11.2.6 Installing Oracle Calendar Server

This section explains the installation and postinstallation tasks for Identity Management.

11.2.6.1 Preinstallation Tasks

Before installing Oracle Calendar Server in a Cold Failover Cluster, perform the following procedures:

- [Section 11.2.6.1.1, "Check if the clusterware is running"](#)
- [Section 11.2.6.1.2, "Map the virtual hostname and virtual IP address"](#)
- [Section 11.2.6.1.3, "Set Up a File System That Can Be Mounted from Both Nodes"](#)

11.2.6.1.1 Check if the clusterware is running For Cold Failover Clusters, each node in a cluster should be running hardware vendor clusterware. If you plan to install the Calendar Server on a cluster that is also running Oracle Cluster Ready Services (CRS), you still should have the clusterware from the hardware vendor to support an automated cold failover. Running CRS without the hardware vendor clusterware does not support Cold Failover Clusters.

To check that the clusterware is running, use the command appropriate for your clusterware.

11.2.6.1.2 Map the virtual hostname and virtual IP address Each node in an OracleAS Cold Failover Cluster configuration is associated with its own physical IP address. In addition, the active node in the cluster is associated with a virtual hostname and virtual IP address. This allows clients to access the OracleAS Cold Failover Cluster using the virtual hostname.

Virtual hostnames and virtual IP addresses are any valid hostname and IP address in the context of the subnet containing the hardware cluster.

Note: Map the virtual hostname and virtual IP address only to the active node. Do not map the virtual hostname and IP address to both active and secondary nodes at the same time. When you failover, only then do you map the virtual hostname and IP address to the secondary node, which is now the active node.

The following example show how to configure a node with virtual hostname `vhost.mydomain.com` and virtual IP address `138.1.12.191`.

Note: Before attempting to complete this procedure, ask the system or network administrator to review all the steps required. The procedure will reconfigure the network settings on the cluster nodes and may vary with differing network implementations.

1. Register the virtual hostname and IP address with DNS for the network. For example, register the `vhost.mydomain.com/138.1.12.191` pair with DNS.
2. Add the following line to the `/etc/hosts` file on the active node:

```
ip_address hostname.domain hostname
```

For example:

```
138.1.12.191 vhost.mydomain.com vhost
```

3. Determine the primary public network interface.

The primary public network interface for Ethernet encapsulation is `eth0`. To determine the primary public network interface, enter the following command and search for a network interface that has an `inet addr` value of the physical IP address of the node:

```
/sbin/ifconfig
```

4. Find an available index number for the primary public network interface.

Using the same commands as described in step 3, determine an available index number for an additional IP address to the primary public network interface.

5. Add the virtual IP address to the primary public network interface by running the following command as the root user.

Note: You must use the same NETMASK and BROADCAST values for this interface as those used for the primary public network interface (eth0 in the example). Modify the `ifconfig` commands in this step to include the appropriate netmask and broadcast options.

Enter the following command using the available index number from step 4.

```
/sbin/ifconfig primary_public_interface:available_index ip_address
```

For example, enter the following command if eth0:1 is available:

```
/sbin/ifconfig eth0:1 138.1.12.191
```

6. Check that the virtual IP address is configured correctly.
 - a. Use the instructions listed in step 3 to confirm the new entry for the `primary_public_interface:available_index` entry created in step 5.
 - b. Try to connect to the node using the virtual hostname and virtual IP address from another node. For example, entering both of the following commands from a different node should provide a login to the node you configured in this procedure:

```
telnet hostname.domain
telnet ip_address
```

For example, enter the following:

```
telnet vhost.mydomain.com
telnet 138.1.12.191
```

On Failover If the active node fails, then the secondary node takes over. If you do not have a clusterware agent to map the virtual IP from the failed node to the secondary node, then you must do it manually. You must remove the virtual IP mapping from the failed node, and map it to the secondary node.

1. On the failed node, if possible, become superuser and remove the virtual IP.

If the failed node fails completely (that is, it does not boot up), you can skip this step and go to step 2. If the node fails partially (for example, disk or memory problems), and the node is still ping-able, you must perform this step.

```
prompt> su
Password: root_password
# ifconfig ge0 removeif 138.1.12.191
```

"ge0" and the IP address are values specific to this example. Replace them with values appropriate for your cluster.

2. On the secondary node, add the virtual IP to the ge0 network interface.

```
# ifconfig ge0 addif 138.1.12.191 up
```

"ge0" and the IP address are values specific to this example. Replace them with values appropriate for your cluster.

3. On the secondary node, check that the new interface was added:

```
# ifconfig -a
...
ge0:1: flags=1000843<UP,BROADCAST,RUNNING,MULTICAST,IPv4> mtu 1500 index 2
      inet 138.1.12.191 netmask ffff0000 broadcast 138.1.255.255
...
```

11.2.6.1.3 Set Up a File System That Can Be Mounted from Both Nodes Although the hardware cluster has shared storage, you must create a file system on this shared storage such that both nodes of the Cold Failover Clusters can mount this file system. You will use this file system for the following directories:

- Oracle home directory for the Infrastructure
- The oraInventory directory

If you are running a volume manager on the cluster to manage the shared storage, refer to the volume manager documentation for steps to create a volume. Once a volume is created, you can create the file system on that volume.

If you do not have a volume manager, you can create a file system on the shared disk directly. Ensure that the hardware vendor supports this, that the file system can be mounted from either node of the Cold Failover Clusters, and that the file system is repairable from either node if a node fails.

To check that the file system can be mounted from either node, do the following steps:

1. Set up and mount the file system from node 1.
2. Unmount the file system from node 1.
3. Mount the file system from node 2 using the same mount point that you used in step 1.
4. Unmount it from node 2, and mount it on node 1, because you will be running the installer from node 1.

Note: Only one node of the Cold Failover Clusters should mount the file system at any given time. File system configuration files on all nodes of the cluster should not include an entry for the automatic mount of the file system upon a node restart or execution of a global mount command. For example, on UNIX platforms, do not include an entry for this file system in `/etc/fstab` file.

11.2.6.2 Installation Tasks

Before installing Oracle Calendar in a Cold Failover Clusters configuration, make sure that the virtual IP address and host name is enabled on the install node.

To install Oracle Calendar in a Cold Failover Clusters configuration, follow the steps listed in [Table 11-6](#).

Table 11–6 Installing Oracle Calendar Server in Cold Failover Cluster Configuration

Step	Screen	Action
1.	None	Start the installer.
2.	Welcome	Click Next .
3.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path for the inventory directory: Enter a full path to a directory for the installer files. Enter a directory that is different from the Oracle home directory for the product files. The inventory directory path should be on a shared location. Example: <code>/private/oracle/oraInventory</code> Click OK.
4.	UNIX Group Name (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the name of the operating system group to have write permission for the inventory directory. Example: <code>dba</code> Click Next.
5.	Run <code>oraInstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. Click Continue.
6.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source, if required. Name: Enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters. Example: <code>OH_apptier_10_1_1</code> Destination Path: Enter the full path to the destination directory. This is the Oracle home. If the directory does not exist, the installer creates it. The destination path should be on a shared location. To create the directory beforehand, create it as the <code>oracle</code> user. Do not create it as the <code>root</code> user. Example: <code>/private/oracle/OH_apptier_10_1_1</code> Click Next.
7.	Specify Hardware Cluster Installation Mode (Advanced installation only)	This screen appears only if the computer is part of a hardware cluster. When you are installing Oracle Collaboration Suite Applications, select Local Installation because hardware cluster is not supported for Oracle Collaboration Suite Applications. Click Next.
8.	Select a Product to Install (Advanced installation only)	Select Oracle Collaboration Suite Applications 10.1.1.0.2. If you need to install additional languages, click Product Languages. Click Next.
9.	Product-specific Prerequisite Checks (Advanced installation only)	The installer verifies requirements such as memory, disk space, and operating system version. If any check fails, make the required changes and click Retry. Click Next.

Table 11–6 (Cont.) Installing Oracle Calendar Server in Cold Failover Cluster Configuration

Step	Screen	Action
10.	Select Components to Configure (Advanced installation only)	Select Oracle Calendar Server . Click Next .
11.	Register with Oracle Internet Directory (Advanced installation only)	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next .
12.	Specify UserName and Password for Oracle Internet Directory (Advanced installation only)	Username: Enter the user name to use to log in to Oracle Internet Directory. Password: Enter the user password. Click Next . Note: Use <code>cn=orcladmin</code> as the user name if you are the Oracle Internet Directory Superuser.
13.	OracleAS Metadata Repository (Advanced installation only)	Select Oracle Collaboration Suite Database from the list. Click Next .
14.	Select Database for Components (Advanced installation only)	Component Name: Oracle Calendar Server Database Name: Name of the Oracle Collaboration Suite Database. Click Next . Note: If multiple instances of Oracle Collaboration Suite Databases are available in Oracle Internet Directory, then you must click on the Database Name column and then select the correct database for each component from the drop-down list. However, when you click Next to go to the next screen, the selection might not be retained. To ensure that the selection is retained, you must click the Database Name column again after selecting the required database for each component.
15.	Specify Port Configuration Options (Advanced installation only)	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL Click Next . Note: If you manually configure the ports, then you must specify the port values for each port.
16.	Specify Administrative Password and Instance Name (Advanced installation only)	Instance Name: Enter a name for this Calendar Server instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Calendar Server instance. Click Next .
17.	Oracle Calendar Server Host Alias (Advanced installation only)	Host or Alias: Enter the virtual hostname for the Calendar Server instance. Click Next . Note: It is recommended that you use alias in place of host name if later you want to move the calendar server instance or change the host name. Specify the host name if an alias is not configured.
18.	Summary	Verify your selections and click Install .

Table 11–6 (Cont.) Installing Oracle Calendar Server in Cold Failover Cluster Configuration

Step	Screen	Action
19.	Install Progress	This screen displays the progress of the installation.
20.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
21.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.

11.2.6.3 Postinstallation tasks

The postinstallation tasks involve troubleshooting the installation errors and performing manual postinstallation steps.

11.2.6.3.1 Performing Manual Postinstallation Steps You also have to perform the following additional postinstallation steps:

- In `ORACLE_HOME/ocal/misc/unison.ini` file, add `dir_connectmodel = ondemand` entry under the [DAS] section.
- Restart Oracle Calendar Server.

```
ORACLE_HOME/opmn/bin/opmnctl restartproc ias-component=CalendarServer
```

11.2.7 Installing the First Instance of Oracle Collaboration Suite Applications (without Oracle Calendar Server)

This section describes the installation of the first instance of Oracle Collaboration Suite Applications without Oracle Calendar Server.

Installation Steps

To install first instance of Oracle Collaboration Suite Applications, follow the steps listed in [Table 11–7](#).

Table 11–7 Installing First Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Oracle Collaboration Suite Applications. Click Next.
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation. This screen will only show up if you are installing Identity Management on a cluster. Click Next.
4.	Select a Product to Install	Select Oracle Collaboration Suite Applications 10.1.1.0.2. Click Next.
5.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next.

Table 11–7 (Cont.) Installing First Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
6.	Select Components to Configure	Select Oracle Mail. Select Oracle Mobile Collaboration. Select Oracle Content Services. Do not select Oracle Calendar Server. Select Oracle Calendar Web Client. Select Oracle Real-Time Collaboration. Select Oracle Collaboration Suite Search. Select Oracle Collaboration Suite Web Access. Select Oracle Collaborative Portlets. Select Oracle Workspaces. Select Oracle Discussions. Click Next.
7.	Register with Oracle Internet Directory	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next.
8.	Specify UserName and Password for Oracle Internet Directory	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (cn=orcladmin). Password: Enter the password for the username. Click Next.
9.	OracleAS Metadata Repository	Select Oracle Collaboration Suite Database from the list. Click Next.
10.	Select Database Components	Component Name: Oracle Mail, Oracle Discussions, Oracle Search, Oracle Real-Time Collaboration, Oracle Collaboration Suite Search, Oracle Workspaces, Oracle Content Services, Oracle Collaboration Suite Web Access Database Name: Name of the Oracle Collaboration Suite Database. Click Next.
11.	Specify Port Configuration Options	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL ■ Oracle Mail IMAP4 port ■ Oracle Mail IMAP4 Secure port ■ Oracle Mail POP3 port ■ Oracle Mail POP3 Secure port ■ Oracle Mail SMTP port ■ Oracle Mail NNTP port ■ Oracle Mail NNTP Secure port Click Next.
12.	Specify Administrative Password and Instance Name	Instance Name: Enter a name for this Oracle Collaboration Suite Applications instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Oracle Collaboration Suite Applications instance. Click Next.

Table 11–7 (Cont.) Installing First Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
13.	Specify Oracle Mail Domain Information	Mail Domain: Enter the domain that you want to use for Oracle Mail server. Click Next .
14.	Summary	Verify your selection and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. - When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. - Click OK.
17.	The Configuration Assistants	This screen shows the progress of the configuration assistants.
18.	End of Installation	Click Exit to quit the installer.

11.2.8 Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer

You can configure two or more Oracle Collaboration Suite Applications instances in a highly-available deployment by placing a load balancer in front of them. The load balancer publishes a single address for Oracle Collaboration Suite Applications while providing a redundant set of application servers that actually service requests. The load balancer can be configured to detect when one of the OCS Applications instances has failed and can then fail over requests to another instance.

Our configuration is as follows:

- There are two Oracle Collaboration Suite Applications computers: `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. Both application servers listen on non-SSL port 7777.
- The Oracle Collaboration Suite Applications computers are configured to use the Single Sign-On server located at `im_virtual.mycompany.com`.
- The effective host name of the Oracle Collaboration Suite Applications published to the user is `apps_virtual.mycompany.com`. A load balancer is configured to listen at this address, on port 80. It has been configured to load balance and fail over user requests between `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.
- The Single Sign-On server and Directory server are located at `im_virtual.mycompany.com`.
- The Oracle Collaboration Suite Database (including Identity Management metadata) is located at `ocs_store1.mycompany.com` and `ocs_store2.mycompany.com` (2-node RAC).

11.2.8.1 Configure the Load Balancer

To setup the load balancer to work with the first mid-tier install, ensure that the following is configured:

1. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 80 and balances them to the Web Cache on Oracle Collaboration Suite Applications tier running on `ocs_apps1.mycompany.com` on port 7777 (an HTTP listening port).

2. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 7777 (an HTTP listening port), and balances them to the Web Cache on Oracle Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` port 7777 (an HTTP listening port). Port 7777 on the load balancer receives the HTTP loop-back requests made by the Parallel Page Engine on `ocs_apps1.mycompany.com`. This 7777 port also receives requests from the Portal Metadata Repository for web providers design time messages. This configuration may require a Network Address Translation (NAT) rule in the load balancer in order for the loop-back request from the PPE to succeed.
3. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 9401 (Web Cache Invalidation Port) and balances them to the Web Cache on Oracle Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` on port 9401 (Web Cache Invalidation Port). Port 9401 on the load balancer receives invalidation messages from the OracleAS Portal Repository when content that is cached in OracleAS Web Cache becomes stale. This configuration might require a NAT rule in the load balancer in order for the invalidation requests from the OracleAS Portal repository to succeed.
4. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 25 (SMTP) and balances them to the Oracle Collaboration Suite Applications tier's SMTP port on `ocs_apps1.mycompany.com` on port 25 (an SMTP listening port). This virtual server on port 25 (SMTP) should also have simple persistence. Simple Persistence returns a client to the same node to which it connected previously. Simple persistence tracks connections based only on the client IP address.
5. The virtual server name (`apps_virtual.mycompany.com`) listens for requests on port 143 (Oracle Mail IMAP4 port) and balances them to the Oracle Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` on port 25 (Oracle Mail IMAP4 port).

Note: `apps_virtual.mycompany.com` listens on 80 for external traffic, on port 7777 for Parallel Page Engine loop-back messages, and port 9401 for invalidation messages, and port 25 for SMTP traffic.

For security reason, port 9401 and 7777 on the load balancer should not be visible to external users.

11.2.8.2 Configure the Oracle HTTP Server with the Load Balancer

This step associates the components on which OracleAS Portal depends with load balancer virtual server name and port: `apps_virtual.mycompany.com:80` as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the `ocs_apps1.mycompany.com` installation.
3. Click the **HTTP Server** link.
4. Click the **Administration** link.
5. Click **Advanced Server Properties**.
6. Open the `httpd.conf` file.
7. Perform the following steps:
 - a. Add `LoadModule certheaders_module` directive.

```
LoadModule certheaders_module libexec/mod_certheaders.so
```

The `LoadModule` directives (in particular, the `LoadModule rewrite_module` directive) must appear in the `httpd.conf` file at a location preceding the `VirtualHost` directives. The server must load all modules before it can execute the directives in the `VirtualHost` container. It is a good idea to create the `VirtualHost` directives at the end of the `httpd.conf` file.

- b. Add the following lines to create a `NameVirtualHost` directive and a `VirtualHost` container for `apps_virtual.mycompany.com` and port 80.

```
NameVirtualHost *:7778
<VirtualHost *:7778>
ServerName apps_virtual.mycompany.com
Port 80
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

- c. Create a second `VirtualHost` container for `apps_virtual.mycompany.com` and port 7777.

```
<VirtualHost *:7778>
ServerName apps_virtual.mycompany.com
Port 7777
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

8. Save the `httpd.conf` file, and restart the Oracle HTTP Server when prompted.

11.2.8.3 Configure the Parallel Page Engine Loop-Back with the Load Balancer

In this step, you configure non-SSL loop-back communication between the load balancer and the Parallel Page Engine on `ocs_apps1.mycompany.com`. Before you start this configuration, ensure the following:

- You are able to resolve `apps_virtual.mycompany.com` from `ocs_apps1.mycompany.com` such that it contacts the load balancer. To ensure you can resolve `apps_virtual.mycompany.com`, issue the following command from `ocs_apps1.mycompany.com`.

```
nslookup apps_virtual.mycompany.com
```

The IP address for the load balancer should be returned.

- You are able to contact port 7777 on `apps_virtual.mycompany.com` from `ocs_apps1.mycompany.com`. Issue the following command on `ocs_apps1.mycompany.com`.

```
telnet apps_virtual.mycompany.com 7777
```

Verify that no connection failure message is returned.

To create the loop-back configuration, the steps are as follows:

1. Open the `ORACLE_HOME/j2ee/OC4J_Portal/applications/portal/portal/WEB-INF/web.xml` file.
2. Locate the Page servlet section.

3. Add the lines shown in bold.

```
<servlet>
<servlet-name>page</servlet-name>
<servlet-class>oracle.webdb.page.ParallelServlet</servlet-class>
  <init-param>
    <param-name>useScheme</param-name>
    <param-value>http</param-value>
  </init-param>
  <init-param>
    <param-name>usePort</param-name>
    <param-value>7777</param-value>
  </init-param>
</servlet>
```

4. Save the web.xml file.
5. Issue this command in ORACLE_HOME/dcm/bin to update the DCM repository.

```
dcmctl updateConfig
```

6. Issue these commands in ORACLE_HOME/opmn/bin to restart the OCS Applications instance.

```
opmnctl stopall
opmnctl startall
```

11.2.8.4 Modify the Portal Dependency Settings (iasconfig.xml) File

The Portal Dependency Settings file `iasconfig.xml` must contain the correct host, port, and farm name to enable access to OracleAS Portal and perform OracleAS Web Cache invalidation. To edit the file to include this information, the steps are as follows:

1. Create a backup copy of the ORACLE_HOME/portal/conf/iasconfig.xml file.
2. Open the ORACLE_HOME/portal/conf/iasconfig.xml file and perform the following steps:
 - a. Change the existing code as follows:

```
<IASConfig XSDVersion="1.0">
  <IASFarm Name="Farm1.apps_virtual.mycompany.com" Host="apps_
virtual.mycompany.com">
    <WebCacheComponent ListenPort="80" InvalidationPort="9401"
InvalidationUsername="invalidator" InvalidationPassword="welcome1"
SSLEnabled="false" AdminPort="9400"/>
  </IASFarm>
  <IASInstance Name="ocsapps1.ocs_apps1.mycompany.com" Host="ocs_
apps1.mycompany.com">
    <WebCacheComponent ListenPort="7777" InvalidationPort="9401"
InvalidationUsername="invalidator"
InvalidationPassword="@BYGFsTxYCDGjFP5bbcU8MP20d5Tk6zo8tg=="
SSLEnabled="false" AdminPort="9400"/>
    <EMComponent ConsoleHTTTPort="1156" SSLEnabled="false"/>
  </IASInstance>
  <IASInstance Name="ias-1.im_virtual.mycompany.com" Host="im_
virtual.mycompany.com">
    <OIDComponent AdminPassword="@BUciwzx4JZPU/BOgKalC6ybcCpt3pVbr0w=="
AdminDN="cn=orcladmin" SSLEnabled="false" LDAPPort="7389"/>
  </IASInstance>
  <PortalInstance DADLocation="/pls/portal" SchemaUsername="portal"
SchemaPassword="@Bbronzw4685xLaz+WZP6DKVNPwJLLYJ1w=="
```

```

ConnectionString="cn=orcl,cn=oraclecontext">
  <WebCacheDependency ContainerType="IASFarm" Name="Farm1.apps_
virtual.mycompany.com"/>
  <OIDDependency ContainerType="IASInstance" Name="ias-1.im_
virtual.mycompany.com"/>
  <EMDependency ContainerType="IASInstance" Name="ocsapps1.ocs_
apps1.mycompany.com"/>
</PortalInstance>
</IASConfig>

```

- b. Save the `iasconfig.xml` file.
- c. Encrypt any plain text passwords in the `iasconfig.xml` configuration file by setting the `ORACLE_HOME` environment variable, if necessary, and issuing the following command from `ORACLE_HOME/portal/conf`:

```
ptlconfig -encrypt
```

11.2.8.5 Register the OracleAS Portal URLs with the Load Balancer

In this step, you register the OracleAS Portal URLs using the load balancer virtual server name and port instead of the OracleAS Web Cache hostname and port. Follow the steps in this section to use the OracleAS Portal Configuration Assistant to register the URLs.

1. Ensure that the `ORACLE_HOME` environment variable is set.
2. Register the URLs using the Portal Dependency Settings tool (available in `ORACLE_HOME/portal/conf`):

```
ptlconfig -dad dadname -wc -site
```

where `dadname` is the name of the OracleAS Portal Database Access Descriptor.

11.2.8.6 Reset the Oracle Enterprise Manager 10g Link

To prevent access to Oracle Enterprise Manager 10g from the outside, the link provided by OracleAS Portal must be changed back to point to the internal server. To do this, issue the following command in `ORACLE_HOME/portal/conf`:

```
ptlconfig -dad dadname -em
```

where `dadname` is the name of the OracleAS Portal Database Access Descriptor.

11.2.8.7 Configure OracleAS Web Cache with the Load Balancer

You must configure a site definition, site alias, and a site-to-server mapping to make OracleAS Web Cache function correctly with the load balancer.

Use the Web Cache Manager, the graphical user interface provided for editing the configuration stored in `webcache.xml` file.

1. Access the Web Cache Administrator at: `http://ocs_apps1.mycompany.com:9400/webcacheheadadmin`. The Web Cache Administrator password dialog box appears.
2. Enter the OracleAS Web Cache administrator password. For the user name, enter `ias_admin` or `administrator`, and enter the OracleAS Web Cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

3. Click the **Site Definitions** link in the Origin Servers, Sites and Load Balancing section. The Site Definitions window opens.
4. Click **Add Site**.
5. Enter the following information (leave other fields blank):
 - Host name: `apps_virtual.mycompany.com`
 - Port: 80
 - Client-side Certificate: Not required
 - Default Site: Yes
 - Create Alias from Site Name with/without www: No
6. Click **Submit**.
7. Select the radio button for the site for which the alias will be added (`apps_virtual.mycompany.com`)
8. Click **Add Alias**. The Add Alias for Site window opens.
9. Enter `apps_virtual.mycompany.com` for the host name and 7777 for the port. (7777 is the value for the `usePort` parameter in the `web.xml` file in the Parallel Page Engine configuration).
10. Click **Submit**. The alias is added. An alias is needed in the configuration because Portal sends invalidation messages with the value of the `HOST` attribute in the invalidation message the same as the site name (in this case, `apps_virtual.mycompany.com:80`), but OracleAS Web Cache caches the portal content keyed on a host:port combination such as `apps_virtual.mycompany.com:7777`; thus, the invalidation is not executed. Therefore, it is necessary to define an alias, so that OracleAS Web Cache manages the content caching so that it recognizes `apps_virtual.mycompany.com:80` and `apps_virtual.mycompany.com:7777` as one and the same, and thereby correctly invalidating OracleAS Portal content, although the content is keyed on a different host:port combination than the site name.
11. Click **Add Alias**. A window with host name and port fields opens.
12. Enter `apps_virtual.mycompany.com` for the host name and 80 for the port.
13. Click **Submit**. The alias is added.

Note: An alias for port 80 is needed because the `HOST` header sent by the browser will be `apps_virtual.mycompany.com` (without a port number appended to it). Since OracleAS Web Cache is listening on the HTTP port, it will assume that the port number is 80 and use this to determine the site-to-server mapping, and for any cache key creation.

14. Click **Apply Changes**.

15. Click the **Site-to-Server Mapping** link in the Origin Servers, Sites, and Load Balancing section. The Site-to-Server Mapping page appears, in which you map the site and site alias to an origin server.
16. Select the first mapping in the table and click **Insert Above**. The Edit/Add Site-to-Server Mapping page appears.
17. Select the **Select From Site Definitions** option.
18. Select **apps_virtual.mycompany.com**.
19. Select **ocs_apps1.mycompany.com** in the Select Application Web Servers section.
20. Click **Submit**.
21. Remove unused mappings or entries containing the wild card character *.
22. Click **Apply Changes**.
23. Click **Restart**.

11.2.8.8 Reregister mod_osso

The steps for reregistering mod_osso are as follows:

1. Set the ORACLE_HOME environment variable to the current Oracle home.
2. Execute the SSO registration script ORACLE_HOME/sso/bin/ssoreg.

```
ORACLE_HOME/sso/bin/ssoreg.sh \
site_name ocsapps.apps_virtual.mycompany.com \
mod_osso_url http://apps_virtual.mycompany.com \
config_mod_osso TRUE \
oracle_home_path ORACLE_HOME \
config_file ORACLE_HOME/Apache/Apache/conf/osso/osso.conf \
admin_info cn=orcladmin \
virtualhost
```

A partner application, ocsapps.apps_virtual.mycompany.com, is created.

3. Log on to the OracleAS Single Sign-On Administration page as the Administrator, and use the Administer Partner Applications page to delete the entry for the partner application ocsappl.ocs_apps1.mycompany.com.

11.2.8.9 Verify Connectivity for Invalidation Messages from the Database to OracleAS Web Cache on ocs_apps1.mycompany.com through the Load Balancer

When an object is changed in the database, the application metadata repository database sends an invalidation message to Web Cache to invalidate that object if it exists in the cache. Since the target configuration has two instances of OracleAS Web Cache, the invalidation message must be load balanced across both OracleAS Web Cache instances. This is an example of component level load balancing.

Before you proceed with this verification, ensure that messages can be sent from the computer hosting the database to the load balancer. To do this, issue the following command from ocs_store1.mycompany.com and ocs_store2.mycompany.com:

```
telnet apps_virtual.mycompany.com 9401
```

Verify that no connection failure message is returned.

11.2.8.10 Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal

The steps to enable monitoring of the host at the front end of the load balancer and port settings for OracleAS Portal are as follows:

1. Open the `ORACLE_HOME/sysman/emd/targets.xml` file.
2. Locate the OracleAS Portal targets, for example, `TYPE="oracle_portal"`.
3. Edit the `PortalListeningHostPort` property so that it points to the load balancer. For example: `<Property NAME="PortalListeningHostPort" VALUE="http://apps_virtual.mycompany.com:80"/>`
4. Save and close `targets.xml` file.
5. Reload the `targets.xml` file in the OracleAS Control Console by issuing this command in `ORACLE_HOME/bin`:

```
emctl reload
```

11.2.8.11 Configuring Real-Time Collaboration with Load Balancer

Note: Refer to [Section 2.1.1, "Considerations for Real-Time Collaboration"](#).

For Real-Time Collaboration, set `GlobalWebHost` and `GlobalWebPort` properties to integrate with a load balancer.

A load balancer provides a single published address to the client browser, while distributing requests to multiple Oracle Real-Time Collaboration core component Application tiers that serve the request. It acts as a global Web host for all of the requests.

If you add a load balancer, set the following parameters:

1. `GlobalWebHost` is the name of the global Web host.

For example, multiple Application tiers could be placed behind a load balancer (`ocs_apps1.mycompany.com`, `ocs_apps2.mycompany.com`), but the Web host name you want to have appear in the URL used to join a conference is `apps_virtual.mycompany.com`.

Default Value: none

Valid Value: a load balancer virtual server name.

Scope: system, instance

Note: Once set, the only way to unset this property is to use the `-pvaluenull true` option with the `SetProperty` command. For example, to set the global Web host to `apps_virtual.mycompany.com`, run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname GlobalWebHost -pvalue
"apps_virtual.mycompany.com"
```

2. `GlobalWebPort` is the HTTP port of the global Web host.

Default Value: 80

Valid Value: Any port ID

Scope: system, instance

For example, to reset the global Web host to listen on port 80 for HTTP requests run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname GlobalWebPort -pvalue 80
```

3. Smtphost is the name of the SMTP host. To set the smtp host to apps_virtual.mycompany.com, run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname Smtphost -pvalue "apps_
virtual.mycompany.com"
```

Because the SMTP default port is 25, there is no need to set the SMTP port.

Restart OCS Applications using the following commands:

```
ORACLE_HOME/opmn/bin/opmnctl stopall
ORACLE_HOME/opmn/bin/opmnctl startall
```

11.2.8.12 Updating Oracle Collaboration Suite Service Registry Entries in Oracle Internet Directory to Use the Load Balancer

You can update the Oracle Collaboration Suite registry entries in Oracle Internet Directory by using the Oracle Directory Manager as follows:

1. Start the Oracle Directory Manager.

```
ORACLE_HOME/bin/oidadmin
```

2. When you start Oracle Directory Manager, it will prompt you for connection information. Enter the following information to connect to your Oracle Internet Directory, typically hosted in the Oracle Collaboration Suite Database on your Oracle Collaboration Suite Infrastructure:

```
Host: <infrahost.yourdomain.com>
Port: 389
Username: cn=orcladmin
Password: <password>
```

Port 389 is the default port used by Oracle Internet Directory. If you are using a different port, then enter the correct Oracle Internet Directory port.

If you have configured your Oracle Internet Directory to be accessed using SSL, select the SSL Enabled check box. Otherwise, leave it blank.

3. Select **Login** to log in to the Oracle Internet Directory. When the connection is successful, the Oracle Internet Directory management screen is displayed.
4. To access the Service Registry, drill down in to the Oracle Internet Directory by selecting the following items in the System Objects pane:
 - a. Select **Entry Management**.
 - b. Select **cn=OracleContext**.
 - c. Select **cn=Services**.

The System Objects pane displays a list of the Oracle Collaboration Suite Applications which have entries in the Service Registry. The Properties tab displays the properties of the cn=Services object.

5. To display URIs stored by each component in the Service Registry, select the component in the System Objects pane. Most components will contain a `cn=VirtualServices` object. This object contains one or more URIs used by other applications and OracleAS Portal to access that application. Applications store URIs in one or more child objects of the `cn=VirtualServices` object.

Note: Oracle Universal Installer seeds the Oracle Internet Directory with objects for every Oracle Collaboration Suite Applications during installation, even if you do not configure and deploy every application. These unconfigured application entries will not contain child objects of their `cn=VirtualServices` objects. The child objects, and the URIs they store, are created in the Service Registry by each component's Configuration Assistant when it first runs.

6. After you verify your configuration, update Oracle Collaboration Suite Service Registry entries in Oracle Internet Directory to use the load balancer virtual hostname as follows:

- Oracle Calendar

```
dn: cn=OCAS_
xxxxx,cn=VirtualServices,cn=Calendar,cn=Services,cn=OracleContext
labeleduri;syncserverurl
labeleduri:syncserverurl
labeleduri;webbaseurl
labeleduri;webserviceurl
```

- Oracle Collaborative Workspaces

```
dn: cn=<DBNAME>,cn=VirtualServices,cn=CollaborativeWorkspaces,cn=Services,
cn=OracleContext
labeleduri;adminurl
labeleduri;webbaseurl
labeleduri:webui
```

- Oracle Mail

```
dn: cn=emailadmin,cn=VirtualServices,cn=Email,cn=Services,cn=OracleContext
labeleduri;adminurl
```

```
dn: cn=imap,cn=VirtualServices,cn=Email,cn=Services,cn=OracleContext
labeleduri
```

```
dn: cn=smtp,cn=VirtualServices,cn=Email,cn=Services,cn=OracleContext
labeleduri
```

```
dn: cn=Webmail,cn=VirtualServices,cn=Email,cn=Services,cn=OracleContext
labeleduri;peopleurl
labeleduri;webbaseurl
orclraparameter;webbaseurl
```

```
dn: cn=webservice,cn=VirtualServices,cn=Email,cn=Services,cn=OracleContext
labeleduri;webservices
```

- Oracle Content Services

```
dn: cn=FILES,cn=VirtualServices,cn=Files,cn=Services,cn=OracleContext
labeleduri;adminurl
labeleduri;applicationurl
```

```
labeleduri;s2webserviceurl
labeleduri;webdavurl
labeleduri;webservicesurl
```

■ Oracle Collaboration Suite Client

```
dn:cn=IntegratedClient,cn=VirtualServices,cn=OCSCClient,cn=Services,
cn=OracleContext
labeleduri;baseurl
labeleduri;popuplibraryurl
```

```
dn: cn=Search,cn=VirtualServices,cn=OCSCClient,cn=Services,cn=OracleContext
labeleduri;webbaseurl
```

■ OracleAS Portal

```
dn:cn=ReturnToPortalURL,cn=VirtualServices,cn=Portal,cn=Services,
cn=OracleContext
labeleduri;
```

Note: In addition to changing the host name to use the load balancer virtual host name, the port should also match the listen port used in Step 1 in [Section 11.2.8.1](#). In this example it was port 80 (the default port), which means the port specification can be removed. So, for example, the Oracle Internet Directory `labeleduri` for the Portal `ReturnToPortalURL` should change from

```
http://ocs\_apps1.mycompany.com:7778/portal/page?\_dad=portal&\_schema=PORTAL&\_pageid=
```

to

```
http://apps\_virtual.mycompany.com/portal/page?\_dad=portal&\_schema=PORTAL&\_pageid=
```

■ Oracle Discussions

```
dn:cn=Discussions:<DBNAME>:<MailDomain>,cn=VirtualServices,
cn=ThreadedDiscusssions,cn=Services,cn=OracleContext
labeleduri;adminurl
labeleduri;rss
labeleduri;webbaseurl
labeleduri;webui
```

■ Oracle Mobile Collaboration

```
dn:
cn=WIRELESS1,cn=VirtualServices,cn=Wireless,cn=Services,cn=OracleContext
labeleduri;adminurl
labeleduri;calendarnotificationlistenerurl
labeleduri;mobilesetupurl
labeleduri;presencewebserviceurl
```

When you have finished editing the properties of an object, select **Apply** to save the new values in Oracle Internet Directory. If you decide to reject the changes you have made, select **Revert** to reset the displayed attributes to those currently stored in the Oracle Internet Directory.

7. Using `opmnctl` or Oracle Enterprise Manager 10g, restart the Oracle Collaboration Suite Infrastructure and all Oracle Collaboration Suite Applications tiers, to clear caches that may still be storing the old URIs and to load the new URIs you have entered.

Restart Oracle Collaboration Suite Applications using the following commands:

```
ORACLE_HOME/opmn/bin/opmnctl stopall  
ORACLE_HOME/opmn/bin/opmnctl startall
```

There is no need to restart the Oracle Collaboration Suite Database.

11.2.8.13 Test the Configuration

The steps to test the configuration are as follows:

1. Access OracleAS Web Cache and Oracle HTTP Server through the load balancer with the following URL:

http://apps_virtual.mycompany.com

2. Test the connection to the Oracle Collaboration Suite Database through the load balancer, by accessing the following URL:

http://apps_virtual.mycompany.com/pls/portal/http.p?cbuf=test

The response should be test. If this succeeds, then the Oracle Collaboration Suite Applications tier can connect to the Oracle Collaboration Suite Database. If this test fails, then examine the Oracle HTTP Server `ORACLE_HOME/Apache/Apache/logs/error_log` file to determine the cause.

3. Test the OracleAS Portal using following URL (ensure that you can log in):

http://apps_virtual.mycompany.com/pls/portal

Verify that content is being cached in OracleAS Web Cache on `ocs_apps1.mycompany.com`, using Web Cache Administrator. Under Monitoring, click **Popular Requests**. Select **Cached** from the Filtered Objects drop-down list, and click **Update**.

If you accessed OracleAS Portal, portal content will appear. If there is no portal content, open another browser and log on to OracleAS Portal. Return to the Popular Requests page, and click **Update** to refresh the page content.

11.2.9 Installing Subsequent Instance of Oracle Collaboration Suite Applications

This section describes the installation of the subsequent instance of Oracle Collaboration Suite Applications without Oracle Calendar Server and postinstallation tasks.

11.2.9.1 Installation Tasks

To install the subsequent instance of Oracle Collaboration Suite Applications, follow the steps listed in [Table 11-8](#).

Table 11–8 Installing Subsequent Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Oracle Collaboration Suite Applications. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Applications 10.1.1.0.2 . Click Next .
5.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
6.	Select Components to Configure	Select Oracle Mail . Select Oracle Mobile Collaboration . Select Oracle Content Services . Do not select Oracle Calendar Server . Select Oracle Calendar Web Client . Select Oracle Real-Time Collaboration . Select Oracle Collaboration Suite Search . Select Oracle Collaboration Suite Web Access . Do not select Oracle Collaborative Portlets . Select Oracle Workspaces . Select Oracle Discussions . Click Next .
7.	Register with Oracle Internet Directory	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next .
8.	Specify UserName and Password for Oracle Internet Directory	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (cn=orcladmin). Password: Enter the password for the username. Click Next .
9.	OracleAS Metadata Repository	Select Oracle Collaboration Suite Database from the list. Click Next . Error: The installation has detected that Oracle Collaborative Portlets has already been configured in the Metadata Repository you have selected. Oracle Collaborative Portlets will be unselected for this configuration. This screen will only show up if you selected Oracle Collaborative Portlets from the Select Components to Configure screen. Click Yes .
10.	Select Database Components	Component Name: Oracle Mail, Oracle Discussions, Oracle Search, Oracle Real-Time Collaboration, Oracle Collaboration Suite Search, Oracle Workspaces, Oracle Content Services, Oracle Collaboration Suite Web Access Database Name: Name of the Oracle Collaboration Suite Database. Click Next .

Table 11–8 (Cont.) Installing Subsequent Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
11.	Specify Port Configuration Options	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL ■ Oracle Mail IMAP4 port ■ Oracle Mail IMAP4 Secure port ■ Oracle Mail POP3 port ■ Oracle Mail POP3 Secure port ■ Oracle Mail SMTP port ■ Oracle Mail NNTP port ■ Oracle Mail NNTP Secure port Click Next.
12.	Specify Administrative Password and Instance Name	Instance Name: Enter a name for this Oracle Collaboration Suite Applications instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Oracle Collaboration Suite Applications instance. Click Next.
13.	Specify Oracle Mail Domain Information	Local Domain: Select it from the list. Select the same domain as in the first Oracle Collaboration Suite Applications installation. Click Next.
14.	Summary	Verify your selection and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
17.	The Configuration Assistants	This screen shows the progress of the configuration assistants.
18.	End of Installation	Click Exit to quit the installer.

11.2.9.2 Postinstallation tasks

The postinstallation tasks involve troubleshooting the installation errors and performing manual postinstallation steps.

11.2.9.2.1 Troubleshooting the Installation Errors You might have to perform the postinstallation steps to solve the following problems:

- Oracle Calendar Home Page cannot be accessed through `orclguest` account. To resolve this error, the steps are as follows:
 1. Stop all fast CGI (FCGI) processes using Oracle OCAS Control (`ocasctl`). When OCS Application tier is started or stopped using OPMN control (`opmnctl`), OCAS is not started or stopped because OCAS is not integrated with OPMN.

```
ORACLE_HOME/ocas/bin/ocasctl -stopall
```

2. Start the FCGI processes.

```
ORACLE_HOME/ocas/bin/ocasctl -start -t ochecklet -p 8020 -n 1
ORACLE_HOME/ocasctl -start -t ocas -p 8010 -n 5
```

The default ports are 8010 and 8020. The valid range is 8010-8020.

3. Verify the status of the FCGI processes:

```
ORACLE_HOME/ocas/bin/ocasctl -status
```

- When you log on to Portal as a newly created user, the calendar portlet shows "Service temporarily unable due to maintenance message".
 1. Click the **Oracle Calendar** link and go to the Oracle Calendar view page.
 2. Click the **Return to Portal** link and the portlet should show up correctly.
- When accessing workspaces, user cannot be found in LDAP directory. To resolve this error, run the following command:

```
$ORACLE_HOME/opmn/bin/opmnctl restartproc process-type=OC4J_OCSCClient
```

11.2.9.2.2 Performing Manual Postinstallation Steps You also have to perform the following additional postinstallation steps for Oracle Mail and Oracle Mobile Collaboration:

- For Oracle mail, the steps are as follows:
 1. Get the user ID and group ID of the owner of the Oracle Collaboration Suite Applications.
 2. Start LISTENER_ES as root, if the port that you are using is a privileged port (< 1024).. Make sure ORACLE_HOME, LD_LIBRARY_PATH and PATH environment variables are set correctly.


```
ORACLE_HOME/bin/tnslsnr listener_es -user <userid> -group <group_id> &
```
- To enable Oracle Mobile Collaboration Calendar notifications, the steps are as follows:
 1. Log in to Enterprise Manager. Go to **System Components, Wireless, Site Administration**.
 2. Expand Component Configuration section and click **XMS Configuration**.
 3. Under XMS Center, ensure that Enable XMSC is checked.
 4. Go to **System Components, Wireless, Notification eng xxxx**. Click **Enable/Disable link** and make sure Notification engine is enabled.
 5. Restart the wireless component.

11.2.10 Post Installation Steps for Subsequent Instances of Oracle Collaboration Suite Applications to Work with the Load Balancer

You can configure two or more Oracle Collaboration Suite Applications instances in a highly-available deployment by placing a load balancer in front of them. The load balancer publishes a single address for Oracle Collaboration Suite Applications while providing a redundant set of application servers that actually service requests. The load balancer can be configured to detect when one of the Oracle Collaboration Suite Applications instances has failed and can then fail over requests to another instance.

The details of the configuration are as follows:

- There are two Oracle Collaboration Suite Applications computers: `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. Both application servers listen on non-SSL port 7777.
- The Oracle Collaboration Suite Applications computers are configured to use the Single Sign-On server located at `im_virtual.mycompany.com`.
- The effective host name of the Oracle Collaboration Suite Applications published to the user is `apps_virtual.mycompany.com`. A load balancer is configured to listen at this address, on port 80. It has been configured to load balance and fail over user requests between `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.
- The Single Sign-On server and Directory server are located at `im_virtual.mycompany.com`.
- The Oracle Collaboration Suite Database (including Identity Management metadata) is located at `ocs_store1.mycompany.com` and `ocs_store2.mycompany.com` (2-node RAC).

The postinstallation steps are follows:

1. [Enable Portal](#)
2. [Configure the Oracle HTTP Server with the Load Balancer](#)
3. [Configure the Parallel Page Engine Loop-Back with the Load Balancer](#)
4. [Modify the Portal Dependency Settings \(iasconfig.xml\) File](#)
5. [Reregister mod_ossoConfigure OracleAS Web Cache Clusters](#)
6. [Configure OracleAS Web Cache ClustersEnable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal](#)
7. [Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal](#)
8. [Enable Session Binding on OracleAS Web Cache Clusters](#)
9. [Configure Collaborative Portlets](#)
10. [Configure Oracle Collaboration Suite Mobile Collaboration](#)
11. [Configure Oracle Discussions](#)
12. [Test the Configuration](#)

11.2.10.1 Enable Portal

The first task is to configure OracleAS Portal, using the Oracle Enterprise Manager 10g Collaboration Suites Control Console. Follow these steps to configure OracleAS Portal, beginning on the Oracle Collaboration Suite page:

1. Click **Configure Component**. The Select Component page appears.
2. Select **portal** from the list.
3. Click **Continue**. The configuration process may take 10-20 minutes to complete.

Before you continue with the OracleAS Portal application server configuration, ensure that the following is configured:

- You are able to resolve `apps_virtual.mycompany.com` from `ocs_apps2.mycompany.com`, such that it contacts the load balancer. To ensure you

can resolve `apps_virtual.mycompany.com` by running the following command:

```
nslookup apps_virtual.mycompany.com
```

The IP address for the virtual server name should be returned.

- You are able to contact port 7777 on `apps_virtual.mycompany.com` from `ocs_apps2.mycompany.com`. Run the following command on `ocs_app2.mycompany.com`:

```
telnet apps_virtual.mycompany.com 7777
```

Verify that no connection failure message is returned.

11.2.10.2 Configure the Oracle HTTP Server with the Load Balancer

This step associates the components on which OracleAS Portal depends with load balancer virtual server name and port: `apps_virtual.mycompany.com:80`. The steps to configure the Oracle HTTP Server with the Load Balancer are as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the `ocs_apps2.mycompany.com` installation.
3. Click the **HTTP Server** link.
4. Click the **Administration** link.
5. Click **Advanced Server Properties**.
6. Open the `httpd.conf` file.
7. Perform the following steps:
 - a. Add `LoadModule certheaders_module` directive.

```
LoadModule certheaders_module libexec/mod_certheaders.so
```

Note: The `LoadModule` directives (in particular, the `LoadModule rewrite_module` directive) must appear in the `httpd.conf` file at a location preceding the `VirtualHost` directives. The server must load all modules before it can execute the directives in the `VirtualHost` container. It is a good idea to create the `VirtualHost` directives at the end of the `httpd.conf` file.

- b. Add the following lines to create a `NameVirtualHost` directive and a `VirtualHost` container for `apps_virtual.mycompany.com` and port 80.

```
NameVirtualHost *:7778
<VirtualHost *:7778>
ServerName apps_virtual.mycompany.com
Port 80
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

- c. Create a second `VirtualHost` container for `ocs_apps2.mycompany.com` and port 7777.

```
<VirtualHost *:7778>
  ServerName ocs_apps2.mycompany.com
  Port 7777
  ServerAdmin you@your.address
  RewriteEngine On
  RewriteOptions inherit
</VirtualHost>
```

8. Save the `httpd.conf` file, and restart the Oracle HTTP Server when prompted.
9. Copy the `dads.conf` file from `ocs_apps1.mycompany.com` to `ORACLE_HOME/Apache/modplsql/conf` directory of `ocs_apps2.mycompany.com`.

11.2.10.3 Configure the Parallel Page Engine Loop-Back with the Load Balancer

In this step, you configure non-SSL loop-back communication between the load balancer and the Parallel Page Engine on `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. If the OracleAS Web Cache on `ocs_app1.mycompany.com` is down, the Parallel Page Engine can loop back to the OracleAS Web Cache on `ocs_apps2.mycompany.com` through the load balancer to reach `mod_plsql`.

The steps to create the loop-back configuration are as follows:

1. Open the `ORACLE_HOME/j2ee/OC4J_Portal/applications/portal/portal/WEB-INF/web.xml` file.
2. Locate the Page servlet section.
3. Add the lines shown in bold.

```
<servlet>
<servlet-name>page</servlet-name>
  <servlet-class>oracle.webdb.page.ParallelServlet</servlet-class>
    <init-param>
      <param-name>useScheme</param-name>
      <param-value>http</param-value>
    </init-param>
    <init-param>
      <param-name>usePort</param-name>
      <param-value>7777</param-value>
    </init-param>
</servlet>
```

4. Save the `web.xml` file.
5. Save the manual configuration changes in the DCM repository by running the following command on `ocs_apps2.mycompany.com` in `ORACLE_HOME/dcm/bin`:

```
dcmctl updateConfig
```

6. Restart all components on `ocs_apps2.mycompany.com` by running the following command in `ORACLE_HOME/opmn/bin`:

```
opmnctl stopall
opmnctl startall
```

11.2.10.4 Modify the Portal Dependency Settings (iasconfig.xml) File

The Portal Dependency Settings file `iasconfig.xml` must contain the correct host, port, and farm name to enable access to OracleAS Portal and perform OracleAS Web Cache invalidation. Follow the steps to edit the file to include this information:

1. Create a backup copy of the `ORACLE_HOME/portal/conf/iasconfig.xml` file.
2. Copy the `iasconfig.xml` file in `ocs_apps1.mycompany.com` to `ORACLE_HOME/portal/conf` of `ocs_apps2.mycompany.com`.
3. Overwrite the file on `ocs_apps2.mycompany.com` when prompted.

11.2.10.5 Reregister mod_osso

The steps for reregistering `mod_osso` are:

1. Back up the `ORACLE_HOME/Apache/Apache/conf/osso/conf` file.
2. Use the FTP binary mode to copy the `osso.conf` file of `ocs_apps1.mycompany.com` to `ORACLE_HOME/Apache/Apache/conf` of `ocs_apps2.mycompany.com`.
3. Synchronize the DCM repository with the file by FTP using the following command:

```
ORACLE_HOME/Apache/Apache/bin/ssotransfer ORACLE_
HOME/Apache/Apache/conf/osso/osso.conf
```

Note: This does not create any new partner applications. It enables the partner application `ocsapps.apps_virtual.mycompany.com` for `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.

4. Restart the components on `ocs_apps2.mycompany.com` by running the commands in `ORACLE_HOME/opmn/bin` of `ocs_apps2.mycompany.com`:


```
opmnctl stopall
opmnctl startall
```
5. Log in to the OracleAS Single Sign-On Administration page as the Administrator, and use the Administer Partner Applications page to delete the entry for the partner application `ocsapp1.ocs_apps2.mycompany.com`.

11.2.10.6 Configure OracleAS Web Cache Clusters

To cluster the OracleAS Web Cache instances, you will perform the configuration steps on `ocs_apps1.mycompany.com` and propagate them to `ocs_apps2.mycompany.com`.

From the Oracle Enterprise Manager Collaboration Suite Control Console, you can access the Web Cache Manager, the graphical user interface provided for editing the configuration stored in the `webcache.xml` file. Start the Oracle Collaboration Suite Applications instance on `ocs_apps1.mycompany.com`, then follow the steps to access the Web Cache Manager from the System Components page.

1. Access the Web Cache Administrator at the following URL:
http://ocs_apps1.mycompany.com:9400/webcacheadmin

The Web Cache Administrator password dialog box appears.

2. For the user name, enter `ias_admin` or `administrator`, and enter the OracleAS Web cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

The Web Cache Manager page appears.

3. Click **Clustering** in the Properties section. The Clustering page appears.
4. In the Cluster Members table, click **Add**. The Add Cache to Cluster page appears.
5. Enter the following information for `ocs_apps2.mycompany.com`:
Host Name: `ocs_apps2.mycompany.com`
Admin. Port: 9400
Protocol for Admin. Port: HTTP
Cache Name: `ocs_apps2.mycompany.com-Webcache`
Capacity: 20
6. Click **Submit**.
7. Click the **Origin Server** link in the Origin Servers, Sites, and Load Balancing section. The Origin Server page appears.
8. Click **Add** under the Application Web Servers table.
9. Enter the following information:
Hostname: `ocs_apps2.mycompany.com`
Port: 7778
Routing: ENABLE
Capacity: 30
Failover Threshold: 5
Ping URL: /
Ping Interval: 10
Protocol: HTTP
10. Click **Submit**.
11. Click the **Site-to-Server Mapping** link in the Origin Servers, Sites and Load Balancing section. The Site-to-Server Mapping page appears.
12. Select the mapping for the Load Balancer site (`apps_virtual.mycompany.com`) from the table and click **Edit Selected**. The Edit/Add Site-to-Server mapping page appears.
13. In the Select Application Web Servers section, select an application Web server specified in the Origin Servers page for `ocs_apps2.mycompany.com` (`ocs_apps1.mycompany.com` is already mapped).
14. Click **Submit**.
15. Click **Apply Changes**.
16. In the Cache Operations page, click Propagate. The changes are propagated to `ocs_apps2.mycompany.com`.

17. Click **Restart**. OracleAS Web Cache is restarted on `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. OracleAS Web Cache on `ocs_apps1.mycompany.com` begins to balance requests to the Oracle HTTP Server and OC4J_Portal instances on `ocs_apps2.mycompany.com`.

11.2.10.7 Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal

The steps are as follows:

1. Open the `ORACLE_HOME/sysman/emd/targets.xml` file.
2. Locate the OracleAS Portal targets, for example, `TYPE="oracle_portal"`.
3. Edit the `PortalListeningHostPort` property so that it points to the load balancer. For example:


```
<Property NAME="PortalListeningHostPort" VALUE="http://apps_virtual.mycompany.com:80"/>
```
4. Save and close `targets.xml` file.
5. Reload the `targets.xml` file in the Oracle Collaboration Suite Control Console by running the following command in `ORACLE_HOME/bin`:

```
emctl reload
```

11.2.10.8 Enable Session Binding on OracleAS Web Cache Clusters

The session binding feature in OracleAS Web Cache is used to bind user sessions to a given origin server to maintain state for a period of time. Enabling session binding forces all the user requests to go to a give OracleAS Portal middle-tier, resulting in a better cache hit ratio for the portal cache. For this reason, session binding is required although almost all components running in a given OracleAS Portal middle tier are stateless.

To enable session binding in OracleAS Web Cache, the steps on `ocs_apps1.mycompany.com` or `ocs_apps2.mycompany.com` are as follows:

1. Access the Web cache Administrator at the following URL:
http://ocs_apps1.mycompany.com:9400
 The Web Cache Administrator password dialog box appears.
2. Enter the OracleAS Web Cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

The Web Cache Manager page appears.

3. Click the **Session Binding** link in the Origin Servers, Sites, and Load Balancing section. The Session Binding page appears.
4. Select the Load Balancing Router site, `apps_virtual.mycompany.com:80` from the table and click **Edit Selected**. The Edit Session Binding window opens.
5. Select **Any Set-Cookie** from the Please select a session list.
6. Select **Cookie-based** from the Please select a session binding mechanism list.

7. Click **Submit**.
8. Click **Apply Changes**.
9. On the Cache Options page, click **Propagate**. The changes are propagated to the OracleAS Web Cache instance on the other computer.
10. Click **Restart**. OracleAS Web Cache is restarted on `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.

11.2.10.9 Configure Collaborative Portlets

Configure Collaborative Portlets from Oracle Enterprise Manager 10g Application Server Control Console. The Configure Component button appears above the System Components table if you have installed, but not configured, some components.

To configure Collaborative Portlets, perform the following steps:

1. On the Oracle Collaboration Suite home page, click **Configure Component**.
2. Select **Collaborative Portlets** from the drop-down list on the Select Component page, and click **Continue**.
3. Enter the following values:
Oracle Internet Directory Administrative Password
Host Name: Load Balancer Virtual Server Name – `apps_virtual.mycompany.com`
Web Cache Listen Port: Load Balancer Virtual Server Name's port – Port 80
Web Cache Invalidation Port: Refer to `ORACLE_HOME/install/portlist.ini` – 9401
4. Click **Continue**. The configuration process may take 10-15 minutes to complete.
5. Restart the components on `ocs_apps2.mycompany.com` by running the following commands in `ORACLE_HOME/opmn/bin` of `ocs_apps2.mycompany.com`:

```
opmnctl stopall  
opmnctl startall
```

11.2.10.10 Configure Oracle Collaboration Suite Mobile Collaboration

Configure the URLs of the current OracleAS Wireless Instance on each Oracle Collaboration Suite Applications tier. Configuring Oracle Collaboration Suite Mobile Collaboration enables you to define the instance URLs for an application server, or direct an application server to use the URLs defined for the entire OracleAS Wireless site. The steps are as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the `ocs_apps1.mycompany.com` installation.
3. Click the **Wireless** link under System Components.
4. Click the **Instance URLs** link under Instance Configuration.
5. Modify the Wireless Instance URLs to point to the load balancer's virtual server name (`apps_virtual.mycompany.com`)

Repeat the preceding steps for each Oracle Collaboration Suite Applications tier.

11.2.10.11 Configure Oracle Discussions

When deploying Oracle Discussions in more than one Applications tier with a load balancer at the front end, please ensure to turn on session affinity in your load balancer. Oracle Discussions requires that once a user establishes a session with one OC4J instance, all the following requests must go to the same OC4J instance. In case of a failover, the original Applications tier is not available anymore and the requests are transferred to the second Applications tier. Oracle Discussions automatically re-creates a new user session in the new OC4J instance. There is no loss of data except that of the currently executing operation when the first Applications tier goes offline.

11.2.10.12 Test the Configuration

To ensure that it is working as it should, perform the following tests:

1. Ensure that all components on `ocs_apps2.mycompany.com` are running.
 - a. Run the following command from `ORACLE_HOME/opmn/bin` to query the status of the components:


```
opmnctl status
```
 - b. If necessary, run the following command in `ORACLE_HOME/opmn/bin`:


```
opmnctl startall
```
2. Stop all components on `ocs_apps1.mycompany.com` by running the following command in `ORACLE_HOME/opmn/bin`:


```
opmnctl stopall
```
3. Access OracleAS Web Cache and Oracle HTTP Server through the load balancer with the following URL:


```
http://apps_virtual.mycompany.com
```
4. Test the connection to the Oracle Collaboration Suite Database through the load balancer, by accessing the following URL:


```
http://apps_virtual.mycompany.com/pls/portal/http.p?cbuf=test
```

The response should be test. If this succeeds, then the Oracle Collaboration Suite Applications tier can connect to the Oracle Collaboration Suite Database. If this test fails, then examine the `ORACLE_HOME/Apache/Apache/logs/error_log` file of Oracle HTTP Server to determine the cause.
5. Test the OracleAS Portal using following URL (ensure that you can log in):


```
http://apps_virtual.mycompany.com/pls/portal
```
6. Verify that content is being cached in OracleAS Web Cache on `ocs_apps1.mycompany.com`, using Web Cache Administrator. Under Monitoring, click **Popular Requests**. Select **Cached** from the Filtered Objects drop-down list, and click **Update**.

If you accessed OracleAS Portal, portal content will appear. If there is no portal content, open another browser and log in to OracleAS Portal. Return to the Popular Requests page, and click **Update** to refresh the page content.
7. Repeat steps 3 through 6, by ensuring that all components on `ocs_apps1.mycompany.com` are running, and all components on `ocs_apps2.mycompany.com` are stopped and vice versa.

Installing in High Availability Environments: Colocated Identity Management Architecture

This chapter contains the following sections:

- [Section 12.1, "Summary of Installation Steps"](#)
- [Section 12.2, "Installing Oracle Collaboration Suite Colocated Identity Management Architecture"](#)

12.1 Summary of Installation Steps

The order for the installation of Oracle Collaboration Suite Colocated Identity Management Architecture is as follows:

1. Install Oracle Cluster Ready Services. This is a prerequisite for the installation of Oracle Collaboration Suite Database in an Oracle Real Application Clusters database.

Apply the Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform. The Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform is located on the Oracle Database 10g Patchset (10.1.0.4.2) for Linux x86 DVD.
2. Install Oracle Collaboration Suite Database on RAC.
3. Configure load balancers for the Identity Management tier appropriately.
4. Install Identity Management on high availability nodes. The virtual server name of the load balancer must be specified in the Specify LDAP Virtual Host and Ports and the Specify HTTP Load Balancer Host and Ports screens during installation.
5. Run `OCSdbSchemaReg.sh` script on a database node. This script registers the database with Oracle Internet Directory and runs the component Configuration Assistants that create schema objects for each Oracle Collaboration Suite component.
6. Install Oracle Calendar Server in Cold Failover Cluster Configuration. It must use a virtual host name, such as `vhost.mydomain.com`. Install the `oraInventory` directory and `ORACLE_HOME` on a shared device that can be mounted to the other node for a cold failover. For Linux, OCSFS Version 1.x cannot support this.
7. Install Oracle Collaboration Suite Applications (without Oracle Calendar Server).

12.2 Installing Oracle Collaboration Suite Colocated Identity Management Architecture

This section contains the following topics:

- Section 12.2.1, "Installing and Applying Patch to Oracle Cluster Ready Services"
- Section 12.2.2, "Installing the Oracle Collaboration Suite Database on RAC"
- Section 12.2.3, "Configuring Load Balancers for Identity Management"
- Section 12.2.4, "Installing Identity Management on High Availability Nodes"
- Section 12.2.5, "Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants"
- Section 12.2.6, "Installing Oracle Calendar Server"
- Section 12.2.7, "Installing the First Instance of Oracle Collaboration Suite Applications (without Oracle Calendar Server)"
- Section 12.2.8, "Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer"
- Section 12.2.9, "Installing Subsequent Instance of Oracle Collaboration Suite Applications"
- Section 12.2.10, "Post Installation Steps to Redeploy Oracle Collaboration Suite Applications with a Load Balancer"

12.2.1 Installing and Applying Patch to Oracle Cluster Ready Services

This section explains the installation steps for Oracle Cluster Ready Services. It also explains the steps involved in applying the patch to Oracle Cluster Ready Services.

12.2.1.1 Installing Oracle Cluster Ready Services

Perform the steps listed in [Table 12–1](#) to install Oracle Cluster Ready Services.

For Oracle Cluster Ready Services Installation steps, refer to Oracle Real Application Clusters Installation and Configuration Guide at

http://otn.oracle.com/pls/db10g/portal.portal_demo3?selected=16.

Install the Oracle Cluster Ready Services software from the Oracle Collaboration Suite Supplemental DVD.

Table 12–1 *Installing Oracle Cluster Ready Services*

Step	Screen	Action
1.	None	Log in as the <code>oracle</code> user and set the <code>ORACLE_BASE</code> environment variable to specify the Oracle base directory that you created previously. For example: <code>/u01/app/oracle</code>
2.	None	Set the <code>ORACLE_HOME</code> environment variable to specify the Oracle Cluster Ready Services home directory that you created previously. For example: <code>/u01/crs/oracle/product/10.1.0/crs_1</code>
3.	None	Run the <code>runInstaller</code> command from the top-level directory of the Oracle Cluster Ready Services Release 1 CD-ROM or the <code>crs</code> directory on the DVD-ROM. These are separate CD-ROMs and DVD-ROMs that contain the Cluster Ready Services software.
4.	Welcome page	Click Next .

Table 12–1 (Cont.) Installing Oracle Cluster Ready Services

Step	Screen	Action
5.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path for the inventory directory: Enter a full path to a directory for the installer files. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>/private/oracle/oraInventory</code> Click OK.
6.	UNIX Group Name (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the name of the operating system group to have write permission for the inventory directory. Example: <code>dba</code> Click Next.
7.	Run <code>oraInstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. Click Continue.
8.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source, if required. Name: Enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters. Example: <code>OH_apptier_10_1_1</code> Destination Path: Enter the full path to the destination directory. This is the Oracle home. If the directory does not exist, the installer creates it. To create the directory beforehand, create it as the <code>oracle</code> user; do not create it as the <code>root</code> user. Example: <code>/private/oracle/OH_apptier_10_1_1</code> Click Next.
9.	Language Selection (Advanced installation only)	Select the required language from the Available Languages list and add it to the Selected Languages list. Click Next.
10.	Cluster Configuration (Advanced installation only)	Cluster Name: Specify the cluster name. Specify the host name under Public Node Name. Similarly, specify the private name under Private Node Name. These names will be used to interconnect the node names within the cluster. Note: The private name cannot be the same as the public name. However, the private name can be an IP address. Click Next.
11.	Specify Network Interface Usage (Advanced installation only)	Select the interface name, subnet, and interface type for the node in the cluster from the respective list. The interface that you mark private will only be used for RAC internode traffic. Note: If there is more than one subnet associated with an interface, then specify the subnet that you want to associate with the interface type.

Table 12–1 (Cont.) Installing Oracle Cluster Ready Services

Step	Screen	Action
12.	Oracle Cluster Registry (Advanced installation only)	Specify OCR Location: Specify the shared raw device or the cluster file system file that will be visible to all nodes of the cluster . Note: At least 100 MB of disk space is required for the OCR. Click Next .
13.	Voting Disk (Advanced installation only)	Enter voting disk file name: Specify the raw device or the cluster file system file for voting disk. Ensure that the raw device and the cluster file system is on a shared location. Click Next . Note: At least 20 MB of disk space is required for the OCR.
14.	Summary	Verify your selections and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
17.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
18.	End of Installation	Click Exit to quit the installer.

12.2.1.2 Applying Oracle Cluster Ready Services 10.1.0.4.2 Patchset

After installing Oracle Cluster Ready Services, you must apply Oracle Cluster Ready Services 10.1.0.4.2 Patchset. The Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform is located on the Oracle Database 10g Patchset (10.1.0.4.2) for Linux x86 DVD.

The steps to do so are listed in [Table 12–2](#).

Table 12–2 Installing Oracle Cluster Ready Services

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter the full path of the Source directory in the Path field for Source, if required. Destination Path: Enter the full path to the destination directory. This is the Oracle home. Both source and destination will be same as that provided during the installation of Oracle Cluster Ready Services.
3.	Selected Nodes	Verify the nodes listed in the Node Names list and click Next .
4.	Summary	Verify your selections and click Install . Run <code>/etc/init.d/init.crs stop</code> and <code>\$OH/install/root10104.sh</code> from every node.
5.	End of Installation	Click Exit to quit the installer.

12.2.2 Installing the Oracle Collaboration Suite Database on RAC

To install Oracle Collaboration Suite Database on clustered hardware, follow the steps listed in Table.

12.2.2.1 Prerequisites for Selecting the Types of RAC storage

The following table shows the storage options supported for storing Oracle Cluster Ready Services files, Oracle Database files, and Oracle Database recovery files. Oracle Database files include datafiles, control files, redo log files, the server parameter file, and the password file. Oracle Cluster Ready Services files include the Oracle Cluster Registry (OCR) and the Oracle Cluster Ready Services voting disk.

For all installations, you must choose the storage option that you want to use for Oracle Cluster Ready Services files and Oracle Database files. If you want to enable automated backups during the installation, you must also choose the storage option that you want to use for recovery files (the flash recovery area). You do not have to use the same storage option for each file type.

Note: If you enable automated backup, then this option will only backup the Oracle Collaboration Suite Database and not any other Oracle Collaboration Suite files.

Storage Option	File Types Supported		
	CRS	Database	Recovery
Automatic Storage Management	No	Yes	Yes
Cluster file system	Yes	Yes	Yes
Note: Requires a supported cluster file system			
NFS file system	Yes	Yes	Yes
Note: Currently supported only with Fujitsu PRIMECLUSTER and a certified NAS device (SPARC only)			
Shared raw logical volumes (SPARC only)	Yes	Yes	No
Shared raw partitions	Yes	Yes	No

Use the following guidelines when choosing the storage options that you want to use for each file type:

- You can choose any combination of the supported storage options for each file type as long as you satisfy any requirements listed for the chosen storage options.
- Oracle recommends that you choose ASM as the storage option for database and recovery files.
- For Standard Edition installations, ASM is the only supported storage option for database or recovery files.
- You cannot use Automatic Storage Management to store Oracle Cluster Ready Services files, because these files must be accessible before any Oracle instance starts.

12.2.2.2 Review Recommendations for Automatic Storage Management (ASM)

If you plan to use ASM instances for the OracleAS Metadata Repository database, consider these recommendations:

- If you plan to use ASM with Oracle Database instances from multiple database homes on the same node, then you should run the ASM instance from an Oracle home that is different from the database homes.
- The ASM home should be installed on every cluster node. This prevents the accidental removal of ASM instances that are in use by databases from other homes during the deinstallation of a database Oracle home.

12.2.2.3 Installation Tasks

To install Oracle Collaboration Suite Database on RAC, follow the steps listed in [Table 12–3](#).

Table 12–3 *Installing Oracle Collaboration Suite Database*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Oracle Collaboration Suite Database. Click Next .
3.	Specify Hardware Cluster Installation Mode	Select Cluster Installation and the nodes where you want to install the Oracle software. The local node will always be selected. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Collaboration Suite Database . Click Next .
6.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Database Creation	Select Yes for Do you want to create a new database at this time? Click Next .
8.	Information Storage Registration	Select No for Do you want to register the information store at this time? Click Next .
9.	Specify Database Identification	Enter the global database name and the SID that you want to use for this install in the Global Database Name and SID fields. Click Next .
10.	Specify Database Management Option	Select Use Grid Control for Database Management or Use Database Control for Database Management . Click Next .
11.	Specify Database File Storage Option	Select Automated Storage Management (ASM) . Click Next .

Table 12–3 (Cont.) Installing Oracle Collaboration Suite Database

Step	Screen	Action
12.	Specify Backup and Recovery Options	Select Do not enable Automated Backups . Oracle recommends that you disable automated backup. Note that if you enable automated backup, then this option will only backup the Oracle Collaboration Suite Database and not any other Oracle Collaboration Suite files. Click Next .
13.	Specify Database Schema Passwords	Enter password for each account or use the same password for all the accounts. Click Next .
14.	Summary	Ensure that all the settings and choices are correct for the installation. Click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in this instance's Oracle home directory. 2. Click OK.
17.	The Configuration Assistants	This screen shows the progress of the configuration assistants. 1. Oracle Net Configuration Assistant 2. Oracle Database Configuration Assistant
18.	End of Installation	Click Exit to quit the installer.

12.2.2.4 Postinstallation Tasks

The postinstallation tasks involve troubleshooting any installation errors.

12.2.2.4.1 Troubleshooting the Installation Errors You might have to perform the postinstallation steps to solve the following problems:

- Database instance on the remote node does not start. To resolve this error, start it manually using `srvctl start instance -d <db_name> -i <instance_name>`.
- Enterprise Manager configuration fails. To resolve this error, run `$OH/bin/emca -c -r` manually from the local node.

12.2.3 Configuring Load Balancers for Identity Management

This section explains the implementation of load balancing for Identity Management in a high-availability environment.

12.2.3.1 Prerequisites for Installing Identity Management on High-Availability Nodes

This section discusses the prerequisites for the installation of Identity Management on high-availability nodes.

12.2.3.1.1 Configuring the load balancer A load balancer should be configured to detect service down on a node and automatically stop traffic to that node. Also, the load balancer is recommended to be in a fault tolerant mode. This section provides instructions for configuring a load balancer for Identity Management.

To configure a load balancer for OracleAS Cluster (Identity Management), perform the following steps:

1. Verify that the load balancer virtual server name you select does not contain the physical hostnames of the nodes in the Identity Management.

When the installer copies files to different nodes in the Identity Management, it replaces the current hostname in the files with the hostname of the target node. Ensure that the load balancer's virtual server name does not contain the hostnames of the nodes in the cluster, or the installer might change the virtual server name of the load balancer as well.

For example, if you are installing on nodes named rac-1 and rac-2, be sure that the load balancer virtual server name does not contain "rac-1" or "rac-2". When the installer is installing files to rac-2, it searches for the string "rac-1" in the files and replaces it with "rac-2". If the load balancer's virtual server name happens to be LB-rac-1x, the installer sees the string "rac-1" in the name and replaces it with "rac-2", thus mangling the virtual server name to LB-rac-2x.

2. Configure your load balancer with virtual server names and associated ports as follows:
 - a. Configure a virtual server name for LDAP connections. For this virtual server, you must configure one port for SSL connections and the other for non-SSL connections.
 - b. Configure a virtual server name for HTTP connections. For this virtual server, you must configure one port for SSL connections and the other for non-SSL connections.
 - c. Configure your LDAP server to direct response to the first node initially. This procedure applies only to the LDAP virtual server configured on the load balancer. Note that this procedure applies only to the LDAP virtual server configured on your load balancer. This does not apply to the HTTP virtual server configured on the load balancer.
 - d. The installer will prompt you for the virtual server names and port numbers.
3. After you complete installation on a node, then you can add that node to the virtual server. For example, if you have three nodes, then perform the following steps:
 - a. Configure the LDAP virtual server to direct requests to node 1 only.
 - b. Install Identity Management components on node 1.
 - c. Install Identity Management components on node 2.
 - d. Add node 2 to the LDAP virtual server.
 - e. Install Identity Management components on node 3.
 - f. Add node 3 to the LDAP virtual server.
4. Set up cookie persistence for HTTP traffic on the load balancer. Specifically, set up cookie persistence for URIs starting with /oiddas/. This is the URI for Oracle Delegated Administration Services. If your load balancer does not allow you to set cookie persistence at the URI level, then set the cookie persistence for all HTTP traffic. In either case, set the cookie to expire when the browser session expires. Refer to your load balancer documentation for details.
5. To configure the load balancer for automatic monitoring of the Oracle Internet Directory and OracleAS Single Sign-On, Oracle Delegated Administration Services, set up monitors for the following:
 - LDAP port

- LDAP SSL port
- HTTP or HTTPS listen port (depending on the deployment type)

It is recommended that these monitors use the respective protocols to monitor the services. That is LDAP for the LDAP port, LDAP over SSL for the LDAP SSL port, and HTTP/HTTPS for the web server port. If the load balancer does not offer one or all of these monitors, consult the load balancer documentation for details on the best method to set up the load balancer.

12.2.3.1.2 Synchronize the System Clocks on All Nodes Identity Management cluster nodes must all have their clocks synchronized for the Identity Management cluster to function properly.

12.2.4 Installing Identity Management on High Availability Nodes

This section describes how to install Identity Management on high availability nodes.

12.2.4.1 Installing First Instance of Identity Management

To install first instance of Identity Management, follow the steps listed in [Table 12–4](#).

Table 12–4 *Installing First Instance of Identity Management*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Identity Management. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Identity Management . Click Next .
6.	Product-Specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Select Configuration Options	Select Oracle Internet Directory . Select OracleAS Single Sign-On . Select OracleAS Delegated Administration Services . Select OracleAS Directory Integration and Provisioning . Do not select OracleAS Certificate Authority (OCA) . Select High Availability and Replication . Click Next .

Table 12–4 (Cont.) Installing First Instance of Identity Management

Step	Screen	Action
8.	Specify repository	Username: Enter the username to use to log in to the Oracle Collaboration Suite Database. The user must have DBA privileges. Password: Enter the user password. Hostname and Port: Enter the names of all the nodes where the Oracle Collaboration Suite Database is running and the port numbers. Use the format: Host1.domain.com:port1,Host2.domain.com:port2,... Service Name: Enter the service name of the database. Note that the service name must include the database domain name. Click Next.
9.	Select High Availability or Replication Option	Select OracleAS Cluster (Identity Management). Click Next.
10.	Specify New Oracle Application Server Cluster Name	Specify a cluster name you want to create for the OracleAS Cluster (Identity Management) in the New Oracle Application Server Cluster Name field. Click Next.
11.	Specify Namespace in Internet Directory	Enter a new namespace for Oracle Internet Directory or select the Suggested Namespace: dc=us,dc=oracle,dc=com Click Next.
12.	Specify LDAP Virtual Host and Ports	Hostname: Enter the fully qualified virtual server name of the LDAP virtual server configured on your load balancer. SSL Port: Enter the SSL port number for Oracle Internet Directory. Non-SSL Port: Enter the port number for Oracle Internet Directory. Click Next.
13.	Specify HTTP Load Balancer Host and Ports	HTTP Listener: Port: Enter the port number that you want Oracle HTTP Server to listen on. Enable SSL: Select this option if you want to configure Oracle HTTP Server for SSL on this port. HTTP Load Balancer: Hostname: Enter the name of the HTTP virtual server configured on your load balancer. HTTP Load Balancer: Port: Enter the port of the HTTP virtual server. Enable SSL: Select this option if this port is for SSL communications only. Click Next.
14.	Guest Account Password	Enter the password for the <code>orclguest</code> account. Click Next.
15.	Specify Instance Name and <code>ias_admin</code> Password	Instance Name: Enter a name for this Identity Management instance. ias_admin Password and Confirm Password: Set the password for the <code>ias_admin</code> user. This is the administrative user for the instance. Click Next.
16.	Summary	Verify your selection and click Install .
17.	Install Progress	This screen displays the progress of the installation.

Table 12–4 (Cont.) Installing First Instance of Identity Management

Step	Screen	Action
18.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
19.	The Configuration Assistant	This screen shows the progress of the configuration assistants.
20.	End of Installation	Click Exit to quit the installer.

12.2.4.2 Installing Subsequent Instance of Identity Management

Before installing the subsequent instance of Identity Management, you must perform the preinstallation tasks.

Preinstallation Tasks

The preinstallation tasks for the installation of subsequent instance of Identity Management are as follows:

- Please ensure that the system time on this Identity Management node is in sync with the time on the other Identity Management nodes that are part of this OracleAS Cluster (Identity Management) configuration. Failure to ensure this may result in unwanted instance failovers, inconsistent operational attributes in directory entries and potential inconsistent behavior of password state policies.
- To install the current OracleAS (Identity Management) node correctly, setup your load balancer LDAP virtual server to direct requests to any existing OracleAS Cluster (Identity Management) node that is already running. After you complete the installation on this node, you can add it to the load balancer LDAP virtual server.

Installation Tasks

To install the subsequent instance of Identity Management, follow the steps listed in [Table 12–5](#).

Table 12–5 Installing Subsequent instance of Identity Management

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Identity Management. Click Next.
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation. This screen will only show up if you are installing Oracle Collaboration Suite Identity Management on a cluster. Click Next.
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2. Click Next.
5.	Select Installation Type	Select Identity Management. Click Next.

Table 12–5 (Cont.) Installing Subsequent instance of Identity Management

Step	Screen	Action
6.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Select Configuration Options	Select Oracle Internet Directory . Select OracleAS Single Sign-On . Select OracleAS Delegated Administration Services . Select OracleAS Directory Integration and Provisioning . Do not select OracleAS Certificate Authority (OCA) . Select High Availability and Replication . Click Next .
8.	Specify repository	Username: Enter the username to use to log in to the Oracle Collaboration Suite Database. The user must have DBA privileges. Password: Enter the user password. Hostname and Port: Enter the names of all the nodes where the Oracle Collaboration Suite Database is running and the port numbers. Use the format: <code>Host1.domain.com:port1,Host2.domain.com:port2,...</code> Service Name: Enter the service name of the database. Note that the service name must include the database domain name. Click Next . Warning: Please ensure that the system time on this Identity Management Node is in sync with the time on other Identity Management Nodes that are part of this OracleAS Cluster (Identity Management) configuration. Failure to ensure this may result in unwanted instance failovers, inconsistent operational attributes in directory entries and potential inconsistent behavior of password state policies. Click OK .
9.	Specify Existing OracleAS Cluster Name. Enter ODS password	Specify an existing OracleAS Cluster (Identity Management) name for the current instance to join. The cluster was created as part of the first Oracle Collaboration Suite Identity Management install. Click Next and enter the ODS password.
10.	Specify LDAP Virtual Host and Ports	Hostname: Enter the fully qualified virtual server name of the LDAP virtual server configured on your load balancer. SSL PORT: Enter the SSL port number for Oracle Internet Directory. Non-SSL Port: Enter the port number for Oracle Internet Directory. Click Next . Warning: To configure the current OracleAS (Identity Management) node correctly, setup your LDAP virtual server to direct requests to any existing OracleAS Cluster (Identity Management) node that is already running. After you complete the installation on this node, then you can add it to the LDAP virtual server. Click OK .
11.	Specify Oracle Internet Directory Login	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (<code>cn=orcladmin</code>). Password: Enter the password for the username Click Next .

Table 12–5 (Cont.) Installing Subsequent instance of Identity Management

Step	Screen	Action
12.	Specify HTTP Load Balancer Host and Ports	HTTP Listener: Port: Enter the port number that you want Oracle HTTP Server to listen on. Enable SSL: Select this option if you want to configure Oracle HTTP Server for SSL on this port. HTTP Load Balancer: Hostname: Enter the name of the HTTP virtual server configured on your load balancer. HTTP Load Balancer: Port: Enter the port of the HTTP virtual server. Enable SSL: Select this option if this port is for SSL communications only. Click Next.
13.	Guest Account Password	Enter the password for the <code>orclguest</code> account. Click Next.
14.	Specify Instance Name and <code>ias_admin</code> Password	Instance Name: Enter a name for this Identity Management instance. ias_admin Password and Confirm Password: Set the password for the <code>ias_admin</code> user. This is the administrative user for the instance. Click Next.
15.	Summary	Verify your selection and click Install .
16.	Install Progress	This screen displays the progress of the installation.
17.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. - When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. - Click OK.
18.	The Configuration Assistant	This screen shows the progress of the configuration assistants.
19.	End of Installation	Click Exit to quit the installer.

12.2.4.3 Postinstallation Tasks

The postinstallation tasks involve performing manual postinstallation steps.

12.2.4.3.1 Performing Manual Postinstallation steps Ensure that the load balancer is routing requests to all active Identity Management nodes.

12.2.5 Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants

The Oracle Collaboration Suite Database needs to be registered in the Oracle Internet Directory for Oracle Collaboration Suite to work correctly. Additionally, the database schemas for each Oracle Collaboration Suite Applications component must be created in the Oracle Collaboration Suite Database. The `ORACLE_HOME/install/OCSDbSchemaReg.sh` script accomplishes both of these tasks. This script only needs to be run on a single database node.

The `OCSDbSchemaReg.sh` script is located in `ORACLE_HOME/install` directory on the Oracle Collaboration Suite Database nodes.

- Copy `ORACLE_HOME/install/OCSDbSchemaReg.ini.sample` to `ORACLE_HOME/install/OCSDbSchemaReg.ini`.

- Modify the `ORACLE_HOME/install/OCSdbSchemaReg.ini` script with the appropriate values.
- Run `OCSdbSchemaReg.sh` from `ORACLE_HOME/install` directory in RAC mode by entering multiple hosts in the `$hostList` option of the `OCSdbSchemaReg.ini` file from one of the Oracle Collaboration Suite Database machine.
- Run the following script.

```
OCSdbSchemaReg.sh -f OCSdbSchemaReg.ini
```
- Check `ORACLE_HOME/install/schemaReg.results`, `OCSdbSchemaReg.sh` and `OCSdbSchemaReg.log` to see if all Configuration Assistants succeeded.

12.2.6 Installing Oracle Calendar Server

This section explains the installation and postinstallation tasks for Identity Management.

12.2.6.1 Preinstallation Tasks

Before installing Oracle Calendar Server in a Cold Failover Cluster, perform the following procedures:

- [Section 12.2.6.1.1, "Check if the clusterware is running"](#)
- [Section 12.2.6.1.2, "Map the virtual hostname and virtual IP address"](#)
- [Section 12.2.6.1.3, "Set Up a File System That Can Be Mounted from Both Nodes"](#)

12.2.6.1.1 Check if the clusterware is running For Cold Failover Cluster, each node in a cluster should be running hardware vendor clusterware. If you plan to install the Calendar Server on a cluster that is also running Oracle Cluster Ready Services, you still should have the clusterware from the hardware vendor to support an automated cold failover. Running Oracle Cluster Ready Services without the hardware vendor clusterware does not support Cold Failover Cluster. In Linux, a RAC database that is running CRS and vendor clusterware cannot coexist. Therefore, if you want to have an automated cold failover per the vendor clusterware on Linux, then the installation of Calendar Server Oracle Application Server Cold Failover Cluster must be on a separate cluster from the RAC database.

To check that the clusterware is running, use the command appropriate for your clusterware.

12.2.6.1.2 Map the virtual hostname and virtual IP address Each node in an OracleAS Cold Failover Cluster configuration is associated with its own physical IP address. In addition, the active node in the cluster is associated with a virtual hostname and virtual IP address. This allows clients to access the OracleAS Cold Failover Cluster using the virtual hostname.

Virtual hostnames and virtual IP addresses are any valid hostname and IP address in the context of the subnet containing the hardware cluster.

Note: Map the virtual hostname and virtual IP address only to the active node. Do not map the virtual hostname and IP address to both active and secondary nodes at the same time. When you failover, only then do you map the virtual hostname and IP address to the secondary node, which is now the active node.

The following example show how to configure a node with virtual hostname `vhost.mydomain.com` and virtual IP address `138.1.12.191`.

Note: Before attempting to complete this procedure, ask the system or network administrator to review all the steps required. The procedure will reconfigure the network settings on the cluster nodes and may vary with differing network implementations.

1. Register the virtual hostname and IP address with DNS for the network. For example, register the `vhost.mydomain.com/138.1.12.191` pair with DNS.
2. Add the following line to the `/etc/hosts` file on the active node:

```
ip_address hostname.domain hostname
```

For example:

```
138.1.12.191 vhost.mydomain.com vhost
```

3. Determine the primary public network interface.

The primary public network interface for Ethernet encapsulation is `eth0`. To determine the primary public network interface, enter the following command and search for a network interface that has an `inet addr` value of the physical IP address of the node:

```
/sbin/ifconfig
```

4. Find an available index number for the primary public network interface.

Using the same commands as described in step 3, determine an available index number for an additional IP address to the primary public network interface.

5. Add the virtual IP address to the primary public network interface by running the following command as the `root` user.

Note: You must use the same `NETMASK` and `BROADCAST` values for this interface as those used for the primary public network interface (`eth0` in the example). Modify the `ifconfig` commands in this step to include the appropriate `netmask` and `broadcast` options.

Enter the following command using the available index number from step 4.

```
/sbin/ifconfig primary_public_interface:available_index ip_address
```

For example, enter the following command if `eth0:1` is available:

```
/sbin/ifconfig eth0:1 138.1.12.191
```

6. Check that the virtual IP address is configured correctly.
 - a. Use the instructions listed in step 3 to confirm the new entry for the `primary_public_interface:available_index` entry created in step 5.
 - b. Try to connect to the node using the virtual hostname and virtual IP address from another node. For example, entering both of the following commands from a different node should provide a login to the node you configured in this procedure:

```
telnet hostname.domain
```

```
telnet ip_address
```

For example, enter the following:

```
telnet vhost.mydomain.com
telnet 138.1.12.191
```

On Failover If the active node fails, then the secondary node takes over. If you do not have a clusterware agent to map the virtual IP from the failed node to the secondary node, then you must do it manually. You must remove the virtual IP mapping from the failed node, and map it to the secondary node.

1. On the failed node, if possible, become superuser and remove the virtual IP.

If the failed node fails completely (that is, it does not boot up), you can skip this step and go to Step 2. If the node fails partially (for example, disk or memory problems), and the node is still ping-able, you must perform this step.

```
prompt> su
Password: root_password
# ifconfig ge0 removeif 138.1.12.191
```

"ge0" and the IP address are values specific to this example. Replace them with values appropriate for your cluster.

2. On the secondary node, add the virtual IP to the ge0 network interface.

```
# ifconfig ge0 addif 138.1.12.191 up
```

"ge0" and the IP address are values specific to this example. Replace them with values appropriate for your cluster.

3. On the secondary node, check that the new interface was added:

```
# ifconfig -a
...
ge0:1: flags=1000843<UP,BROADCAST,RUNNING,MULTICAST,IPv4> mtu 1500 index 2
      inet 138.1.12.191 netmask ffff0000 broadcast 138.1.255.255
...
```

12.2.6.1.3 Set Up a File System That Can Be Mounted from Both Nodes Although the hardware cluster has shared storage, you must create a file system on this shared storage such that both nodes of the OracleAS Cold Failover Cluster can mount this file system. You will use this file system for the following directories:

- Oracle home directory for the Infrastructure
- The oraInventory directory

If you are running a volume manager on the cluster to manage the shared storage, refer to the volume manager documentation for steps to create a volume. Once a volume is created, you can create the file system on that volume.

If you do not have a volume manager, you can create a file system on the shared disk directly. Ensure that the hardware vendor supports this, that the file system can be mounted from either node of the OracleAS Cold Failover Cluster, and that the file system is repairable from either node if a node fails.

To check that the file system can be mounted from either node, do the following steps:

1. Set up and mount the file system from node 1.
2. Unmount the file system from node 1.

3. Mount the file system from node 2 using the same mount point that you used in step 1.
4. Unmount it from node 2, and mount it on node 1, because you will be running the installer from node 1.

Note: Only one node of the OracleAS Cold Failover Cluster should mount the file system at any given time. File system configuration files on all nodes of the cluster should not include an entry for the automatic mount of the file system upon a node restart or execution of a global mount command. For example, on UNIX platforms, do not include an entry for this file system in `/etc/fstab` file.

12.2.6.2 Installation Tasks

Before installing Oracle Calendar Server in a OracleAS Cold Failover Cluster configuration, make sure that the virtual IP address and host name is enabled on the install node.

To install Oracle Calendar in a Cold Failover Cluster configuration, follow the steps listed in [Table 12–6](#).

Table 12–6 *Installing Oracle Calendar Server in Cold Failover Cluster Configuration*

Step	Screen	Action
1.	None	Start the installer.
2.	Welcome	Click Next .
3.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path for the inventory directory: Enter a full path to a directory for the installer files. Enter a directory that is different from the Oracle home directory for the product files. The inventory directory path should be on a shared location. Example: <code>/private/oracle/oraInventory</code> Click OK.
4.	UNIX Group Name (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the name of the operating system group to have write permission for the inventory directory. Example: <code>dba</code> Click Next.
5.	Run <code>oraInstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. Click Continue.

Table 12–6 (Cont.) Installing Oracle Calendar Server in Cold Failover Cluster Configuration

Step	Screen	Action
6.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source, if required. Name: Enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters. Example: OH_apptier_10_1_1 Destination Path: Enter the full path to the destination directory. This is the Oracle home. If the directory does not exist, the installer creates it. The destination path should be on a shared location. To create the directory beforehand, create it as the oracle user. Do not create it as the root user. Example: /private/oracle/OH_apptier_10_1_1 Click Next.
7.	Specify Hardware Cluster Installation Mode (Advanced installation only)	This screen appears only if the computer is part of a hardware cluster. When you are installing Oracle Collaboration Suite Applications, select Local Installation because hardware cluster is not supported for Oracle Collaboration Suite Applications. Click Next.
8.	Select a Product to Install (Advanced installation only)	Select Oracle Collaboration Suite Applications 10.1.1.0.2. If you need to install additional languages, click Product Languages. Click Next.
9.	Product-specific Prerequisite Checks (Advanced installation only)	The installer verifies requirements such as memory, disk space, and operating system version. If any check fails, make the required changes and click Retry. Click Next.
10.	Select Components to Configure (Advanced installation only)	Select Oracle Calendar Server. Click Next.
11.	Register with Oracle Internet Directory (Advanced installation only)	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next.
12.	Specify UserName and Password for Oracle Internet Directory (Advanced installation only)	Username: Enter the user name to use to log in to Oracle Internet Directory. Password: Enter the user password. Click Next. Note: Use <code>cn=orcladmin</code> as the user name if you are the Oracle Internet Directory Superuser.
13.	OracleAS Metadata Repository (Advanced installation only)	Select Oracle Collaboration Suite Database from the list. Click Next.

Table 12–6 (Cont.) Installing Oracle Calendar Server in Cold Failover Cluster Configuration

Step	Screen	Action
14.	Select Database for Components (Advanced installation only)	Component Name: Oracle Calendar Server Database Name: Name of the Oracle Collaboration Suite Database. Click Next. Note: If multiple instances of Oracle Collaboration Suite Databases are available in Oracle Internet Directory, then you must click on the Database Name column and then select the correct database for each component from the drop-down list. However, when you click Next to go to the next screen, the selection might not be retained. To ensure that the selection is retained, you must click the Database Name column again after selecting the required database for each component.
15.	Specify Port Configuration Options (Advanced installation only)	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL Click Next. Note: If you manually configure the ports, then you must specify the port values for each port.
16.	Specify Administrative Password and Instance Name (Advanced installation only)	Instance Name: Enter a name for this Calendar Server instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Calendar Server instance. Click Next.
17.	Oracle Calendar Server Host Alias (Advanced installation only)	Host or Alias: Enter the virtual hostname for the Calendar Server instance. Click Next. Note: It is recommended that you use alias in place of host name if later you want to move the calendar server instance or change the host name. Specify the host name if an alias is not configured.
18.	Summary	Verify your selections and click Install .
19.	Install Progress	This screen displays the progress of the installation.
20.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
21.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
22.	End of Installation	Click Exit to quit the installer.

12.2.6.3 Postinstallation tasks

The postinstallation tasks involve troubleshooting the installation errors and performing manual postinstallation steps.

12.2.6.3.1 Troubleshooting the Installation Errors You might have to perform the postinstallation steps to solve the following problems:

- Oracle Calendar Server installation does not accept virtual hostname. This is a network problem. To resolve this error, exit and restart the installer.

12.2.6.3.2 Performing Manual Postinstallation Steps You also have to perform the following additional postinstallation steps:

- In `ORACLE_HOME/ocal/misc/unison.ini` file, add `dir_connectmodel = ondemand` entry under the [DAS] section.
- Restart Oracle Calendar Server.

```
ORACLE_HOME/opmn/bin/opmnctl restartproc ias-component=CalendarServer
```

12.2.7 Installing the First Instance of Oracle Collaboration Suite Applications (without Oracle Calendar Server)

This section describes the installation of the first instance of Oracle Collaboration Suite Applications without Oracle Calendar Server.

Installation Steps

To install first instance of Oracle Collaboration Suite Applications, follow the steps listed in [Table 12-7](#).

Table 12-7 Installing First Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Oracle Collaboration Suite Applications. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Applications 10.1.1.0.2 . Click Next .
5.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
6.	Select Components to Configure	Select Oracle Mail . Select Oracle Mobile Collaboration . Select Oracle Content Services . Do not select Oracle Calendar Server . Select Oracle Calendar Web Client . Select Oracle Real-Time Collaboration . Select Oracle Collaboration Suite Search . Select Oracle Collaboration Suite Web Access . Select Oracle Collaborative Portlets . Select Oracle Workspaces . Select Oracle Discussions . Click Next .
7.	Register with Oracle Internet Directory	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next .

Table 12–7 (Cont.) Installing First Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
8.	Specify UserName and Password for Oracle Internet Directory	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (cn=orcladmin). Password: Enter the password for the username. Click Next .
9.	OracleAS Metadata Repository	Select Oracle Collaboration Suite Database from the list. Click Next .
10.	Select Database Components	Component Name: Oracle Mail, Oracle Discussions, Oracle Search, Oracle Real-Time Collaboration, Oracle Collaboration Suite Search, Oracle Workspaces, Oracle Content Services, Oracle Collaboration Suite Web Access Database Name: Name of the Oracle Collaboration Suite Database. Click Next .
11.	Specify Port Configuration Options	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL ■ Oracle Mail IMAP4 port ■ Oracle Mail IMAP4 Secure port ■ Oracle Mail POP3 port ■ Oracle Mail POP3 Secure port ■ Oracle Mail SMTP port ■ Oracle Mail NNTP port ■ Oracle Mail NNTP Secure port Click Next .
12.	Specify Administrative Password and Instance Name	Instance Name: Enter a name for this Oracle Collaboration Suite Applications instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Oracle Collaboration Suite Applications instance. Click Next .
13.	Specify Oracle Mail Domain Information	Mail Domain: Enter the domain that you want to use for Oracle Mail server. Click Next .
14.	Summary	Verify your selection and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
17.	The Configuration Assistants	This screen shows the progress of the configuration assistants.
18.	End of Installation	Click Exit to quit the installer.

12.2.8 Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer

You can configure two or more Oracle Collaboration Suite Applications instances in a highly-available deployment by placing a load balancer in front of them. The load balancer publishes a single address for Oracle Collaboration Suite Applications while providing a redundant set of application servers that actually service requests. The load balancer can be configured to detect when one of the Oracle Collaboration Suite Applications instances has failed and can then fail over requests to another instance.

Our configuration is as follows:

- There are two Oracle Collaboration Suite Applications computers: `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. Both application servers listen on non-SSL port 7777.
- The Oracle Collaboration Suite Applications computers are configured to use the Single Sign-On server located at `im_virtual.mycompany.com`.
- The effective host name of the Oracle Collaboration Suite Applications published to the user is `apps_virtual.mycompany.com`. A load balancer is configured to listen at this address, on port 80. It has been configured to load balance and fail over user requests between `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.
- The Single Sign-On server and Directory server are located at `im_virtual.mycompany.com`.
- The Oracle Collaboration Suite Database (including Identity Management metadata) is located at `ocs_store1.mycompany.com` and `ocs_store2.mycompany.com` (2-node RAC).

12.2.8.1 Configure the Load Balancer

To setup the load balancer to work with the first mid-tier install, ensure that the following is configured:

1. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 80 and balances them to the Web Cache on Oracle Collaboration Suite Applications tier running on `ocs_apps1.mycompany.com` on port 7777 (an HTTP listening port).
2. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 7777 (an HTTP listening port), and balances them to the Web Cache on Oracle Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` port 7777 (an HTTP listening port). Port 7777 on the load balancer receives the HTTP loop-back requests made by the Parallel Page Engine on `ocs_apps1.mycompany.com`. This 7777 port also receives requests from the Portal Metadata Repository for web providers design time messages. This configuration may require a Network Address Translation (NAT) rule in the load balancer in order for the loop-back request from the PPE to succeed.
3. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 9401 (Web Cache Invalidation Port) and balances them to the Web Cache on Oracle Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` on port 9401 (Web Cache Invalidation Port). Port 9401 on the load balancer receives invalidation messages from the OracleAS Portal Repository when content that is cached in OracleAS Web Cache becomes stale. This configuration might require a NAT rule in the load balancer in order for the invalidation requests from the OracleAS Portal repository to succeed.

4. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 25 (SMTP) and balances them to the Oracle Collaboration Suite Applications tier's SMTP port on `ocs_apps1.mycompany.com` on port 25 (an SMTP listening port). This virtual server on port 25 (SMTP) should also have simple persistence. Simple Persistence returns a client to the same node to which it connected previously. Simple persistence tracks connections based only on the client IP address.
5. The virtual server name (`apps_virtual.mycompany.com`) listens for requests on port 143 (Oracle Mail IMAP4 port) and balances them to the Oracle Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` on port 25 (Oracle Mail IMAP4 port).

Note: `apps_virtual.mycompany.com` listens on 80 for external traffic, on port 7777 for Parallel Page Engine loop-back messages, and port 9401 for invalidation messages, and port 25 for SMTP traffic.

For security reason, port 9401 and 7777 on the load balancer should not be visible to external users.

12.2.8.2 Configure the Oracle HTTP Server with the Load Balancer

This step associates the components on which OracleAS Portal depends with load balancer virtual server name and port: `apps_virtual.mycompany.com:80` as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the `ocs_apps1.mycompany.com` installation.
3. Click the **HTTP Server** link.
4. Click the **Administration** link.
5. Click **Advanced Server Properties**.
6. Open the `httpd.conf` file.
7. Perform the following steps:

- a. Add `LoadModule certheaders_module` directive.

```
LoadModule certheaders_module libexec/mod_certheaders.so
```

The `LoadModule` directives (in particular, the `LoadModule rewrite_module` directive) must appear in the `httpd.conf` file at a location preceding the `VirtualHost` directives. The server must load all modules before it can execute the directives in the `VirtualHost` container. It is a good idea to create the `VirtualHost` directives at the end of the `httpd.conf` file.

- b. Add the following lines to create a `NameVirtualHost` directive and a `VirtualHost` container for `apps_virtual.mycompany.com` and port 80.

```
NameVirtualHost *:7778
<VirtualHost *:7778>
ServerName apps_virtual.mycompany.com
Port 80
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

- c. Create a second VirtualHost container for `apps_virtual.mycompany.com` and port 7777.

```
<VirtualHost *:7778>
ServerName apps_virtual.mycompany.com
Port 7777
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

8. Save the `httpd.conf` file, and restart the Oracle HTTP Server when prompted.

12.2.8.3 Configure the Parallel Page Engine Loop-Back with the Load Balancer

In this step, you configure non-SSL loop-back communication between the load balancer and the Parallel Page Engine on `ocs_apps1.mycompany.com`. Before you start this configuration, ensure the following:

- You are able to resolve `apps_virtual.mycompany.com` from `ocs_apps1.mycompany.com` such that it contacts the load balancer. To ensure you can resolve `apps_virtual.mycompany.com`, issue the following command from `ocs_apps1.mycompany.com`.

```
nslookup apps_virtual.mycompany.com
```

The IP address for the load balancer should be returned.

- You are able to contact port 7777 on `apps_virtual.mycompany.com` from `ocs_apps1.mycompany.com`. Issue the following command on `ocs_apps1.mycompany.com`.

```
telnet apps_virtual.mycompany.com 7777
```

Verify that no connection failure message is returned.

To create the loop-back configuration, the steps are as follows:

1. Open the `ORACLE_HOME/j2ee/OC4J_Portal/applications/portal/portal/WEB-INF/web.xml` file.
2. Locate the Page servlet section.
3. Add the lines shown in bold.

```
<servlet>
<servlet-name>page</servlet-name>
<servlet-class>oracle.webdb.page.ParallelServlet</servlet-class>
  <init-param>
    <param-name>useScheme</param-name>
    <param-value>http</param-value>
  </init-param>
  <init-param>
    <param-name>usePort</param-name>
    <param-value>7777</param-value>
  </init-param>
</servlet>
```

4. Save the `web.xml` file.
5. Issue this command in `ORACLE_HOME/dcm/bin` to update the DCM repository.

```
dcmctl updateConfig
```


6. Issue these commands in `ORACLE_HOME/opmn/bin` to restart the Oracle Collaboration Suite Applications instance.

```
opmnctl stopall
opmnctl startall
```

12.2.8.4 Modify the Portal Dependency Settings (iasconfig.xml) File

The Portal Dependency Settings file `iasconfig.xml` must contain the correct host, port, and farm name to enable access to OracleAS Portal and perform OracleAS Web Cache invalidation. To edit the file to include this information, the steps are as follows:

1. Create a backup copy of the `ORACLE_HOME/portal/conf/iasconfig.xml` file.
2. Open the `ORACLE_HOME/portal/conf/iasconfig.xml` file and perform the following steps:
 - a. Change the existing code as follows:

```
<IASConfig XSDVersion="1.0">
  <IASFarm Name="Farm1.apps_virtual.mycompany.com" Host="apps_
virtual.mycompany.com">
    <WebCacheComponent ListenPort="80" InvalidationPort="9401"
InvalidationUsername="invalidator" InvalidationPassword="welcome1"
SSLEnabled="false" AdminPort="9400"/>
  </IASFarm>
  <IASInstance Name="ocsapps1.ocs_apps1.mycompany.com" Host="ocs_
apps1.mycompany.com">
    <WebCacheComponent ListenPort="7777" InvalidationPort="9401"
InvalidationUsername="invalidator"
InvalidationPassword="@BYGFsTxYCDGjfp5bbcU8MP20d5Tk6zo8tg=="
SSLEnabled="false" AdminPort="9400"/>
    <EMComponent ConsoleHTTTPort="1156" SSLEnabled="false"/>
  </IASInstance>
  <IASInstance Name="ias-1.im_virtual.mycompany.com" Host="im_
virtual.mycompany.com">
    <OIDComponent AdminPassword="@BUciwzx4JZPU/BOgKalC6ybcCpt3pVbr0w=="
AdminDN="cn=orcladmin" SSLEnabled="false" LDAPPort="7389"/>
  </IASInstance>
  <PortalInstance DADLocation="/pls/portal" SchemaUsername="portal"
SchemaPassword="@Bbronzw4685xLaz+WZP6DKVNVpwJLlYJ1w=="
ConnectionString="cn=orcl,cn=oraclecontext">
    <WebCacheDependency ContainerType="IASFarm" Name="Farm1.apps_
virtual.mycompany.com"/>
    <OIDDependency ContainerType="IASInstance" Name="ias-1.im_
virtual.mycompany.com"/>
    <EMDependency ContainerType="IASInstance" Name="ocsapps1.ocs_
apps1.mycompany.com"/>
  </PortalInstance>
</IASConfig>
```

- b. Save the `iasconfig.xml` file.
 - c. Encrypt any plain text passwords in the `iasconfig.xml` configuration file by setting the `ORACLE_HOME` environment variable, if necessary, and issuing the following command from `ORACLE_HOME/portal/conf`.

```
ptlconfig -encrypt
```

12.2.8.5 Register the OracleAS Portal URLs with the Load Balancer

In this step, you register the OracleAS Portal URLs using the load balancer virtual server name and port instead of the OracleAS Web Cache hostname and port. Follow the steps in this section to use the OracleAS Portal Configuration Assistant to register the URLs.

1. Ensure that the `ORACLE_HOME` environment variable is set.
2. Register the URLs using the Portal Dependency Settings tool (available in `ORACLE_HOME/portal/conf`):

```
ptlconfig -dad dadname -wc -site
```

where `dadname` is the name of the OracleAS Portal Database Access Descriptor.

12.2.8.6 Reset the Oracle Enterprise Manager 10g Link

To prevent access to Oracle Enterprise Manager 10g from the outside, the link provided by OracleAS Portal must be changed back to point to the internal server. To do this, issue the following command in `ORACLE_HOME/portal/conf`:

```
ptlconfig -dad dadname -em
```

where `dadname` is the name of the OracleAS Portal Database Access Descriptor.

12.2.8.7 Configure OracleAS Web Cache with the Load Balancer

You must configure a site definition, site alias, and a site-to-server mapping to make OracleAS Web Cache function correctly with the load balancer.

Use the Web Cache Manager, the graphical user interface provided for editing the configuration stored in `webcache.xml` file.

1. Access the Web Cache Administrator at: `http://ocs_apps1.mycompany.com:9400/webcacheadmin`. The Web Cache Administrator password dialog box appears.
2. Enter the OracleAS Web Cache administrator password. For the user name, enter `ias_admin` or `administrator`, and enter the OracleAS Web Cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

3. Click the **Site Definitions** link in the Origin Servers, Sites and Load Balancing section. The Site Definitions window opens.
4. Click **Add Site**.
5. Enter the following information (leave other fields blank):
 - Host name: `apps_virtual.mycompany.com`
 - Port: 80
 - Client-side Certificate: Not required
 - Default Site: Yes
 - Create Alias from Site Name with/without www: No

6. Click **Submit**.
7. Select the radio button for the site for which the alias will be added (`apps_virtual.mycompany.com`).
8. Click **Add Alias**. The Add Alias for Site window opens.
9. Enter `apps_virtual.mycompany.com` for the host name and `7777` for the port. (`7777` is the value for the `usePort` parameter in the `web.xml` file in the Parallel Page Engine configuration).
10. Click **Submit**. The alias is added. An alias is needed in the configuration because Portal sends invalidation messages with the value of the `HOST` attribute in the invalidation message the same as the site name (in this case, `apps_virtual.mycompany.com:80`), but OracleAS Web Cache caches the portal content keyed on a host:port combination such as `apps_virtual.mycompany.com:7777`; thus, the invalidation is not executed. Therefore, it is necessary to define an alias, so that OracleAS Web Cache manages the content caching so that it recognizes `apps_virtual.mycompany.com:80` and `apps_virtual.mycompany.com:7777` as one and the same, and thereby correctly invalidating OracleAS Portal content, although the content is keyed on a different host:port combination than the site name.
11. Click **Add Alias**. A window with host name and port fields opens.
12. Enter `apps_virtual.mycompany.com` for the host name and `80` for the port.
13. Click **Submit**. The alias is added.

Note: An alias for port 80 is needed because the `HOST` header sent by the browser will be `apps_virtual.mycompany.com` (without a port number appended to it). Since OracleAS Web Cache is listening on the HTTP port, it will assume that the port number is 80 and use this to determine the site-to-server mapping, and for any cache key creation.

14. Click **Apply Changes**.
15. Click the **Site-to-Server Mapping** link in the Origin Servers, Sites, and Load Balancing section. The Site-to-Server Mapping page appears, in which you map the site and site alias to an origin server.
16. Select the first mapping in the table and click **Insert Above**. The Edit/Add Site-to-Server Mapping page appears.
17. Select the **Select From Site Definitions** option.
18. Select `apps_virtual.mycompany.com`.
19. Select `ocs_apps1.mycompany.com` in the Select Application Web Servers section.
20. Click **Submit**.
21. Remove unused mappings or entries containing the wild card character `*`.
22. Click **Apply Changes**.
23. Click **Restart**.

12.2.8.8 Reregister mod_osso

The steps for reregistering `mod_osso` are as follows:

1. Set the ORACLE_HOME environment variable to the current Oracle home.
2. Execute the SSO registration script ORACLE_HOME/sso/bin/ssoreg.

```
ORACLE_HOME/sso/bin/ssoreg.sh \  
site_name ocsapps.apps_virtual.mycompany.com \  
mod_osso_url http://apps_virtual.mycompany.com \  
config_mod_osso TRUE \  
oracle_home_path ORACLE_HOME \  
config_file ORACLE_HOME/Apache/Apache/conf/osso/osso.conf \  
admin_info cn=orcladmin \  
virtualhost
```

A partner application, ocsapps.apps_virtual.mycompany.com, is created.

3. Log on to the OracleAS Single Sign-On Administration page as the Administrator, and use the Administer Partner Applications page to delete the entry for the partner application ocsappl.ocs_apps1.mycompany.com.

12.2.8.9 Verify Connectivity for Invalidation Messages from the Database to OracleAS Web Cache on ocs_apps1.mycompany.com through the Load Balancer

When an object is changed in the database, the application metadata repository database sends an invalidation message to Web Cache to invalidate that object if it exists in the cache. Since the target configuration has two instances of OracleAS Web Cache, the invalidation message must be load balanced across both OracleAS Web Cache instances. This is an example of component level load balancing.

Before you proceed with this verification, ensure that messages can be sent from the computer hosting the database to the load balancer. To do this, issue the following command from ocs_store1.mycompany.com and ocs_store2.mycompany.com:

```
telnet apps_virtual.mycompany.com 9401
```

Verify that no connection failure message is returned.

12.2.8.10 Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal

The steps to enable monitoring of the host at the front end of the load balancer and port settings for OracleAS Portal are as follows:

1. Open the ORACLE_HOME/sysman/emd/targets.xml file.
2. Locate the OracleAS Portal targets, for example, TYPE="oracle_portal".
3. Edit the PortalListeningHostPort property so that it points to the load balancer. For example: <Property NAME="PortalListeningHostPort" VALUE="http://apps_virtual.mycompany.com:80"/>
4. Save and close targets.xml file.
5. Reload the targets.xml file in the OracleAS Control Console by issuing this command in ORACLE_HOME/bin:

```
emctl reload
```

12.2.8.11 Configuring Oracle Real-Time Collaboration with Load Balancer

Note: Refer to [Section 2.1.1](#) for more details.

For Real-Time Collaboration, set `GlobalWebHost` and `GlobalWebPort` properties to integrate with a load balancer.

A load balancer provides a single published address to the client browser, while distributing requests to multiple Oracle Real-Time Collaboration core component Application tiers that serve the request. It acts as a global Web host for all of the requests.

If you add a load balancer, set the following parameters:

1. `GlobalWebHost` is the name of the global Web host.

For example, multiple Application tiers could be placed behind a load balancer (`ocs_apps1.mycompany.com`, `ocs_apps2.mycompany.com`), but the Web host name you want to have appear in the URL used to join a conference is `apps_virtual.mycompany.com`.

Default Value: none

Valid Value: a load balancer virtual server name.

Scope: system, instance

Note: Once set, the only way to unset this property is to use the `-pvaluenull true` option with the `setProperty` command. For example, to set the global Web host to `apps_virtual.mycompany.com`, run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname GlobalWebHost -pvalue
"apps_virtual.mycompany.com"
```

2. `GlobalWebPort` is the HTTP port of the global Web host.

Default Value: 80

Valid Value: Any port ID

Scope: system, instance

For example, to reset the global Web host to listen on port 80 for HTTP requests run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname GlobalWebPort -pvalue 80
```

3. `Smtphost` is the name of the SMTP host. To set the smtp host to `apps_virtual.mycompany.com`, run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname Smtphost -pvalue "apps_
virtual.mycompany.com"
```

Because the SMTP default port is 25, there is no need to set the SMTP port.

Restart Oracle Collaboration Suite Applications using the following commands:

```
ORACLE_HOME/opmn/bin/opmnctl stopall
ORACLE_HOME/opmn/bin/opmnctl startall
```

12.2.8.12 Updating Oracle Collaboration Suite Service Registry Entries in Oracle Internet Directory to Use the Load Balancer

You can update the Oracle Collaboration Suite registry entries in Oracle Internet Directory by using the Oracle Directory Manager as follows:

1. Start the Oracle Directory Manager.

```
ORACLE_HOME/bin/oidadmin
```

2. When you start Oracle Directory Manager, it will prompt you for connection information. Enter the following information to connect to your Oracle Internet Directory, typically hosted in the Oracle Collaboration Suite Database on your Oracle Collaboration Suite Infrastructure:

```
Host: <infrahost.yourdomain.com>  
Port: 389  
Username: cn=orcladmin  
Password: <password>
```

Port 389 is the default port used by Oracle Internet Directory. If you are using a different port, then enter the correct Oracle Internet Directory port.

If you have configured your Oracle Internet Directory to be accessed using SSL, select the SSL Enabled check box. Otherwise, leave it blank.

3. Select **Login** to log in to the Oracle Internet Directory. When the connection is successful, the Oracle Internet Directory management screen is displayed.
4. To access the Service Registry, drill down in to the Oracle Internet Directory by selecting the following items in the System Objects pane:
 - a. Select **Entry Management**.
 - b. Select **cn=OracleContext**.
 - c. Select **cn=Services**.

The System Objects pane displays a list of the Oracle Collaboration Suite Applications which have entries in the Service Registry. The Properties tab displays the properties of the cn=Services object.

5. To display URIs stored by each component in the Service Registry, select the component in the System Objects pane. Most components will contain a cn=VirtualServices object. This object contains one or more URIs used by other applications and OracleAS Portal to access that application. Applications store URIs in one or more child objects of the cn=VirtualServices object.

Note: The Oracle Universal Installer seeds the Oracle Internet Directory with objects for every Oracle Collaboration Suite Applications during installation, even if you do not configure and deploy every application. These unconfigured application entries will not contain child objects of their cn=VirtualServices objects. The child objects, and the URIs they store, are created in the Service Registry by each component's Configuration Assistant when it first runs.

6. After you verify your configuration, update Oracle Collaboration Suite Service Registry entries in Oracle Internet Directory to use the load balancer virtual hostname as follows:

- Oracle Calendar

```
dn: cn=OCAS_  
xxxxx,cn=VirtualServices,cn=Calendar,cn=Services,cn=OracleContext  
labeleduri;syncserversecureurl  
labeleduri:syncserverurl
```

```
labeleduri;webbaseurl
labeleduri;webserviceurl
```

■ Collaborative Workspaces

```
dn: cn=<DBNAME>, cn=VirtualServices, cn=CollaborativeWorkspaces, cn=Services,
cn=OracleContext
labeleduri;adminurl
labeleduri;webbaseurl
labeleduri:webui
```

■ Oracle Mail

```
dn: cn=emailadmin, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext
labeleduri;adminurl
```

```
dn: cn=imap, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext
labeleduri
```

```
dn: cn=smtp, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext
labeleduri
```

```
dn: cn=Webmail, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext
labeleduri;peopleurl
labeleduri;webbaseurl
orclrapparameter;webbaseurl
```

```
dn: cn=webservice, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext
labeleduri;webservices
```

■ Oracle Content Services

```
dn: cn=FILES, cn=VirtualServices, cn=Files, cn=Services, cn=OracleContext
labeleduri;adminurl
labeleduri;applicationurl
labeleduri;s2swebserviceurl
labeleduri;webdavurl
labeleduri;webservicesurl
```

■ Oracle Collaboration Suite Client

```
dn: cn=IntegratedClient, cn=VirtualServices, cn=OCSCClient, cn=Services,
cn=OracleContext
labeleduri;baseurl
labeleduri;popupliburl
```

```
dn: cn=Search, cn=VirtualServices, cn=OCSCClient, cn=Services, cn=OracleContext
labeleduri;webbaseurl
```

■ OracleAS Portal

```
dn: cn=ReturnToPortalURL, cn=VirtualServices, cn=Portal, cn=Services,
cn=OracleContext
labeleduri;
```

Note: In addition to changing the host name to use the load balancer virtual host name, the port should also match the listen port used in Step 1 in [Section 12.2.8.1](#). In this example it was port 80 (the default port), which means the port specification can be removed. So, for example, the Oracle Internet Directory `labeleduri` for the Portal `ReturnToPortalURL` should change from

http://ocs_apps1.mycompany.com:7778/portal/page?_dad=portal&_schema=PORTAL&_pageid=

to

http://apps_virtual.mycompany.com/portal/page?_dad=portal&_schema=PORTAL&_pageid=

- Oracle Discussions

```
dn:cn=Discussions:<DBNAME>:<MailDomain>,cn=VirtualServices,
cn=ThreadedDiscussions,cn=Services,cn=OracleContext
labeleduri;adminurl
labeleduri;rss
labeleduri;webbaseurl
labeleduri;webui
```

- Oracle Collaboration Suite Mobile Collaboration

```
dn:cn=WIRELESS1,cn=VirtualServices,cn=Wireless,cn=Services,cn=OracleContext
labeleduri;adminurl
labeleduri;calendarnotificationlistenerurl
labeleduri;mobilesetupurl
labeleduri;presencewebserviceurl
```

When you have finished editing the properties of an object, select **Apply** to save the new values in Oracle Internet Directory. If you decide to reject the changes you have made, select **Revert** to reset the displayed attributes to those currently stored in the Oracle Internet Directory.

7. Using `opmnctl` or Oracle Enterprise Manager 10g, restart the Oracle Collaboration Suite Infrastructure and all Oracle Collaboration Suite Applications tiers, to clear caches that may still be storing the old URIs and to load the new URIs you have entered.

Restart Oracle Collaboration Suite Applications using the following commands:

```
ORACLE_HOME/opmn/bin/opmnctl stopall
ORACLE_HOME/opmn/bin/opmnctl startall
```

There is no need to restart the Oracle Collaboration Suite Database.

12.2.8.13 Test the Configuration

The steps to test the configuration are as follows:

1. Access OracleAS Web Cache and Oracle HTTP Server through the load balancer with the following URL:

http://apps_virtual.mycompany.com

2. Test the connection to the Oracle Collaboration Suite Database through the load balancer, by accessing the following URL:

http://apps_virtual.mycompany.com/pls/portal/http.p?cbuf=test

The response should be test. If this succeeds, then the Oracle Collaboration Suite Applications tier can connect to the Oracle Collaboration Suite Database. If this test fails, then examine the Oracle HTTP Server `ORACLE_HOME/Apache/Apache/logs/error_log` file to determine the cause.

3. Test the OracleAS Portal using following URL (ensure that you can log in):

http://apps_virtual.mycompany.com/pls/portal

Verify that content is being cached in OracleAS Web Cache on `ocs_apps1.mycompany.com`, using Web Cache Administrator. Under Monitoring, click **Popular Requests**. Select **Cached** from the Filtered Objects drop-down list, and click **Update**.

If you accessed OracleAS Portal, portal content will appear. If there is no portal content, open another browser and log on to OracleAS Portal. Return to the Popular Requests page, and click **Update** to refresh the page content.

12.2.9 Installing Subsequent Instance of Oracle Collaboration Suite Applications

This section describes the installation of the subsequent instance of Oracle Collaboration Suite Applications without Oracle Calendar Server and postinstallation tasks.

12.2.9.1 Installation Tasks

To install the subsequent instance of Oracle Collaboration Suite Applications, follow the steps listed in [Table 12–8](#).

Table 12–8 *Installing Subsequent Instance of Oracle Collaboration Suite Applications*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Oracle Collaboration Suite Applications. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Applications 10.1.1.0.2 . Click Next .
5.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .

Table 12–8 (Cont.) Installing Subsequent Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
6.	Select Components to Configure	Select Oracle Mail. Select Oracle Mobile Collaboration. Select Oracle Content Services. Do not select Oracle Calendar Server. Select Oracle Calendar Web Client. Select Oracle Real-Time Collaboration. Select Oracle Collaboration Suite Search. Select Oracle Collaboration Suite Web Access. Do not select Oracle Collaborative Portlets. Select Oracle Workspaces. Select Oracle Discussions. Click Next.
7.	Register with Oracle Internet Directory	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next.
8.	Specify UserName and Password for Oracle Internet Directory	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (cn=orcladmin). Password: Enter the password for the username. Click Next.
9.	OracleAS Metadata Repository	Select Oracle Collaboration Suite Database from the list. Click Next. Error: The installation has detected that Oracle Collaborative Portlets has already been configured in the Metadata Repository you have selected. Oracle Collaborative Portlets will be unselected for this configuration. This screen will only show up if you selected Oracle Collaborative Portlets from the Select Components to Configure screen. Click Yes.
10.	Select Database Components	Component Name: Oracle Mail, Oracle Discussions, Oracle Search, Oracle Real-Time Collaboration, Oracle Collaboration Suite Search, Oracle Workspaces, Oracle Content Services, Oracle Collaboration Suite Web Access Database Name: Name of the Oracle Collaboration Suite Database. Click Next.
11.	Specify Port Configuration Options	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL ■ Oracle Mail IMAP4 port ■ Oracle Mail IMAP4 Secure port ■ Oracle Mail POP3 port ■ Oracle Mail POP3 Secure port ■ Oracle Mail SMTP port ■ Oracle Mail NNTP port ■ Oracle Mail NNTP Secure port Click Next.

Table 12–8 (Cont.) Installing Subsequent Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
12.	Specify Administrative Password and Instance Name	Instance Name: Enter a name for this Oracle Collaboration Suite Applications instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Oracle Collaboration Suite Applications instance. Click Next.
13.	Specify Oracle Mail Domain Information	Local Domain: Select it from the list. Select the same domain as in the first Oracle Collaboration Suite Applications installation. Click Next.
14.	Summary	Verify your selection and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. - When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. - Click OK.
17.	The Configuration Assistants	This screen shows the progress of the configuration assistants.
18.	End of Installation	Click Exit to quit the installer.

12.2.9.2 Postinstallation tasks

The postinstallation tasks involve troubleshooting the installation errors and performing manual postinstallation steps.

12.2.9.2.1 Troubleshooting the Installation Errors You might have to perform the postinstallation steps to solve the following problems:

- Oracle Calendar Home Page cannot be accessed through `orclguest` account. To resolve this error, the steps are as follows:

1. Stop all fast CGI (FCGI) processes using Oracle OCAS Control (`ocasctl`). When Oracle Collaboration Suite Applications tier is started or stopped using OPMN control (`opmnctl`), OCAS is not started or stopped because OCAS is not integrated with OPMN.

```
ORACLE_HOME/ocas/bin/ocasctl -stopall
```

2. Start the FCGI processes.

```
ORACLE_HOME/ocas/bin/ocasctl -start -t ochecklet -p 8020 -n 1
ORACLE_HOME/ocasctl -start -t ocas -p 8010 -n 5
```

The default ports are 8010 and 8020. The valid range is 8010-8020.

3. Verify the status of the FCGI processes:

```
ORACLE_HOME/ocas/bin/ocasctl -status
```

- When you log on to Portal as a newly created user, the calendar portlet shows "Service temporarily unable due to maintenance message".

1. Click the **Oracle Calendar** link and go to the Oracle Calendar view page.

2. Click the **Return to Portal** link and the porlet should show up correctly.
- When accessing workspaces, user cannot be found in LDAP directory. To resolve this error, run the following command:

```
$ORACLE_HOME/opmn/bin/opmnctl restartproc process-type=OC4J_OCSCClient
```

12.2.9.2.2 Performing Manual Postinstallation Steps You also have to perform the following additional postinstallation steps for Oracle Mail and Oracle Mobile Collaboration:

- For Oracle mail, the steps are as follows:
 1. Get the user ID and group ID of the owner of the Oracle Collaboration Suite Applications.
 2. Start LISTENER_ES as root, if the port that you are using is a privileged port (< 1024). Ensure ORACLE_HOME, LD_LIBRARY_PATH and PATH environment variables are set correctly.

```
ORACLE_HOME/bin/tnslsnr listener_es -user <userid> -group <group_id> &
```
- To enable Oracle Mobile Collaboration Calendar notifications, the steps are as follows:
 1. Log in to Enterprise Manager. Go to **System Components, Wireless, Site Administration**.
 2. Expand Component Configuration section and click **XMS Configuration**.
 3. Under XMS Center, ensure that Enable XMSC is checked.
 4. Go to **System Components, Wireless, Notification eng xxxx**. Click **Enable/Disable link** and make sure Notification engine is enabled.
 5. Restart the wireless component.

12.2.10 Post Installation Steps to Redeploy Oracle Collaboration Suite Applications with a Load Balancer

You can configure two or more Oracle Collaboration Suite Applications instances in a highly-available deployment by placing a load balancer in front of them. The load balancer publishes a single address for Oracle Collaboration Suite Applications while providing a redundant set of application servers that actually service requests. The load balancer can be configured to detect when one of the Oracle Collaboration Suite Applications instances has failed and can then fail over requests to another instance.

The details of the configuration are as follows:

- There are two Oracle Collaboration Suite Applications computers: ocs_apps1.mycompany.com and ocs_apps2.mycompany.com. Both application servers listen on non-SSL port 7777.
- The Oracle Collaboration Suite Applications computers are configured to use the Single Sign-On server located at im_virtual.mycompany.com.
- The effective host name of the Oracle Collaboration Suite Applications published to the user is apps_virtual.mycompany.com. A load balancer is configured to listen at this address, on port 80. It has been configured to load balance and fail over user requests between ocs_apps1.mycompany.com and ocs_apps2.mycompany.com.

- The Single Sign-On server and Directory server are located at `im_virtual.mycompany.com`.
- The Oracle Collaboration Suite Database (including Identity Management metadata) is located at `ocs_store1.mycompany.com` and `ocs_store2.mycompany.com` (2-node RAC).

The postinstallation steps are follows:

1. [Enable Portal](#)
2. [Configure the Oracle HTTP Server with the Load Balancer](#)
3. [Configure the Parallel Page Engine Loop-Back with the Load Balancer](#)
4. [Modify the Portal Dependency Settings \(iasconfig.xml\) File](#)
5. [Reregister mod_osso](#)
6. [Configure OracleAS Web Cache Clusters](#)
7. [Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal](#)
8. [Enable Session Binding on OracleAS Web Cache Clusters](#)
9. [Configure Collaborative Portlets](#)
10. [Configure Oracle Collaboration Suite Mobile Collaboration](#)
11. [Configuring Oracle Discussions](#)
12. [Test the Configuration](#)

12.2.10.1 Enable Portal

The first task is to configure OracleAS Portal, using the Oracle Enterprise Manager 10g Collaboration Suites Control Console. Follow these steps to configure OracleAS Portal, beginning on the Oracle Collaboration Suite page:

1. Click **Configure Component**. The Select Component page appears.
2. Select **portal** from the list.
3. Click **Continue**. The configuration process may take 10-20 minutes to complete.

Before you continue with the OracleAS Portal application server configuration, ensure that the following is configured:

- You are able to resolve `apps_virtual.mycompany.com` from `ocs_apps2.mycompany.com`, such that it contacts the load balancer. To ensure you can resolve `apps_virtual.mycompany.com` by running the following command:

```
nslookup apps_virtual.mycompany.com
```

The IP address for the virtual server name should be returned.

- You are able to contact port 7777 on `apps_virtual.mycompany.com` from `ocs_apps2.mycompany.com`. Run the following command on `ocs_app2.mycompany.com`:

```
telnet apps_virtual.mycompany.com 7777
```

Verify that no connection failure message is returned.

12.2.10.2 Configure the Oracle HTTP Server with the Load Balancer

This step associates the components on which OracleAS Portal depends with load balancer virtual server name and port: `apps_virtual.mycompany.com:80`. The steps to configure the Oracle HTTP Server with the Load Balancer are as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the `ocs_apps2.mycompany.com` installation.
3. Click the **HTTP Server** link.
4. Click the **Administration** link.
5. Click **Advanced Server Properties**.
6. Open the `httpd.conf` file.
7. Perform the following steps:

- a. Add `LoadModule certheaders_module` directive.

```
LoadModule certheaders_module libexec/mod_certheaders.so
```

Note: The `LoadModule` directives (in particular, the `LoadModule rewrite_module` directive) must appear in the `httpd.conf` file at a location preceding the `VirtualHost` directives. The server must load all modules before it can execute the directives in the `VirtualHost` container. It is a good idea to create the `VirtualHost` directives at the end of the `httpd.conf` file.

- b. Add the following lines to create a `NameVirtualHost` directive and a `VirtualHost` container for `apps_virtual.mycompany.com` and port 80.

```
NameVirtualHost *:7778
<VirtualHost *:7778>
ServerName apps_virtual.mycompany.com
Port 80
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

- c. Create a second `VirtualHost` container for `ocs_apps2.mycompany.com` and port 7777.

```
<VirtualHost *:7778>
ServerName ocs_apps2.mycompany.com
Port 7777
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

8. Save the `httpd.conf` file, and restart the Oracle HTTP Server when prompted.
9. Copy the `dads.conf` file from `ocs_apps1.mycompany.com` to `ORACLE_HOME/Apache/modplsql/conf` directory of `ocs_apps2.mycompany.com`.

12.2.10.3 Configure the Parallel Page Engine Loop-Back with the Load Balancer

In this step, you configure non-SSL loop-back communication between the load balancer and the Parallel Page Engine on `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. If the OracleAS Web Cache on `ocs_app1.mycompany.com` is down, the Parallel Page Engine can loop back to the OracleAS Web Cache on `ocs_apps2.mycompany.com` through the load balancer to reach `mod_plsql`.

The steps to create the loop-back configuration are as follows:

1. Open the `ORACLE_HOME/j2ee/OC4J_Portal/applications/portal/portal/WEB-INF/web.xml` file.
2. Locate the Page servlet section.
3. Add the lines shown in bold.

```
<servlet>
<servlet-name>page</servlet-name>
  <servlet-class>oracle.webdb.page.ParallelServlet</servlet-class>
    <init-param>
      <param-name>useScheme</param-name>
      <param-value>http</param-value>
    </init-param>
    <init-param>
      <param-name>usePort</param-name>
      <param-value>7777</param-value>
    </init-param>
  </servlet>
```

4. Save the `web.xml` file.
5. Save the manual configuration changes in the DCM repository by running the following command on `ocs_apps2.mycompany.com` in `ORACLE_HOME/dcm/bin`:

```
dcmctl updateConfig
```

6. Restart all components on `ocs_apps2.mycompany.com` by running the following command in `ORACLE_HOME/opmn/bin`:

```
opmnctl stopall
opmnctl startall
```

12.2.10.4 Modify the Portal Dependency Settings (iasconfig.xml) File

The Portal Dependency Settings file `iasconfig.xml` must contain the correct host, port, and farm name to enable access to OracleAS Portal and perform OracleAS Web Cache invalidation. Follow the steps to edit the file to include this information:

1. Create a backup copy of the `ORACLE_HOME/portal/conf/iasconfig.xml` file.
2. Copy the `iasconfig.xml` file in `ocs_apps1.mycompany.com` to `ORACLE_HOME/portal/conf` of `ocs_apps2.mycompany.com`.
3. Overwrite the file on `ocs_apps2.mycompany.com` when prompted.

12.2.10.5 Reregister mod_osso

The steps for reregistering `mod_osso` are:

1. Back up the `ORACLE_HOME/Apache/Apache/conf/osso/conf` file.
2. Use the FTP binary mode to copy the `osso.conf` file of `ocs_apps1.mycompany.com` to `ORACLE_HOME/Apache/Apache/conf` of `ocs_apps2.mycompany.com`.
3. Synchronize the DCM repository with the file by FTP using the following command:

```
ORACLE_HOME/Apache/Apache/bin/ssotransfer ORACLE_
HOME/Apache/Apache/conf/osso/osso.conf
```

Note: This does not create any new partner applications. It enables the partner application `ocsapps.apps_virtual.mycompany.com` for `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.

4. Restart the components on `ocs_apps2.mycompany.com` by running the commands in `ORACLE_HOME/opmn/bin` of `ocs_apps2.mycompany.com`:

```
opmnctl stopall
opmnctl startall
```
5. Log in to the OracleAS Single Sign-On Administration page as the Administrator, and use the Administer Partner Applications page to delete the entry for the partner application `ocsapp1.ocs_apps2.mycompany.com`.

12.2.10.6 Configure OracleAS Web Cache Clusters

To cluster the OracleAS Web Cache instances, you will perform the configuration steps on `ocs_apps1.mycompany.com` and propagate them to `ocs_apps2.mycompany.com`.

From the Oracle Enterprise Manager Collaboration Suite Control Console, you can access the Web Cache Manager, the graphical user interface provided for editing the configuration stored in the `webcache.xml` file. Start the Oracle Collaboration Suite Applications instance on `ocs_apps1.mycompany.com`, then follow the steps to access the Web Cache Manager from the System Components page.

1. Access the Web Cache Administrator at the following URL:
http://ocs_apps1.mycompany.com:9400/webcacheheadmin

The Web Cache Administrator password dialog box appears.

2. For the user name, enter `ias_admin` or `administrator`, and enter the OracleAS Web cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

The Web Cache Manager page appears.

3. Click **Clustering** in the Properties section. The Clustering page appears.
4. In the Cluster Members table, click **Add**. The Add Cache to Cluster page appears.
5. Enter the following information for `ocs_apps2.mycompany.com`:

Host Name: `ocs_apps2.mycompany.com`
 Admin. Port: 9400
 Protocol for Admin. Port: HTTP
 Cache Name: `ocs_apps2.mycompany.com-Webcache`
 Capacity: 20

6. Click **Submit**.
7. Click the **Origin Server** link in the Origin Servers, Sites, and Load Balancing section. The Origin Server page appears.
8. Click **Add** under the Application Web Servers table.
9. Enter the following information:

Hostname: `ocs_apps2.mycompany.com`
 Port: 7778
 Routing: ENABLE
 Capacity: 30
 Failover Threshold: 5
 Ping URL: /
 Ping Interval: 10
 Protocol: HTTP
10. Click **Submit**.
11. Click the **Site-to-Server Mapping** link in the Origin Servers, Sites and Load Balancing section. The Site-to-Server Mapping page appears.
12. Select the mapping for the Load Balancer site (`apps_virtual.mycompany.com`) from the table and click **Edit Selected**. The Edit/Add Site-to-Server mapping page appears.
13. In the Select Application Web Servers section, select an application Web server specified in the Origin Servers page for `ocs_apps2.mycompany.com` (`ocs_apps1.mycompany.com` is already mapped).
14. Click **Submit**.
15. Click **Apply Changes**.
16. In the Cache Operations page, click **Propagate**. The changes are propagated to `ocs_apps2.mycompany.com`.
17. Click **Restart**. OracleAS Web Cache is restarted on `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. OracleAS Web Cache on `ocs_apps1.mycompany.com` begins to balance requests to the Oracle HTTP Server and OC4J_Portal instances on `ocs_apps2.mycompany.com`.

12.2.10.7 Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal

The steps are as follows:

1. Open the `ORACLE_HOME/sysman/emd/targets.xml` file.
2. Locate the OracleAS Portal targets, for example, `TYPE="oracle_portal"`.
3. Edit the `PortalListeningHostPort` property so that it points to the load balancer. For example:

```
<Property NAME="PortalListeningHostPort" VALUE="http://apps_virtual.mycompany.com:80"/>
```

4. Save and close `targets.xml` file.
5. Reload the `targets.xml` file in the Oracle Collaboration Suite Control Console by running the following command in `ORACLE_HOME/bin`:

```
emctl reload
```

12.2.10.8 Enable Session Binding on OracleAS Web Cache Clusters

The session binding feature in OracleAS Web Cache is used to bind user sessions to a given origin server to maintain state for a period of time. Enabling session binding forces all the user requests to go to a give OracleAS Portal middle-tier, resulting in a better cache hit ratio for the portal cache. For this reason, session binding is required although almost all components running in a given OracleAS Portal middle tier are stateless.

To enable session binding in OracleAS Web Cache, the steps on `ocs_apps1.mycompany.com` or `ocs_apps2.mycompany.com` are as follows:

1. Access the Web cache Administrator at the following URL:

http://ocs_apps1.mycompany.com:9400

The Web Cache Administrator password dialog box appears.

2. Enter the OracleAS Web Cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

The Web Cache Manager page appears.

3. Click the **Session Binding** link in the Origin Servers, Sites, and Load Balancing section. The Session Binding page appears.
4. Select the Load Balancing Router site, `apps_virtual.mycompany.com:80` from the table and click **Edit Selected**. The Edit Session Binding window opens.
5. Select **Any Set-Cookie** from the Please select a session list.
6. Select **Cookie-based** from the Please select a session binding mechanism list.
7. Click **Submit**.
8. Click **Apply Changes**.
9. On the Cache Options page, click **Propagate**. The changes are propagated to the OracleAS Web Cache instance on the other computer.
10. Click **Restart**. OracleAS Web Cache is restarted on `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.

12.2.10.9 Configure Collaborative Portlets

Configure Collaborative Portlets Configure Components from Oracle Enterprise Manager 10g Application Server Control Console. The Configure Component button appears above the System Components table if you have installed, but not configured, some components.

To configure Collaborative Portlets, perform the following steps:

1. On the Oracle Collaboration Suite home page, click **Configure Component**.
2. Select **Collaborative Portlets** from the drop-down list on the Select Component page, and click **Continue**.
3. Enter the following values:
 - OID Administrative Password
 - Host Name: Load Balancer Virtual Server Name – apps_virtual.mycompany.com
 - Web Cache Listen Port: Load Balancer Virtual Server Name's port – Port 80
 - Web Cache Invalidation Port: Refer to ORACLE_HOME/install/portlist.ini – 9401
4. Click **Continue**. The configuration process may take 10-15 minutes to complete.
5. Restart the components on ocs_apps2.mycompany.com by running the following commands in ORACLE_HOME/opmn/bin of ocs_apps2.mycompany.com:


```
opmnctl stopall
opmnctl startall
```

12.2.10.10 Configure Oracle Collaboration Suite Mobile Collaboration

Configure the URLs of the current OracleAS Wireless Instance on each Oracle Collaboration Suite Applications tier. Configuring Oracle Collaboration Suite Mobile enables you to define the instance URLs for an application server, or direct an application server to use the URLs defined for the entire OracleAS Wireless site. The steps are as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the ocs_apps1.mycompany.com installation.
3. Click the **Wireless** link under System Components.
4. Click the **Instance URLs** link under Instance Configuration.
5. Modify the Wireless Instance URLs to point to the load balancer's virtual server name (apps_virtual.mycompany.com)

Repeat the preceding steps for each Oracle Collaboration Suite Applications tier.

12.2.10.11 Configuring Oracle Discussions

When deploying Oracle Discussions in more than one Applications tier with a load balancer at the front end, please ensure to turn on session affinity in your load balancer. Oracle Discussions requires that once a user establishes a session with one OC4J instance, all the following requests must go to the same OC4J instance. In case of a failover, the original Applications tier is not available anymore and the requests are transferred to the second Applications tier. Oracle Discussions automatically re-creates a new user session in the new OC4J instance. There is no loss of data except that of the currently executing operation when the first Applications tier goes offline.

12.2.10.12 Test the Configuration

To ensure that it is working as it should, perform the following tests:

1. Ensure that all components on ocs_apps2.mycompany.com are running.
 - a. Run the following command from ORACLE_HOME/opmn/bin to query the status of the components:

```
opmnctl status
```

- b.** If necessary, run the following command in `ORACLE_HOME/opmn/bin`:

```
opmnctl startall
```

- 2.** Stop all components on `ocs_apps1.mycompany.com` by running the following command in `ORACLE_HOME/opmn/bin`:

```
opmnctl stopall
```

- 3.** Access OracleAS Web Cache and Oracle HTTP Server through the load balancer with the following URL:

http://apps_virtual.mycompany.com

- 4.** Test the connection to the Oracle Collaboration Suite Database through the load balancer, by accessing the following URL:

http://apps_virtual.mycompany.com/pls/portal/http.p?cbuf=test

The response should be test. If this succeeds, then the Oracle Collaboration Suite Applications tier can connect to the Oracle Collaboration Suite Database. If this test fails, then examine the `ORACLE_HOME/Apache/Apache/logs/error_log` file of Oracle HTTP Server to determine the cause.

- 5.** Test the OracleAS Portal using following URL (ensure that you can log in):

http://apps_virtual.mycompany.com/pls/portal

- 6.** Verify that content is being cached in OracleAS Web Cache on `ocs_apps1.mycompany.com`, using Web Cache Administrator. Under Monitoring, click **Popular Requests**. Select **Cached** from the Filtered Objects drop-down list, and click **Update**.

If you accessed OracleAS Portal, portal content will appear. If there is no portal content, open another browser and log in to OracleAS Portal. Return to the Popular Requests page, and click **Update** to refresh the page content.

- 7.** Repeat steps 3 through 6, by ensuring that all components on `ocs_apps1.mycompany.com` are running, and all components on `ocs_apps2.mycompany.com` are stopped and vice versa.

Installing in High Availability Environments: Distributed Identity Management Architecture

This chapter contains the following sections:

- [Section 13.1, "Summary of Installation Steps"](#)
- [Section 13.2, "Installing Oracle Collaboration Suite Distributed Identity Management Architecture"](#)

13.1 Summary of Installation Steps

The order for the installation of Oracle Collaboration Suite Distributed Identity Management Architecture is as follows:

1. Install Oracle Cluster Ready Services. This is a prerequisite for the installation of Oracle Collaboration Suite Database in an Oracle Real Application Clusters database.

Apply the Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform. The Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform is located on the Oracle Database 10g Patchset (10.1.0.4.2) for Linux x86 DVD.
2. Install Oracle Collaboration Suite Database on RAC.
3. Configure load balancers for the Identity Management tier appropriately.
4. Install Identity Management on high availability nodes. The virtual server name of the load balancer must be specified in the Specify LDAP Virtual Host and Ports and the Specify HTTP Load Balancer Host and Ports screens during installation.
5. Run `OCSdbSchemaReg.sh` script on a database node. This script registers the database with Oracle Internet Directory and runs the component Configuration Assistants that create schema objects for each Oracle Collaboration Suite component.
6. Install Oracle Calendar Server in Cold Failover Cluster Configuration. It must use a virtual host name, such as `vhost.mydomain.com`. Install the `oraInventory` directory and `ORACLE_HOME` on a shared device that can be mounted to the other node for a cold failover. For Linux, OCSFS Version 1.x cannot support this.
7. Install Oracle Collaboration Suite Applications (without Oracle Calendar Server).

13.2 Installing Oracle Collaboration Suite Distributed Identity Management Architecture

This section contains the following topics:

- [Section 13.2.1, "Installing and Applying Patch to Oracle Cluster Ready Services"](#)
- [Section 13.2.2, "Installing the Oracle Collaboration Suite Database on RAC"](#)
- [Section 13.2.3, "Configuring Load Balancers for Identity Management"](#)
- [Section 13.2.4, "Installing Identity Management on High Availability Nodes"](#)
- [Section 13.2.5, "Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants"](#)
- [Section 13.2.6, "Installing Oracle Calendar Server"](#)
- [Section 13.2.7, "Installing the First Instance of Oracle Collaboration Suite Applications \(without Oracle Calendar Server\)"](#)
- [Section 13.2.8, "Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer"](#)
- [Section 13.2.9, "Installing Subsequent Instance of Oracle Collaboration Suite Applications"](#)
- [Section 13.2.10, "Post Installation Steps to Redeploy Oracle Collaboration Suite Applications with a Load Balancer"](#)

13.2.1 Installing and Applying Patch to Oracle Cluster Ready Services

This section explains the installation steps for Oracle Cluster Ready Services. It also explains the steps involved in applying the patch to Oracle Cluster Ready Services.

13.2.1.1 Installing Oracle Cluster Ready Services

Perform the steps listed in [Table 13–1](#) to install Oracle Cluster Ready Services.

For Oracle Cluster Ready Services Installation steps, refer to Oracle Real Application Clusters Installation and Configuration Guide at

http://otn.oracle.com/pls/db10g/portal.portal_demo3?selected=16.

Install the Oracle Cluster Ready Services software from the Oracle Collaboration Suite Supplemental DVD.

Table 13–1 Installing Oracle Cluster Ready Services

Step	Screen	Action
1.	None	Log in as the <code>oracle</code> user and set the <code>ORACLE_BASE</code> environment variable to specify the Oracle base directory that you created previously. For example: <code>/u01/app/oracle</code>
2.	None	Set the <code>ORACLE_HOME</code> environment variable to specify the Oracle Cluster Ready Services home directory that you created previously. For example: <code>/u01/crs/oracle/product/10.1.0/crs_1</code>
3.	None	Run the <code>runInstaller</code> command from the top-level directory of the Oracle Cluster Ready Services Release 1 CD-ROM or the <code>crs</code> directory on the DVD-ROM. These are separate CD-ROMs and DVD-ROMs that contain the Cluster Ready Services software.
4.	Welcome page	Click Next .

Table 13–1 (Cont.) Installing Oracle Cluster Ready Services

Step	Screen	Action
5.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path for the inventory directory: Enter a full path to a directory for the installer files. Enter a directory that is different from the Oracle home directory for the product files. Example: <code>/private/oracle/oraInventory</code> Click OK.
6.	UNIX Group Name (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the name of the operating system group to have write permission for the inventory directory. Example: <code>dba</code> Click Next.
7.	Run <code>oraInstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. Click Continue.
8.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source, if required. Name: Enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters. Example: <code>OH_apptier_10_1_1</code> Destination Path: Enter the full path to the destination directory. This is the Oracle home. If the directory does not exist, the installer creates it. To create the directory beforehand, create it as the <code>oracle</code> user; do not create it as the <code>root</code> user. Example: <code>/private/oracle/OH_apptier_10_1_1</code> Click Next.
9.	Language Selection (Advanced installation only)	Select the required language from the Available Languages list and add it to the Selected Languages list. Click Next.
10.	Cluster Configuration (Advanced installation only)	Cluster Name: Specify the cluster name. Specify the host name under Public Node Name. Similarly, specify the private name under Private Node Name. These names will be used to interconnect the node names within the cluster. Note: The private name cannot be the same as the public name. However, the private name can be an IP address. Click Next.
11.	Specify Network Interface Usage (Advanced installation only)	Select the interface name, subnet, and interface type for the node in the cluster from the respective list. The interface that you mark private will only be used for RAC internode traffic. Note: If there is more than one subnet associated with an interface, then specify the subnet that you want to associate with the interface type.

Table 13–1 (Cont.) Installing Oracle Cluster Ready Services

Step	Screen	Action
12.	Oracle Cluster Registry (Advanced installation only)	Specify OCR Location: Specify the shared raw device or the cluster file system file that will be visible to all nodes of the cluster . Note: At least 100 MB of disk space is required for the OCR. Click Next .
13.	Voting Disk (Advanced installation only)	Enter voting disk file name: Specify the raw device or the cluster file system file for voting disk. Ensure that the raw device and the cluster file system is on a shared location. Click Next . Note: At least 20 MB of disk space is required for the OCR.
14.	Summary	Verify your selections and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
17.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
18.	End of Installation	Click Exit to quit the installer.

13.2.1.2 Applying Oracle Cluster Ready Services 10.1.0.4.2 Patchset

After installing Oracle Cluster Ready Services, you must apply Oracle Cluster Ready Services 10.1.0.4.2 Patchset. The Oracle Cluster Ready Services 10.1.0.4.2 Patchset for your platform is located on the Oracle Database 10g Patchset (10.1.0.4.2) for Linux x86 DVD.

The steps to do so are listed in the [Table 13–2](#).

Table 13–2 Installing Oracle Cluster Ready Services

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter the full path of the Source directory in the Path field for Source, if required. Destination Path: Enter the full path to the destination directory. This is the Oracle home. Both source and destination will be same as that provided during the installation of Oracle Cluster Ready Services.
3.	Selected Nodes	Verify the nodes listed in the Node Names list and click Next .
4.	Summary	Verify your selections and click Install . Run <code>/etc/init.d/init.crs stop</code> and <code>\$OH/install/root10104.sh</code> from every node.
5.	End of Installation	Click Exit to quit the installer.

13.2.2 Installing the Oracle Collaboration Suite Database on RAC

To install Oracle Collaboration Suite Database on clustered hardware, follow the steps listed in Table.

13.2.2.1 Prerequisites for Selecting the Types of RAC storage

The following table shows the storage options supported for storing Oracle Cluster Ready Services (CRS) files, Oracle Database files, and Oracle Database recovery files. Oracle Database files include datafiles, control files, redo log files, the server parameter file, and the password file. Oracle CRS files include the Oracle Cluster Registry (OCR) and the CRS voting disk.

For all installations, you must choose the storage option that you want to use for Oracle CRS files and Oracle Database files. If you want to enable automated backups during the installation, you must also choose the storage option that you want to use for recovery files (the flash recovery area). You do not have to use the same storage option for each file type.

Storage Option	File Types Supported		
	CRS	Database	Recovery
Automatic Storage Management	No	Yes	Yes
Cluster file system	Yes	Yes	Yes
Note: Requires a supported cluster file system			
NFS file system	Yes	Yes	Yes
Note: Currently supported only with Fujitsu PRIMECLUSTER and a certified NAS device (SPARC only)			
Shared raw logical volumes (SPARC only)	Yes	Yes	No
Shared raw partitions	Yes	Yes	No

Use the following guidelines when choosing the storage options that you want to use for each file type:

- You can choose any combination of the supported storage options for each file type as long as you satisfy any requirements listed for the chosen storage options.
- Oracle recommends that you choose ASM as the storage option for database and recovery files.
- For Standard Edition installations, ASM is the only supported storage option for database or recovery files.
- You cannot use Automatic Storage Management to store Oracle CRS files, because these files must be accessible before any Oracle instance starts.

13.2.2.2 Review Recommendations for Automatic Storage Management (ASM)

If you plan to use ASM instances for the OracleAS Metadata Repository database, consider these recommendations:

- If you plan to use ASM with Oracle Database instances from multiple database homes on the same node, then you should run the ASM instance from an Oracle home that is different from the database homes.

- The ASM home should be installed on every cluster node. This prevents the accidental removal of ASM instances that are in use by databases from other homes during the deinstallation of a database Oracle home.

13.2.2.3 Installation Tasks

To install Oracle Collaboration Suite Database on RAC, follow the steps listed in [Table 13–3](#).

Table 13–3 *Installing Oracle Collaboration Suite Database*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Oracle Collaboration Suite Database. Click Next .
3.	Specify Hardware Cluster Installation Mode	Select Cluster Installation and the nodes where you want to install the Oracle software. The local node will always be selected. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Collaboration Suite Database . Click Next .
6.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Database Creation	Select Yes for Do you want to create a new database at this time? Click Next .
8.	Information Storage Registration	Select No for Do you want to register the information store at this time? Click Next .
9.	Specify Database Identification	Enter the global database name and the SID that you want to use for this install in the Global Database Name and SID fields. Click Next .
10.	Specify Database Management Option	Select Use Grid Control for Database Management or Use Database Control for Database Management . Click Next .
11.	Specify Database File Storage Option	Select Automated Storage Management (ASM) . Click Next .
12.	Specify Backup and Recovery Options	Select Do not enable Automated Backups . Oracle recommends that you disable automated backup. Note that if you enable automated backup, then this option will only backup the Oracle Collaboration Suite Database and not any other Oracle Collaboration Suite files. Click Next .

Table 13–3 (Cont.) Installing Oracle Collaboration Suite Database

Step	Screen	Action
13.	Specify Database Schema Passwords	Enter password for each account or use the same password for all the accounts. Click Next .
14.	Summary	Ensure that all the settings and choices are correct for the installation. Click Install .
15.	The Configuration Assistants	This screen shows the progress of the configuration assistants.

13.2.2.4 Postinstallation Tasks

The postinstallation tasks involve troubleshooting any installation errors.

13.2.2.4.1 Troubleshooting the Installation Errors You might have to perform the postinstallation steps to solve the following problems:

- Database instance on the remote node does not start. To resolve this error, start it manually using `srvctl start instance -d <db_name> -i <instance_name>`.
- Enterprise Manager configuration fails. To resolve this error, run `$OH/bin/emca -c -r` manually from the local node.

13.2.3 Configuring Load Balancers for Identity Management

This section explains the implementation of load balancing for Identity Management in a high-availability environment.

13.2.3.1 Prerequisites for Installing Identity Management on High-Availability Nodes

This section discusses the prerequisites for the installation of Identity Management on high-availability nodes.

13.2.3.1.1 Configuring the load balancer A load balancer should be configured to detect service down on a node and automatically stop traffic to that node. Also, the load balancer is recommended to be in a fault tolerant mode. This section provides instructions for configuring a load balancer for Identity Management.

To configure a load balancer for OracleAS Cluster (Identity Management), perform the following steps:

1. Verify that the load balancer virtual server name you select does not contain the physical host names of the nodes in the Identity Management.

When the installer copies files to different nodes in the Identity Management, it replaces the current hostname in the files with the hostname of the target node. Ensure that the load balancer's virtual server name does not contain the hostnames of the nodes in the cluster, or the installer might change the virtual server name of the load balancer as well.

For example, if you are installing on nodes named rac-1 and rac-2, be sure that the load balancer virtual server name does not contain "rac-1" or "rac-2". When the installer is installing files to rac-2, it searches for the string "rac-1" in the files and replaces it with "rac-2". If the load balancer's virtual server name happens to be LB-rac-1x, the installer sees the string "rac-1" in the name and replaces it with "rac-2", thus mangling the virtual server name to LB-rac-2x.

2. Configure your load balancer with virtual server names and associated ports as follows:
 - a. Configure a virtual server name for LDAP connections. For this virtual server, you must configure one port for SSL connections and the other for non-SSL connections.
 - b. Configure a virtual server name for HTTP connections. For this virtual server, you must configure one port for SSL connections and the other for non-SSL connections.
 - c. Configure your LDAP server to direct response to the first node initially. Note that this procedure applies only to the LDAP virtual server configured on your load balancer. This does not apply to the HTTP virtual server configured on the load balancer.
 - d. The installer will prompt you for the virtual server names and port numbers.
3. After you complete installation on a node, then you can add that node to the virtual server. For example, if you have three nodes, then perform the following steps:
 - a. Configure the LDAP virtual server to direct requests to node 1 only.
 - b. Install Identity Management components on node 1.
 - c. Install Identity Management components on node 2.
 - d. Add node 2 to the LDAP virtual server.
 - e. Install Identity Management components on node 3.
 - f. Add node 3 to the LDAP virtual server.
4. Set up cookie persistence for HTTP traffic on the load balancer. Specifically, set up cookie persistence for URIs starting with `/oiddas/`. This is the URI for Oracle Delegated Administration Services. If your load balancer does not allow you to set cookie persistence at the URI level, then set the cookie persistence for all HTTP traffic. In either case, set the cookie to expire when the browser session expires. Refer to your load balancer documentation for details.
5. To configure the load balancer for automatic monitoring of the Oracle Internet Directory and OracleAS Single Sign-On, Oracle Delegated Administration Services, set up monitors for the following:
 - LDAP port
 - LDAP SSL port
 - HTTP or HTTPS listen port (depending on the deployment type)

It is recommended that these monitors use the respective protocols to monitor the services. That is LDAP for the LDAP port, LDAP over SSL for the LDAP SSL port, and HTTP/HTTPS for the web server port. If the load balancer does not offer one or all of these monitors, consult the load balancer documentation for details on the best method to set up the load balancer.

13.2.3.1.2 Synchronize the System Clocks on All Nodes Identity Management cluster nodes must all have their clocks synchronized for the Identity Management cluster to function properly.

13.2.4 Installing Identity Management on High Availability Nodes

This section describes how to install Identity Management on high availability nodes.

13.2.4.1 Installing First Instance of Oracle Internet Directory and Directory Integration and Provisioning

To install the first instance of Identity Management that consists of Oracle Internet Directory and Directory Integration and Provisioning, follow the steps listed in [Table 13–4](#).

Table 13–4 *Installing First Instance of Oracle Internet Directory and Directory Integration and Provisioning*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Identity Management. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Identity Management . Click Next .
6.	Product-Specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Language Selection	Select the languages. Click Next .
8.	Select Configuration Options	Select Oracle Internet Directory . Select OracleAS Directory Integration and Provisioning . Do not select OracleAS Certificate Authority (OCA) . Select High Availability and Replication . Click Next .
8.	Specify repository	Username: Enter the username to use to log in to the Oracle Collaboration Suite Database. The user must have DBA privileges. Password: Enter the user password. Hostname and Port: Enter the names of all the nodes where the Oracle Collaboration Suite Database is running and the port numbers. Use the format: Host1.domain.com:port1, Host2.domain.com:port2, ... Service Name: Enter the service name of the database. Note that the service name must include the database domain name. Click Next .
9.	Select High Availability or Replication Option	Select OracleAS Cluster (Identity Management) . Click Next .
10.	Specify New Oracle Application Server Cluster Name	Specify a cluster name you want to create for the OracleAS Cluster (Identity Management) in the New Oracle Application Server Cluster Name field. Click Next .

Table 13–4 (Cont.) Installing First Instance of Oracle Internet Directory and Directory Integration and

Step	Screen	Action
11.	Specify Namespace in Internet Directory	Enter a new namespace for Oracle Internet Directory or select the Suggested Namespace: dc=us,dc=oracle,dc=com Click Next .
12.	Specify Port Configuration Options	Select Manual Port Selection option. Oracle HTTP Server port: 7777 Oracle HTTP Server SSL port: 4443 Oracle Internet Directory port: 7389 Oracle Internet Directory (SSL) port: 4636 Click Next .
13.	Guest Account Password	Enter the password for the orclguest account. Click Next .
14.	Specify Instance Name and ias_admin Password	Instance Name: Enter a name for this Identity Management instance. ias_admin Password and Confirm Password: Set the password for the ias_admin user. This is the administrative user for the instance. Click Next .
15.	Summary	Verify your selection and click Install .
16.	The Configuration Assistant	This screen shows the progress of the configuration assistants.

13.2.4.2 Installing Second Instance of Oracle Internet Directory and Directory Integration and Provisioning

Before installing the subsequent instance of Identity Management, you must perform the preinstallation tasks.

Preinstallation Tasks

The preinstallation tasks for the installation of subsequent instance of Identity Management are as follows:

- Please ensure that the system time on this Identity Management node is in sync with the time on the other Identity Management nodes that are part of this Oracle Cluster (Identity Management) configuration. Failure to ensure this may result in unwanted instance failovers, inconsistent operational attributes in directory entries and potential inconsistent behavior of password state policies.
- To install the current OracleAS (Identity Management) node correctly, setup your load balancer LDAP virtual server to direct requests to any existing OracleAS Cluster (Identity Management) node that is already running. After you complete the installation on this node, then you can add it to the load balancer LDAP virtual server.

Installation Tasks

To install the second instance of Identity Management that consists of Oracle Internet Directory and Directory Integration and Provisioning, follow the steps listed in [Table 13–5](#).

Table 13–5 *Installing Second Instance of Oracle Internet Directory and Directory Integration and Provisioning*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Identity Management. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Oracle Collaboration Suite Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Identity Management . Click Next .
6.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Language Selection	Select the languages. Click Next .
8.	Select Configuration Options	Select Oracle Internet Directory . Select OracleAS Directory Integration and Provisioning . Do not select OracleAS Certificate Authority (OCA) . Select High Availability and Replication . Click Next .
9.	Specify repository	Username: Enter the username to use to log in to the Oracle Collaboration Suite Database. The user must have DBA privileges. Password: Enter the user password. Hostname and Port: Enter the names of all the nodes where the Oracle Collaboration Suite Database is running and the port numbers. Use the format: <code>Host1.domain.com:port1^Host2.domain.com:port2^...</code> Service Name: Enter the service name of the database. Note that the service name must include the database domain name. Click Next . Warning: Please ensure that the system time on this Identity Management Node is in sync with the time on other Identity Management Nodes that are part of this Oracle Cluster (Identity Management) configuration. Failure to ensure this may result in unwanted instance failovers, inconsistent operational attributes in directory entries and potential inconsistent behavior of password state policies. Click OK .
10.	Specify ODS password	Enter the password for ODS schema.
11.	Specify Oracle Internet Directory Login	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (cn=orcladmin). Password: Enter the password for the username Click Next .
12.	Guest Account Password	Enter the password for the orclguest account. Click Next .

Table 13–5 (Cont.) Installing Second Instance of Oracle Internet Directory and Directory Integration and Provisioning

Step	Screen	Action
13.	Specify Instance Name and <code>ias_admin</code> Password	Instance Name: Enter a name for this Identity Management instance. ias_admin Password and Confirm Password: Set the password for the <code>ias_admin</code> user. This is the administrative user for the instance. Click Next .
14.	Summary	Verify your selection and click Install .
15.	The Configuration Assistant	This screen shows the progress of the configuration assistants.

13.2.4.3 Installing First Instance of Delegated Administration Services and OracleAS Single Sign-On

To install the first instance of Delegated Administration Services and OracleAS Single Sign-On, follow the steps listed in [Table 13–6](#).

Table 13–6 Installing First Instance of Delegated Administration Services and OracleAS Single Sign-On

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Identity Management. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Oracle Collaboration Suite Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2 . Click Next .
5.	Select Installation Type	Select Identity Management . Click Next .
6.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7.	Language Selection	Select the languages. Click Next .
8.	Select Configuration Options	Select Oracle Application Server SSO . Select Oracle Application Server DAS . Select High Availability and Replication . Click Next .
9.	Select High Availability Option	Select Oracle AS Cluster (Identity Management) . Click Next .
10.	Create or Join an Oracle Application Server Cluster	Select Create a New Oracle Application Server Cluster . Click Next .
11.	Specify New Oracle Application Server Cluster Name	Enter the Application Server Cluster Name. (for example: <code>AppServer_crs</code>). Click Next .

Table 13–6 (Cont.) Installing First Instance of Delegated Administration Services and OracleAS Single

Step	Screen	Action
12.	Specify LDAP Virtual Host and Ports	Hostname: Enter the fully qualified virtual server name of the LDAP virtual server configured on your load balancer (for example: <code>im_virtual.mycompany.com</code>). SSL PORT: Enter the SSL port number for Oracle Internet Directory (for example, 4636) Non-SSL PORT: Enter the SSL port number for Oracle Internet Directory. (for example, 7389) Click Next.
13.	Specify Oracle Internet Directory Login	Enter the password for login to Oracle Internet Directory. Click Next.
14.	Specify HTTP Load Balancer Host and Ports	HTTP Listener: Port: Enter the port number that you want Oracle HTTP Server to listen on (for example, 7777). HTTP Load Balancer: Hostname: Enter the name of the HTTP virtual server configured on your load balancer (for example, <code>im_virtual.mycompany.com</code>). HTTP Load Balancer: Port: Enter the port of the HTTP virtual server (for example, 7777) Click Next.
15.	Specify Instance Name and <code>ias_admin</code> Password	Instance Name: Enter a name for this Identity Management instance. ias_admin Password and Confirm Password: Set the password for the <code>ias_admin</code> user. This is the administrative user for the instance. Click Next.
16.	Summary	Verify your selection and click Install .
17.	The Configuration Assistant	This screen shows the progress of the configuration assistants.

13.2.4.4 Installing Second Instance of Delegated Administration Services and OracleAS Single Sign-On

To install the second instance of Delegated Administration Services and OracleAS Single Sign-On, follow the steps listed in [Table 13–7](#).

Table 13–7 Installing Second Instance of Delegated Administration Services and Single Sign-On

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for your Identity Management. Click Next.
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation. This screen will only show up if you are installing Oracle Collaboration Suite Identity Management on a cluster. Click Next.
4.	Select a Product to Install	Select Oracle Collaboration Suite Infrastructure 10.1.1.0.2. Click Next.
5.	Select Installation Type	Select Identity Management. Click Next.

Table 13–7 (Cont.) Installing Second Instance of Delegated Administration Services and Single Sign-On

Step	Screen	Action
6.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
7	Language Selection	Select the languages. Click Next .
8.	Select Configuration Options	Select Oracle Application Server SSO.. Select Oracle Application Server DAS . Select High Availability and Replication . Click Next .
9.	Select High Availability Option	Select Oracle AS Cluster (Identity Management) . Click Next .
10.	Create or Join an Oracle Application Server Cluster	Select Create a New Oracle Application Server Cluster . Click Next .
11.	Specify New Oracle Application Server Cluster Name	Enter the Application Server Cluster Name that you had entered during the installation of the first instance of Delegated Administration Services and OracleAS Single Sign-On. Click Next .
12.	Specify LDAP Virtual Host and Ports	Hostname: Enter the fully qualified virtual server name of the LDAP virtual server configured on your load balancer (for example: <code>im_virtual.mycompany.com</code>). SSL PORT: Enter the SSL port number for Oracle Internet Directory (for example, 4636) Non-SSL PORT: Enter the SSL port number for Oracle Internet Directory. (for example, 7389) Click Next .
13.	Specify Oracle Internet Directory Login	Enter the password for login to Oracle Internet Directory. Click Next .
14.	Specify HTTP Load Balancer Host and Ports	HTTP Listener: Port: Enter the port number that you want Oracle HTTP Server to listen on (for example, 7777). HTTP Load Balancer: Hostname: Enter the name of the HTTP virtual server configured on your load balancer (for example, <code>im_virtual.mycompany.com</code>). HTTP Load Balancer: Port: Enter the port of the HTTP virtual server (for example, 7777) Click Next .
15.	Specify Instance Name and <code>ias_admin</code> Password	Instance Name: Enter a name for this Identity Management instance. ias_admin Password and Confirm Password: Set the password for the <code>ias_admin</code> user. This is the administrative user for the instance. Click Next .
16.	Summary	Verify your selection and click Install .
17.	The Configuration Assistant	This screen shows the progress of the configuration assistants.

13.2.5 Register the Oracle Collaboration Suite Database with Oracle Internet Directory and Execute Component Database Configuration Assistants

The Oracle Collaboration Suite Database needs to be registered in the Oracle Internet Directory for Oracle Collaboration Suite to work correctly. Additionally, the database schemas for each Oracle Collaboration Suite Applications component must be created in the Oracle Collaboration Suite Database. The `ORACLE_HOME/install/OCSdbSchemaReg.sh` script accomplishes both of these tasks. This script only needs to be run on a single database node.

The `OCSdbSchemaReg.sh` script is located in `ORACLE_HOME/install` directory on the Oracle Collaboration Suite Database nodes.

- Copy `ORACLE_HOME/install/OCSdbSchemaReg.ini.sample` to `ORACLE_HOME/install/OCSdbSchemaReg.ini`.
- Modify the `ORACLE_HOME/install/OCSdbSchemaReg.ini` script with the appropriate values.
- Run `OCSdbSchemaReg.sh` from `ORACLE_HOME/install` directory in RAC mode by entering multiple hosts in the `$hostList` option of the `OCSdbSchemaReg.ini` file from one of the Oracle Collaboration Suite Database machine.
- Run the following script.

```
OCSdbSchemaReg.sh -f OCSdbSchemaReg.ini
```
- Check `ORACLE_HOME/install/schemaReg.results`, `OCSdbSchemaReg.sh` and `OCSdbSchemaReg.log` to see if all Configuration Assistants succeeded.

13.2.6 Installing Oracle Calendar Server

This section explains the installation and postinstallation tasks for Identity Management.

13.2.6.1 Preinstallation Tasks

Before installing Oracle Calendar Server in a Cold Failover Cluster, perform the following procedures:

- [Section 13.2.6.1.1, "Check if the clusterware is running"](#)
- [Section 13.2.6.1.2, "Map the virtual host name and virtual IP address"](#)
- [Section 13.2.6.1.3, "Set Up a File System That Can Be Mounted from Both Nodes"](#)

13.2.6.1.1 Check if the clusterware is running For Cold Failover Cluster, each node in a cluster should be running hardware vendor clusterware. If you plan to install the Calendar Server on a cluster that is also running Oracle Cluster Ready Services (CRS), you still should have the clusterware from the hardware vendor to support an automated cold failover. Running CRS without the hardware vendor clusterware does not support Cold Failover Cluster.

To check that the clusterware is running, use the command appropriate for your clusterware.

13.2.6.1.2 Map the virtual host name and virtual IP address Each node in an OracleAS Cold Failover Cluster configuration is associated with its own physical IP address. In addition, the active node in the cluster is associated with a virtual host name and virtual IP address. This allows clients to access the OracleAS Cold Failover Cluster using the virtual host name.

Virtual host names and virtual IP addresses are any valid hostname and IP address in the context of the subnet containing the hardware cluster.

Note: Map the virtual hostname and virtual IP address only to the active node. Do not map the virtual hostname and IP address to both active and secondary nodes at the same time. When you failover, only then do you map the virtual hostname and IP address to the secondary node, which is now the active node.

The following example shows how to configure a node with virtual hostname `vhost.mydomain.com` and virtual IP address `138.1.12.191`.

Note: Before attempting to complete this procedure, ask the system or network administrator to review all the steps required. The procedure will reconfigure the network settings on the cluster nodes and may vary with differing network implementations.

1. Register the virtual hostname and IP address with DNS for the network. For example, register the `vhost.mydomain.com/138.1.12.191` pair with DNS.
2. Add the following line to the `/etc/hosts` file on the active node:

```
ip_address hostname.domain hostname
```

For example:

```
138.1.12.191 vhost.mydomain.com vhost
```

3. Determine the primary public network interface.

The primary public network interface for Ethernet encapsulation is `eth0`. To determine the primary public network interface, enter the following command and search for a network interface that has an `inet addr` value of the physical IP address of the node:

```
/sbin/ifconfig
```

4. Find an available index number for the primary public network interface.

Using the same commands as described in step 3, determine an available index number for an additional IP address to the primary public network interface.

5. Add the virtual IP address to the primary public network interface by running the following command as the `root` user.

Note: You must use the same `NETMASK` value for this interface as that used for the primary public network interface (`eth0` in the example). Modify the `ifconfig` command in this step to include the appropriate netmask.

Enter the following command using the available index number from step 4.

```
/sbin/ifconfig primary_public_interface:available_index ip_address
```

For example, enter the following command if `eth0:1` is available:

```
/sbin/ifconfig eth0:1 138.1.12.191 netmask 255.255.252.0 up
```

6. Check that the virtual IP address is configured correctly.
 - a. Use the instructions listed in step 3 to confirm the new entry for the `primary_public_interface:available_index` entry created in step 5.
 - b. Try to connect to the node using the virtual hostname and virtual IP address from another node. For example, entering both of the following commands from a different node should provide a login to the node you configured in this procedure:

```
telnet hostname.domain
telnet ip_address
```

For example, enter the following:

```
telnet vhost.mydomain.com
telnet 138.1.12.191
```

On Failover If the active node fails, then the secondary node takes over. If you do not have a clusterware agent to map the virtual IP from the failed node to the secondary node, then you must do it manually. You must remove the virtual IP mapping from the failed node, and map it to the secondary node.

1. On the failed node, if possible, become superuser and remove the virtual IP.

If the failed node fails completely (that is, it does not boot up), you can skip this step and go to step 2. If the node fails partially (for example, disk or memory problems), and the node is still ping-able, you must perform this step.

```
prompt> su
Password: root_password
# ifconfig eth0:1 down
```

"ge0" and the IP address are values specific to this example. Replace them with values appropriate for your cluster.

2. On the secondary node, add the virtual IP to the ge0 network interface.

```
# /sbin/ifconfig eth0:1 138.1.12.191 netmask 25.255.252.0 up
```

"ge0" and the IP address are values specific to this example. Replace them with values appropriate for your cluster.

3. On the secondary node, check that the new interface was added:

```
# ifconfig
...
...
```

13.2.6.1.3 Set Up a File System That Can Be Mounted from Both Nodes Although the hardware cluster has shared storage, you must create a file system on this shared storage such that both nodes of the Cold Failover Cluster can mount this file system. You will use this file system for the following directories:

- Oracle home directory for Infrastructure
- The `oraInventory` directory

If you are running a volume manager on the cluster to manage the shared storage, refer to the volume manager documentation for steps to create a volume. Once a volume is created, you can create the file system on that volume.

If you do not have a volume manager, you can create a file system on the shared disk directly. Ensure that the hardware vendor supports this, that the file system can be mounted from either node of the Cold Failover Cluster, and that the file system is repairable from either node if a node fails.

To check that the file system can be mounted from either node, do the following steps:

1. Set up and mount the file system from node 1.
2. Unmount the file system from node 1.
3. Mount the file system from node 2 using the same mount point that you used in step 1.
4. Unmount it from node 2, and mount it on node 1, because you will be running the installer from node 1.

Note: Only one node of the Cold Failover Cluster should mount the file system at any given time. File system configuration files on all nodes of the cluster should not include an entry for the automatic mount of the file system upon a node restart or execution of a global mount command. For example, on UNIX platforms, do not include an entry for this file system in `/etc/fstab` file.

13.2.6.2 Installation Tasks

Before installing Oracle Calendar in a Cold Failover Cluster configuration, make sure that the virtual IP address and host name is enabled on the install node.

To install Oracle Calendar in Cold Failover Cluster configuration, follow the steps listed in [Table 13–8](#).

Table 13–8 *Installing Oracle Calendar Server in Cold Failover Cluster Configuration*

Step	Screen	Action
1.	None	Start the installer.
2.	Welcome	Click Next .
3.	Specify Inventory Directory and Credentials (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the full path for the inventory directory: Enter a full path to a directory for the installer files. Enter a directory that is different from the Oracle home directory for the product files. The inventory directory path should be on a shared location. Example: <code>/private/oracle/oraInventory</code> Click OK.
4.	UNIX Group Name (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Enter the name of the operating system group to have write permission for the inventory directory. Example: <code>dba</code> Click Next.

Table 13–8 (Cont.) Installing Oracle Calendar Server in Cold Failover Cluster Configuration

Step	Screen	Action
5.	Run <code>oraInstRoot.sh</code> (Advanced installation only)	This screen appears only if this is the first installation of any Oracle product on this computer. Run the <code>oraInstRoot.sh</code> script in a different shell as the <code>root</code> user. The script is located in the <code>oraInventory</code> directory. Click Continue.
6.	Specify File Locations (Advanced installation only)	Enter the full path of the Source directory in the Path field for Source, if required. Name: Enter a name to identify this Oracle home. The name cannot contain spaces, and has a maximum length of 16 characters. Example: <code>OH_calserver_10_1_1</code> Destination Path: Enter the full path to the destination directory. This is the Oracle home. If the directory does not exist, the installer creates it. The destination path should be on a shared location. To create the directory beforehand, create it as the <code>oracle</code> user. Do not create it as the <code>root</code> user. Example: <code>/private/oracle/OH_calserver_10_1_1</code> Click Next.
7.	Specify Hardware Cluster Installation Mode (Advanced installation only)	This screen appears only if the computer is part of a hardware cluster. When you are installing Oracle Collaboration Suite Applications, select Local Installation because hardware cluster is not supported for Oracle Collaboration Suite Applications. Click Next.
8.	Select a Product to Install (Advanced installation only)	Select Oracle Collaboration Suite Applications 10.1.1.0.2. If you need to install additional languages, click Product Languages. Click Next.
9.	Product-specific Prerequisite Checks (Advanced installation only)	The installer verifies requirements such as memory, disk space, and operating system version. If any check fails, make the required changes and click Retry. Click Next.
10.	Select Components to Configure (Advanced installation only)	Select Oracle Calendar Server. Click Next.
11.	Register with Oracle Internet Directory (Advanced installation only)	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next.
12.	Specify UserName and Password for Oracle Internet Directory (Advanced installation only)	Username: Enter the user name to use to log in to Oracle Internet Directory. Password: Enter the user password. Click Next. Note: Use <code>cn=orcladmin</code> as the user name if you are the Oracle Internet Directory Superuser.
13.	OracleAS Metadata Repository (Advanced installation only)	Select Oracle Collaboration Suite Database from the list. Click Next.

Table 13–8 (Cont.) Installing Oracle Calendar Server in Cold Failover Cluster Configuration

Step	Screen	Action
14.	Select Database for Components (Advanced installation only)	Component Name: Oracle Calendar Server Database Name: Name of the Oracle Collaboration Suite Database. Click Next. Note: If multiple instances of Oracle Collaboration Suite Databases are available in Oracle Internet Directory, then you must click on the Database Name column and then select the correct database for each component from the drop-down list. However, when you click Next to go to the next screen, the selection might not be retained. To ensure that the selection is retained, you must click the Database Name column again after selecting the required database for each component.
15.	Specify Port Configuration Options (Advanced installation only)	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL Click Next. Note: If you manually configure the ports, then you must specify the port values for each port.
16.	Specify Administrative Password and Instance Name (Advanced installation only)	Instance Name: Enter a name for this Calendar Server instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Calendar Server instance. Click Next.
17.	Oracle Calendar Server Host Alias (Advanced installation only)	Host or Alias: Enter the virtual hostname for the Calendar Server instance. Click Next. Note: It is recommended that you use alias in place of host name if later you want to move the calendar server instance or change the host name. Specify the host name if an alias is not configured.
18.	Summary	Verify your selections and click Install .
19.	Install Progress	This screen displays the progress of the installation.
20.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
21.	Configuration Assistants	This screen shows the progress of the configuration assistants. Configuration assistants configure components.
22.	End of Installation	Click Exit to quit the installer.

13.2.6.3 Postinstallation tasks

The postinstallation tasks involve troubleshooting the installation errors and performing manual postinstallation steps.

13.2.6.3.1 Performing Manual Postinstallation Steps You also have to perform the following additional postinstallation steps:

- In `ORACLE_HOME/ocal/misc/unison.ini` file, add `dir_connectmodel = ondemand` entry under the [DAS] section.
- Restart Oracle Calendar Server.


```
ORACLE_HOME/opmn/bin/opmnctl restartproc ias-component=CalendarServer
```

13.2.7 Installing the First Instance of Oracle Collaboration Suite Applications (without Oracle Calendar Server)

This section describes the installation of the first instance of Oracle Collaboration Suite Applications without Oracle Calendar Server.

Installation Steps

To install first instance of Oracle Collaboration Suite Applications, follow the steps listed in [Table 13–9](#).

Table 13–9 *Installing First Instance of Oracle Collaboration Suite Applications*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Oracle Collaboration Suite Applications. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Applications 10.1.1.0.2 . Click Next .
5.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .
6.	Select Components to Configure	Select Oracle Mail . Select Oracle Mobile Collaboration . Select Oracle Content Services . Do not select Oracle Calendar Server . Select Oracle Calendar Web Client . Select Oracle Real-Time Collaboration . Select Oracle Collaboration Suite Search . Select Oracle Collaboration Suite Web Access . Select Oracle Collaborative Portlets . Select Oracle Workspaces . Select Oracle Discussions . Click Next .
7.	Register with Oracle Internet Directory	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next .
8.	Specify UserName and Password for Oracle Internet Directory	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (cn=orcladmin). Password: Enter the password for the username. Click Next .
9.	OracleAS Metadata Repository	Select Oracle Collaboration Suite Database from the list. Click Next .

Table 13–9 (Cont.) Installing First Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
10.	Select Database Components	Component Name: Oracle Mail, Oracle Discussions, Oracle Search, Oracle Real-Time Collaboration, Oracle Collaboration Suite Search, Oracle Workspaces, Oracle Content Services, Oracle Collaboration Suite Web Access Database Name: Name of the Oracle Collaboration Suite Database. Click Next.
11.	Specify Port Configuration Options	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL ■ Oracle Mail IMAP4 port ■ Oracle Mail IMAP4 Secure port ■ Oracle Mail POP3 port ■ Oracle Mail POP3 Secure port ■ Oracle Mail SMTP port ■ Oracle Mail NNTP port ■ Oracle Mail NNTP Secure port Click Next.
12.	Specify Administrative Password and Instance Name	Instance Name: Enter a name for this Oracle Collaboration Suite Applications instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Oracle Collaboration Suite Applications instance. Click Next.
13.	Specify Oracle Mail Domain Information	Mail Domain: Enter the domain that you want to use for Oracle Mail server. Click Next.
14.	Summary	Verify your selection and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. 1. When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. 2. Click OK.
17.	The Configuration Assistants	This screen shows the progress of the configuration assistants.
18.	End of Installation	Click Exit to quit the installer.

13.2.8 Configuring the First Oracle Collaboration Suite Applications Tier with a Load Balancer

You can configure two or more Oracle Collaboration Suite Applications instances in a highly-available deployment by placing a load balancer in front of them. The load balancer publishes a single address for Oracle Collaboration Suite Applications while providing a redundant set of application servers that actually service requests. The load balancer can be configured to detect when one of the OCS Applications instances has failed and can then fail over requests to another instance.

Our configuration is as follows:

- There are two Oracle Collaboration Suite Applications computers: `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. Both application servers listen on non-SSL port 7777.
- The Oracle Collaboration Suite Applications computers are configured to use the Single Sign-On server located at `im_virtual.mycompany.com`.
- The effective host name of the Oracle Collaboration Suite Applications published to the user is `apps_virtual.mycompany.com`. A load balancer is configured to listen at this address, on port 80. It has been configured to load balance and fail over user requests between `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.
- The Single Sign-On server and Directory server are located at `im_virtual.mycompany.com`.
- The Oracle Collaboration Suite Database (including Identity Management metadata) is located at `ocs_store1.mycompany.com` and `ocs_store2.mycompany.com` (2-node RAC).

13.2.8.1 Configure the Load Balancer

To setup the load balancer to work with the first mid-tier install, ensure that the following is configured:

1. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 80 and balances them to the Web Cache on Oracle Collaboration Suite Applications tier running on `ocs_apps1.mycompany.com` on port 7777 (an HTTP listening port).
2. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 7777 (an HTTP listening port), and balances them to the Web Cache on Oracle Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` port 7777 (an HTTP listening port). Port 7777 on the load balancer receives the HTTP loop-back requests made by the Parallel Page Engine on `ocs_apps1.mycompany.com`. This 7777 port also receives requests from the Portal Metadata Repository for web providers design time messages. This configuration may require a Network Address Translation (NAT) rule in the load balancer in order for the loop-back request from the PPE to succeed.
3. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 9401 (Web Cache Invalidation Port) and balances them to the Web Cache on Oracle Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` on port 9401 (Web Cache Invalidation Port). Port 9401 on the load balancer receives invalidation messages from the OracleAS Portal Repository when content that is cached in OracleAS Web Cache becomes stale. This configuration might require a NAT rule in the load balancer in order for the invalidation requests from the OracleAS Portal repository to succeed.
4. A virtual server name (`apps_virtual.mycompany.com`) that listens for requests on port 25 (SMTP) and balances them to the Oracle Collaboration Suite Applications tier's SMTP port on `ocs_apps1.mycompany.com` on port 25 (an SMTP listening port). This virtual server on port 25 (SMTP) should also have simple persistence. Simple Persistence returns a client to the same node to which it connected previously. Simple persistence tracks connections based only on the client IP address.
5. The virtual server name (`apps_virtual.mycompany.com`) listens for requests on port 143 (Oracle Mail IMAP4 port) and balances them to the Oracle

Collaboration Suite Applications tier on `ocs_apps1.mycompany.com` on port 25 (Oracle Mail IMAP4 port).

Note: `apps_virtual.mycompany.com` listens on 80 for external traffic, on port 7777 for Parallel Page Engine loop-back messages, and port 9401 for invalidation messages, and port 25 for SMTP traffic.

For security reason, port 9401 and 7777 on the load balancer should not be visible to external users.

13.2.8.2 Configure the Oracle HTTP Server with the Load Balancer

This step associates the components on which OracleAS Portal depends with load balancer virtual server name and port: `apps_virtual.mycompany.com:80` as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the `ocs_apps1.mycompany.com` installation.
3. Click the **HTTP Server** link.
4. Click the **Administration** link.
5. Click **Advanced Server Properties**.
6. Open the `httpd.conf` file.
7. Perform the following steps:

- a. Add `LoadModule certheaders_module` directive.

```
LoadModule certheaders_module libexec/mod_certheaders.so
```

The `LoadModule` directives (in particular, the `LoadModule rewrite_module` directive) must appear in the `httpd.conf` file at a location preceding the `VirtualHost` directives. The server must load all modules before it can execute the directives in the `VirtualHost` container. It is a good idea to create the `VirtualHost` directives at the end of the `httpd.conf` file.

- b. Add the following lines to create a `NameVirtualHost` directive and a `VirtualHost` container for `apps_virtual.mycompany.com` and port 80.

```
NameVirtualHost *:7778
<VirtualHost *:7778>
ServerName apps_virtual.mycompany.com
Port 80
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

- c. Create a second `VirtualHost` container for `apps_virtual.mycompany.com` and port 7777.

```
<VirtualHost *:7778>
ServerName apps_virtual.mycompany.com
Port 7777
ServerAdmin you@your.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

8. Save the `httpd.conf` file, and restart the Oracle HTTP Server when prompted.

13.2.8.3 Configure the Parallel Page Engine Loop-Back with the Load Balancer

In this step, you configure non-SSL loop-back communication between the load balancer and the Parallel Page Engine on `ocs_apps1.mycompany.com`. Before you start this configuration, ensure the following:

- You are able to resolve `apps_virtual.mycompany.com` from `ocs_apps1.mycompany.com` such that it contacts the load balancer. To ensure you can resolve `apps_virtual.mycompany.com`, issue the following command from `ocs_apps1.mycompany.com`.

```
nslookup apps_virtual.mycompany.com
```

The IP address for the load balancer should be returned.

- You are able to contact port 7777 on `apps_virtual.mycompany.com` from `ocs_apps1.mycompany.com`. Issue the following command on `ocs_apps1.mycompany.com`.

```
telnet apps_virtual.mycompany.com 7777
```

Verify that no connection failure message is returned.

To create the loop-back configuration, the steps are as follows:

1. Open the `ORACLE_HOME/j2ee/OC4J_Portal/applications/portal/portal/WEB-INF/web.xml` file.
2. Locate the Page servlet section.
3. Add the lines shown in bold.

```
<servlet>
<servlet-name>page</servlet-name>
  <servlet-class>oracle.webdb.page.ParallelServlet</servlet-class>
    <init-param>
      <param-name>useScheme</param-name>
      <param-value>http</param-value>
    </init-param>
    <init-param>
      <param-name>usePort</param-name>
      <param-value>7777</param-value>
    </init-param>
  </servlet>
```

4. Save the `web.xml` file.
5. Issue this command in `ORACLE_HOME/dcm/bin` to update the DCM repository.

```
dcmctl updateConfig
```

6. Issue these commands in `ORACLE_HOME/opmn/bin` to restart the OCS Applications instance.

```
opmnctl stopall
opmnctl startall
```

13.2.8.4 Modify the Portal Dependency Settings (iasconfig.xml) File

The Portal Dependency Settings file `iasconfig.xml` must contain the correct host, port, and farm name to enable access to OracleAS Portal and perform OracleAS Web Cache invalidation. To edit the file to include this information, the steps are as follows:

1. Create a backup copy of the `ORACLE_HOME/portal/conf/iasconfig.xml` file.
2. Open the `ORACLE_HOME/portal/conf/iasconfig.xml` file and perform the following steps:
 - a. Change the existing code as follows:

```
<IASConfig XSDVersion="1.0">
  <IASFarm Name="Farm1.apps_virtual.mycompany.com" Host="apps_
virtual.mycompany.com">
    <WebCacheComponent ListenPort="80" InvalidationPort="9401"
InvalidationUsername="invalidator" InvalidationPassword="welcome1"
SSLEnabled="false" AdminPort="9400"/>
  </IASFarm>
  <IASInstance Name="ocsapps1.ocs_apps1.mycompany.com" Host="ocs_
apps1.mycompany.com">
    <WebCacheComponent ListenPort="7777" InvalidationPort="9401"
InvalidationUsername="invalidator"
InvalidationPassword="@BYGFsTxYCDGjFP5bbcU8MP20d5Tk6zo8tg=="
SSLEnabled="false" AdminPort="9400"/>
    <EMComponent ConsoleHTTTPort="1156" SSLEnabled="false"/>
  </IASInstance>
  <IASInstance Name="ias-1.im_virtual.mycompany.com" Host="im_
virtual.mycompany.com">
    <OIDComponent AdminPassword="@BUciwzx4JZPU/BOgKalC6ybcCpt3pVbr0w=="
AdminDN="cn=orcladmin" SSLEnabled="false" LDAPPort="7389"/>
  </IASInstance>
  <PortalInstance DADLocation="/pls/portal" SchemaUsername="portal"
SchemaPassword="@Bbronzw4685xLaz+WZP6DKVNVpwJLlYJlw=="
ConnectString="cn=orcl,cn=oraclecontext">
    <WebCacheDependency ContainerType="IASFarm" Name="Farm1.apps_
virtual.mycompany.com"/>
    <OIDDependency ContainerType="IASInstance" Name="ias-1.im_
virtual.mycompany.com"/>
    <EMDependency ContainerType="IASInstance" Name="ocsapps1.ocs_
apps1.mycompany.com"/>
  </PortalInstance>
</IASConfig>
```

- b. Save the `iasconfig.xml` file.
 - c. Encrypt any plain text passwords in the `iasconfig.xml` configuration file by setting the `ORACLE_HOME` environment variable, if necessary, and issuing the following command from `ORACLE_HOME/portal/conf`.

```
ptlconfig -encrypt
```

13.2.8.5 Register the OracleAS Portal URLs with the Load Balancer

In this step, you register the OracleAS Portal URLs using the load balancer virtual server name and port instead of the OracleAS Web Cache hostname and port. Follow the steps in this section to use the OracleAS Portal Configuration Assistant to register the URLs.

1. Ensure that the `ORACLE_HOME` environment variable is set.

2. Register the URLs using the Portal Dependency Settings tool (available in `ORACLE_HOME/portal/conf`):

```
ptlconfig -dad dadname -wc -site
```

where `dadname` is the name of the OracleAS Portal Database Access Descriptor.

13.2.8.6 Reset the Oracle Enterprise Manager 10g Link

To prevent access to Oracle Enterprise Manager 10g from the outside, the link provided by OracleAS Portal must be changed back to point to the internal server. To do this, issue the following command in `ORACLE_HOME/portal/conf`:

```
ptlconfig -dad dadname -em
```

where `dadname` is the name of the OracleAS Portal Database Access Descriptor.

13.2.8.7 Configure OracleAS Web Cache with the Load Balancer

You must configure a site definition, site alias, and a site-to-server mapping to make OracleAS Web Cache function correctly with the load balancer.

Use the Web Cache Manager, the graphical user interface provided for editing the configuration stored in `webcache.xml` file.

1. Access the Web Cache Administrator at: `http://ocs_apps1.mycompany.com:9400/webcacheheadmin`. The Web Cache Administrator password dialog box appears.
2. Enter the OracleAS Web Cache administrator password. For the user name, enter `ias_admin` or `administrator`, and enter the OracleAS Web Cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

3. Click the **Site Definitions** link in the Origin Servers, Sites and Load Balancing section. The Site Definitions window opens.
4. Click **Add Site**.
5. Enter the following information (leave other fields blank):
 - Host name: `apps_virtual.mycompany.com`
 - Port: 80
 - Client-side Certificate: Not required
 - Default Site: Yes
 - Create Alias from Site Name with/without www: No
6. Click **Submit**.
7. Select the radio button for the site for which the alias will be added (`apps_virtual.mycompany.com`)
8. Click **Add Alias**. The Add Alias for Site window opens.

9. Enter `apps_virtual.mycompany.com` for the host name and `7777` for the port. (`7777` is the value for the `usePort` parameter in the `web.xml` file in the Parallel Page Engine configuration).
10. Click **Submit**. The alias is added. An alias is needed in the configuration because Portal sends invalidation messages with the value of the `HOST` attribute in the invalidation message the same as the site name (in this case, `apps_virtual.mycompany.com:80`), but OracleAS Web Cache caches the portal content keyed on a host:port combination such as `apps_virtual.mycompany.com:7777`; thus, the invalidation is not executed. Therefore, it is necessary to define an alias, so that OracleAS Web Cache manages the content caching so that it recognizes `apps_virtual.mycompany.com:80` and `apps_virtual.mycompany.com:7777` as one and the same, and thereby correctly invalidating OracleAS Portal content, although the content is keyed on a different host:port combination than the site name.
11. Click **Add Alias**. A window with host name and port fields opens.
12. Enter `apps_virtual.mycompany.com` for the host name and `80` for the port.
13. Click **Submit**. The alias is added.

Note: An alias for port 80 is needed because the `HOST` header sent by the browser will be `apps_virtual.mycompany.com` (without a port number appended to it). Since OracleAS Web Cache is listening on the HTTP port, it will assume that the port number is 80 and use this to determine the site-to-server mapping, and for any cache key creation.

14. Click **Apply Changes**.
15. Click the **Site-to-Server Mapping** link in the Origin Servers, Sites, and Load Balancing section. The Site-to-Server Mapping page appears, in which you map the site and site alias to an origin server.
16. Select the first mapping in the table and click **Insert Above**. The Edit/Add Site-to-Server Mapping page appears.
17. Select the **Select From Site Definitions** option.
18. Select `apps_virtual.mycompany.com`.
19. Select `ocs_apps1.mycompany.com` in the Select Application Web Servers section.
20. Click **Submit**.
21. Remove unused mappings or entries containing the wild card character `*`.
22. Click **Apply Changes**.
23. Click **Restart**.

13.2.8.8 Reregister mod_osso

The steps for reregistering `mod_osso` are as follows:

1. Set the `ORACLE_HOME` environment variable to the current Oracle home.
2. Execute the SSO registration script `ORACLE_HOME/sso/bin/ssoreg`.

```
ORACLE_HOME/sso/bin/ssoreg.sh \  
site_name ocsapps.apps_virtual.mycompany.com \  
mod_osso_url http://apps_virtual.mycompany.com \  

```



```
config_mod_osso TRUE \
oracle_home_path ORACLE_HOME \
config_file ORACLE_HOME/Apache/Apache/conf/osso/osso.conf \
admin_info cn=orcladmin \
virtualhost
```

A partner application, `ocsapps.apps_virtual.mycompany.com`, is created.

3. Log on to the OracleAS Single Sign-On Administration page as the Administrator, and use the Administer Partner Applications page to delete the entry for the partner application `ocsappl.ocs_apps1.mycompany.com`.

13.2.8.9 Verify Connectivity for Invalidation Messages from the Database to OracleAS Web Cache on `ocs_apps1.mycompany.com` through the Load Balancer

When an object is changed in the database, the application metadata repository database sends an invalidation message to Web Cache to invalidate that object if it exists in the cache. Since the target configuration has two instances of OracleAS Web Cache, the invalidation message must be load balanced across both OracleAS Web Cache instances. This is an example of component level load balancing.

Before you proceed with this verification, ensure that messages can be sent from the computer hosting the database to the load balancer. To do this, issue the following command from `ocs_store1.mycompany.com` and `ocs_store2.mycompany.com`:

```
telnet apps_virtual.mycompany.com 9401
```

Verify that no connection failure message is returned.

13.2.8.10 Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal

The steps to enable monitoring of the host at the front end of the load balancer and port settings for OracleAS Portal are as follows:

1. Open the `ORACLE_HOME/sysman/emd/targets.xml` file.
2. Locate the OracleAS Portal targets, for example, `TYPE="oracle_portal"`.
3. Edit the `PortalListeningHostPort` property so that it points to the load balancer. For example: `<Property NAME="PortalListeningHostPort" VALUE="http://apps_virtual.mycompany.com:80"/>`
4. Save and close `targets.xml` file.
5. Reload the `targets.xml` file in the OracleAS Control Console by issuing this command in `ORACLE_HOME/bin`:

```
emctl reload
```

13.2.8.11 Configuring Real-Time Collaboration with Load Balancer

Note: Refer to [Section 2.1.1, "Considerations for Real-Time Collaboration"](#).

For Real-Time Collaboration, set `GlobalWebHost` and `GlobalWebPort` properties to integrate with a load balancer.

A load balancer provides a single published address to the client browser, while distributing requests to multiple Oracle Real-Time Collaboration core component

Application tiers that serve the request. It acts as a global Web host for all of the requests.

If you add a load balancer, set the following parameters:

1. GlobalWebHost is the name of the global Web host.

For example, multiple Application tiers could be placed behind a load balancer (ocs_apps1.mycompany.com, ocs_apps2.mycompany.com), but the Web host name you want to have appear in the URL used to join a conference is apps_virtual.mycompany.com.

Default Value: none

Valid Value: a load balancer virtual server name.

Scope: system, instance

Note: Once set, the only way to unset this property is to use the `-pvalue null true` option with the `SetProperty` command. For example, to set the global Web host to `apps_virtual.mycompany.com`, run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname GlobalWebHost -pvalue
"apps_virtual.mycompany.com"
```

2. GlobalWebPort is the HTTP port of the global Web host.

Default Value: 80

Valid Value: Any port ID

Scope: system, instance

For example, to reset the global Web host to listen on port 80 for HTTP requests run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname GlobalWebPort -pvalue 80
```

3. Smtphost is the name of the SMTP host. To set the smtp host to `apps_virtual.mycompany.com`, run the following command:

```
ORACLE_HOME/imeeting/bin/rtcctl
rtcctl> setProperty -system true -pname Smtphost -pvalue "apps_
virtual.mycompany.com"
```

Because the SMTP default port is 25, there is no need to set the SMTP port.

Restart Oracle Collaboration Suite Applications using the following commands:

```
ORACLE_HOME/opmn/bin/opmnctl stopall
ORACLE_HOME/opmn/bin/opmnctl startall
```

13.2.8.12 Updating Oracle Collaboration Suite Service Registry Entries in Oracle Internet Directory to Use the Load Balancer

You can update the Oracle Collaboration Suite registry entries in Oracle Internet Directory by using the Oracle Directory Manager as follows:

1. Start the Oracle Directory Manager.

```
ORACLE_HOME/bin/oidadmin
```

2. When you start Oracle Directory Manager, it will prompt you for connection information. Enter the following information to connect to your Oracle Internet Directory, typically hosted in the Oracle Collaboration Suite Database on your Oracle Collaboration Suite Infrastructure:

```
Host: <infrahost.yourdomain.com>
Port: 389
Username: cn=orcladmin
Password: <password>
```

Port 389 is the default port used by Oracle Internet Directory. If you are using a different port, then enter the correct Oracle Internet Directory port.

If you have configured your Oracle Internet Directory to be accessed using SSL, select the SSL Enabled check box. Otherwise, leave it blank.

3. Select **Login** to log in to the Oracle Internet Directory. When the connection is successful, the Oracle Internet Directory management screen is displayed.
4. To access the Service Registry, drill down in to the Oracle Internet Directory by selecting the following items in the System Objects pane:
 - a. Select **Entry Management**.
 - b. Select **cn=OracleContext**.
 - c. Select **cn=Services**.

The System Objects pane displays a list of the Oracle Collaboration Suite Applications which have entries in the Service Registry. The Properties tab displays the properties of the cn=Services object.

5. To display URIs stored by each component in the Service Registry, select the component in the System Objects pane. Most components will contain a cn=VirtualServices object. This object contains one or more URIs used by other applications and OracleAS Portal to access that application. Applications store URIs in one or more child objects of the cn=VirtualServices object.

Note: The Oracle Universal Installer seeds the Oracle Internet Directory with objects for every Oracle Collaboration Suite Applications during installation, even if you do not configure and deploy every application. These unconfigured application entries will not contain child objects of their cn=VirtualServices objects. The child objects, and the URIs they store, are created in the Service Registry by each component's Configuration Assistant when it first runs.

6. After you verify your configuration, update Oracle Collaboration Suite Service Registry entries in Oracle Internet Directory to use the load balancer virtual hostname as follows:

- **Oracle Calendar**

```
dn: cn=OCAS_
xxxxx,cn=VirtualServices,cn=Calendar,cn=Services,cn=OracleContext
labeleduri;syncserversecureurl
labeleduri;syncserverurl
labeleduri;webbaseurl
labeleduri;webserviceurl
```

- Oracle Collaborative Workspaces

```
dn: cn=<DBNAME>, cn=VirtualServices, cn=CollaborativeWorkspaces, cn=Services,  
cn=OracleContext  
labeleduri;adminurl  
labeleduri;webbaseurl  
labeleduri;webui
```

- Oracle Mail

```
dn: cn=emailadmin, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext  
labeleduri;adminurl
```

```
dn: cn=imap, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext  
labeleduri
```

```
dn: cn=smtp, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext  
labeleduri
```

```
dn: cn=Webmail, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext  
labeleduri;peopleurl  
labeleduri;webbaseurl  
orclrapparameter;webbaseurl
```

```
dn: cn=webservice, cn=VirtualServices, cn=Email, cn=Services, cn=OracleContext  
labeleduri;webservices
```

- Oracle Content Services

```
dn: cn=FILES, cn=VirtualServices, cn=Files, cn=Services, cn=OracleContext  
labeleduri;adminurl  
labeleduri;applicationurl  
labeleduri;s2swebserviceurl  
labeleduri;webdavurl  
labeleduri;webservicesurl
```

- Oracle Collaboration Suite Client

```
dn: cn=IntegratedClient, cn=VirtualServices, cn=OCSCClient, cn=Services,  
cn=OracleContext  
labeleduri;baseurl  
labeleduri;populibraryurl
```

```
dn: cn=Search, cn=VirtualServices, cn=OCSCClient, cn=Services, cn=OracleContext  
labeleduri;webbaseurl
```

- OracleAS Portal

```
dn: cn=ReturnToPortalURL, cn=VirtualServices, cn=Portal, cn=Services,  
cn=OracleContext  
labeleduri;
```

Note: In addition to changing the host name to use the load balancer virtual host name, the port should also match the listen port used in Step 1 in [Section 13.2.8.1](#). In this example it was port 80 (the default port), which means the port specification can be removed. So, for example, the Oracle Internet Directory `labeleduri` for the Portal `ReturnToPortalURL` should change from

http://ocs_apps1.mycompany.com:7778/portal/page?_dad=portal&_schema=PORTAL&_pageid=

to

http://apps_virtual.mycompany.com/portal/page?_dad=portal&_schema=PORTAL&_pageid=

- Oracle Discussions

```
dn:cn=Discussions:<DBNAME>:<MailDomain>,cn=VirtualServices,
cn=ThreadedDiscussions,cn=Services,cn=OracleContext
labeleduri;adminurl
labeleduri;rss
labeleduri;webbaseurl
labeleduri;webui
```

- Oracle Mobile Collaboration

```
dn:
cn=WIRELESS1,cn=VirtualServices,cn=Wireless,cn=Services,cn=OracleContext
labeleduri;adminurl
labeleduri;calendarnotificationlistenerurl
labeleduri;mobilesetupurl
labeleduri;presencewebseviceurl
```

When you have finished editing the properties of an object, select **Apply** to save the new values in Oracle Internet Directory. If you decide to reject the changes you have made, select **Revert** to reset the displayed attributes to those currently stored in the Oracle Internet Directory.

7. Using `opmnctl` or Oracle Enterprise Manager 10g, restart the Oracle Collaboration Suite Infrastructure and all Oracle Collaboration Suite Applications tiers, to clear caches that may still be storing the old URIs and to load the new URIs you have entered.

Restart Oracle Collaboration Suite Applications using the following commands:

```
ORACLE_HOME/opmn/bin/opmnctl stopall
ORACLE_HOME/opmn/bin/opmnctl startall
```

There is no need to restart the Oracle Collaboration Suite Database.

13.2.8.13 Test the Configuration

The steps to test the configuration are as follows:

1. Access OracleAS Web Cache and Oracle HTTP Server through the load balancer with the following URL:

http://apps_virtual.mycompany.com

2. Test the connection to the Oracle Collaboration Suite Database through the load balancer, by accessing the following URL:

http://apps_virtual.mycompany.com/pls/portal/htp.p?cbuf=test

The response should be test. If this succeeds, then the Oracle Collaboration Suite Applications tier can connect to the Oracle Collaboration Suite Database. If this test fails, then examine the Oracle HTTP Server `ORACLE_HOME/Apache/Apache/logs/error_log` file to determine the cause.

3. Test the OracleAS Portal using following URL (ensure that you can log in):

http://apps_virtual.mycompany.com/pls/portal

Verify that content is being cached in OracleAS Web Cache on `ocs_apps1.mycompany.com`, using Web Cache Administrator. Under Monitoring, click **Popular Requests**. Select **Cached** from the Filtered Objects drop-down list, and click **Update**.

If you accessed OracleAS Portal, portal content will appear. If there is no portal content, open another browser and log on to OracleAS Portal. Return to the Popular Requests page, and click **Update** to refresh the page content.

13.2.9 Installing Subsequent Instance of Oracle Collaboration Suite Applications

This section describes the installation of the subsequent instance of Oracle Collaboration Suite Applications without Oracle Calendar Server and postinstallation tasks.

13.2.9.1 Installation Tasks

To install the subsequent instance of Oracle Collaboration Suite Applications, follow the steps listed in [Table 13–10](#).

Table 13–10 *Installing Subsequent Instance of Oracle Collaboration Suite Applications*

Step	Screen	Action
1.	Welcome	Click Next .
2.	Specify File Locations	Enter a name and path for the new Oracle home. This new Oracle home will be the destination Oracle home for Oracle Collaboration Suite Applications. Click Next .
3.	Specify Hardware Cluster Installation Mode (optional)	Select Local Installation . This screen will only show up if you are installing Identity Management on a cluster. Click Next .
4.	Select a Product to Install	Select Oracle Collaboration Suite Applications 10.1.1.0.2 . Click Next .
5.	Product-specific Prerequisite Checks	Make sure all the checks complete successfully. Click Next .

Table 13–10 (Cont.) Installing Subsequent Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
6.	Select Components to Configure	Select Oracle Mail. Select Oracle Mobile Collaboration. Select Oracle Content Services. Do not select Oracle Calendar Server. Select Oracle Calendar Web Client. Select Oracle Real-Time Collaboration. Select Oracle Collaboration Suite Search. Select Oracle Collaboration Suite Web Access. Do not select Oracle Collaborative Portlets. Select Oracle Workspaces. Select Oracle Discussions. Click Next.
7.	Register with Oracle Internet Directory	Host: Enter the LDAP virtual server name. Port: Enter the non-SSL port number for the LDAP virtual server name. Click Next.
8.	Specify UserName and Password for Oracle Internet Directory	Username: Enter the username to log in to Oracle Internet Directory. You must log in as the Oracle Internet Directory superuser (cn=orcladmin). Password: Enter the password for the username. Click Next.
9.	OracleAS Metadata Repository	Select Oracle Collaboration Suite Database from the list. Click Next. Error: The installation has detected that Oracle Collaborative Portlets has already been configured in the Metadata Repository you have selected. Oracle Collaborative Portlets will be unselected for this configuration. This screen will only show up if you selected Oracle Collaborative Portlets from the Select Components to Configure screen. Click Yes.
10.	Select Database Components	Component Name: Oracle Mail, Oracle Discussions, Oracle Search, Oracle Real-Time Collaboration, Oracle Collaboration Suite Search, Oracle Workspaces, Oracle Content Services, Oracle Collaboration Suite Web Access Database Name: Name of the Oracle Collaboration Suite Database. Click Next.
11.	Specify Port Configuration Options	Select Automatic Port Selection or Manual and enter the port numbers for. ■ Web Cache HTTP Listen Port ■ Web Cache HTTP Listen SSL ■ Oracle Mail IMAP4 port ■ Oracle Mail IMAP4 Secure port ■ Oracle Mail POP3 port ■ Oracle Mail POP3 Secure port ■ Oracle Mail SMTP port ■ Oracle Mail NNTP port ■ Oracle Mail NNTP Secure port Click Next.

Table 13–10 (Cont.) Installing Subsequent Instance of Oracle Collaboration Suite Applications

Step	Screen	Action
12.	Specify Administrative Password and Instance Name	Instance Name: Enter a name for this Oracle Collaboration Suite Applications instance. Administrative Password: Set the password for the administrative user. This is the administrative user for the Oracle Collaboration Suite Applications instance. Click Next.
13.	Specify Oracle Mail Domain Information	Local Domain: Select it from the list. Select the same domain as in the first Oracle Collaboration Suite Applications installation. Click Next.
14.	Summary	Verify your selection and click Install .
15.	Install Progress	This screen displays the progress of the installation.
16.	Run <code>root.sh</code>	Note: Do not run the <code>root.sh</code> script until this dialog box appears. - When you see this dialog box, run the <code>root.sh</code> script in a different shell as the <code>root</code> user. The script is located in the Oracle home directory of this instance. - Click OK.
17.	The Configuration Assistants	This screen shows the progress of the configuration assistants.
18.	End of Installation	Click Exit to quit the installer.

13.2.9.2 Postinstallation tasks

The postinstallation tasks involve troubleshooting the installation errors and performing manual postinstallation steps.

13.2.9.2.1 Troubleshooting the Installation Errors You might have to perform the postinstallation steps to solve the following problems:

- Oracle Calendar Home Page cannot be accessed through `orclguest` account. To resolve this error, the steps are as follows:

- Stop all fast CGI (FCGI) processes using Oracle OCAS Control (`ocasctl`). When OCS Application tier is started or stopped using OPMN control (`opmnctl`), OCAS is not started or stopped because OCAS is not integrated with OPMN.

```
ORACLE_HOME/ocas/bin/ocasctl -stopall
```

- Start the FCGI processes.

```
ORACLE_HOME/ocas/bin/ocasctl -start -t ochecklet -p 8020 -n 1
ORACLE_HOME/ocasctl -start -t ocas -p 8010 -n 5
```

The default ports are 8010 and 8020. The valid range is 8010-8020.

- Verify the status of the FCGI processes:

```
ORACLE_HOME/ocas/bin/ocasctl -status
```

- When you log on to Portal as a newly created user, the calendar portlet shows "Service temporarily unable due to maintenance message".

- Click the **Oracle Calendar** link and go to the Oracle Calendar view page.

2. Click the **Return to Portal** link and the porlet should show up correctly.

- When accessing workspaces, user cannot be found in LDAP directory. To resolve this error, run the following command:

```
$ORACLE_HOME/opmn/bin/opmnctl restartproc process-type=OC4J_OCSCClient
```

13.2.9.2.2 Performing Manual Postinstallation Steps You also have to perform the following additional postinstallation steps for Oracle Mail and Oracle Mobile Collaboration:

- For Oracle mail, the steps are as follows:
 1. Get the user ID and group ID of the owner of the Oracle Collaboration Suite Applications.
 2. Start LISTENER_ES as root, if the port that you are using is a privileged port (< 1024). Make sure ORACLE_HOME, LD_LIBRARY_PATH and PATH environment variables are set correctly.


```
ORACLE_HOME/bin/tnslsnr listener_es -user <userid> -group <group_id> &
```
- To enable Oracle Mobile Collaboration Calendar notifications, the steps are as follows:
 1. Log in to Enterprise Manager. Go to **System Components, Wireless, Site Administration**.
 2. Expand Component Configuration section and click **XMS Configuration**.
 3. Under XMS Center, ensure that Enable XMSC is checked.
 4. Go to **System Components, Wireless, Notification eng xxxx**. Click **Enable/Disable link** and make sure Notification engine is enabled.
 5. Restart the wireless component.

13.2.10 Post Installation Steps to Redeploy Oracle Collaboration Suite Applications with a Load Balancer

You can configure two or more Oracle Collaboration Suite Applications instances in a highly-available deployment by placing a load balancer in front of them. The load balancer publishes a single address for Oracle Collaboration Suite Applications while providing a redundant set of application servers that actually service requests. The load balancer can be configured to detect when one of the Oracle Collaboration Suite Applications instances has failed and can then fail over requests to another instance.

The details of the configuration are as follows:

- There are two Oracle Collaboration Suite Applications computers: ocs_apps1.mycompany.com and ocs_apps2.mycompany.com. Both application servers listen on non-SSL port 7777.
- The Oracle Collaboration Suite Applications computers are configured to use the Single Sign-On server located at im_virtual.mycompany.com.
- The effective host name of the Oracle Collaboration Suite Applications published to the user is apps_virtual.mycompany.com. A load balancer is configured to listen at this address, on port 80. It has been configured to load balance and fail over user requests between ocs_apps1.mycompany.com and ocs_apps2.mycompany.com.

- The Single Sign-On server and Directory server are located at `im_virtual.mycompany.com`.
- The Oracle Collaboration Suite Database (including Identity Management metadata) is located at `ocs_store1.mycompany.com` and `ocs_store2.mycompany.com` (2-node RAC).

The postinstallation steps are follows:

1. [Enable Portal](#)
2. [Configure the Oracle HTTP Server with the Load Balancer](#)
3. [Configure the Parallel Page Engine Loop-Back with the Load Balancer](#)
4. [Modify the Portal Dependency Settings \(iasconfig.xml\) File](#)
5. [Reregister mod_ossoConfigure OracleAS Web Cache Clusters](#)
6. [Configure OracleAS Web Cache Clusters](#)
7. [Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal](#)
8. [Enable Session Binding on OracleAS Web Cache Clusters](#)
9. [Configure Collaborative Portlets](#)
10. [Configure Oracle Collaboration Suite Mobile Collaboration](#)
11. [Configure Oracle Discussions](#)
12. [Test the Configuration](#)

13.2.10.1 Enable Portal

The first task is to configure OracleAS Portal, using the Oracle Enterprise Manager 10g Collaboration Suites Control Console. Follow these steps to configure OracleAS Portal, beginning on the Oracle Collaboration Suite page:

1. Click **Configure Component**. The Select Component page appears.
2. Select **portal** from the list.
3. Click **Continue**. The configuration process may take 10-20 minutes to complete.

Before you continue with the OracleAS Portal application server configuration, ensure that the following is configured:

- You are able to resolve `apps_virtual.mycompany.com` from `ocs_apps2.mycompany.com`, such that it contacts the load balancer. To ensure you can resolve `apps_virtual.mycompany.com` by running the following command:

```
nslookup apps_virtual.mycompany.com
```

The IP address for the virtual server name should be returned.

- You are able to contact port 7777 on `apps_virtual.mycompany.com` from `ocs_apps2.mycompany.com`. Run the following command on `ocs_app2.mycompany.com`:

```
telnet apps_virtual.mycompany.com 7777
```

Verify that no connection failure message is returned.

13.2.10.2 Configure the Oracle HTTP Server with the Load Balancer

This step associates the components on which OracleAS Portal depends with load balancer virtual server name and port: `apps_virtual.mycompany.com:80`. The steps to configure the Oracle HTTP Server with the Load Balancer are as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the `ocs_apps2.mycompany.com` installation.
3. Click the **HTTP Server** link.
4. Click the **Administration** link.
5. Click **Advanced Server Properties**.
6. Open the `httpd.conf` file.
7. Perform the following steps:

- a. Add `LoadModule certheaders_module` directive.

```
LoadModule certheaders_module libexec/mod_certheaders.so
```

Note: The `LoadModule` directives (in particular, the `LoadModule rewrite_module` directive) must appear in the `httpd.conf` file at a location preceding the `VirtualHost` directives. The server must load all modules before it can execute the directives in the `VirtualHost` container. It is a good idea to create the `VirtualHost` directives at the end of the `httpd.conf` file.

- b. Add the following lines to create a `NameVirtualHost` directive and a `VirtualHost` container for `apps_virtual.mycompany.com` and port 80.

```
NameVirtualHost *:7778
<VirtualHost *:7778>
  ServerName apps_virtual.mycompany.com
  Port 80
  ServerAdmin you@your.address
  RewriteEngine On
  RewriteOptions inherit
</VirtualHost>
```

- c. Create a second `VirtualHost` container for `ocs_apps2.mycompany.com` and port 7777.

```
<VirtualHost *:7778>
  ServerName ocs_apps2.mycompany.com
  Port 7777
  ServerAdmin you@your.address
  RewriteEngine On
  RewriteOptions inherit
</VirtualHost>
```

8. Save the `httpd.conf` file, and restart the Oracle HTTP Server when prompted.
9. Copy the `dads.conf` file from `ocs_apps1.mycompany.com` to `ORACLE_HOME/Apache/modplsql/conf` directory of `ocs_apps2.mycompany.com`.

13.2.10.3 Configure the Parallel Page Engine Loop-Back with the Load Balancer

In this step, you configure non-SSL loop-back communication between the load balancer and the Parallel Page Engine on `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`. If the OracleAS Web Cache on `ocs_app1.mycompany.com` is down, the Parallel Page Engine can loop back to the OracleAS Web Cache on `ocs_apps2.mycompany.com` through the load balancer to reach `mod_plsql`.

The steps to create the loop-back configuration are as follows:

1. Open the `ORACLE_HOME/j2ee/OC4J_Portal/applications/portal/portal/WEB-INF/web.xml` file.
2. Locate the Page servlet section.
3. Add the lines shown in bold.

```
<servlet>
<servlet-name>page</servlet-name>
  <servlet-class>oracle.webdb.page.ParallelServlet</servlet-class>
    <init-param>
      <param-name>useScheme</param-name>
      <param-value>http</param-value>
    </init-param>
    <init-param>
      <param-name>usePort</param-name>
      <param-value>7777</param-value>
    </init-param>
  </servlet>
```

4. Save the `web.xml` file.
5. Save the manual configuration changes in the DCM repository by running the following command on `ocs_apps2.mycompany.com` in `ORACLE_HOME/dcm/bin`:

```
dcmctl updateConfig
```

6. Restart all components on `ocs_apps2.mycompany.com` by running the following command in `ORACLE_HOME/opmn/bin`:

```
opmnctl stopall
opmnctl startall
```

13.2.10.4 Modify the Portal Dependency Settings (iasconfig.xml) File

The Portal Dependency Settings file `iasconfig.xml` must contain the correct host, port, and farm name to enable access to OracleAS Portal and perform OracleAS Web Cache invalidation. Follow the steps to edit the file to include this information:

1. Create a backup copy of the `ORACLE_HOME/portal/conf/iasconfig.xml` file.
2. Copy the `iasconfig.xml` file in `ocs_apps1.mycompany.com` to `ORACLE_HOME/portal/conf` of `ocs_apps2.mycompany.com`.
3. Overwrite the file on `ocs_apps2.mycompany.com` when prompted.

13.2.10.5 Reregister mod_osso

The steps for reregistering `mod_osso` are:

1. Back up the `ORACLE_HOME/Apache/Apache/conf/osso/conf` file.
2. Use the FTP binary mode to copy the `osso.conf` file of `ocs_apps1.mycompany.com` to `ORACLE_HOME/Apache/Apache/conf` of `ocs_apps2.mycompany.com`.
3. Synchronize the DCM repository with the file by FTP using the following command:

```
ORACLE_HOME/Apache/Apache/bin/ssotransfer ORACLE_
HOME/Apache/Apache/conf/osso/osso.conf
```

Note: This does not create any new partner applications. It enables the partner application `ocsapps.apps_virtual.mycompany.com` for `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.

4. Restart the components on `ocs_apps2.mycompany.com` by running the commands in `ORACLE_HOME/opmn/bin` of `ocs_apps2.mycompany.com`:


```
opmnctl stopall
opmnctl startall
```
5. Log in to the OracleAS Single Sign-On Administration page as the Administrator, and use the Administer Partner Applications page to delete the entry for the partner application `ocsapp1.ocs_apps2.mycompany.com`.

13.2.10.6 Configure OracleAS Web Cache Clusters

To cluster the OracleAS Web Cache instances, you will perform the configuration steps on `ocs_apps1.mycompany.com` and propagate them to `ocs_apps2.mycompany.com`.

From the Oracle Enterprise Manager Collaboration Suite Control Console, you can access the Web Cache Manager, the graphical user interface provided for editing the configuration stored in the `webcache.xml` file. Start the Oracle Collaboration Suite Applications instance on `ocs_apps1.mycompany.com`, then follow the steps to access the Web Cache Manager from the System Components page.

1. Access the Web Cache Administrator at the following URL:
http://ocs_apps1.mycompany.com:9400/webcacheadmin

The Web Cache Administrator password dialog box appears.

2. For the user name, enter `ias_admin` or `administrator`, and enter the OracleAS Web cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

The Web Cache Manager page appears.

3. Click **Clustering** in the Properties section. The Clustering page appears.
4. In the Cluster Members table, click **Add**. The Add Cache to Cluster page appears.
5. Enter the following information for `ocs_apps2.mycompany.com`:

Host Name: ocs_apps2.mycompany.com
Admin. Port: 9400
Protocol for Admin. Port: HTTP
Cache Name: ocs_apps2.mycompany.com-Webcache
Capacity: 20

6. Click **Submit**.
7. Click the **Origin Server** link in the Origin Servers, Sites, and Load Balancing section. The Origin Server page appears.
8. Click **Add** under the Application Web Servers table.
9. Enter the following information:
Hostname: ocs_apps2.mycompany.com
Port: 7778
Routing: ENABLE
Capacity: 30
Failover Threshold: 5
Ping URL: /
Ping Interval: 10
Protocol: HTTP
10. Click **Submit**.
11. Click the **Site-to-Server Mapping** link in the Origin Servers, Sites and Load Balancing section. The Site-to-Server Mapping page appears.
12. Select the mapping for the Load Balancer site (apps_virtual.mycompany.com) from the table and click **Edit Selected**. The Edit/Add Site-to-Server mapping page appears.
13. In the Select Application Web Servers section, select an application Web server specified in the Origin Servers page for ocs_apps2.mycompany.com (ocs_apps1.mycompany.com is already mapped).
14. Click **Submit**.
15. Click **Apply Changes**.
16. In the Cache Operations page, click **Propagate**. The changes are propagated to ocs_apps2.mycompany.com.
17. Click **Restart**. OracleAS Web Cache is restarted on ocs_apps1.mycompany.com and ocs_apps2.mycompany.com. OracleAS Web Cache on ocs_apps1.mycompany.com begins to balance requests to the Oracle HTTP Server and OC4J_Portal instances on ocs_apps2.mycompany.com.

13.2.10.7 Enable Monitoring of the Frontend Host and Port Settings of the Load Balancer for OracleAS Portal

The steps are as follows:

1. Open the ORACLE_HOME/sysman/emd/targets.xml file.
2. Locate the OracleAS Portal targets, for example, TYPE="oracle_portal".
3. Edit the PortalListeningHostPort property so that it points to the load balancer. For example:

```
<Property NAME="PortalListeningHostPort" VALUE="http://apps_virtual.mycompany.com:80" />
```

4. Save and close `targets.xml` file.
5. Reload the `targets.xml` file in the Oracle Collaboration Suite Control Console by running the following command in `ORACLE_HOME/bin`:

```
emctl reload
```

13.2.10.8 Enable Session Binding on OracleAS Web Cache Clusters

The session binding feature in OracleAS Web Cache is used to bind user sessions to a given origin server to maintain state for a period of time. Enabling session binding forces all the user requests to go to a give OracleAS Portal middle-tier, resulting in a better cache hit ratio for the portal cache. For this reason, session binding is required although almost all components running in a given OracleAS Portal middle tier are stateless.

To enable session binding in OracleAS Web Cache, the steps on `ocs_apps1.mycompany.com` or `ocs_apps2.mycompany.com` are as follows:

1. Access the Web cache Administrator at the following URL:
http://ocs_apps1.mycompany.com:9400
 The Web Cache Administrator password dialog box appears.
2. Enter the OracleAS Web Cache administrator password.

Note: At installation time, the OracleAS Web Cache administrator password is set to the same password as the `ias_admin` password. The OracleAS Web Cache administrator password must be identical for all cache cluster members.

The Web Cache Manager page appears.

3. Click the **Session Binding** link in the Origin Servers, Sites, and Load Balancing section. The Session Binding page appears.
4. Select the Load Balancing Router site, `apps_virtual.mycompany.com:80` from the table and click **Edit Selected**. The Edit Session Binding window opens.
5. Select **Any Set-Cookie** from the Please select a session list.
6. Select **Cookie-based** from the Please select a session binding mechanism list.
7. Click **Submit**.
8. Click **Apply Changes**.
9. On the Cache Options page, click **Propagate**. The changes are propagated to the OracleAS Web Cache instance on the other computer.
10. Click **Restart**. OracleAS Web Cache is restarted on `ocs_apps1.mycompany.com` and `ocs_apps2.mycompany.com`.

13.2.10.9 Configure Collaborative Portlets

Configure Collaborative Portlets Configure Components from Oracle Enterprise Manager 10g Application Server Control Console. The Configure Component button appears above the System Components table if you have installed, but not configured, some components.

To configure Collaborative Portlets, perform the following steps:

1. On the Oracle Collaboration Suite home page, click **Configure Component**.
2. Select **Collaborative Portlets** from the drop-down list on the Select Component page, and click **Continue**.
3. Enter the following values:
Oracle Internet Directory Administrative Password
Host Name: Load Balancer Virtual Server Name – apps_
virtual.mycompany.com
Web Cache Listen Port: Load Balancer Virtual Server Name's port – Port 80
Web Cache Invalidation Port: Refer to ORACLE_HOME/install/portlist.ini
– 9401
4. Click **Continue**. The configuration process may take 10-15 minutes to complete.
5. Restart the components on ocs_apps2.mycompany.com by running the following commands in ORACLE_HOME/opmn/bin of ocs_apps2.mycompany.com:

```
opmnctl stopall  
opmnctl startall
```

13.2.10.10 Configure Oracle Collaboration Suite Mobile Collaboration

Configure the URLs of the current OracleAS Wireless Instance on each Oracle Collaboration Suite Applications tier. Configuring Oracle Collaboration Suite Mobile Collaboration enables you to define the instance URLs for an application server, or direct an application server to use the URLs defined for the entire OracleAS Wireless site. The steps are as follows:

1. Access the Oracle Enterprise Manager – Oracle Collaboration Suite Control console.
2. Click the link for the ocs_apps1.mycompany.com installation.
3. Click the **Wireless** link under System Components.
4. Click the **Instance URLs** link under Instance Configuration.
5. Modify the Wireless Instance URLs to point to the load balancer's virtual server name (apps_virtual.mycompany.com)

Repeat the preceding steps for each Oracle Collaboration Suite Applications tier.

13.2.10.11 Configure Oracle Discussions

When deploying Oracle Discussions in more than one Applications tier with a load balancer at the front end, please ensure to turn on session affinity in your load balancer. Oracle Discussions requires that once a user establishes a session with one OC4J instance, all the following requests must go to the same OC4J instance. In case of a failover, the original Applications tier is not available anymore and the requests are transferred to the second Applications tier. Oracle Discussions automatically re-creates a new user session in the new OC4J instance. There is no loss of data except that of the currently executing operation when the first Applications tier goes offline.

13.2.10.12 Test the Configuration

To ensure that it is working as it should, perform the following tests:

1. Ensure that all components on ocs_apps2.mycompany.com are running.
 - a. Run the following command from ORACLE_HOME/opmn/bin to query the status of the components:


```
opmnctl status
```

- b. If necessary, run the following command in `ORACLE_HOME/opmn/bin`:

```
opmnctl startall
```

2. Stop all components on `ocs_apps1.mycompany.com` by running the following command in `ORACLE_HOME/opmn/bin`:

```
opmnctl stopall
```

3. Access OracleAS Web Cache and Oracle HTTP Server through the load balancer with the following URL:

http://apps_virtual.mycompany.com

4. Test the connection to the Oracle Collaboration Suite Database through the load balancer, by accessing the following URL:

http://apps_virtual.mycompany.com/pls/portal/http.p?cbuf=test

The response should be test. If this succeeds, then the Oracle Collaboration Suite Applications tier can connect to the Oracle Collaboration Suite Database. If this test fails, then examine the `ORACLE_HOME/Apache/Apache/logs/error_log` file of Oracle HTTP Server to determine the cause.

5. Test the OracleAS Portal using following URL (ensure that you can log in):

http://apps_virtual.mycompany.com/pls/portal

6. Verify that content is being cached in OracleAS Web Cache on `ocs_apps1.mycompany.com`, using Web Cache Administrator. Under Monitoring, click **Popular Requests**. Select **Cached** from the Filtered Objects drop-down list, and click **Update**.

If you accessed OracleAS Portal, portal content will appear. If there is no portal content, open another browser and log in to OracleAS Portal. Return to the Popular Requests page, and click **Update** to refresh the page content.

7. Repeat steps 3 through 6, by ensuring that all components on `ocs_apps1.mycompany.com` are running, and all components on `ocs_apps2.mycompany.com` are stopped and vice versa.

Silent and Noninteractive Installation

This chapter guides you through silent and noninteractive installation of Oracle Collaboration Suite.

This chapter contains the following sections:

- [Section 14.1, "Introduction to Noninteractive Installations"](#)
- [Section 14.2, "Installation Requirements"](#)
- [Section 14.3, "Installing Oracle Application Server Certificate Authority"](#)
- [Section 14.4, "Creating Files for Silent and Noninteractive Installation"](#)
- [Section 14.5, "Selecting a Response File"](#)
- [Section 14.6, "Editing the Response File"](#)
- [Section 14.8, "Specifying a Response File and Starting the Installation"](#)
- [Section 14.7, "Creating a Response File Using the Record Mode in the Installer"](#)
- [Section 14.9, "Running the root.sh Script"](#)
- [Section 14.10, "Error Handling"](#)
- [Section 14.11, "Deinstallation"](#)
- [Section 14.12, "Using Configuration Assistants in Noninteractive Mode"](#)

14.1 Introduction to Noninteractive Installations

Oracle Collaboration Suite features the following two noninteractive methods of installation:

- [Section 14.1.1, "Silent Installation"](#)
- [Section 14.1.2, "Noninteractive Installation"](#)

14.1.1 Silent Installation

Silent installation eliminates the need to monitor the Oracle Collaboration Suite installation because there is no graphical output and no input by the user. It is accomplished by supplying Oracle Universal Installer with a response file and specifying the `-silent` flag on the command line.

You should use silent installation of Oracle Collaboration Suite when you want similar installations on more than one computer. Additionally, you can use silent installation when performing the Oracle Collaboration Suite installation from a remote location using the command line.

The response file used in a silent installation is a text file. Oracle Universal Installer uses variables and values specified in the response file to provide answers to all of its user prompts. Therefore, you must include responses for all of the prompts in the response file.

If this is a first-time installation of Oracle Collaboration Suite, you must manually create the following three files before starting installation:

- `oraInst.loc`
- `oratab`

These files are used by Oracle Universal Installer during the installation.

See Also:

- [Section 14.4](#)
- [Section 2.7.4](#) for more information about remote installation

After any silent Oracle Collaboration Suite installation, run the `root.sh` script. The `root.sh` script detects settings of environmental variables and enables you to enter the full path of the local `bin` directory.

14.1.2 Noninteractive Installation

Noninteractive installations of Oracle Collaboration Suite display a graphical output. If you have not provided responses to all of the user prompts, then you may need to enter information during the installation.

Noninteractive installation of Oracle Collaboration Suite is also accomplished by supplying the Oracle Universal Installer with a response file, but without specifying the `-silent` flag on the command line. Oracle Universal Installer uses the variables and values contained in the response file to provide answers to some or all of its user prompts.

If this is a first-time installation of Oracle Collaboration Suite, then you must manually create `oraInst.loc` `oratab` files before starting the installation. These files are used by Oracle Universal Installer during the installation.

After any noninteractive Oracle Collaboration Suite installation, run the `root.sh` script. The `root.sh` script detects settings of environmental variables and enables you to enter the full path of the local `bin` directory.

Use noninteractive installation of Oracle Collaboration Suite when there are specific screens you want to observe during installation.

See Also: [Section 14.8](#) for information about executing a response file

14.2 Installation Requirements

For a complete list of installation requirements, refer to [Chapter 2](#).

14.3 Installing Oracle Application Server Certificate Authority

If you are installing OracleAS Certificate Authority, check the following:

- If you are installing OracleAS Certificate Authority against an existing Oracle Internet Directory, then ensure that the Oracle Internet Directory has Oracle

Application Server Single Sign-On configured. If not, the OracleAS Certificate Authority Configuration Assistant will fail.

- If you are installing OracleAS Certificate Authority with a new Oracle Internet Directory, then ensure that you are also configuring OracleAS Single Sign-On. If not, the OracleAS Certificate Authority Configuration Assistant will fail.

In interactive mode, the installer performs the checks for you and displays a warning if the requirements are not met. However, in silent or noninteractive mode, the installer is not able to display a warning.

14.4 Creating Files for Silent and Noninteractive Installation

If the `oraInst.loc` and `oratab` files do not exist on your computer, you must create them before starting silent installation of Oracle Collaboration Suite. They are used by the Oracle Universal Installer during silent installation.

Table 14–1 lists the appropriate directory location for this platform.

Table 14–1 *oratab and oraInst.loc File Locations*

oratab	oraInst.loc
/etc	/etc

14.4.1 oraInst.loc File Creation

As the root user, create the `oraInst.loc` file in the appropriate directory. Ensure that the file has read and write permissions set for the `oracle` user group because the `oracle` user group is the group performing the installation. The `oraInst.loc` file should have the following text input:

```
inst_group=oracle_user_group
inventory_loc=ORACLE_BASE/oraInventory
```

In this text input, `inventory_loc` is the location for inventory files and `$ORACLE_HOME` is the absolute directory path. For example, if your `$ORACLE_BASE` is `/private2/oracle/ocs`, then the content of the file is:

```
inst_group=oracle_user_group
inventory_loc=/private2/oracle/ocs/oraInventory
```

Note: If `inventory_loc` is not located in your Oracle home, then ensure that the directory where it is located has read and write permissions set for `oracle_user_group`.

14.4.2 oratab File Creation

Create the `oratab` file in the appropriate directory. Ensure that the file is empty and has read and write permissions for the `oracle` user group.

14.5 Selecting a Response File

Before performing a silent or noninteractive installation, you must provide information specific to your installation in a response file. The installer will fail if you attempt an installation using a response file that is not configured correctly. Response files are text files that you can create or edit in a text editor.

The Oracle Collaboration Suite DVD Pack provides templates for the Oracle Universal Installer response files for the installations shown in [Table 14-2](#).

Table 14-2 Response Files

For This Installation...	The File Name Is...
Oracle Collaboration Suite 10g Infrastructure	infra_complete.rsp
Oracle Collaboration Suite 10g Infrastructure: Oracle Collaboration Suite 10g Database only	infra_dbonly.rsp
Oracle Collaboration Suite 10g Infrastructure: Identity Management only	infra_imonly.rsp
Oracle Collaboration Suite 10g Infrastructure: Enabling customer Database as Oracle Collaboration Suite Database	infra_enabledb.rsp
Oracle Collaboration Suite 10g Infrastructure and Oracle Collaboration Suite 10g Infrastructure (Single-computer installation)	infra_and_apps.rsp
Oracle Collaboration Suite Applications	ocs_apps.rsp

Response files are located in the /response directory on Disk 1 of the Oracle Collaboration Suite DVD pack. You must edit the response file according to your requirements for silent or noninteractive installation.

To use a response file, first copy it from the DVD to your system.

For example:

1. Go to the /response directory (on the first DVD of the Oracle Collaboration Suite installation DVD set).
2. Copy the oracle.ocs.infrastructure.Infrastructure.rsp file to your system hard drive:

```
# cp oracle.ocs.infrastructure.Infrastructure.rsp private/ocs_infr_
cd1/response/infrastructure.rsp
```

14.6 Editing the Response File

Use any text editor to edit the response file to include information specific for your system. The response file text identifies information that you must provide.

You must specify values for variables in your response file. Each variable listed in the response file is associated with a comment, which identifies the variable type. For example:

```
string = "Sample Value"
Boolean = True or False
Number = 1000
StringList = {"StringValue 1", "String Value 2"}
```

The values that are given as <Value Required> must be specified for silent installation.

Remove the comment from the variable values in the response file before starting the Oracle Collaboration Suite installation.

14.7 Creating a Response File Using the Record Mode in the Installer

You can run the installer in record mode to save your inputs to a file that you can use later as a response file. This feature is useful if you need to perform the same installation on different computers.

To run the installer in record mode:

1. Start the installer with the `-record` and `-destinationFile` parameters.

```
# /path/to/runInstaller -record -destinationFile newResponseFile
```

Replace *newResponseFile* with the full path to the response file that you want the installer to create.

Example: `/response/infrastructure.rsp`.

2. Enter your values in the installer screens. The installer will write these values to the file specified in the `-destinationFile` parameter.

When you get to the Summary screen, the installer automatically writes all the values that you supplied to the specified file. At this point, you can complete the installation on this computer, or you can exit without performing the installation.

14.8 Specifying a Response File and Starting the Installation

Before you specify a response file, ensure that all the values in the response file are correct. Refer to [Section 14.6](#) for more information.

See Also:

- [Section 14.6](#)
- [Section 3.4](#)
- [Section 3.3.1](#)

To make Oracle Universal Installer use the response file at installation time, specify the location of the response file as a parameter when starting Oracle Universal Installer:

```
# ./runInstaller -responseFile absolute_path_and_filename
```

In noninteractive mode, the `DISPLAY` environment variable must be set as described in [Section 2.7.4](#). To make the installer use the response file, specify the location of the response file that you want to use as a parameter when starting the installer.

To perform a noninteractive installation:

```
# setenv DISPLAY hostname:0.0
# ./runInstaller -responseFile absolute_path_and_filename
```

To perform a silent installation, use the `-silent` parameter:

```
# ./runInstaller -silent -responseFile absolute_path_and_filename
```

The success or failure of the noninteractive installation is logged in `installActions.log`. The success or failure of the silent installation is logged in `silentInstall.log`. The log files are created in the `oraInventory` directory during installation.

Warning: During installation, response files may be copied to subdirectories under `$ORACLE_HOME` in order to install some Collaboration Suite components. When the installation completes successfully, these copies are removed. If the installation fails, however, these copies may not be removed. If you have provided passwords or other sensitive information in your response files, Oracle recommends that you delete any copies of the response files that remain in your file system.

14.9 Running the root.sh Script

When performing a silent or noninteractive installation, you must run the `root.sh` script after any silent installation of Oracle Collaboration Suite.

For a silent Oracle Collaboration Suite Infrastructure and Applications installation on a single computer, you must run the `root.sh` script in each Oracle home for Infrastructure as well as the Applications tier.

Similarly, for a noninteractive Oracle Collaboration Suite Infrastructure and Applications installation on a single computer that is response file driven but not run with the `-silent` parameter, if you have not set the `SHOW_ROOTSH_CONFIRMATION` parameter in the response file to `FALSE`, then you will be prompted to run the `root.sh` script. In this case, you must run the `root.sh` script in each Oracle home for Infrastructure as well as the Applications tier.

Note: After the silent or noninteractive installation is complete, you *must* verify the log files (in the `$ORACLE_BASE/oraInventory/logs` directory) to see if any errors occurred during the installation.

14.9.1 root.sh and Silent Installation

During any silent Oracle Collaboration Suite installation, you are not prompted to run the `root.sh` script. You must run the `root.sh` script after the silent installation.

Use the following steps to run the `root.sh` script.

1. Log in as the `root` user.
2. Run the `root.sh` script in the Oracle home directory.

```
# $ORACLE_HOME/root.sh
```

In this command, `$ORACLE_HOME` is the absolute directory path.

3. Exit the `root` user.

14.9.1.1 Oracle HTTP Server

During silent installation, Oracle Universal Installer attempts to start Oracle HTTP Server. However, Oracle HTTP Server does not start until the `root.sh` script is run. Ignore any error messages generated because of the inability to start Oracle HTTP Server.

After running the `root.sh` script, restart Oracle HTTP Server as follows:

```
$ORACLE_HOME/opmn/bin opmnctl stopproc ias-component=HTTP_Server  
$ORACLE_HOME/opmn/bin opmnctl startproc ias-component=HTTP_Server
```


14.9.1.2 Using Oracle HTTP Server on a Different Port

To use Oracle HTTP Server on a port number that is less than 1024, do not run the `root.sh` script. Instead, run the following script as the `root` user:

```
$ORACLE_HOME/Apache/Apache/bin/root_sh_append.sh
```

In the preceding command, `$ORACLE_HOME` is the absolute directory path.

The `root_sh_append.sh` script sets the necessary permissions for the Oracle HTTP Server to be run on a port less than 1024.

14.9.2 root.sh and Noninteractive Installation

During noninteractive installation of Oracle Collaboration Suite, Oracle Universal Installer prompts you to run the `root.sh` script.

Perform the following steps to run the `root.sh` script:

1. Log on as the `root` user.
2. Run the `root.sh` script in the Oracle home directory.

```
# $ORACLE_HOME/root.sh
```

In the preceding command, `$ORACLE_HOME` is the absolute directory path.

3. Exit the `root` user.

For noninteractive installation, after you see the "Finished running generic part of the `root.sh` script" and "Now product-specific root actions will be performed" messages, exit the `root` user and return to the current installation screen.

The `root.sh` script detects:

- Settings of the `ORACLE_OWNER`, `ORACLE_HOME`, and `ORACLE_SID` environment variables
- Full path of the local `bin` directory. You can accept the default or change to a different local `bin` directory.

14.10 Error Handling

The success or failure of a silent or noninteractive installation is logged in the `silentInstall.log` file. This file is created in the `oraInventory/log` directory.

Values for variables that are of the wrong context, format, or type are treated as if no value were specified. Variables that are outside any section are ignored.

If you attempt a silent or noninteractive installation with an incorrect or incomplete response file, or Oracle Universal Installer encounters an error, such as insufficient disk space, the installation fails.

If you attempt a noninteractive installation without specifying a response file, the installation fails.

See Also: [Appendix I](#)

If you perform a silent installation with the `staticports.ini` file for ports less than 1024, the OPMN Configuration Assistant fails, and all the remaining configuration assistants do not run.

Before you run the configuration assistants from the command line, perform the following steps:

1. Start the installation using the following command:

```
./runInstaller -silent -responseFile absolute_path_to_response_file
```

Ensure that you keep the console open. This is because installation status messages are displayed on the console as well as are logged in the inventory logs.

2. Locate the string "The installation of Oracle Collaboration Suite Infrastructure was successful". This string can also be located in the `silentInstall<time_stamp>.log` or `installAction<time_stamp>.log` files.
3. Open a new terminal window, log in as `root` and run the `$ORACLE_HOME/infra/root.sh` script.
4. Open the `$ORACLE_HOME/cfgtoollogs/configToolCommands`, which is generated automatically. Search and replace all occurrences of `*Protected value, not to be logged*` with the passwords you have in the response file.
5. Ensure that the following environment variables are set:
 - `$ORACLE_HOME`
 - `LD_LIBRARY_PATH` (to `$ORACLE_HOME/lib` and `$ORACLE_HOME/network/lib`)
6. Run the configuration assistants from the command line to rerun all the failed and skipped configuration assistants. The command for running the configuration assistants is:

```
$ORACLE_HOME/cfgtoollogs/configToolCommands
```

14.11 Deinstallation

If your silent or noninteractive installation fails, you must completely deinstall any files remaining from your Oracle Collaboration Suite installation attempt.

See Also: [Appendix H](#) for detailed information on deinstallation of Oracle Collaboration Suite and its components

You can perform a silent deinstallation of Oracle Collaboration Suite by supplying a silent deinstallation parameter to the response file you used for installation. Add the following parameter to your installation response file:

```
REMOVE_HOMES={"<ORACLE_HOME to be removed>"}
```

To perform a silent deinstallation, use the `-silent` parameter when you enter the following command:

```
# ./runInstaller -silent -responseFile absolute_path_and_filename
```

14.12 Using Configuration Assistants in Noninteractive Mode

All the Oracle Collaboration Suite configuration assistants, except for the configuration assistant for Oracle Content Services can be run in the noninteractive mode.

To use a configuration assistant in noninteractive mode, do one of the following:

- Run the configuration assistant in standalone mode using the following command format:

```
# assistant_name [-silent] -responseFile filename
```

In the preceding command, *assistant_name* is the configuration assistant that you want to run and *filename* is the response file for that assistant.

- Configure an Oracle Universal Installer response file to start the noninteractive configuration assistant.

If you perform an Oracle Collaboration Suite Database installation in noninteractive mode, then Oracle Net Configuration Assistant does not configure your system at the end of the installation. After the installation, run the Oracle Net configuration with the Oracle Net Configuration Assistant by executing the `netca` command from the Oracle home directory or use the `netca.rsp` response file.

Note: Oracle Universal Installer or a configuration assistant fails if you attempt a noninteractive session without configuring a response file. Refer to [Appendix I](#) for more information about troubleshooting a failed noninteractive installation.

See Also:

- *Oracle Universal Installer Concepts Guide* for more information about preparing and using noninteractive installation and configuration assistant response file scripts. This manual is available on Oracle Technology Network at <http://www.oracle.com/technology/documentation>
- *OracleMetaLink* if you are an Oracle Support customer. You can find new bulletins and responses to questions about noninteractive installation and configuration at the following Web site: <http://metalink.oracle.com>

14.12.1 Response File Error Handling

Oracle Universal Installer or most of the configuration assistants validate the response file at run time. If the validation fails, the noninteractive installation or configuration process ends. Oracle Universal Installer treats values for parameters that are of the wrong context, format, or type as if no value was specified in the file. Variables that are outside any section are also ignored.

Information about a failure is recorded in the log file of the installation session.

See Also: [Section 3.3.1](#) for more information about the `oraInventory` directory and installation log files

Postinstallation Tasks for Oracle Collaboration Suite

This chapter contains the following sections:

- [Section 15.1, "Setting Environment Variables"](#)
- [Section 15.2, "Modifying Password Settings for Oracle Internet Directory"](#)
- [Section 15.3, "Enabling SSL"](#)
- [Section 15.4, "Performing Component-Specific Tasks"](#)

15.1 Setting Environment Variables

After the installation is complete, you might need to set the environment variables listed in the following section. These environment variables are required for proper functioning of some Oracle Collaboration Suite commands. Variables that you must set are listed in the following table:

Variable Name	Bourne, Korn, or Derivative Shells	C Shell
ORACLE_HOME	ORACLE_ HOME=/u01/oracle/product/ocs; export ORACLE_HOME	setenv ORACLE_HOME /u01/oracle/product/ocs
PATH PATH needs to include ORACLE_HOME/bin.	PATH=\$ORACLE_HOME/bin:\$PATH; export PATH	setenv PATH \$ORACLE_ HOME/bin:\$PATH
DISPLAY DISPLAY must point to a running X server. Do not use X emulation on your client computer to start server processes. Run X server instead.	DISPLAY= X server:display_ number.screen_number; export DISPLAY For example: DISPLAY= localhost:0.0; export DISPLAY	setenv DISPLAY X server:display_ number.screen_number For example: setenv DISPLAY localhost:0.0
LD_LIBRARY_PATH LD_LIBRARY_PATH must include \$ORACLE_HOME/lib	LD_LIBRARY_PATH=\$ORACLE_HOME/lib; export LD_LIBRARY_PATH	setenv LD_LIBRARY_PATH \$ORACLE_ HOME/lib

Variable Name	Bourne, Korn, or Derivative Shells	C Shell
NLS_LANG (optional, for globalization support)	NLS_LANG= <i>language_territory.characterset</i> ; export NLS_LANG For example: de_de.WE8ISO8859P15; export NLS_LANG	setenv NLS_LANG <i>language_territory.characterset</i> For example: setenv de_de.WE8ISO8859P15
ORA_NLS ORA_NLS is the location of the globalization support-specific message files.	ORA_NLS=\$ORACLE_HOME/ocommon/nls/admin/data; export ORA_NLS	setenv ORA_NLS \$ORACLE_HOME/ocommon/nls/admin/data
TNS_ADMIN TNS_ADMIN is the location of the SQL*Net configuration files tnsnames.ora, listener.ora, sqlnet.ora and by default these are located in \$ORACLE_HOME/network/admin.	TNS_ADMIN=\$ORACLE_HOME/network/admin; export TNS_ADMIN	setenv TNS_ADMIN \$ORACLE_HOME/network/admin

Note: You can source the `$ORACLE_HOME/bin/oraenv` or `$ORACLE_HOME/bin/coraenv` scripts (depending on their current shell) to set the `ORACLE_HOME` and `ORACLE_SID` variables. These scripts will also add `$ORACLE_HOME/bin` in to the `PATH` variable.

15.2 Modifying Password Settings for Oracle Internet Directory

Beginning with Oracle Internet Directory 10g (9.0.4), the default password expiry time, which is assigned to the `pwdmaxage` attribute, is set to 60 days.

To change the default value, perform the following steps:

1. Unlock the `cn=orcladmin` super user account before you can modify password policies. Use the `oidpasswd` utility to unlock the super user account as follows:

```
oidpasswd connect=ocsdb unlock_su_acct=true
OID DB user password:
OID super user account unlocked successfully.
```

This unlocks only the superuser account, `cn=orcladmin`. Do not confuse this account with the `cd=orcladmin` account within the default realm `cn=orcladmin, cn=users, dc=xxxxx, dc=yyyyy`. These are two separate accounts.

2. Start an Oracle Internet Directory 10g (10.1.2) version of Oracle Directory Manager and navigate to Password Policy Management. You will see two entries: `cn=PwdPolicyEntry` and the password policy for your realm—for example, `password_policy_entry, dc=acme, dc=com`.

Change the `pwdmaxage` attribute in each password policy to an appropriate value:

- 5184000 = 60 days (default)

- 7776000 = 90 days
 - 10368000 = 120 days
 - 15552000 = 180 days
 - 31536000 = 1 year
3. Start the Oracle Directory Manager and navigate to the realm-specific orcladmin account. Find the userpassword attribute and assign a new value. You should then be able to start any Oracle component that uses Oracle Application Server Single Sign-On and log in as orcladmin.

Rerun the `odisrvreg` utility to reset the randomly generated password for Directory Integration and Provisioning:

```
odisrvreg -D cn=orcladmin -w welcome1 -p 3060
Already Registered...Updating DIS password...
DIS registration successful.
```

4. Reregister the connector:

```
odisrvreg -p port -D cn=orcladmin -w passwd
```

See Also: *Oracle Identity Management Integration Guide*

15.3 Enabling SSL

You may want to enable Secure Sockets Layer (SSL) depending on your security requirements. To enable SSL, perform the following steps:

1. Run the following script on the computer where Infrastructure is installed:

```
$ORACLE_HOME/bin/SSLConfigTool -config_w_default -opwd orcladmin_user_password
```

Note: For detailed information on SSLConfigTool, refer to Oracle Application Server Administrator's Guide at

<http://www.oracle.com/technology/documentation/index.html>

2. Run the following script on the computer where Applications tier is installed:

```
$ORACLE_HOME/bin/midtierSSLConfigTool.sh oid_hostname oid_port oid_admin_
dn oid_admin_password http_server_SSL_port https_hostname_of_the_computer_to_
be_used true/false
```

In the preceding syntax, arguments for the script are:

- `oid_hostname`: The host name of the Oracle Internet Directory computer the Applications tier is associated with.
- `oid_port`: The port that the Oracle Internet Directory server is listening on.
- `oid_admin_dn`: The administrative DN (Distinguished Name) for the Oracle Internet Directory admin user (`cn=orcladmin`).
- `oid_admin_password`: The password for the Oracle Internet Directory admin user.
- `http_server_SSL_port`: The SSL port that was configured during the installation. This value can be found in the `$ORACLE_`

HOME/install/portlist.ini file as the Oracle HTTP Server SSL port value.

- `https`: The indication that the HTTPS communication protocol will be used for Oracle HTTP Server.
- `hostname_of_the_machine`: The host name that the computer is using with reference to its Oracle Collaboration Suite configuration. This may be the local host name or a load balancer virtual host name, as the case may be.
- `true/false`: The boolean value indicates whether you are connecting to the Oracle Internet Directory SSL port or not. If the value is set to `true`, then it indicates that you are connecting to the Oracle Internet Directory SSL port. If the value is set to `false`, then it indicates that you are connecting to the Oracle Internet Directory non-SSL port.

15.4 Performing Component-Specific Tasks

This section contains the following topics:

- [Section 15.4.1, "Configuring Oracle Mail and TNS Listener"](#)
- [Section 15.4.2, "Configuring Oracle Collaboration Suite Search"](#)

15.4.1 Configuring Oracle Mail and TNS Listener

After you have successfully installed Oracle Collaboration Suite Applications and if you have installed Oracle Mail as a part of the Applications tier, then perform the following steps:

1. Log in as the `oracle` user.
2. Set the `ORACLE_HOME` and `PATH` variables.
3. Obtain the values of `uid` and `groupid` using the following command:

```
prompt> id
uid=509(oracle) gid=510(oinstall) groups=510(oinstall),511(dba)
```

4. Switch to the `root` user.
5. Start the TNS listener using the following command:

```
tnslsnr listener_es -user user_id -group group_id &
```

In the preceding command, *user_id* and *group_id* are the IDs of user that owns the installation. Here, assuming the `oracle` user installed Oracle Collaboration Suite, *user_id* refers to the value 509 and *group_id* refers to the value 510, as shown in Step 3.

15.4.2 Configuring Oracle Collaboration Suite Search

Perform the following steps, using your own set of values for the host name, port, user name, password, and SID:

1. Add the following entry to the `$ORACLE_HOME/oc4j/j2ee/OC4J_OCSADMIN/config/data-sources.xml` file:

```
<data-source
class="oracle.jdbc.pool.OracleConnectionCacheImpl"
name="UltraSearchDS"
location="jdbc/UltraSearchPooledDS"
```



```
username="username"  
password="password"  
url="jdbc:oracle:thin:@database_host:oracle_port:oracle_sid"  
/>
```

In the preceding syntax, the variables are:

- `username` and `password`: The Oracle Database user name and password of the Oracle Collaboration Suite Search instance owner.
- `database_host`: The host name of the computer hosting the Oracle Database instance.
- `oracle_port`: The port on which the Oracle Database instance is available.
- `oracle_sid`: The SID of the Oracle Database.

If you are adding the data source to the default Oracle Collaboration Suite Search instance `username`, then make sure to unlock it first.

Note: The URL of the JDBC data source can be provided in the form of `jdbc:oracle:thin:@hostname:port:sid` or in the form of a TNS keyword-value syntax.

2. Restart the `OC4J_OCSADMIN` instance as follows:

```
$ORACLE_HOME/opmn/bin/opmnctl startproc instancename=OC4J_OCSADMIN
```

3. Set the `wk_test` password in the Oracle Collaboration Suite Database, as follows:

```
SQLPLUS> alter user wk_test identified by wk_test account unlock;
```

End-User Documentation Portal Installation

The End-User Documentation Portal is a set of customizable HyperText Markup Language (HTML) pages that provides an overview of Oracle Collaboration Suite clients and the information for downloading, installing, and configuring each Oracle Collaboration Suite client. The End-User Documentation Portal also includes links to the Frequently Asked Questions (FAQ) and Troubleshooting site on the Oracle Technology Network (OTN) and Oracle Collaboration Suite end-user tutorials.

It is recommended that you install and use the End-User Documentation Portal to provide the end-users with all the information they need to run the Oracle Collaboration Suite clients.

This chapter contains the following sections:

- [Section 16.1, "Installing the End-User Documentation Portal"](#)
- [Section 16.2, "Deploying the End-User Documentation Portal Package"](#)
- [Section 16.3, "Restricting Access to End-User Documentation Portal Administration Panel"](#)
- [Section 16.4, "Securing End-User Documentation Portal Administration Panel with Apache Authentication"](#)

16.1 Installing the End-User Documentation Portal

This section explains the installation process for End-User Documentation Portal. Installing the End-User Documentation Portal involves the following steps:

- [Section 16.1.1, "Testing PHP"](#)
- [Section 16.1.2, "Installing the DOM XML Extension"](#)

16.1.1 Testing PHP

PHP is an HTML embedded scripting language. The End-User Documentation Portal requires PHP version 4.3.x or later but will not work with PHP 5.0 or later version. It is installed with Oracle Collaboration Suite and is already compiled. The steps for testing PHP are as follows:

1. Navigate to `http://localhost` and locate the name of the directory on your machine that the URL points to. By default, the directory is `htdocs`. In this directory, create a new file called `info.php`, that consists of the following test script:

```
<?php
    phpinfo();
?>
```

2. Check if the test script works by navigating to `http://localhost/info.php`. A PHP page comes up if the test script is successful. A part of this page is shown in [Figure 16-1](#):

Figure 16-1 Default PHP Page

PHP Version 4.3.9	
System	Windows NT RGALLARD-PC 5.1 build 2600
Build Date	Sep 21 2004 14:03:10
Server API	Apache
Virtual Directory Support	enabled
Configuration File (php.ini) Path	C:\WINDOWS\php.ini
PHP API	20020918
PHP Extension	20020429
Zend Extension	20021010
Debug Build	no
Thread Safety	enabled
Registered PHP Streams	php, http, ftp, compress.zlib

There are many other tables that follow the table shown in [Figure 16-1](#). These tables describe the extensions that were installed in the PHP installation.

16.1.2 Installing the DOM XML Extension

The DOM XML extension is a PHP extension. It is a compiled library.

The steps to install the DOM XML extension are as follows:

1. Determine which version of PHP that is installed on your system by displaying the `http://localhost/info.php` page in your browser window.
2. Find a precompiled version of the DOM XML extension by performing the following steps:
 - a. Navigate to a site that enables you to search for rpms, such as <http://rpm.pbone.net/>.
 - b. Search for rpms that have `domxml` or `php-domxml` in their name.
 - c. Find a version of the extension closest to the version of PHP installed in your system and download it.
3. Use the `rpm` command as follows to install the `php-domxml` package that you downloaded.


```
rpm -Uvh name of the php-domxml package
```
4. Check if the extension is installed by navigating to the `http://localhost/info.php` page and searching for the `domxml` table. If you see a table titled `domxml`, then the extension was successfully installed.

16.2 Deploying the End-User Documentation Portal Package

The steps for unzipping and deploying the End-User Documentation Portal package are as follows:

1. Unzip the contents of `eudp.zip` from the `DVD/Doc/EUDP` directory in to the `htdocs` directory, or the directory to which `http://localhost/` points.
2. In a browser window, navigate to `http://localhost/eudp/admin/view.php` to test whether the End-User Documentation Portal administration tool works.

For instructions on how to use the End-User Documentation Portal administration tool and how to customize the content, refer to Chapter 5 of *Oracle Collaboration Suite Administrator's Guide*.

16.3 Restricting Access to End-User Documentation Portal Administration Panel

To prevent users other than the administrator from accessing the End-User Documentation Portal administration panel, use `htpasswd` utility of Apache server to protect the `eudp/admin` directory. After you have protected this directory, users will see a dialog requesting a user name and password when they try to access `view.php`. See the documentation of Apache server for more information about restricting access to directories.

16.4 Securing End-User Documentation Portal Administration Panel with Apache Authentication

The following steps show you how to secure the `admin` directory in `eudp` with Apache basic authentication.

When a user tries to access the `admin` directory (in particular, the `view.php` file), then the user will be prompted for a user name and password.

Performing the following steps on a local installation of the End-User Documentation Portal:

Note: You cannot perform the following steps remotely.

1. Create a file called `.htaccess` in the `eudp/admin` directory that contains the following directives:

```
AuthType Basic
AuthName "End-User Documentation Portal Administration Panel"
AuthUserFile "/apache_directory/htdocs/eudp/.htpassword"
AuthGroupFile /dev/null
require user administrator
```

`/apache_directory` is the location where you have installed Apache server and `administrator` is the user name of the administrator of the End-User Documentation Portal.

2. Create `AuthUserFile` called `.htpassword`. You must create this file in the same directory as specified in `"htaccess"`. Run the `htpasswd` utility as follows:

```
/apache_directory/bin/htpasswd -c \
/apache_directory/htdocs/eudp/.htpassword administrator
```

The `htpasswd` command will prompt you for a password.

3. Enable the directives found in htaccess files. Locate the <Directory> tag in the Apache httpd.conf file and change the AllowOverride directive to the AuthConfig option instead of None:

```
<Directory "/apache_directory/htdocs">  
#.....Other directives.....  
AllowOverride AuthConfig  
</Directory>
```

4. Save the changes you made to the httpd.conf file.
5. Restart the Apache server.

What's New in the Installation

This appendix describes new features of Oracle Collaboration Suite installation. This appendix is most useful to users who have installed earlier releases of Oracle Collaboration Suite.

To see the list of new features of Oracle Collaboration Suite, visit the Oracle Technology Network site at:

<http://www.oracle.com/technology/index.html>.

The contents of this appendix are:

- [Section A.1, "No Manual Configuration"](#)
- [Section A.2, "Option of Changing Ports During Installation"](#)
- [Section A.3, "Improved Oracle Collaboration Suite Infrastructure and Applications Installation on a Single Computer"](#)
- [Section A.4, "Changes in Oracle Collaboration Suite Database \(Previously Known as Information Storage\)"](#)
- [Section A.5, "Changes in Applications Tier Installation"](#)
- [Section A.6, "Support for High Availability Configurations"](#)
- [Section A.7, "Support for Secure Installation"](#)
- [Section A.8, "Enhancements in Configuration Assistants"](#)
- [Section A.9, "More Prerequisite Checks"](#)
- [Section A.10, "Support for Generating Installation Statistics"](#)
- [Section A.11, "Changed Terminology"](#)
- [Section A.12, "Oracle Collaboration Suite Database Uses Oracle 10g Database"](#)
- [Section A.13, "Support for Oracle Internet Directory Replication"](#)

A.1 No Manual Configuration

Earlier versions of Oracle Collaboration Suite required manual configuration of Applications tier components after installation.

In Oracle Collaboration Suite, the main installation takes care of all tasks that were previously identified as postinstallation tasks for each Applications tier component.

A.2 Option of Changing Ports During Installation

In earlier versions, the installation process dynamically assigned a free TCP port value based on a range of ports registered to each component. There might be times when you would not want to have the installation dynamically determine the port values and would rather be able to specify the ports to be used for the installation.

In Oracle Collaboration Suite 10g, you can specify custom port numbers for components, instead of having the installer assign default port numbers. This feature is called the static ports feature. To use static ports, you must set up a file with component names and desired port numbers. The installer uses the values from the file instead of the default port numbers.

Refer to [Section 2.4.3](#) for more information about custom port numbers and the static ports feature.

A.3 Improved Oracle Collaboration Suite Infrastructure and Applications Installation on a Single Computer

In earlier versions, single-computer installation was supported only on the Windows and Linux platforms. The installation process required you to provide information before installation of each tier.

In Oracle Collaboration Suite 10g, single-computer installation is available for all platforms. Unlike earlier releases, it enables you to enter all required information at the beginning of the installation.

A.4 Changes in Oracle Collaboration Suite Database (Previously Known as Information Storage)

Oracle Collaboration Suite Database, which was previously known as Information Storage, now combines all schemas required by Oracle Collaboration Suite in to a single database. Data is registered in Oracle Internet Directory during the installation of Oracle Collaboration Suite Database.

A.5 Changes in Applications Tier Installation

The following functionalities have been added to the Applications tier of Oracle Collaboration Suite:

- Support for Oracle Mail configuration
This removes the need to perform Oracle Mail-related postinstallation steps.
- Support for Oracle Content Services configuration
This removes the need to start the configuration assistant in the interactive mode during a typical installation.
- Support for selection of Oracle Collaboration Suite Databases to be used for components that you select
- Support for selection of well-known ports during the installation

In addition, the installation ensures that the Identity Management pointed to during installation is release 9.0.4.1 or later. This is required for all components to register properly in Oracle Internet Directory.

Also, Federated Search has been incorporated in to the installation process and combined with Oracle Ultra Search, and the search option is now called Oracle Collaboration Suite Search.

A.6 Support for High Availability Configurations

In this release, Oracle Collaboration Suite supports the following high availability environments:

- Oracle Calendar Cold Failover Cluster
- Distributed Identity Management Architecture
- Colocated Identity Management Architecture
- Single Cluster Architecture

In addition, for each environment, you can distribute the Oracle Collaboration Suite Database and Identity Management components over several computers. In earlier releases, you had to install all the components on the same computer.

A.7 Support for Secure Installation

You can specify that components connect to Oracle Internet Directory using Secure Socket Layer (SSL) only.

A.8 Enhancements in Configuration Assistants

Manual configuration is not required for Oracle Collaboration Suite 10g Release 1 (10.1.1.0.2). The configuration assistants perform nearly all the postinstallation tasks. Also, now configuration assistants:

- Write log files in a central location
- Write descriptive error messages in the log files

Note: The configuration assistant for Oracle Content Services does not write to a central location. Also, you cannot run the configuration assistant for Oracle Content Services standalone.

A.9 More Prerequisite Checks

The installer performs more prerequisite checks to ensure that your computer meets the minimum requirements.

A.10 Support for Generating Installation Statistics

The installer now provides command-line options for monitoring resources used for installation. The following options are supported:

- `-printtime` prints the time taken for installation.
- `-printmemory` prints the memory used for installation.
- `-printdiskusage` prints the disk space used for installation.

Example: the following command prints information for all three items:

```
runInstaller -printtime -printmemory -printdiskusage
```

A.11 Changed Terminology

[Table A–1](#) lists terms updated in Oracle Collaboration Suite 10g (10.1.1.0.2). The Oracle Collaboration Suite 10g documentation set uses these new terms.

Table A–1 *Changed Terminology*

Term in Release 2 (9.0.4.2)	Term in 10g (10.1.1.0.2)
Information Storage	Oracle Collaboration Suite Database
Integrated Web Client	Oracle Collaboration Suite Web Access
Oracle Files	Oracle Content Services
Middle tier	Applications tier
No corresponding name	Client tier
Oracle Email	Oracle Mail
Oracle Ultra Search	Oracle Collaboration Suite Search
Oracle Wireless	Oracle Mobile Collaboration

A.12 Oracle Collaboration Suite Database Uses Oracle 10g Database

In earlier releases, the installer created an Oracle9i Release 1 (9.0.1.3) Database and loaded the Oracle Collaboration Suite Database in that database.

In this release, the installer creates an Oracle 10g Database for Oracle Collaboration Suite Database.

To configure this database during installation, the installer displays these new screens:

- Specify Database Configuration Options
- Specify Database Schema Passwords

For details, refer to [Section 4.4.2](#).

A.13 Support for Oracle Internet Directory Replication

In this release, you can install the master Oracle Internet Directory, as well as Oracle Internet Directory replicas, using the installer.

Installation Checklists for Oracle Collaboration Suite

This appendix provides checklists for the two installations of Oracle Collaboration Suite. These checklists identify the types of information you are prompted to enter for each installation.

This appendix contains the following topics:

- [Oracle Collaboration Suite 10g Infrastructure Installation Checklist](#)
- [Oracle Collaboration Suite 10g Applications Installation Checklist](#)

B.1 Oracle Collaboration Suite 10g Infrastructure Installation Checklist

[Table B-1](#) lists required information for Infrastructure installation.

Enter your values for the listed installation information in the Your Information column before beginning.

Table B-1 Oracle Collaboration Suite 10g Infrastructure Installation Information

Information	Example Values	Your Information
Oracle Base Directory	/private/oracle/orainventory	
Oracle home Location	/private/oracle/ocsinfra	
OSDBA Group (Refer to Section 2.5)	svrtech	
OSOPER Group (Refer to Section 2.5)	svrtech	
Instance Name	infra_instance	
ias_admin Password	oracle1	
Oracle Application Server Single Sign-On Server Host Name	ocs.us.oracle.com	
Oracle Application Server Single Sign-On Port Number (Refer to Appendix G)	7777	
Oracle Internet Directory Host Name	ocs.us.oracle.com	

Table B–1 (Cont.) Oracle Collaboration Suite 10g Infrastructure Installation Information

Information	Example Values	Your Information
Oracle Internet Directory Port Number (Refer to Appendix G)	3061	
Oracle Internet Directory Username	cn=orcladmin	
Oracle Internet Directory Password	oracleadmin	
Database Character Set	UTF8	

B.2 Oracle Collaboration Suite 10g Applications Installation Checklist

[Table B–2](#) lists required information for an Applications installation.

Enter your values for the listed installation information in the Your Information column before beginning the installation.

Table B–2 Oracle Collaboration Suite Applications Installation Information

Information	Example Values	Your Information
Oracle home Location	/private/oracle/ocsapp	
OSDBA Group (Refer to Section 2.5)	svrtech	
OSOPER Group (Refer to Section 2.5)	svrtech	
Multilingual Support (Refer to Section 3.4)	runInstaller	
Instance Name	app_instance	
ias_admin Password	oracle1	
Oracle Application Server Single Sign-On Server Host Name	ocs.us.oracle.com	
Oracle Application Server Single Sign-On Port Number (Refer to Appendix G)	7777	
Oracle Internet Directory Host Name	ocs.us.oracle.com	
Oracle Internet Directory Port Number (Refer to Appendix G)	3061	
Oracle Internet Directory Username	cn=orcladmin	
Oracle Internet Directory Password	oracleadmin	

Table B-2 (Cont.) Oracle Collaboration Suite Applications Installation Information

Information	Example Values	Your Information
Applications Tier Components that Were Configured During the installation		

Installing Oracle Calendar Standalone

This appendix describes requirements and procedures for installing the components of Oracle Calendar standalone, including:

- Oracle Calendar server
This component is required to run other components of Oracle Calendar. It is complemented by Oracle Calendar Administrator.
- Oracle Calendar SDK
This component is a tool for developing applications for Oracle Calendar.
- Oracle Calendar application system
Oracle Calendar includes several components that are managed in an application server framework called the Oracle Calendar application system. It controls the following components:
 - Oracle Calendar Web client
 - Oracle Calendar Web services
 - Oracle Mobile Data Sync

You can install the Oracle Calendar server and the Oracle Calendar application system components on the same host or on multiple, separate hosts across a network.

This appendix contains the following sections:

- [Section C.1, "System Requirements"](#)
- [Section C.2, "Preinstallation"](#)
- [Section C.3, "Installation"](#)
- [Section C.4, "Upgrades"](#)
- [Section C.5, "Postinstallation Configuration"](#)
- [Section C.6, "Oracle Calendar Deinstallation"](#)
- [Section C.7, "General Issues and Workarounds"](#)

C.1 System Requirements

You can install Oracle Calendar server and the Oracle Calendar application system components together or separately. The following sections list requirements common to both components and separate to each.

This section contains the following topics:

- [Section C.1.1, "Common Requirements"](#)
- [Section C.1.2, "Oracle Calendar Server Requirements"](#)
- [Section C.1.3, "Oracle Calendar Application System Requirements"](#)

C.1.1 Common Requirements

The common requirements for installing the Oracle Calendar server and the Oracle Calendar application system components together or separately are as follows:

- **Operating system:** As described in [Chapter 2](#) in the requirements for Oracle Collaboration Suite
- **Colors:** A minimum of 256 display colors
- **Disk space:** Up to 500 MB free disk space
- **Patches:** The same patches apply as are listed in the requirements for Oracle Collaboration Suite. Refer to [Section 2.2](#) for packages and patches requirements.

C.1.2 Oracle Calendar Server Requirements

The requirements for installing the Oracle Calendar server Release 1 (10.1.1.0.2) are as follows:

- **Privileges**
During the installation, you might need to run some scripts with `root` privileges. For more information, refer to Oracle Universal Installer Help.
- **RAM**
A minimum of 512 MB of RAM or more is needed for computers handling a large number of users or services.
To calculate your exact requirements, refer to the *Oracle Calendar Administrator's Guide*.
- **Disk Space**
At least 500 MB of disk space that includes disk space for the Oracle Calendar database and log files.
- **Messaging Server**
A Simple Mail Transfer Protocol (SMTP) server for mail notifications.
- **Web Browser**
You need one of the following Web browsers to be able to use Oracle Calendar Administrator:
 - Netscape 7.0 or later
 - Mozilla 1.2 or later
- **Kernel Parameters**
Refer to the *Oracle Calendar Administrator's Guide* for details on the kernel parameters needed to run Oracle Calendar server.

C.1.3 Oracle Calendar Application System Requirements

The requirements for installing Oracle Calendar application system are as follows:

- **Web Server**

Oracle HTTP Server or Apache Web Server. Standalone installations of Oracle Calendar support the following versions of Apache with `mod_fastcgi`.

- Apache 1.3.26 and later with `mod_fastcgi 2.2.12`
- Apache 2.0.53 and later with `mod_fastcgi 2.4.2`

- **RAM**

At least 512 MB RAM or more is recommended for computers handling a large number of users.

- **Disk Space**

At least 100 MB of disk space for installation plus 200 MB for operation, including the disk space for `linkdb` and `sessiondb`. More disk space may be required for heavy deployments.

- **Oracle Calendar Web Client Browsers**

The following browsers can be used to use the Oracle Calendar Web client component of the Oracle Calendar application system:

Linux

- Netscape 7.2
- Firefox 1.0

Note: To use the Oracle Calendar Web client in standard mode, you must enable Javascript. Javascript is not necessary when using the Oracle Calendar Web client in accessible mode

C.2 Preinstallation

This section contains important information you must know before installing the Oracle Calendar server and the Oracle Calendar application system components.

This section contains the following topics:

- [Section C.2.1, "Setting Up Your Directory Server"](#)
- [Section C.2.2, "Planning Separate Installations of the Oracle Calendar Application System and the Oracle Calendar Server"](#)

Note: If you have a previous version of Oracle Calendar server installed, refer to [Section C.4](#), for information on working with other versions.

C.2.1 Setting Up Your Directory Server

When installed in standalone mode, Oracle Calendar server can be used with a third-party external directory server. Support for the Lightweight Directory Access Protocol (LDAP) is offered through separate connectors:

- LDAP Connector 10.1.1.0.2 for Sun ONE Directory Server
- LDAP Connector 10.1.1.0.2 for OpenLDAP
- LDAP Connector 10.1.1.0.2 for Syntegra Aphelion Directory Server

Before installing Oracle Calendar server, you must use your LDAP connector to extend the directory schema.

Directory servers contain schemas that define the information they store. These schemas consist, among other things, of objects and attributes. The directory server schema needs to be extended to include objects and attributes needed by the Oracle Calendar server. For a list of the extensions to the Oracle Calendar server schema, refer to the *Oracle Calendar Reference Manual*.

This section contains the following topics:

- [Terminology for Directory Servers](#)
- [Setting Up a Sun ONE Directory Server](#)
- [Setting Up an OpenLDAP Directory Server](#)
- [Setting Up a Syntegra Aphelion Directory Server](#)

C.2.1.1 Terminology for Directory Servers

Table C–1 determines the correlation between the directory server parameters required during installation and the terminology used for each product.

Table C–1 Oracle Calendar and Directory Server Concordance

Definition of Concept	Oracle Calendar	Sun ONE Directory Server	Syntegra Aphelion Directory Server	OpenLDAP Directory Server
Computer on which directory server is installed	LDAP host	Directory Server host	Not applicable	LDAP host
Port number for directory server connections	LDAP port	Directory Server port number	LDAP daemon port	LDAP port
The point in the directory hierarchy from which searches are performed	BaseDN	BaseDN or Directory suffix or search root	DN located beneath context prefix	BaseDN
Superuser for the directory (user with unrestricted access)	SuperUserDN	RootDN or Unrestricted user	ManagerDN	RootDN or Unrestricted user
Password for unrestricted access	SuperUserDN password	RootDN or unrestricted user password	ManagerDN Password	RootDN or unrestricted user password
The "parent" entry, offset from the baseDN, for the 6 reserved Oracle Calendar users	Oracle Calendar Administrators ParentDN	Not applicable	Not applicable	Not applicable
A new group, offset from the baseDN, for the 6 reserved Oracle Calendar users	Oracle Calendar Administrators GroupDN	Not applicable	Not applicable	Not applicable

C.2.1.2 Setting Up a Sun ONE Directory Server

To set up a Sun ONE or iPlanet 5.x Directory Server, perform the following steps:

1. Extract the files from the tar file `ldapc_10.1.1.0.2_SunOne_unix.tar` included in `/calendar_standalone/Disk1/ldapc10.1.1.0.2_SunOne_unix_en_rtm1.tar`.
2. Locate the `SunOne/calendar-schema.ldif` file.
3. Use this file with the `ldapmodify` utility to modify the directory entries as follows:

```
% ldapmodify -h host -p port -D Directory_Manager_DN -w Directory_Manager_Password -f "calendar-schema.ldif"
```

4. Verify that no error is reported.

C.2.1.3 Setting Up an OpenLDAP Directory Server

To set up an OpenLDAP Directory Server version 2.x or later, perform the following steps:

1. Extract the files from the `ldapc_10.1.1.0.2_openldap_unix.tar` tar file, which is included in the Oracle Calendar package.
2. Find the file `openldap/calendar.schema`.
3. Locate the OpenLDAP configuration directory.
It is usually set to `/usr/local/etc/openldap`. This directory will be used in the next steps.
4. Copy the file `calendar.schema` to `/usr/local/etc/openldap/schema`, assuming that the configuration directory is in `/usr/local/etc/openldap`.
5. Open the `/usr/local/etc/openldap/slapd.conf` file for editing.
6. Locate the line that contains:

```
include /usr/local/etc/openldap/schema/cosine.schema
```
7. Add the following line if it has not been added already:

```
include /usr/local/etc/openldap/schema/inetorgperson.schema
```
8. Add the following line:

```
include /usr/local/etc/openldap/schema/calendar.schema
```
9. Add the following line in the database section:

```
index ctcalxitemid pres,eq
```
10. Restart `slapd` server.

C.2.1.4 Setting Up a Syntegra Aphelion Directory Server

To set up the Syntegra Aphelion Directory Server, perform the following steps:

1. Extract the files from the tar file `ldapc_10.1.1.0.0_syntegra_unix.tar`, included in the Oracle Calendar package to a temporary directory. The temporary directory must contain the following files:

```
syntegra/oidtable.gen_cst
syntegra/oidtable.oc_cst
syntegra/oidtable.at_cst
```
2. To prepare the Syntegra Aphelion Directory Server, you must install the files mentioned in Step 1 to configure `ctCal` directory objects. Append the content of these files (containing the object identifier numbers for Oracle Calendar schemas, the object classes, and the attributes) to the corresponding Syntegra Aphelion (object identifier) table files:

```
/usr/var/osi/oidtable.gen
/usr/var/osi/oidtable.oc
/usr/var/osi/oidtable.at
```
3. Restart the directory server to allow the configuration changes to take effect.

C.2.2 Planning Separate Installations of the Oracle Calendar Application System and the Oracle Calendar Server

You can install and configure the Oracle Calendar application system and the Oracle Calendar server on the same host. Both components are configured to see the host and port of each other. However, for large deployments, it is best to install the Oracle Calendar server and the Oracle Calendar application system on separate hosts. You can do this by running the Oracle Universal Installer on each host and selecting the components you want to install.

You should start by installing the Oracle Calendar server. Enter a temporary value when prompted for the host name and port of the Oracle Calendar application system. When you install the Oracle Calendar application system, you must enter information on the server you have just installed. Then, edit the configuration file of the server to enable resource approval, as described in [Section C.5.3.4](#).

For more information on editing Oracle Calendar configuration files, refer to the *Oracle Calendar Reference Manual*.

Note: For security reasons, it is recommended that the Oracle Mobile Data Sync component only be accessible through SSL ([https](#)) connections. You may also want to install Oracle Mobile Data Sync on a separate host for easier accessibility from mobile devices. Keep in mind that some phones support VPN access through a firewall, while others do not.

It is also recommended that you use Calendar Web services through SSL connections.

C.3 Installation

This section explains how to install Oracle Calendar standalone components on UNIX-based systems. This section contains the following topics:

- [Section C.3.1, "Installing Oracle Calendar Server and the Oracle Calendar Application System"](#)
- [Section C.3.2, "Installing Oracle Calendar Server Only"](#)
- [Section C.3.3, "Installing Oracle Calendar Application System Only"](#)
- [Section C.3.4, "Manually Running the Oracle Calendar Server Configuration Assistant"](#)
- [Section C.3.5, "Manually Starting and Stopping the Oracle Calendar Application System"](#)

C.3.1 Installing Oracle Calendar Server and the Oracle Calendar Application System

Perform the following tasks to install Oracle Calendar server and the Oracle Calendar application system:

1. Extract or copy the Oracle Calendar installation files to a temporary directory.
2. In your temporary directory, navigate to the `./calendar_standalone/Disk1` subdirectory
3. Start Oracle Universal Installer using the following command:

```
./calendar_standalone/Disk1/runInstaller
```

4. Click **Next** on the Welcome screen and follow the installation instructions.

On the Specify File Locations screen, ensure that the default path selected reflects the path to `products.xml`.

Also in the Specify File Locations screen, enter an `ORACLE_HOME` name and path, then click **Next**. The path you enter can be up to 74122 characters long.

If you have a previous version of Oracle Calendar installed and you want to upgrade it, do not overwrite it.

5. Select the components you want to install and click **Next**. The components are:

- Oracle Calendar Administrator
- Oracle Calendar server
- Oracle Calendar SDK
- Oracle Calendar application system
- Oracle Mobile Data Sync
- Oracle Calendar Web services
- Oracle Calendar Web client

Note: Oracle Calendar Web client, Oracle Mobile Data Sync, and Oracle Calendar Web services cannot be installed unless you select **Oracle Calendar application system**.

Oracle Calendar will be installed in the following locations:

Component	Location
Oracle Calendar	<code>\$ORACLE_HOME/ocal/</code>
Oracle Calendar Administrator	<code>\$ORACLE_HOME/ocad/</code>
Oracle Calendar application system	<code>\$ORACLE_HOME/ocas/</code>

6. If the kernel parameters on your computer are not sufficient to run the Oracle Calendar installation, then an information dialog box appears listing the parameters you might have to change. Make the required changes and then restart the computer. Next, restart the installation.

For details on calculating required kernel parameters, refer to Appendix B, "Adjusting Calendar Kernel Parameters," in the *Oracle Calendar Administrator's Guide*.

7. Select the language for running Oracle Calendar and click **Next**.
8. Select the directory server you want to use and click **Next**.

Note: Select **Internal** if you do not have a directory server.

Enter directory server configuration information such as **Host**, **Port**, and **Base DN**, as described in [Section C.2.1](#).

9. After entering your directory server information, enter a password in the fields of the Oracle Calendar Administrative Password screen.
10. In the Oracle Calendar Node-ID screen, enter a Node ID. This must be a unique value between 1 and 49999.
11. If this is your first installation of Oracle Calendar server, then select **Yes** in the Oracle Calendar Master Node screen to make the current installation the master node.

Note: You must have one master node on your network for Web Services and Oracle Mobile Data Sync to work.

12. Click **Next** and follow the remaining instructions to complete the installation.
13. To upgrade data from a previous version of Oracle Calendar, go to [Section C.4](#). Otherwise, go to [Section C.5](#).

Handling Oracle Calendar Application System Configuration Assistant Failure

If the \$ORACLE_HOME path is greater than 50 bytes, the Oracle Calendar application system configuration assistant fails to restart Oracle HTTP Server. Perform the following tasks to resolve this issue:

1. Do not close the Oracle Universal Installer window.
2. Log on to the Applications tier using the same user ID that you used to start the installation.
3. Edit the `$ORACLE_HOME/Apache/Apache/conf/httpd.conf` file. Locate the occurrence of `<IfModule mod_fastcgi.c>` and add the following line after it:

```
FastCgiIpcDir /tmp
```

As a result, the file should have the following lines:

```
<If Module mod_fastcgi.c>  
FastCgiIpcDir /tmp
```

4. Return to Oracle Universal Installer and run the Oracle Calendar application system configuration assistant again.

Note: If you are unable to run the Oracle Calendar application system configuration assistant again, perform Steps 2 and 3, then restart Oracle HTTP Server using the following command:

```
opmnctl restartproc ias-component=HTTP_Server
```

C.3.2 Installing Oracle Calendar Server Only

The procedure for installing only the Oracle Calendar server is similar to the procedure described in [Section C.3.1](#), with one difference. In Step 5 you must select **only the following components**:

- Oracle Calendar Administrator
- Oracle Calendar Server
- Oracle Calendar SDK

C.3.3 Installing Oracle Calendar Application System Only

The procedure for installing only Oracle Calendar application system and its components is similar to that described in [Section C.3.1](#) on page C-6, with the following differences.

- In Step 5, you must select **only the following components**:
 - Oracle Calendar application system
 - Oracle Mobile Data Sync
 - Oracle Calendar Web services
 - Oracle Calendar Web client
- After Step 5, you will be prompted to enter the **Host, Port, and Node-ID** for Oracle Calendar only. If you do not know these values, you can enter temporary values and later edit the `ocas.conf` file in Oracle Calendar application system with the correct values. For example:

```
[CONNECTION]
mnode=Host:Engine_Port,node
```

C.3.4 Manually Running the Oracle Calendar Server Configuration Assistant

The Oracle Collaboration Suite installation program runs an Oracle Calendar server configuration assistant, a tool that configures Oracle Calendar standalone to work with your system. If you encounter an error during installation because of a problem with your setup (for example, if a host URL you specified could not be read) you should manually run this configuration assistant once you have fixed the problem.

To manually run the configuration assistant:

1. Set `ORACLE_HOME` to the directory where Oracle Calendar is installed.
2. If required, set the value of the `LD_LIBRARY_PATH` parameter to the following:

```
$ORACLE_HOME/lib32:$ORACLE_HOME/lib:$ORACLE_HOME/ocal/lib
```

3. Open the following log file:

```
$ORACLE_HOME/cfgtoollogs/configtoolsDATE_TIME.log
```

4. Locate the configuration assistant header. It might look similar to the following:

```
-----
Launched configuration assistant 'Calendar Server Configuration Assistant'
-----
```

5. Under the header, copy the command that was created during installation. The command beginning will be similar to the following:

```
/home/myuser/oracle_home/jre...
```

The command ending will be similar to the following:

```
... -epw -DSDS OID -portDAS 5736 -DSmgrdn cn=orcladmin -emgrp -mnme -ePIM
-eimt -eclient -tzkey MEZ-1MESZ -silent
```

6. Run the command you copied. Replace the following parameters:

Parameter	Replace with, When Running Manually
-encnodepw	-nodepw <ias_admin_password>
-encDSMgrp	-DSMgrp <DSMgrdn_user_password>
	(The DSMgrdn user is specified in the command line. For example, -DSMgrdn cn=orcladmin.)

C.3.5 Manually Starting and Stopping the Oracle Calendar Application System

The Oracle Calendar application system often requires a restart after a configuration file has been modified. Follow these steps to check the status of, start and stop the Oracle Calendar application system when deployed with Oracle Collaboration Suite:

1. To check the status of the Oracle Calendar application system, use the `ocasctl` command-line utility and:

```
$ORACLE_HOME/ocas/bin/ocasctl -status
```

2. To start the Oracle Calendar application system, use the `ocasctl` command-line utility, with the options specified as follows:

```
$ORACLE_HOME/ocas/bin/ocasctl -start -t ochecklet -p 8020 -n 1
$ORACLE_HOME/ocas/bin/ocasctl -start -t ocas -p 8010 -n 5
```

Note: Ports 8010 and 8020 are default port numbers for OCAS and ochecklet. The valid range is 8010 through 8020.

3. To stop the Oracle Calendar application system, use the `ocasctl` command-line utility:

```
$ORACLE_HOME/ocas/bin/ocasctl -stopall
```

C.4 Upgrades

Refer to *Oracle Collaboration Suite Upgrade Guide* for more details on upgrading your data for Oracle Calendar server and Oracle Calendar application system.

C.5 Postinstallation Configuration

This section describes procedures necessary to configure a standalone installation of Oracle Calendar.

This section contains the following topics:

- [Section C.5.1, "Configuring the Oracle Calendar Application System and Oracle Calendar Administrator"](#)
- [Section C.5.2, "Configuring the Directory Server"](#)
- [Section C.5.3, "Configuring the Oracle Calendar Server"](#)
- [Section C.5.4, "Checking and Configuring the Oracle Calendar Application System"](#)
- [Section C.5.5, "Configuring Oracle Calendar E-mail Delivery"](#)

- [Section C.5.6, "Configuring Oracle Calendar Web Client with a Traditional Node Network"](#)

C.5.1 Configuring the Oracle Calendar Application System and Oracle Calendar Administrator

If you are using an Apache Web server or Oracle HTTP Server, add the following line to the `httpd.conf` file of the Web server to recognize the Oracle Calendar Administrator:

```
include $ORACLE_HOME/ocad/config/ocad.conf
```

Note: Ensure that you have read access to `ocad.conf`

In addition, make the following changes to your `httpd.conf` file so that you can use the Oracle Calendar application system:

- Include `$ORACLE_HOME/ocas/config/ocal.conf`
- Set the system library search path to include `$ORACLE_HOME/lib` on Solaris and Linux, or `$ORACLE_HOME/lib32` on HP
- Set the `ORACLE_HOME` environment variable to the directory where Oracle Calendar is installed

Note: If you customized your original installation in a similar manner, then you may have to resolve conflicting settings.

Restart the Web server after you make the changes.

C.5.2 Configuring the Directory Server

If, during installation, you selected a directory server to use with Oracle Calendar, the Oracle Calendar Administrator must be granted certain access rights.

This section contains the following topics:

- [Configuring a Sun ONE Directory Server](#)
- [Configuring an OpenLDAP](#)
- [Syntegra Aphelion Directory Server](#)

C.5.2.1 Configuring a Sun ONE Directory Server

To grant access rights to the Oracle Calendar Administrator on a Sun ONE Directory Server, run the `unidsacsetup` utility with the `-w` option. For more details on this utility, refer to Appendix E, "Calendar Server Utilities," in the *Oracle Calendar Reference Manual*.

C.5.2.2 Configuring an OpenLDAP

To grant access rights to the Oracle Calendar Administrator on an OpenLDAP Directory Server use the base DN (example: `"dc=visioncorp,dc=com"`) and the Oracle Calendar Administrator parent DN (example: `"ou=OracleCalendarAdministrator"`). For example:

1. Edit the `/usr/local/etc/openldap/slapd.conf` file.

2. In the database section, add this information with the correct base DN and Oracle Calendar Administrator parent DN:

```
access to dn="(.*,)?dc=acme,dc=com"
by dn="(.*,)?ou=OracleCalendarAdministrator,dc=acme,dc=com" write
```

C.5.2.3 Syntegra Aphelion Directory Server

To grant access rights to the Oracle Calendar Administrator on the Syntegra Aphelion Directory Server, perform the following steps:

1. Use the Syntegra Aphelion Web application and sign in as a Directory Manager.
2. Click the LDE where Oracle Calendar is installed.
3. Click **Manage**.
4. Expand the **Access Control** folder.
5. Click **Advance Access Control**.
6. In the right pane, click **Add New Access Control Policy**.
7. In the Modify Access Control Policy text area, type the following:

```
to dn=.*BASEDN by dn=.*,ADMINDN,BASEDN write
```

In the preceding example, BASEDN is the value of the [LDAP]basedn parameter and ADMINDN is the value of the [LDAP]admin parameter in the `$ORACLE_HOME/ocal/misc/unison.ini` configuration file.

For more details on these parameters, refer to Appendix C, "Calendar Server Parameters," in the *Oracle Calendar Reference Manual*.

8. Click **Apply** for the change to take effect.

C.5.3 Configuring the Oracle Calendar Server

This section describes configuration changes you might need to make to Oracle Calendar after installing or upgrading.

This section contains the following topics:

- [Starting and Stopping the Oracle Calendar Server](#)
- [Checking Port Values](#)
- [Opening and Configuring Oracle Calendar Administrator](#)
- [Setting Up Resource Approval](#)
- [Working with LD_LIBRARY_PATH](#)
- [Working with Security Mechanisms](#)

C.5.3.1 Starting and Stopping the Oracle Calendar Server

Start the Oracle Calendar server with the following command:

```
$ORACLE_HOME/ocal/bin/unistart
```

Stop the Oracle Calendar server with the following command:

```
$ORACLE_HOME/ocal/bin/unistop -y
```

C.5.3.2 Checking Port Values

The default ports used by Oracle Calendar are:

Port Number	Function
5730	Oracle Calendar Engine
5731	Synchronous Network Connector
5732	Directory Access Server
5734	Oracle Calendar Server Manager

If these ports are already in use, the installation will use the next available port. Please verify `unison.ini` for the values used by Oracle Calendar.

C.5.3.3 Opening and Configuring Oracle Calendar Administrator

Use Oracle Calendar Administrator to manage users, events, resources, and public agendas, as well as to perform administrative tasks. By default, it opens in the following URL:

```
http://Oracle_Calendar_Administrator_host:http_
port/ocad-bin/ocad.cgi?object=nodeadm
```

To log on to Oracle Calendar Administrator, enter the Oracle Calendar administrative password you chose during installation. Do not enter a user name with this password.

In some cases, you may want to run Oracle Calendar Administrator on a non-Apache Web server. If so, you should make the following changes to your Web server:

- Set the system library search path to include `$ORACLE_HOME/lib32`, `$ORACLE_HOME/lib`, `$ORACLE_HOME/ocal/lib` (lib32 for other platforms, such as hp-ux PA-RISC (64-bit)), and `$ORACLE_HOME/ocad/bin`.
- Set the `ORACLE_HOME` environment variable to the directory where Oracle Calendar is installed.
- Configure a script alias, such as `ocad-bin`, to `$ORACLE_HOME/ocad/bin/ocad.cgi`. This alias must have the permissions to run `ocad.cgi`.
- Configure the `ocad-templates` script alias to `$ORACLE_HOME/ocad/templates`. This alias must be named `ocad-templates`, and must have the permissions to read `.html`, `.js`, and `.css` files.

The Web server identity must have access to server directories as follows:

Folder	Permissions
<code>\$ORACLE_HOME/ocad/bin/</code>	Read, Write, Execute
<code>\$ORACLE_HOME/ocad/sessions/</code>	Read, Write
<code>\$ORACLE_HOME/ocad/temp/</code>	Read

The `$ORACLE_HOME/ocad/bin/ocad.cgi` program must have the permissions needed to read or write files in `$ORACLE_HOME/ocad/sessions`. This can be configured in the `$ORACLE_HOME/ocad/bin/ocad.ini` file.

You can find required settings for your server in the `$ORACLE_HOME/ocad/config/ocad.conf` file.

C.5.3.4 Setting Up Resource Approval

If you intend to use the resource approval feature (on any Web server), you must set it up as follows:

1. Create or modify a resource with NOTIFY-APPROVER set to TRUE and APPROVER-EMAIL set to e-mail of the approver. For example, in `ocal/bin`:

```
uniuser -resource -add R=Resource
_Approval/NOTIFY-APPROVER=TRUE/APPROVER-EMAIL=approver.email@oracle.com
/psw=password -n 4313 -p test1
```
2. Assign Resource designate rights in `ocal/bin` as follows:

```
uniaccessrights -mod -designate ALL=TRUE -grantee S=Designate/NODE-ID=4313
-grantor R=Resource_Approval -n 4313 -p test1
```
3. Also ensure that the RESOURCE_APPROVAL section exists in `unison.ini`, which is located in `ocal/misc`, with the URL parameter. For example:

```
[RESOURCE_APPROVAL]
url=http://server:port/ocas-bin/ocas.fcgi?sub=web
```
4. If you changed the resource approval URL, restart Oracle Calendar.

C.5.3.5 Working with LD_LIBRARY_PATH

Any values added to the LD_LIBRARY_PATH environment variables, for example to configure security mechanisms, are deleted by Oracle Calendar. Instead, add the values to the OCAL_ADDITIONAL_LIBPATH variable.

C.5.3.6 Working with Security Mechanisms

Some security mechanisms require that you set the OCAL_ADDITIONAL_LIBPATH environment variable to include the paths to their libraries.

If you are using GSSAPI or Kerberos 5, you must include the path to the five shared libraries required by `libaut_gssapi.so`. For more information about Kerberos 5 Authentication with Oracle Calendar refer to *Oracle Collaboration Suite Security Guide*

Each path must be separated by a semicolon (;). For example:

For C shell:

```
setenv OCAL_ADDITIONAL_LIBPATH
/usr/local/kerberos/krb5/lib;/usr/local/sasl/sasl-1.5.27/lib
```

For Bourne shells:

```
OCAL_ADDITIONAL_LIBPATH=
/usr/local/kerberos/krb5/lib;/usr/local/sasl/sasl-1.5.27/lib
export OCAL_ADDITIONAL_LIBPATH
```

C.5.4 Checking and Configuring the Oracle Calendar Application System

To start the Oracle Calendar application system, use the following commands:

```
$ORACLE_HOME/ocas/bin/ocasctl -start
$ORACLE_HOME/ocas/bin/ocasctl -start -t ochecklet
```

This section explains how to check the status of the Oracle Calendar application system and make configuration changes to it, if necessary.

This section contains the following topics:

- [Checking the Status of the Oracle Calendar Application System](#)
- [Configuring the Oracle Calendar Application System](#)

C.5.4.1 Checking the Status of the Oracle Calendar Application System

To see if the Oracle Calendar application system and its components are running, open the system page at `http://server:port/ocas-bin/ocas.fcgi?sub=sys`. If a component is not running, it will not appear in the system page.

To connect to a component with an appropriate client, use the following URLs:

Component	URL
Oracle Mobile Data Sync	<code>http://host:port/ocst-bin/ocas.fcgi</code>
Web services	<code>http://host:port/ocws-bin/ocas.fcgi</code>
Oracle Calendar Web client	<code>http://host:port/ocas-bin/ocas.fcgi?sub=web</code>

C.5.4.2 Configuring the Oracle Calendar Application System

The Oracle Calendar application system and its components are controlled with the following configuration files under `$ORACLE_HOME/ocas/conf`:

ocas.conf: Oracle Calendar application system

ocws.conf: Web services

ocst.conf: Oracle Mobile Data Sync

ocwc.conf: Oracle Calendar Web client

ocal.conf: Web server FastCGI directives, included from `httpd.conf`

Consider the following configuration options, depending on your environment:

- Run several instances of `ocas.fcgi`. The number of instances depends on setup and load. You can configure this in `ocal.conf`.
- You must run one instance of `ochecklet.fcgi` for each installation or host. This is also configured in `ocal.conf`.
- To redirect the Web client from a custom URL, add the following statement to `ocal.conf`:

```
<Location /calendar>
  Redirect permanent /calendar \
    http://<host>:<port>/ocas-bin/ocas.fcgi?sub=web
</Location>
```

- Ensure that the `linkdb` and `sessiondb` variables in all hosts files for Oracle Calendar application system refer to the same path. For example, they should refer to the same NFS mount.
- Set authentication, compression, and encryption (ACE) values in the `conf` file of each component. The AUTH Web settings for all products should be configured in the `[ACE_PLUGINS_CLIENT]` section of `ocas.conf`.
- If you experience any problems, check for error messages in:

```
$ORACLE_HOME/ocas/logs/ocas_log
```

Ensure that you restart the Oracle Calendar application system after any changes to the conf files.

C.5.5 Configuring Oracle Calendar E-mail Delivery

If e-mail sent by Oracle Calendar appears to come from the server rather than the desired domain name, then make the following change to `sendmail.cf` in the `/etc` directory.

```
# who I masquerade as (null for no masquerading) (see also $=M)
DMdomainname
```

In this example, `domainname` is the mail domain name from which the e-mail will be sent.

C.5.6 Configuring Oracle Calendar Web Client with a Traditional Node Network

If Oracle Calendar server is not configured in a master-node environment, the following changes must be made to ensure a successful connection from the Oracle Calendar Web client to Oracle Calendar:

1. Use a text editor to open the `$ORACLE_HOME/ocas/conf/ocas.conf` configuration file.
2. Modify the value of the `[system]` `connection` parameter to `TRADITIONAL`, as in the following example:

```
[system]
connection = TRADITIONAL
```

3. Put the `[connection]` `mnode` parameter in a comment, as in the following example:

```
[connection]
#mnode = hostname.domain.com:5730,1
```

4. In the `[connection]` section, add the following parameter for each node in your node network:

```
<server#> = <host>:<port>,<node>,<alias>
```

In the preceding syntax, `<alias>` is optional.

5. If more than one server node specification appears in the `[connection]` section, then you must set the `[modules]` `serverlist_login` parameter in the `$ORACLE_HOME/ocas/conf/ocwc.conf` file to `TRUE`, as in the following example.

```
[modules]
serverlist_login = TRUE
```

A Sample Scenario

This section provides an example of how to configure Oracle Calendar Web client for use with a traditional node network.

An Oracle Calendar server has been installed on the `myhost.com` host with the `[ENG]` port defined as 5730 in the `$ORACLE_HOME/ocal/misc/unison.ini` file. The Oracle Calendar server consists of the three following nodes in a node network:

- 100. The node alias of this node is `Law`.

- 300. The node alias of this node is `Medicine`.
- 500. The node alias of this node is `Music`.

These nodes are configured in a traditional environment without a masternode. The Oracle Calendar application system has been installed, and the Oracle Calendar server administrator wants to offer the Calendar service through the Oracle Calendar Web client to all three nodes.

To do so, the Oracle Calendar server administrator must configure the `$ORACLE_HOME/ocas/conf/ocas.conf` as follows:

```
[system]
connection = TRADITIONAL

[connection]
#mnnode = hostname.domain.com:5730,1
server1 = myhost.domain.com:5730,100,Law
server2 = myhost.domain.com:5730,300,Medicine
server3 = myhost.domain.com:5730,500,Music
```

The Oracle Calendar server administrator must also change the `$ORACLE_HOME/ocas/conf/ocwc.conf` file as follows:

```
[modules]
serverlist_login = TRUE
```

Note: Oracle Calendar Web services and Oracle Mobile Data Sync will work only with a master node.

C.6 Oracle Calendar Deinstallation

The following steps describe how to deinstall the Oracle Calendar server and Oracle Calendar application system from a host.

1. Stop Oracle Calendar server using the `unistop -y` command.
2. Stop the Oracle Calendar application system using the `ocasctl -stopall` command.
3. In the directory server, use `LDIF update` commands to remove the Oracle Calendar attributes from your Oracle Calendar users.
4. In the directory server, remove all `ctCal` objects for the Oracle Calendar nodes that were on this server. Use the `ldapsearch` and `ldapdelete` commands and refer to the directory server documentation for proper syntax.
5. In the directory server, remove all relevant Oracle Calendar administrative groups and Access Control Lists (ACLs) from the database. Clean up your `LDIF` file with a manual `edit LDIF` or use `LDIF update` statements.
6. Remove Oracle Calendar components using Oracle Universal Installer. Start Oracle Universal Installer with the command:


```
./runInstaller
```
7. Delete the `calendar_server_path`.
8. Delete the `client_path`.

C.7 General Issues and Workarounds

This section describes general issues and their workarounds for Oracle Calendar and the Oracle Calendar application system. Issues are discussed in the following sections:

- [Section C.7.1, "Oracle Calendar Server Issues"](#)
- [Section C.7.2, "Oracle Calendar Application System Issues"](#)

C.7.1 Oracle Calendar Server Issues

This section includes the following topics:

- [Installation](#)
- [Reinstallation](#)
- [Coexistence and Upgrades](#)
- [Designates](#)
- [Other Issues](#)

C.7.1.1 Installation

Blank [LCK] and [LIC] sections will be added to the `unison.ini` file of a fresh installation of a standalone Oracle Calendar and upgraded standalone server, standalone Oracle Calendar or upgraded standalone server, or both. Do not remove these sections.

C.7.1.2 Reinstallation

When reinstalling components of Oracle Calendar, ensure that you install the Oracle Calendar component in a fresh directory. Other components can be installed or added to their existing paths.

C.7.1.3 Coexistence and Upgrades

Although earlier 9.0.4.x versions of clients may be used with the Oracle Calendar server (10.1.1.0.2), some newer features might not be available and may behave differently in a coexistence environment, where different versions of the clients are used for deployment.

Refer to Chapter 1 of *Oracle Calendar Administrator's Guide* for more information.

You must consider the following issues related to the coexistence and upgrade scenarios:

- **Clients**

Versions of the Oracle clients that work with the Oracle Calendar server 10.1.1.0.2 include:

- Oracle Calendar Desktop client for Windows 6.0.5
- Oracle Calendar Desktop client for Mac version 5.2.3
- Oracle Calendar Desktop client version 5.0.2 for Linux x86 or Solaris Operating Environment (SPARC 32-bit)
- Oracle Connector for Outlook version 3.3 and later

Note: Users of older clients should upgrade to the latest versions, available at

<http://metalink.oracle.com>

The preceding clients only support passwords of 15 characters or less. If you assign a password longer than 15 characters, the users will not be able to sign in.

If you only wish to support new clients, set the value of the `cs-standard_coexistence` parameter in the `unison.ini` file to `false`.

■ Servers

Consider the following issues related to the servers:

- Coexistence may cause odd error messages on an old Oracle CorporateTime Server (5.x) installation. This is because the old server may not understand the features of the new server.
- There is no event coexistence between different Oracle Calendar versions. Release 1 (9.0.3) users will only see Release 1 (9.0.3) event calendars and 10g Release 1 (10.1.1.0.2) users will only see 10g Release 1 (10.1.1.0.2) event calendars.

■ Node Networks

Consider the following issues related to the node networks:

- Node networks can only be created with version Oracle CorporateTime Server 5.3 and up of Oracle Calendar.
- If you must create a node network, use the `nodes.ini` file and the `uninode` commands on the most recent version (10.1.1.0.2) of the server within the network.

■ Administration Utilities

Consider the following issues related to the administration utilities:

- Do not use version 10.1.1.0.2 utilities to administer an Oracle CorporateTime Server 5.x instance. The only exception to this is when moving users; the `moveuser` utility must be from the latest server version (10.1.1.0.2), even if moving a user between two nodes that are both on old server nodes (Oracle CorporateTime Server 5.x).
- Do not use Oracle CorporateTime Server 5.x utilities to administer Oracle Calendar server 10.1.1.0.2.

■ Mapping Parameters

Mapping parameters have been added to the 10.1.1.0.2 server `unison.ini` for coexistence and upgrades. Oracle CorporateTime servers 5.x map `O` for `EMAIL` and `P` for `UID`. However, Oracle Calendar servers 10.1.1.0.2 do not need this mapping anymore. Parameters added to a Oracle Calendar server 10.1.1.0.2 do not affect it.

The new parameters include:

```
[ENG]
usermailmap = O
itemuidmap = P
resourcemailmap = O
usersmscprefmap = OU3
usermobiletypemap = N
```

```
usermobilemap = R
```

For version coexistence, the parameters are added automatically to the Oracle Calendar servers 10.1.1.0.2 `unison.ini` file during an upgrade. In such case, verify that these parameters are correct.

C.7.1.4 Designates

Consider the following issues related to designates:

- **Listing Designates**

Windows clients cannot list designates of remote resources.

- **Creating Events as a Designate**

Users may get an error when creating an event while working as a designate. However, the event will be properly created.

- **Remote Designate**

The Remote Designate feature can only be used with the Oracle Calendar Web client and the Oracle Calendar SDK.

C.7.1.5 Other Issues

You must also consider the following miscellaneous issues:

- **Moving Users**

Do not move users that have at some point used the Oracle Calendar Web client. Trying to move such a user may fail and cause some events to be duplicated.

- **UID**

A numeric Unique Identifier (UID) will be created by the system for a user without an existing UID.

- **Remote Users**

When a remote user is invited to meeting, the status of the meeting owner is not correctly displayed to the remote user. The status of the owner will be shown as `will confirm later` instead of `will attend`. This is a server issue.

C.7.2 Oracle Calendar Application System Issues

This section includes the following topics:

- [Installation-Related Issues](#)
- [Upgrade-Related Issues](#)

C.7.2.1 Installation-Related Issues

When installing the standalone package of the Oracle Calendar application system on a computer where Oracle Calendar is already installed, you will not be prompted to enter server information during the installation. After the Oracle Calendar application system is installed, you must open the `[connection]` section of `ocas.conf` and replace

```
mnode=,with mnode=host:engine_port,node
```

C.7.2.2 Upgrade-Related Issues

Consider the following issues while you install the Oracle Calendar application system:

- **Multiple Upgrades**

When the Oracle Calendar application system upgrade assistant is run more than once, multiple `include` lines may be inserted in `httpd.conf`. This can cause the Web server to not start properly.

To resolve this problem, remove the duplicated `include` lines from the `conf` file. Typically, the lines look like the following:

```
include full_path_of_install_home/ocas/conf/ocal.conf
```

- **Blank Lines in `ocas.conf` and `ocwc.conf` Files**

Blank lines in `ocas.conf` and `ocwc.conf` files in your release 10.1.1.0.2 installation will be removed by the upgrade assistant. To preserve them, replace them with `#` prior to running the assistant.

- **Configuration Parameters**

The upgrade assistant tries to upgrade parameter values that you have set in your `ocas.conf`, `ocws.conf`, and `ocwc.conf` configuration files. Some parameters may not get updated, with the values in 10.1.1.0.2 version being retained to maintain consistency in the Calendar Web client. The `ocst.conf` file is not upgraded and the 10.1.1.0.2 version of this file is required to ensure correct operation of Mobile Data Sync.

Installing Oracle Collaboration Suite Clients

You might want to install Oracle Collaboration Suite clients on various platforms that can communicate successfully with the servers on which Oracle Collaboration Suite components are installed. This chapter explains the procedure for installing Oracle Collaboration Suite clients on different platforms.

The chapter contains the following sections:

- [Section D.1, "Installing Oracle Calendar Clients"](#)
- [Section D.2, "Installing Oracle Connector for Outlook"](#)
- [Section D.3, "Installing Oracle Real-Time Collaboration Clients"](#)

D.1 Installing Oracle Calendar Clients

This section discusses the installation of Oracle Calendar clients. It contains the following topics:

- [Section D.1.1, "Installing the Oracle Calendar Desktop Client"](#)
- [Section D.1.2, "Installing Oracle Calendar Sync"](#)
- [Section D.3, "Installing Oracle Real-Time Collaboration Clients"](#)

The installation files for these clients can be found in the `/client` folder on the Oracle Collaboration Suite DVD.

D.1.1 Installing the Oracle Calendar Desktop Client

This section discusses the installation of the Oracle Calendar desktop client for Windows, Macintosh, Linux, and Solaris platforms. It contains the following topics:

- [Installing the Oracle Calendar Desktop Client for Linux](#)
- [Installing the Oracle Calendar Desktop Client for Macintosh](#)
- [Installing the Oracle Calendar Desktop Client for Solaris](#)
- [Installing the Oracle Calendar Desktop Client for Windows](#)

D.1.1.1 Installing the Oracle Calendar Desktop Client for Linux

[Table D-1](#) lists the system requirements for installing the Oracle Calendar desktop client on different Linux platforms.

Table D–1 System Requirements for Installing the Oracle Calendar Desktop Client for Linux

Item	Requirement
Operating Systems	One of the following: ■ Red Hat Linux 9 or higher ■ SUSE Linux 9 or higher ■ Linux x86 with kernel 2.4.9 or higher Note: You need Netscape Navigator 4.0 or higher, or Mozilla, to use the Oracle Calendar desktop client online help. The directory that contains the Netscape or Mozilla executable file must be set in the installation path you specify.
Disk Space	40 MB
RAM	128 MB
Calendar Servers	One of the following: ■ Oracle Calendar server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x ■ Oracle Calendar server 10.1.1.x (10gR1)

To install the Oracle Calendar desktop client for Linux:

1. Unpack the distribution archive in a temporary directory, as follows:

```
gtar zxvf /tmp/cal_linux_1011.tar.gz
```
2. Change to the `OracleCalendar_inst` directory, as follows:

```
cd OracleCalendar_inst
```
3. If you want to install using a full graphical interface, run `gui_install.sh`.
4. If you prefer to install using a text mode interface, run `text_install.sh`. You will be prompted for installation and shortcut directories.

Installing the Oracle Calendar Desktop Client for Linux in Silent Mode

1. Unpack the distribution archive in a temporary directory, as follows:

```
gtar zxvf /tmp/cal_linux_1011.tar.gz
```
2. Create the directory `OracleCalendar_inst`.
3. Change to the `OracleCalendar_inst` directory, as follows:

```
cd OracleCalendar_inst
```
4. To install the Oracle Calendar desktop client for Linux with no user interaction, run `./silent_install.sh`.

In the directory `OracleCalendar_inst/ocal.conf` is a file called `silent.properties` which defines where the installation is done. To alter the location where the Oracle Calendar desktop client is installed, define new paths for the following parameters:

- `USER_INSTALL_DIR`
- `USER_SHORTCUTS`

D.1.1.2 Installing the Oracle Calendar Desktop Client for Macintosh

Table D–2 lists the system requirements for installing the Oracle Calendar desktop client on the Macintosh platform.

Table D–2 System Requirements for Installing the Oracle Calendar Desktop Client for Macintosh

item	Requirement
Operating Systems	Mac OS 10.1.5 to 10.4
Disk Space	50 MB minimum
RAM	128 MB minimum 256 MB recommended
Calendar Servers	One of the following: ■ Oracle Calendar server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x ■ Oracle Calendar server 10.1.1.x (10gR1)

To install the Oracle Calendar desktop client for Macintosh:

Note: You must have administrative privileges on the computer on which you want to install the Oracle Calendar desktop client.

1. Double-click `cal_mac_OSX_1011.dmg`.
The Oracle Calendar mounted disk appears.
2. Double-click the Oracle Calendar mounted disk icon.
3. Select the Oracle Calendar and readme files and drag them to the folder where you want to install the Oracle Calendar desktop client for Macintosh.

Note: Oracle recommends installing the Oracle Calendar desktop client for Macintosh in your **Applications** folder. If you choose to install in the **Applications** folder, you may be prompted to enter an administrator password.

The installer extracts the application and copies the Readme.htm file in to the destination folder you select.

The installer also extracts all shared libraries to `/Library/CFMSupport`.

The installer copies Oracle Calendar Help to `/Library/Documentation/Help`.

D.1.1.3 Installing the Oracle Calendar Desktop Client for Solaris

Table D–3 lists the system requirements for installing the Oracle Calendar desktop client on the Solaris platform.

Table D–3 System Requirements for Installing the Oracle Calendar Desktop Client for Solaris

Item	Requirement
Operating Systems	Solaris 8, 9 (SPARC only) Note: You need Netscape Navigator 4.0 or higher, or Mozilla, to use the Oracle Calendar desktop client online help. The directory that contains the Netscape or Mozilla executable file must be set in the installation path you specify.
Disk Space	50 MB
RAM	128 MB
Calendar Servers	One of the following: ■ Oracle Calendar server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x ■ Oracle Calendar server 10.1.1.x (10gR1)

To install the Oracle Calendar desktop client on Solaris:

1. Unpack the distribution archive in to a temporary directory, as follows:

```
gtar zxvf /tmp/cal_solaris_1011.tar.gz
```
2. Change to the OracleCalendar_inst directory, as follows:

```
cd OracleCalendar_inst
```
3. If you want to install using a full graphical interface, run `gui_install.sh`. To install using a text mode interface, run `text_install.sh`.
4. If you prefer to install using a text mode interface, run `text_install.sh`. You will be prompted for installation and shortcut directories.

Installing the Oracle Calendar Desktop Client for Solaris in Silent Mode

1. Unpack the distribution archive in a temporary directory, as follows:

```
gtar zxvf /tmp/cal_solaris_1011.tar.gz
```
2. Create the directory OracleCalendar_inst.
3. Change to the OracleCalendar_inst directory, as follows:

```
cd OracleCalendar_inst
```
4. To install the Oracle Calendar desktop client for Linux with no user interaction, run `./silent_install.sh`.

In the directory OracleCalendar_inst/ocal.conf is a file called `silent.properties` which defines where the installation is done. To alter the location where the Oracle Calendar desktop client for Solaris is installed, define new paths for the following parameters:

- USER_INSTALL_DIR
- USER_SHORTCUTS

D.1.1.4 Installing the Oracle Calendar Desktop Client for Windows

Table D–4 lists the system requirements for installing the Oracle Calendar desktop client on Microsoft Windows platforms.

Table D–4 System Requirements for Installing the Oracle Calendar Desktop Client for Windows

Item	Requirement
Operating Systems	■ Microsoft Windows 2000 ■ Microsoft Windows XP Home or Professional
Disk Space	50 MB
RAM	128 MB minimum 256 MB recommended
Calendar Servers	One of the following: ■ Oracle Calendar server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x ■ Oracle Calendar server 10.1.1.x (10gR1)

To Install the Oracle Calendar desktop client for Windows:

1. Log in with administrative privileges if you are installing on Windows 2000 or XP.
2. Double-click `cal_win_1011x.exe`.
3. Follow the instructions on the screen.

Upgrading the Oracle Calendar Desktop Client for Windows

Upgrading from a previous release of the Oracle Calendar desktop client must be done using the original profile, meaning the user who originally installed the application. To upgrade the installation correctly, you should upgrade using the original user account. Otherwise, you must uninstall the Oracle Calendar desktop client using the original user account. Then reinstall the application using the new release.

The installation package upgrades any previous releases of the Oracle Calendar desktop client existing on the computer of the user. It also upgrades any beta versions of the Oracle Calendar desktop client for the Oracle Calendar server 10.1.1.

Installing the Oracle Calendar Desktop Client for Windows in Silent Mode

The Oracle Calendar desktop client for Windows 10.1.1 offers silent and customizable installations for administrators. To perform a silent installation, enter the executable file name followed by the argument for silent mode, the argument for passing command-line switches and public property values to the Microsoft installer (`Msiexec.exe`), and the argument for a completely silent installation.

Table D–5 defines the command-line switches that you can use to customize a silent installation.

Table D–5 Command-Line Switches for a Silent Installation of the Oracle Calendar Desktop Client for Windows

Switch	Function
/s	This parameter extracts installation package files in silent mode.

Table D–5 (Cont.) Command-Line Switches for a Silent Installation of the Oracle Calendar Desktop Client for Windows

Switch	Function
/v	This parameter passes command-line switches and values to the Microsoft installer (Msiexec.exe).
/qn	This parameter specifies a completely silent installation with no user interface.
/qb	This parameter provides basic user feedback during the installation such as progress indicators, but prevents users from modifying any installation parameters or information. For example, users can see the progress indicator while files are being copied, but are not allowed to specify the destination path.

For example, to install `cal_win_1011x.exe` in silent mode and pass the command-line switches and values to the Microsoft installer, without any user interface or prompts, enter the following command:

```
cal_win_1011x.exe /s /v"qn"
```

Notes:

- Command-line switches are not case-sensitive.
For more information on the levels of user interaction available with the Microsoft Windows Installer /q option, refer to the Microsoft Windows Installer documentation available at http://msdn.microsoft.com/library/default.asp?url=/library/en-us/msi/setup/command_line_options.asp
 - The `V` switch should always be the last option specified in the command line.
-
-

Extracting Installation Package Files in Administrative Mode

To extract the installation package files, run `cal_win_1011x.exe` in administrative mode, as follows:

```
cal_win_1011x.exe /a
```

Note: If you have an earlier release of the Oracle Calendar desktop client, then the new version will overwrite it.

The following files are extracted when you run `cal_win_1011x.exe` in administrative mode:

- The Oracle Calendar.msi package
- Various redistributable files
- A folder hierarchy identical to the one in the installed product, containing the files `OCal.exe` and `unison.ini`

Table D–6 provides definitions for the extracted files.

Table D–6 Files Extracted While Running *cal_win_1011x.exe* in Administrative Mode

Files	Description
Oracle_Calendar.msi	This file is the main installer package that runs in the MSI installer engine.
OCal.exe	This file contains the InstallShield setup scripts. It is the InstallShield wrapper that runs the MSI installer engine with the Oracle_Calendar_10.1.1.msi file. This file installs the MSI installer engine if it does not already have the same.
unison.ini	This is a template file for user preferences.

D.1.1.5 Customizing the Oracle Calendar Initialization File

You can specify the calendar preferences and setup information by using the client-side `unison.ini` file.

When you install the Oracle Calendar desktop client, you can provide the installer with a template `unison.ini` file preset with a variety of preferences and other information. The template `unison.ini` file is used only if no previous `unison.ini` file exists. After a personal `unison.ini` file is created for a user, subsequent client upgrades will not remove or replace it. In other words, the ability to preset `unison.ini` preferences for the client installer is only available for users who have not yet used any version of the Oracle Calendar desktop client on the current computer. There are two reasons for this:

The user upgrading the application will not necessarily be able to view or modify the `unison.ini` files stored in the profile folders of other users. In other words, the installer cannot locate all the `unison.ini` files on the current computer and therefore will not be able to replace them with the new template.

All user preferences not specified in the template `unison.ini` file or stored directly on the Oracle Calendar server are lost if the previous `unison.ini` file of the user is replaced.

D.1.2 Installing Oracle Calendar Sync

This section discusses the installation of Oracle Calendar Sync for Palm and Oracle Calendar Sync for Pocket PC. It contains the following topics:

- [Installing Oracle Calendar Sync for Palm for Macintosh](#)
- ["Installing Oracle Calendar Sync for Palm for Windows"](#)
- ["Installing Oracle Calendar Sync for Pocket PC"](#)

D.1.2.1 Installing Oracle Calendar Sync for Palm for Macintosh

This section contains the following topics:

- [System Requirements for Oracle Calendar Sync for Palm for Macintosh](#)
- [Oracle Calendar Sync for Palm for Macintosh Preinstallation Instructions](#)
- [Installing Oracle Calendar Sync for Palm for Macintosh](#)

System Requirements for Oracle Calendar Sync for Palm for Macintosh

[Table D–7](#) lists the system requirements for installing Oracle Calendar Sync for Palm on Macintosh platforms.

Table D-7 System Requirements for Installing Oracle Calendar Sync for Palm for Macintosh

Item	Requirement
Operating Systems	Mac OS 10.2.x to 10.4.1
Disk Space	5 MB Note: If the Oracle Calendar desktop client for Macintosh is already installed, 15 MB of disk space is required.
RAM	8 MB minimum 64 MB recommended
Calendar Servers	One of the following: ■ Oracle Calendar server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x ■ Oracle Calendar server 10.1.1.x (10gR1)
Palm Desktop	4.0 to 4.2.1 Note: Later releases of Palm Desktop may be compatible, but were not certified at the time Oracle Calendar Sync 10.1.1 was released.
Devices	The following devices are certified for compatibility with Oracle Calendar Sync for Palm for Macintosh. Similar devices may also be compatible. ■ Tungsten T ■ Tungsten T3 ■ Zire 31 ■ Zire 72 ■ Treo 600 ■ Sony Clie PEG-TG50C The following devices do not work with Oracle Calendar Sync for Palm for Macintosh. ■ Tungsten T5 ■ Tungsten E2 ■ Treo 650 ■ LifeDrive Mobile Manager

Oracle Calendar Sync for Palm for Macintosh Preinstallation Instructions

If you already have a previous release of Oracle Calendar Sync installed on your computer, or if you are changing your device, Oracle recommends that you perform a full synchronization before you install Oracle Calendar Sync for Palm for Macintosh.

If you have a Beta release of Oracle Calendar Sync installed, or you have release 2.1.4 or an earlier release of Oracle Corporate Sync installed, then you must do the following before installing Oracle Calendar Sync for Palm for Macintosh, to protect your data.

1. Remove the Oracle Calendar Sync application (also known as CS Setup) from your Palm organizer.
2. Purge all items from your Date Book and To Do List. If you do not do this, duplicate items will be created when you perform the first HotSync after the installation. Apply the following guidelines when purging data:

- Ensure that **Save archive copy on PC** is selected.
- **To Do** items that have not been marked as completed must be manually deleted.
- To delete the **Date Book** events, advance the date on your organizer by several years, then purge data. For example, change organizer date to 2015, then purge all events *older than 1 week* to delete all events from the past until the year 2015.

Installing Oracle Calendar Sync for Palm for Macintosh

To install Oracle Calendar Sync for Palm for Macintosh, perform the following steps:

1. Run `cal_syncpalm_macOSX.hqx`. This creates the Oracle Calendar Sync installer.
2. Double-click **Oracle Calendar Sync Install**. The installer first checks for existing Oracle Calendar Sync files and then installs the program. Depending on your setup, this may take several minutes.

Note: Some error messages might be logged in the install log. You can ignore these messages.

3. Start the HotSync Manager.
4. From the **HotSync** menu, choose **Conduit Settings**. A list of synchronizable items appears.
5. Select a user name from the **User** menu (if there is only one user name, it is selected by default).
6. Choose how you want Oracle Calendar Events and Tasks to be synchronized by double-clicking each item.
A dialog box appears with the following choices:
 - **Synchronize the files:** Synchronizes all information that exists on both your Palm organizer and on the Oracle Calendar server.
 - **Macintosh overwrites hand-held:** Information in your Oracle Calendar Agenda overwrites Events, Tasks, or Addresses on the Palm organizer.
 - **Do Nothing:** The specified Entry type is not synchronized.

Note: Set Calendar, Contacts, and Tasks to **Do Nothing** if you want to synchronize with the Oracle Calendar server.

7. Exit the Conduit Settings dialog box.
8. If you already have Calendar Sync software installed on your computer and you have data stored in Palm Desktop, then you must install Oracle Calendar Sync for Palm on your mobile device. Start the HotSync Manager on your desktop computer.
9. From the **HotSync** menu on your desktop, select **Install Handheld Files**.
10. Select the user from the list in the **Install Handheld Files** dialog box.
11. Click **Add To List**.
12. From the **Applications** menu, select **Palm** and then **Add-on**.
13. Click **Oracle Calendar Sync.prc**.

14. Click **Add file**. The file is added to the list.
15. Close the Install Handheld Files dialog box.
16. Connect your Palm device to your computer.
17. From your device, initiate synchronization. Oracle Calendar Sync for Palm is automatically installed on your device. Following a first synchronization, a new application called Oracle Setup appears on your device.

Note: Before you perform a synchronization, make sure you are not signed in to the Oracle Calendar desktop client.

18. Open **Oracle Setup** on your Palm organizer and enter your Oracle Calendar server sign-in settings:
 1. **User:** Enter the user name.
 2. **Password:** Enter your password.
 3. **Server:** Enter the domain name or the IP address of your calendar server.
 4. **Node:** Many server configurations do not require you to specify a node. However, if synchronization fails, view the message log.
- Notes:**
- If you want to synchronize your address book, then you must download the offline files. Sign in to the Oracle Calendar desktop client once before synchronization and download the offline files when prompted.
 - Before you perform a synchronization, make sure you are not signed in to the Oracle Calendar desktop client.
19. Before you begin using Oracle Calendar Sync for Palm, verify that your Palm device is set to the correct date. An incorrect date leads to unexpected results when performing a synchronization.

Troubleshooting the Oracle Calendar Sync for Palm for Macintosh Installation

After installing Oracle Calendar Sync for Palm for Macintosh, you may have difficulties performing a HotSync operation. This may be because of a conflict with Palm Desktop files. To troubleshoot this problem, perform the following tasks:

1. Delete the *Users* directory located at `/Users/your_user_name/Documents/Palm/Users`

In the preceding example, `your_user_name` is the user name you used to log in.
2. Delete the `com.palm.Desktop.plist` file located at `/Users/your_user_name/Library/Preferences`.
3. Delete the following files, which are located in the `/Users/your_user_name/Library/Preferences/ByHost` directory:
 - `com.palm.HS.T.S.xxxxxxxx.plist`
 - `com.palm.HS.T.PC.xxxxxxxx.plist`
 - `com.palm.HS.T.USB.xxxxxxxx.plist`
4. Start HotSync Manager. You will be prompted for a user name.
5. Enter your user name and any other necessary HotSync information.

6. Close HotSync Manager, and perform a HotSync.

D.1.2.2 Installing Oracle Calendar Sync for Palm for Windows

This section contains the following topics:

- [System Requirements for Oracle Calendar Sync for Palm for Windows](#)
- [Installing Oracle Calendar Sync for Palm for Windows](#)
- [Selecting Conduits for Synchronization](#)

System Requirements for Oracle Calendar Sync for Palm for Windows

[Table D–8](#) lists the system requirements for installing Oracle Calendar Sync for Palm on Microsoft Windows.

Table D–8 *System Requirements for Installing Oracle Calendar Sync for Palm for Windows*

Item	Requirement
Operating Systems	■ Microsoft Windows 2000 ■ Microsoft Windows XP Home or Professional
Disk Space	75 MB
RAM	128 MB
Calendar Servers	■ Oracle Calendar server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x ■ Oracle Calendar server 10.1.1.x (10gR1)
Software	Palm Desktop ■ 3.1 to 4.1.4 ■ Note: Later releases of Palm Desktop may be compatible, but were not certified at the time Oracle Calendar Sync 10.1.1 was released. Microsoft .NET ■ Microsoft .NET Framework 1.1
Devices	The following devices (for Palm operating systems 4.1 to 5.4 inclusive) are certified for compatibility with Oracle Calendar Sync for Palm for Windows. Similar devices may also be compatible. ■ Tungsten T ■ Tungsten T3 ■ Tungsten T5 ■ Zire 31 ■ Zire 72 ■ Treo 600 ■ Treo 650 ■ Sony Clie PEG-TG50C

Installing Oracle Calendar Sync for Palm for Windows

If you have a previous version of Oracle Calendar Sync installed, or if you are changing device, Oracle recommends that you perform a full synchronization before you install Oracle Calendar Sync for Palm for Windows.

1. Before you install Oracle Calendar Sync for Palm on your computer, verify that your Palm device is set to the correct date. An incorrect date leads to unexpected results when performing a synchronization.
2. Run the `cal_syncpalm_win_1011.exe` file provided with the distribution package and follow the InstallShield instructions on the screen.
3. Select an installation type, **Complete** or **Custom**.

Notes:

- A **Complete** installation replaces the Date Book, To Do List, and Address conduits to synchronize with Oracle Calendar's Events, Tasks, and Address Book respectively.
 - In a **Custom** installation, there is no difference between **This feature will be installed on local hard drive** and **This feature, and all subfeatures, will be installed on local hard drive**. Select the conduits you want to install. For example, you can synchronize the Palm Date Book with Oracle Calendar while keeping your existing conduit settings for To Do List and Address so they can synchronize with the Palm desktop.
4. Enter the following **Sign In** settings in the Synchronization Settings dialog box:
 1. **User:** Enter the user name.
 2. **Password:** Enter your password.
 3. **Server:** Enter the domain name or the IP address of your calendar server.

Note: If you do not have the server information and you are using Oracle Connector for Outlook or the Oracle Calendar desktop client, check for the server name in the Oracle Connector for Outlook Profile Settings dialog box or the Connection Manager dialog box respectively.

4. **Note:** Most server configurations do not require you to specify a node. However, if synchronization fails, view the message log.
5. Ensure that your device is in its cradle, then perform a synchronization. The first time you perform synchronization after installation, a full synchronization is performed.

Selecting Conduits for Synchronization

Use the Custom dialog box to view or change the HotSync Manager conduits and actions for each user name.

To select a conduit for synchronization:

1. To display the Custom dialog box, select Custom from the **HotSync Manager** menu.
2. Select a conduit from the list and click **Change** to select how you want to synchronize your Calendar, Tasks, and Contact information.

If you are using a recent Palm device, you may notice that the three conduits — Date Book, To Do List, and Address — are duplicated in the form of Calendar, Tasks, and Contacts. Choosing to synchronize two conduits with similar data produces an error. For example, you should not synchronize both Calendar and Date Book. You must disable one set of conduits (for example, Date Book, To Do List, and Address) before initiating the next synchronization.

Older Palm operating systems (for example, Palm OS 3.1-5.0) continue to synchronize their files with the Date Book, To Do List, and Address conduits. One device that uses this operating system is the Treo 600.

Newer Palm operating systems (for example, Palm OS 5.2 and later) synchronize their files with the Calendar, Tasks, and Contacts conduits. Devices that use these operating systems include Tungsten T, Tungsten T3, Zire 31, and Zire 72.

D.1.2.3 Installing Oracle Calendar Sync for Pocket PC

This section includes the following topics:

- [System Requirements for Oracle Calendar Sync for Pocket PC](#)
- [Installing Oracle Calendar Sync for Pocket PC](#)

System Requirements for Oracle Calendar Sync for Pocket PC

[Table D–9](#) discusses system requirements for installing Oracle Calendar Sync for Pocket PC on Microsoft Windows.

Table D–9 System Requirements for Installing Oracle Calendar Sync on Pocket PC

Item	Requirement
Operating Systems	■ Microsoft Windows 2000 ■ Microsoft Windows XP Home or Professional
Disk Space	75 MB
RAM	128 MB
Calendar Servers	■ Oracle Calendar server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x ■ Oracle Calendar server 10.1.1.x (10gR1)
Pocket PC	Pocket PC devices with any of the following processors: ■ Multiprocessor without Interlocked Pipeline Stages (MIPS) ■ SH3 (a processor developed by Hitachi Corporation that can be found in the Pocket PC) ■ Advanced RISC Machine (ARM), or ■ XScale (a next-generation ARM-based processor from Intel that can operate between 300 and 400MHz)

Table D–9 (Cont.) System Requirements for Installing Oracle Calendar Sync on Pocket

Item	Requirement
Software	ActiveSync - Version 3.0 to 3.8, as appropriate for your device. If you are running an older release of Microsoft ActiveSync, check the vendor site for updates. Note: Later releases of Microsoft ActiveSync may be compatible, but were not certified at the time Oracle Calendar Sync 10.1.1 was released. Microsoft .NET - Microsoft .NET Framework 1.1
Devices	The following devices are certified for compatibility with Oracle Calendar Sync for Pocket PC. Similar devices running the same Pocket PC operating system with MIPS, SH3, ARM, or XScale processor may also be compatible. - Dell Axim X50 (Windows Mobile 2003 - Second Edition) - HP iPAQ H1910 (Pocket PC 2002) - HP iPAQ 3600 (Pocket PC 2002) - HP iPAQ h5550 series (Windows Mobile 2003 - Premium Edition) - HP iPAQ h6300 series (Windows Mobile 2003 - Phone Edition)

Installing Oracle Calendar Sync for Pocket PC

If you have a previous version of Oracle Calendar Sync installed, or if you are changing device, Oracle recommends that you perform a full synchronization before you install Oracle Calendar Sync for Pocket PC.

- Before you install Oracle Calendar Sync for Pocket PC on your computer, verify that your Pocket PC is set to the correct date. An incorrect date leads to unexpected results when performing a synchronization.
- Verify that ActiveSync is installed on your computer.
- Run the `cal_syncppc_win_1011.exe` file provided with the distribution package and follow the InstallShield instructions on the screen.
- Select an installation type, **Complete** or **Custom**.

Notes:

- A **Complete** installation replaces the Calendar, Tasks, and Contacts conduits to synchronize with Oracle Calendar's Events, Tasks, and Address Book respectively.
 - In a **Custom** installation, there is no difference between **This feature will be installed on local hard drive** and **This feature, and all subfeatures, will be installed on local hard drive**. Select the conduits you want to install. For example, you can synchronize the Pocket PC Calendar with Oracle Calendar while keeping your existing conduit settings for Tasks and Contacts so they can synchronize with Microsoft Outlook.
- When prompted by the application, install Oracle Calendar Sync Helper files. Your pocket PC device must be connected to install these files.

Note: To connect and install the Helper files later, click **Start**, then **Programs, Oracle Calendar Sync for Pocket PC**, then **Install Device Files**.

6. Follow the remaining instructions on the screen to complete the installation.
7. Check your mobile device screen for any additional steps required to complete the installation.
8. Enter the following **Sign In** settings in the Synchronization Settings dialog box:
 1. **User:** Enter your user name.
 2. **Password:** Enter your password.
 3. **Server:** Enter the domain name or the IP address of your calendar server.

Note: If you do not have the server information and you are using Oracle Connector for Outlook or the Oracle Calendar desktop client, check for the server name in the Oracle Connector for Outlook Profile Settings dialog box or the Connection Manager dialog box respectively.

4. **Note:** Most server configurations do not require you to specify a node. However, if synchronization fails, view the message log.
9. Synchronize your device. The ActiveSync Partnership Wizard starts.
10. Follow the onscreen instructions to create a new ActiveSync Partnership.
11. From the lists, select **Oracle Calendar** as your personal information manager for the Calendar, Contacts, and Tasks conduits.
12. Open Microsoft ActiveSync if it does not open automatically.
13. Click **Sync** if synchronization is not automatically initiated. The first time you synchronize, a full synchronization occurs.
14. From the Microsoft ActiveSync dialog box, click **Options**.
15. Select the **Schedule** tab in the Options dialog box.
16. Select when you want ActiveSync to synchronize information between the mobile device and the desktop computer. The three options are:
 - **Continuously while the device is connected**
 - **Only upon connection**
 - **Manually**

Note: Oracle Calendar Sync for Pocket PC supports all three desktop scheduling modes, but we recommend choosing **Manually** if you want to control when synchronization occurs.

D.2 Installing Oracle Connector for Outlook

This section contains the following topics:

- [Section D.2.1, "System Requirements"](#)

- [Section D.2.2, "Preinstallation Requirements"](#)
- [Section D.2.3, "Installing Oracle Connector for Outlook on the Desktop"](#)
- [Section D.2.4, "Installing Oracle Connector for Outlook in Interactive Mode"](#)
- [Section D.2.5, "Installing Oracle Connector for Outlook in Silent Mode"](#)
- [Section D.2.7, "Using the Configuration Wizard to Configure Oracle Connector for Outlook"](#)

D.2.1 System Requirements

[Table D-10](#) lists the system requirements for installing Oracle Connector for Outlook.

Table D-10 System Requirements for Oracle Connector for Outlook

Hardware Component	Requirement
Operating Systems	■ Microsoft Windows NT 4.0 ■ Microsoft Windows 2000 ■ Microsoft Windows XP ■ Note: Administrative privileges are required to install Oracle Connector for Outlook on Microsoft Windows NT, Microsoft Windows 2000, and Microsoft Windows XP.
Disk Space	Free disk space approximately equivalent to the size of the user's Internet Message Access Protocol 4 (IMAP4) mailbox.
RAM	Refer to the RAM requirements for Microsoft Outlook client.
Microsoft Outlook	■ Microsoft Outlook 2000 ■ Microsoft Outlook 2002 with Service Pack 2 (SP2 or higher) ■ Microsoft Outlook 2003 Note: Native Language version or Multilingual User Interface Pack (MUI) is required for non-English version localization. Refer Table D-11 for a list of supported languages.
Calendar Servers	■ Oracle CorporateTime server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x ■ Oracle Calendar server 10.1.1.x (10gR1)
E-mail Servers	■ Simple Mail Transfer Protocol (SMTP) server for outgoing mail included with Oracle Collaboration Suite ■ Oracle IMAP4 Server 9.0.3 or higher ■ Other e-mail servers implemented based on the open standards of SMTP, and Internet Message Access Protocol 4 (IMAP4) reference implementations of Cyrus and University of Washington.

Table D–10 (Cont.) System Requirements for Oracle Connector for Outlook

Hardware Component	Requirement
Conduits for PDA Synchronization	■ PocketMirror (version 3.1.6 is recommended) ■ PocketJournal ■ Desktop To Go 2.5 ■ Desktop To Go 2.509 (for Microsoft Outlook 2002 only) ■ PSIWIN 2.3 or 2.31 ■ ActiveSync 3.0, 3.1, 3.5, 3.7, or 3.8 ■ HotSync Manager (4.0 for Microsoft Windows XP only) ■ Blackberry Desktop Manager up to version 3.6 (SP1 or later are not supported)
Devices	The following devices are certified with Oracle Connector for Outlook. Similar devices may work, but the user experience may vary. Pocket PC ■ Compaq iPAQ Pocket PC 2002 - Models 3870, 3970 ■ HP iPAQ Pocket PC 2003 - Model h 1940 Palm ■ Palm III (3Com) ■ Palm V Handheld ■ PalmOne Zire 72 ■ Palm Tungsten T Blackberry ■ Blackberry 6710 Wireless Handheld ■ Blackberry 6820 Wireless Handheld

D.2.2 Preinstallation Requirements

Before installing Oracle Connector for Outlook, verify that you have the following requirements:

- A supported Microsoft Outlook version installed on a supported platform.
- Administrative privileges for installing Oracle Connector for Outlook on Microsoft Windows NT, Microsoft Windows 2000, and Microsoft Windows XP.
- Outlook 2000 installed in the Corporate or Workgroup (CWG) mode.

To verify the Microsoft Outlook configuration, select **Options**, **Mail Services**, and **Reconfigure Mail Support** from the **Tools** menu.

Caution: Synchronize your offline folders before upgrading to avoid loss of information.

D.2.3 Installing Oracle Connector for Outlook on the Desktop

Perform the following steps to install Oracle Connector for Outlook on the desktop:

1. Exit all Microsoft Windows applications.
2. Double-click the `con_outlook_1011x.exe` file to start the InstallShield Wizard.
3. Click **Next** on the **Welcome** screen of the InstallShield wizard.

4. Enter your name in the **User Name** field and your company name in the **Organization** field. Click **Next**.
5. Click **Next** to install in the default folder. To install Oracle Connector for Outlook in a different folder, click **Change** and navigate to that folder.
6. Select the languages you want to install.
You can also add more languages after the installation.
For information on how to modify the languages, refer to [Section D.2.4.3](#).
7. If you want to review your input from the previous screens, click **Back**. Otherwise, click **Install**.
8. Click **Finish** to start the Configuration wizard. If you intend to configure Oracle Connector for Outlook later, deselect **Start Configuration**, which is selected by default.

Note: If you have upgraded your Microsoft Outlook installation, then you must reinstall Oracle Connector for Outlook.

D.2.4 Installing Oracle Connector for Outlook in Interactive Mode

You can install Oracle Connector for Outlook in interactive or silent mode.

In an interactive installation, the installation wizard guides you through the installation process. Interactive installations can be performed by using either the `con_outlook_1011x.exe` file or the `con_outlook.msi` package.

To install using the `con_outlook.msi` package, extract it from the `con_outlook_1011x.exe` file using the `/admin` command.

You can extract the `con_outlook_msi` package to multiple files or a single file. Use the following command to extract the installation package to multiple files:

```
con_outlook_1011x.exe/admin image=cd
```

The multiple files comprise an `msi` file, the Oracle Connector for Outlook files, and the `.mst` files that contain the transformation for the installation language.

Use the following command to extract the installation package to a single file:

```
con_outlook_1011x.exe/admin image=msi
```

D.2.4.1 Specifying the Installation Language for a First-Time Installation of Oracle Connector for Outlook

The instructions in this section are for a first-time installation. When you run `con_outlook_1011x.exe`, the installation wizard determines the language of the operating system and starts the installation wizard in that language.

If the language used by the operating system is not supported by Oracle Connector for Outlook, the installation wizard is started in English. In addition, the **Add/Remove Languages** dialog box lists the languages supported by Oracle Connector for Outlook. You can select the languages you want in addition to English. However, you cannot remove English language support because it serves as a reliable backup in case of failure in other languages.

Follow these steps if you do not have a previous version of Oracle Connector for Outlook installed:

- If you want to run the installation wizard in a language other than the language of the destination computer's operating system, run `con_outlook_1011x.exe` with the following language command:

```
con_outlook_1011x.exe/Lang {setup_lang_id_no}
```

where {setup_lang_id_no} is the ID number of the language you want to specify for the installation wizard. For example, to run the installation wizard in French, enter the following command:

```
con_outlook_1011x.exe/Lang 1036
```

Note: You can select the language used to run the installer only for a first-time installation. The installation wizard will run in this language the next time you repair, modify, remove, or upgrade Oracle Connector for Outlook.

If you prefer to run the installation directly from the .msi package, enter the following command to apply the appropriate transformation:

```
msiexec/i "con_outlook.msi" TRANSFORMS={setup_lang_id_no}
```

In the preceding command, `setup_lang_id_no` is the ID number of the language that you want to use for the installation. For example, to run the installation wizard in French, enter the following command for the installation package contained in a single file:

```
msiexec/i "con_outlook.msi" TRANSFORMS={setup_lang_id_no}
```

If the installation package is extracted to multiple files, use the following command to run the installation wizard (French is used in this example):

```
msiexec/i "con_outlook.msi" TRANSFORMS=:1036.mst
```

[Table D-11](#) lists the languages supported by Oracle Connector for Outlook and their ID numbers.

Table D-11 Languages Supported by Oracle Connector for Outlook

Language Name	ID Number
English US	1033
Chinese (Simplified)	2052
Chinese (Traditional)	1028
Czech	1029
Danish	1030
Dutch (Netherlands)	1043
Finnish	1035
French	1036
German	1031
Greek	1032
Hungarian	1038
Italian	1040
Japanese	1041

Table D–11 (Cont.) Languages Supported by Oracle Connector for Outlook

Language Name	ID Number
Korean	1042
Norwegian	1044
Polish	1045
Portuguese (Brazil)	1046
Portuguese (Portugal)	2070
Romanian	1048
Russian	1049
Spanish	1034
Swedish	1053
Turkish	1055

Note: Configuring a Member Application Programming Interface (MAPI) profile to be used with Oracle Connector for Outlook is not part of the installation process.

D.2.4.2 Upgrading Oracle Connector for Outlook

You can use the `con_outlook_1011x.exe` file or the `con_outlook.msi` package to upgrade the existing version of Oracle Connector for Outlook.

To upgrade using `con_outlook_1011x.exe`, run `con_outlook_1011x.exe` and follow the instructions on the screen.

To upgrade using `con_outlook.msi`, use one of the following commands, depending on the version you are upgrading from:

- If you are upgrading from version 10.1.1:

```
msiexec/i "con_outlook.msi" REINSTALL=ALL REINSTALLMODE=vomus
```

- If you are upgrading from version 9.0.4.2.x:

```
msiexec/i "con_outlook.msi"
```

Determining the Installation Language for an Upgrade

When you run the `con_outlook_1011x.exe` or `con_outlook.msi`, the installation language used for the upgrade is determined based on the current version of Oracle Connector for Outlook.

If you are upgrading from Oracle Connector for Outlook 9.0.4.2.x or earlier, the language used in the operating system of the destination computer is detected and the upgrade wizard is started in that language. However, if you are upgrading from Oracle Connector for Outlook 10.1.1 or later, the installation language used is the same as the one used in the first-time installation.

D.2.4.3 Modifying, Repairing, or Removing Oracle Connector for Outlook

You can modify, repair, or remove Oracle Connector for Outlook installation by using the InstallShield wizard.

Modifying the Selection of Installed Languages in Oracle Connector for Outlook

To modify the language settings of Oracle Connector for Outlook, perform one of the following tasks:

- Run `con_outlook_1011x.exe` or `con_outlook.msi`. Select **Modify** in the Program Maintenance screen.
- Double-click **Add or Remove Programs** in the Control Panel. Click **Change**. Select **Modify** from the Program Maintenance screen.
- From the **Start** menu, select **Oracle Connector For Outlook**, and then **Add or Remove Languages**.

Repairing Oracle Connector for Outlook

To repair the Oracle Connector for Outlook installation, perform one of the following tasks:

- Run `con_outlook_1011x.exe` or `con_outlook.msi`. Select **Repair** from the **Program Maintenance** screen.
- Double-click **Add or Remove Programs** in the Control Panel. Click **Change**. Select **Repair** from the **Program Maintenance** screen.

Note: When you repair the Oracle Connector for Outlook installation, registry keys that were deleted or corrupted are automatically reinstalled.

Removing Oracle Connector for Outlook

To remove Oracle Connector for Outlook, perform one of the following tasks:

- Run `con_outlook_1011x.exe` or `con_outlook.msi`. On the Program Maintenance screen, click **Remove**.
- Double-click **Add or Remove Programs** in the Control Panel. Click **Remove**.

D.2.4.4 Troubleshooting an Oracle Connector for Outlook Installation

When you install Oracle Connector for Outlook using `con_outlook_1011x.exe`, a log file called `ocsetup.log` is generated in the Temp folder.

This log file is a useful source of information for troubleshooting installation failures. It records all events and errors during installation with brief descriptions and messages explaining the possible causes of a failed installation.

To generate the log file in a different location, enter the following command:

```
con_outlook_1011x.exe/path
```

In the preceding command, *path* represents the complete path of the log file.

When you install Oracle Connector for Outlook using `con_outlook.msi`, enable logging policy or use the `/L` option if you are using the `msiexec.exe` file.

Note: When you install using a language other than English, the log file is generated partially in English and partially in the installation language you selected.

D.2.5 Installing Oracle Connector for Outlook in Silent Mode

You can install Oracle Connector for Outlook in the silent mode. This mode requires no user participation.

To install in silent mode, you can use an initialization file that contains all the required installation information. However, if you do not specify an initialization file, Oracle Connector for Outlook is installed with the default settings.

You can install Oracle Connector for Outlook in silent mode by using the `con_outlook_1011x.exe` file or the `con_outlook.msi` package.

To install Oracle Connector for Outlook in silent mode using the `con_outlook_1011x.exe` file, enter the following command:

```
con_outlook_1011x.exe/s Path
```

In the preceding command, *Path* represents the actual path to the initialization file.

To install Oracle Connector for Outlook in silent mode using the MSI package, enter the following command:

```
msiexec /i "con_outlook.msi" /qn SILENTINIPATH={Path}
```

In the preceding command, *Path* represents the actual path to the initialization file.

D.2.5.1 The Initialization File

Example D–1 displays a sample initialization file used for silent installation of Oracle Connector for Outlook.

Note: With the exception of the Languages section, the parameters in the initialization file can only be configured for first-time installations. If you have already installed Oracle Connector for Outlook, you can only modify the settings after uninstalling the application.

Example D–1 Example of the initialization File for Oracle Connector for Outlook

```
[General]
UserName=OCFOUSER
Company=ORACLE
InstallPath="C:\Program Files\Oracle\Outlook Connector"

[Settings]
ForceReboot=0
DisablePwd=1
HideCalendarPwdMenu=1
NoServerMail=3
DisableCfgUI=1
NoDesktopShortcut=1

[Languages]
;English US
1033=us
;Chinese (PRC) (S)
2052=zhs,_936
;Chinese (Singapore) (S)
4100=zhs,_936
;Chinese (Hong Kong) (T)
3076=zht,_950
;Chinese (Macau) (T)
```

```

5124=zht,_950
;Chinese (Taiwan) (T)
1028=zht,_950
;Czech
1029=cs
;Danish
1030=dk
;Dutch (Netherlands)
1043=nl
;Finnish
1035=sf
;French
1036=f
;German
1031=d
;Greek
1032=el
;Hungarian
1038=hu
;Italian
1041=i
;Japanese
1041=ja
;Korean
1042=ko
;Norwegian (Bokmal)
1044=n
;Polish
1045=pl
;Portuguese (brazilian)
1046=ptb
;Portuguese
2070=pt
;Romanian
1048=ro
;Russian
1049=ru
;Spanish
1034=e
;Swedish
1053=s
;Turkish
1055=tr

```

```

[OcConfigWizard]
Path=c:\PRFNAME.prf

```

D.2.5.2 Configuring the Initialization File

You can configure the following sections in the initialization file:

- [The General Section](#)
- [The Settings Section](#)
- [The Languages Section](#)
- [The OcConfigWizard Section](#)

The General Section

In the General section, you can specify the name of the user Oracle Connector for Outlook is registered to, the company name, and the location where you want to install Oracle Connector for Outlook.

The following snippet of the initialization file shows the parameters and values in the General section:

```
[General]
UserName=OCFOUSER
Company=ORACLE
InstallPath="C:\Program Files\Oracle\Outlook Connector"
```

The Settings Section

In the Settings section, you can:

- Force your computer to restart after the installation by setting the `ForceReboot` parameter to 1.
- Disable the option to save your password by setting the `DisablePwd` parameter to 1.
- Hide the **Change Calendar pwd** menu item by setting the `HideCalendarPwdMenu` parameter to 1.
- Remove the Oracle Connector Configuration Wizard shortcut from the desktop by setting the `NoDesktopShortcut` parameter to 1.
- Disable specific mail server functions by setting the `NoServerMail` parameter to one of the following values:
 - 0 for no restriction (default value)
 - 1 for no IMAP or SMTP
 - 2 for no SMTP
 - 3 for no SMTP

The following excerpt from the initialization file shows the parameters and values in the Settings section:

```
[Settings]
ForceReboot=0
DisablePwd=1
HideCalendarPwdMenu=1
NoServerMail=3
DisableCfgUI=1
NoDesktopShortcut=1
```

The Languages Section

In the Languages section, you can specify additional languages that Oracle Connector for Outlook will support during installation.

Refer to [Table D-11](#) for a list of supported languages.

You can add or delete languages in silent mode, by modifying the Languages section. This is valid as long as you consistently use the same installation package.

The OcConfigWizard Section

In the OcConfigWizard section, you can specify the path where the PRF file is located. the PRF file contains the user profile information. Oracle Connector for Outlook uses the PRF file to configure user profiles.

The following snippet of the initialization file shows the parameters and values in the OcConfigWizard section:

```
[OcConfigWizard]
Path=c:\MyPrfName.prf
```

D.2.5.3 Upgrading, Maintaining, or Removing Oracle Connector for Outlook in Silent Mode

You can upgrade to a new version of Oracle Connector for Outlook in silent mode. When you run the new installation package in silent mode, it upgrades the installation of Oracle Connector for Outlook to the new version without using the INI settings in the initialization file.

To maintain visual feedback during silent installations, enter the following command:

```
con_outlook_1011x.exe/s UI=value path
```

In the preceding command, *value* represents the UI parameter value and *path* represents the complete path to the initialization file.

[Table D-12](#) lists the UI parameter values for configuring visual feedback.

Table D-12 UI Parameter Values for Configuring Visual Feedback

UI Parameter Values	Visual Feedback
1	There is no UI, except for a single dialog box at the end of the installation, indicating that the installation was successful.
2	A basic UI is provided.
3	A basic UI is provided in addition to a modal dialog box at the end of the installation, indicating successful installation. The modal dialog box is not displayed if the user cancels the installation.

To uninstall Oracle Connector for Outlook in silent mode, enter the following command:

```
Msiexec.exe /x {0AF6C5A4-E29B-4D1E-B6FF-D73F4FBB44DA} /qn
```

The preceding command passes the necessary command-line switches and values to the Microsoft installer to uninstall Oracle Connector for Outlook in silent mode. This command is the silent-mode equivalent of uninstalling the application through Add or Remove Programs in the Control Panel.

In the command, */x* instructs the Microsoft installer to uninstall Oracle Connector for Outlook, whose product code is specified in the brackets *{ }* and */qn* specifies a completely silent mode.

D.2.6 Installing Oracle Connector for Outlook with Additional Privileges

As an administrator, you can use one of the following methods to enable users to install Oracle Connector for Outlook:

- [Setting the AlwaysInstall Elevated Policy](#)

- [Performing an Advertised Installation of Oracle Connector for Outlook](#)
- [Deploying the Oracle Connector for Outlook Package Using Group Policy](#)

When using one of these methods, you must use the MSI package included with `con_outlook_1011x.exe`.

D.2.6.1 Setting the AlwaysInstallElevated Policy

By setting the `AlwaysInstallElevated` policy on the user's computer, you give users appropriate installation privileges to install Oracle Connector for Outlook. However, setting this policy can expose the user's computer to security risks because this method enables the user to access secure locations on the computer.

To configure elevated installation privileges, set the `AlwaysInstallElevated` value to 1 under the following key in the registry:

```
HKEY_LOCAL_MACHINE\Software\Policies\Microsoft\Windows\Installer
```

If Oracle Connector for Outlook is installed with elevated installation privileges as part of an installation performed on each computer, the `AlwaysInstallElevated` policy can be removed without affecting future repairs to the installation. The user will still be able to repair the Oracle Connector for Outlook installation with elevated privileges.

D.2.6.2 Performing an Advertised Installation of Oracle Connector for Outlook

When advertising an installation of Oracle Connector for Outlook on a user's computer, Oracle Connector for Outlook shortcuts are installed, its icons appear in the Start menu, and the file types become registered, but the product's files are not actually installed until the user accesses one of these items to start the application. You can advertise Oracle Connector for Outlook on the user's computer, but only if one of the following operating systems is running on it:

- Microsoft Windows 2000
- Microsoft Windows XP
- Microsoft Windows 2003

To advertise an installation of the Oracle Connector for Outlook package on each user's computer, enter the following command:

```
Msiexec.exe -jm "con_outlook.msi" ALLUSERS=1
```

When you run this command, the **Oracle Connector Configuration Wizard** option will be available from the **Oracle Connector For Outlook** program submenu. You can then run the installation with elevated privileges by selecting this shortcut.

D.2.6.3 Deploying the Oracle Connector for Outlook Package Using Group Policy

You can use the included tools to install and maintain software applications by using Group Policy on Microsoft Windows 2000 or later.

An administrator can advertise Oracle Connector for Outlook on the local computer by assigning the `con_outlook.msi` package to users' computers through Active Directory and Group Policy.

Assigning Oracle Connector for Outlook

Assigning Oracle Connector for Outlook is the easiest way to use Group Policy to manage an installation package. With this method, Oracle Connector for Outlook is automatically installed on the computer of the user the first time a designated

computer is started and Group Policy is applied. Oracle Connector for Outlook is then available to all users of this computer.

Using this installation setup, users with no administrative privileges can also modify the supported Oracle Connector for Outlook languages by selecting **Add or Remove Languages** from the Program menu. Users can also repair their installation of Oracle Connector for Outlook, but only an administrator can permanently remove the application.

Applying a Transform to Oracle Connector for Outlook

When you use Group Policy to assign the `con_outlook.msi` package, you can still control the installation of Oracle Connector for Outlook with a silent initialization file. This is done by applying a transform (MST file) to the original Oracle Connector for Outlook package (MSI file).

A transform should only change the `SILENTINIPATH` public property of the original `con_outlook.msi` package. This public property must include the path to the initialization file. The path can also point a network location.

The structure of the initialization file is the same as the one used for the silent installation.

See Also: [Section D.2.5.2](#) for more information on configuring initialization files.

You can create a transform by using a third-party application like Orca, InstallShield, or Wise Solutions. You can also specify the `trans` parameter with the `admin` switch when you extract the `con_outlook.msi` package with the following command:

```
con_outlook_1011x.exe/admin image=cd trans=INI_path
```

In the preceding command, `INI_path` represents the actual path to the initialization file.

This command creates a transform called `silent.msi` along with the other language transforms. If the `image=msi` parameter is used instead, an embedded transform called `silent` is created.

See Also: Refer to the following URL for a step-by-step guide to software installation and maintenance

<http://www.microsoft.com/windows2000/techinfo/planning/management/swinstall.asp>

D.2.7 Using the Configuration Wizard to Configure Oracle Connector for Outlook

The configuration wizard is a standalone application that can be started from the command prompt or from Windows Explorer. The configuration wizard is useful for both administrators and end users because it integrates the creation and configuration of PRF files and profiles.

The following list describes various uses of the configuration wizard:

- You can start the configuration wizard in interactive mode.
- You can start the configuration wizard in silent mode. You can use an existing PRF file with all the required settings information to create and configure the first profile for the user.

- As an administrator, you can use the configuration wizard to generate the PRF files to save the updated settings.
- As an administrator, you can use the configuration wizard to back up the Oracle Connector for Outlook settings for an existing profile and restore these settings later.
- As a user, you can use the configuration wizard to modify profile settings. You can use the template PRF file distributed by the administrator for this purpose.

The configuration wizard only works with Oracle Connector for Outlook settings. While configuring a profile, it only configures the Oracle Connector for Outlook settings. You can run only one instance of the configuration wizard at a time. If you try to invoke the configuration wizard a second time, the instance previously started will be displayed in the foreground.

The configuration wizard can be invoked in three different modes:

- [Interactive Profile Creation and Configuration Mode](#)
- [Interactive PRF File Creation Mode](#)
- [Silent Profile Creation Mode](#)

D.2.7.1 Interactive Profile Creation and Configuration Mode

The interactive profile creation and configuration mode is the default mode. You can use this mode to specify settings and create or modify a profile.

Use the following command-line options to configure the configuration wizard:

- Enter **L** (not case-sensitive) at the command line to specify the language of the configuration wizard. The language that you specify must be installed during the installation of Oracle Connector for Outlook. For example, to run the configuration wizard in German, use the following command:

```
ocprofwiz -L 1031
```

- Enter **D** (not case-sensitive) at the command line to ensure that **Set as Default Profile** is selected by default on the final screen of the configuration wizard. The command to do so is:

```
ocprofwiz -D
```

Close Microsoft Outlook before starting the configuration wizard. You can configure an existing profile or create a new profile by using the **Profile Settings** screen of the configuration wizard. However, you can configure only one profile in one session. You can also remove an existing profile on the **Profile Settings** screen.

You can view or modify settings for the selected user profile on the Service Settings screen. All non-password fields must be filled to enable **Next**. If Microsoft Outlook is open and you are using the same profile while you are configuring profile settings, the fields on the **Service Settings** screen are disabled. To configure advanced settings, click **More Settings**. When the **Congratulations** screen is displayed, verify that **Set as Default Profile** is selected. The Outlook Address Book service is added to a new profile by default.

D.2.7.2 Interactive PRF File Creation Mode

In the interactive PRF file creation mode, administrators can create a PRF file by starting with a blank template, or importing information from an existing profile or PRF file.

The final PRF file contains user profile information, and settings information, which can be used by the configuration wizard or by the `NewProf.exe` file.

By default, the PRF file created is a blank template. For security reasons, password fields are not saved in the resulting PRF file if information is imported from an existing profile.

The Outlook Address Book information in the Service List section is added to the output PRF file, depending on the source template used. In the profile template, where information is imported from an existing profile, it depends on whether or not the profile has Outlook Address Book service. In the PRF template, where information is imported from an existing PRF file, it again depends on whether or not the PRF contains an Outlook Address Book information in the Service List section.

You can configure interactive PRF file creation with the following command-line switches:

- Enter **P** (not case-sensitive) at the command line to run the configuration wizard in the interactive PRF file creation mode, as follows.

```
ocprofwiz -P
```

- Use the **L** (not case-sensitive) switch at the command line to specify the language. For example, to run the configuration wizard in the german language, use the following command:

```
ocprofwiz -P -L 1031
```

The language you specify must have been installed during the installation of Oracle Connector for Outlook.

Before you start the configuration wizard, close Microsoft Outlook. In the PRF Configuration Settings screen, specify the source template for the PRF file and the location where you want to save the new PRF file.

If you select **Empty PRF File** as the source template, you must manually specify the settings. If you select **Existing PRF File** as the source template, initial settings information is imported from the source PRF file. If you select the MAPI profile to import settings from an existing profile, initial settings information is imported from the source profile.

In the Profile Options screen, configure the settings for the General section of the new PRF file. The following parameters show the relationship between the fields in the Profile Options screen and the settings in the General section of the PRF file:

- **ProfileName: Profile Name**
- **DefaultStore: Default Store**
- **DefaultProfile=Yes/No:** Use this profile as the default MAPI profile.
- **Overwrite Profile=Yes/No:** Overwrite existing profile with the same name.

You can view or modify Oracle Connector for Outlook settings in the Service Settings screen. To configure advanced settings, click **More Settings**. The Oracle Connector for Outlook settings information will be saved to the new PRF file. In the Congratulations screen, if **View PRF file** is selected, then the wizard displays the newly created PRF file. You can then verify the information or modify parameters in the PRF file.

D.2.7.3 Silent Profile Creation Mode

An existing PRF file is used as the template for creating a corresponding profile. When installing Oracle Connector for Outlook in silent mode, you can start the configuration

wizard after the installation is complete. The configuration wizard reads information from an existing PRF file and creates a new profile, or modifies an existing profile, with the appropriate settings.

The Outlook Address Book service is imported in to the profile if it is listed in the Service List section. (Limited support is also available for some other types of message services.)

To run the configuration wizard in silent profile creation mode, use the *S* (not case-sensitive) switch at the command line, as follows:

```
ocprofwiz -S "C:\Program Files\Oracle\Outlook Connector\source.prf"
```

When Oracle Connector for Outlook is configured in silent mode, a log file is created to record success and error information. This log file is stored in a temporary folder on the computer. For example:

```
C:\Documents and Settings\user\Local  
Settings\Temp\ocfoConfigWizardLog\ocfoConfigWizard.log
```

In the preceding command, *user* represents the login name of the local user.

Notes:

- If you are configuring Oracle Connector for Outlook in silent mode, then you must check the log file to verify the results. Both, successful imports of information in to the profile and errors is recorded in the log file.
 - The configuration wizard may write some information to the log file in interactive profile creation and configuration mode and interactive PRF file creation mode. Usually, high-level warning messages are displayed and low-level technical information is recorded in the log file.
-
-

We recommend that you use a PRF file generated by the Oracle Connector for Outlook configuration wizard. Most of the parameters in the PRF file can be configured through the Configuration wizard in the interactive PRF file creation mode. If you modify a value manually, then you must verify that the new value falls within the valid range of values.

D.3 Installing Oracle Real-Time Collaboration Clients

This section contains the following topics:

- [Section D.3.1, "System Requirements for Oracle Real-Time Collaboration Clients"](#)
- [Section D.3.2, "Installing the Oracle Web Conferencing Client"](#)
- [Section D.3.3, "Installing the RTC Messenger Client"](#)

D.3.1 System Requirements for Oracle Real-Time Collaboration Clients

[Table D-13](#) lists the system requirements for installing Oracle Real-Time Collaboration Clients on various Microsoft Windows platforms.

Table D–13 System Requirements for Installing Oracle Real-Time Collaboration Client

Item	Requirement
Operating Systems	■ Microsoft Windows 98 ■ Microsoft Windows NT 4.0 ■ Microsoft Windows 2000 ■ Microsoft Windows XP
Privileges	You must have administrative privileges on your computer to install Real-Time Collaboration clients.
Screen Resolution	1024 x 768 pixels (required for Web Conferencing only)
Browser	Any one of the followings: ■ Internet Explorer 5.5 or later ■ Netscape 4.75 or later ■ Mozilla 1.0 or later ■ Firefox 1.1 or later Notes: ■ All listed browsers can perform tasks in the Real-Time Collaboration Web Application pages, and use the conference whiteboard and desktop sharing features. Netscape 4.X browsers (prior to Netscape 4.75) can use most Web Application features, but they cannot use the Schedule tab to schedule a conference. ■ Only Internet Explorer 5.5 browser or later can share documents in document presentation mode, stream voice data in a conference over PSTN, or play back a recorded conference. For this, JVM must be installed and enabled.
Java Virtual Machine	■ Microsoft JVM 1.1.4 build 3740 or higher ■ Sun JVM 1.3.1 or higher

D.3.2 Installing the Oracle Web Conferencing Client

To install the Oracle Web Conferencing client:

1. Uninstall previous Oracle Web Conferencing clients. Select **Add or Remove Programs** from the Microsoft Windows Control panel and remove the previous Oracle Web Conferencing client versions.
2. Open the Real-Time Collaboration Web Application page and click **Home**.
3. Click **New User**.
4. Click the Download icon that is displayed next to Web Conferencing.
5. Follow the onscreen instructions to install the Oracle Web Conferencing client.

D.3.3 Installing the RTC Messenger Client

To install the RTC Messenger client:

1. Uninstall previous Oracle Web Conferencing clients. Select **Add or Remove Programs** from the Microsoft Windows Control panel and remove the previous Oracle Web Conferencing client versions.
2. Open the Real-Time Collaboration Web Application page and click **Login**.
3. Enter your Single Sign-on login and password.

4. Click **Download RTC Messenger**.
5. Click the Download icon that is displayed next to the Oracle RTC Messenger.
6. Follow the instructions on the screen to install the RTC Messenger client. After successful installation of the RTC Messenger client, you will be prompted to sign in.
7. Enter your Single Sign-on login and password, and click **OK** to start the RTC Messenger.

Using Command-Line Options and Variables

This appendix explains the command-line options and variables that can be used to run the Oracle Universal Installer for installing Oracle Collaboration Suite. It contains the following topics:

This section contains the following topics:

- [Section E.1, "Running Prerequisite Checks"](#)
- [Section E.2, "Starting Oracle Universal Installer"](#)
- [Section E.3, "Specifying Custom Ports"](#)

E.1 Running Prerequisite Checks

You can just run the prerequisite checks without having to install Oracle Collaboration Suite components by using the following command:

```
./runInstaller -prereqChecker PREREQ_CONFIG_LOCATION=path_to_/stage/prereq  
-entryPoint entry_point
```

In the preceding syntax, the value of *entry_point* can be any of the following:

- `oracle.ocs.infrastructure_Infrastructure`: Used for checking the prerequisites for Oracle Collaboration Suite 10g Infrastructure.
- `oracle.ocs.infrastructure_Infrastructure_ID`: Used for checking the prerequisites for Infrastructure.
- `oracle.ocs.infrastructure_Infrastructure_DB`: Used for checking the prerequisites for Oracle Collaboration Suite 10g Database.
- `oracle.ocs.infrastructure_Infrastructure_EnableDB`: Used for checking the prerequisites for enabling Oracle Collaboration Suite Database in an existing database.
- `oracle.ocs.midtier_Portals`: Used for checking the prerequisites for Oracle Collaboration Suite portal.
- `oracle.ocs.onebox_Complete`: Used for checking the prerequisites for Infrastructure and Oracle Collaboration Suite 10g Applications.

E.2 Starting Oracle Universal Installer

You can start the Oracle Universal Installer by using the following command:

```
runInstaller [options] [CommandLineVariable=Value]
```

In the preceding syntax, [options] can have the following values:

- `-help`: Used for displaying the help topics for using the command.
- `-silent`: Used for silent mode operations. The input parameters can include a response file name or list of command-line variable value pairs.
- `-responseFile <Path>`: Used for specifying the response file name and path.
- `-formCluster`: Used for installing the Oracle clusterware to form the cluster.
- `-remoteshell <Path>`: Used only for installing clusters. This parameter specifies the path to the remote shell program on the local cluster node.
- `-remotecp <Path>`: Used only for installing clusters. This parameter specifies the path to the remote copy program on the local cluster cluster.
- `-record -destinationFile <Path>`: Used for the record mode operation. This parameter specifies the destination file path, where information is recorded.
- `-deinstall`: Used for uninstallation operations.
- `-debug`: Used for retrieving the debug information from OUI.
- `-ignoreSysPrereqs`: Used for ignoring the results of system prerequisite checks.
- `-executeSysPrereqs`: Used for executing system prerequisite checks and exiting. A subset of the checks described in [Section 2.10](#) will be performed by this option.
- `-paramFile`: Used for specifying the location of `oraparam.ini` file to be used by Oracle Universal Installer.
- `-clone`: Used for creating an *Oracle_Home* copy that matches its current environment.
- `-force`: Used for allowing silent mode installation in to a nonempty directory.
- `-noconsole`: Used for suppressing the display of messages to console.
- `-removeAllPatches`: Used for removing all interim patches from the *Oracle_Home* directory.
- `-ignorePatchConflicts`: Used for ignoring all conflicts with existing interim patches during an upgrade. The conflicting interim patches are removed from the *Oracle_Home* directory.
- `-addNode`: Used for adding nodes to the installation.
- `-removeHome`: Used for removing *Oracle_Home* directories from the Oracle Universal Installer inventory.

E.3 Specifying Custom Ports

For Oracle Collaboration Suite installation, you can specify custom port numbers in the following two ways:

- By using the Ports Configuration Options Screen during the installation
- By using the `staticports.ini` file

The Ports Configuration Screen enables you to select custom port numbers only for a few well-known ports. On the other hand, the `staticports.ini` file provides a wider range of the ports that can be used during installation.

Note: If you pass the path to the `staticports.ini` file as a parameter while running the `runInstaller` command, then the Ports Configuration Options screen will not appear during the installation.

A sample `staticports.ini` file is located in the `/response` directory of the Oracle Collaboration Suite DVD.

The command-line options used to specify `staticports.ini` file are as follows:

- Use the following command for single-computer installation:

```
./runInstaller oracle.ocs.onebox:s_staticPorts=path_to_your_ini_file
```
- Use the following command for all types of Infrastructure installations:

```
./runInstaller oracle.ocs.infrastructure:s_staticPorts=path_to_your_ini_file
```
- Use the following command for Applications installation:

```
./runInstaller oracle.ocs.midtier:s_staticPorts=path_to_your_ini_file
```


URLs for Components

Use the URLs and login IDs shown in [Table F-1](#) to access components after installation.

The URLs in the table use the default ports. The components in your environment might use different ports. To determine the port numbers for components, refer to the `ORACLE_HOME/install/portlist.ini` file.

Table F-1 URLs for Components

Component	URL or Path	Entry in portlist.ini	Login and Password
Oracle Collaboration Suite Welcome Pages	<code>http://host:7777/welcome/index.jsp</code>	Oracle HTTP Server port or Web Cache Listen port	Not applicable
Oracle HTTP Server	<code>http://host:7778</code> (with Web Cache)	Oracle HTTP Server Listen port	Not applicable
OracleAS Web Cache Manager	<code>http://host:4000/webcacheadmin</code>	Web Cache Administration port	administrator or ias_admin Password: use the password for ias_admin that you supplied during installation.
OracleAS Portal	<code>http://host:7777/pls/portal</code>	Web Cache Listen port	portal Password: use the password for ias_admin that you supplied during installation.
OracleAS UDDI Registry	<code>http://host:7777/uddi</code>	Web Cache Listen port	Not applicable
Oracle Application Server Single Sign-On Administration Pages	<code>http://host:7777/pls/orasso</code>	Oracle HTTP Server Listen port	orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Enterprise Manager Application Server Control	<code>http://host:1810</code>	Application Server Control port	ias_admin Password: Use the ias_admin password you supplied during installation.

Table F-1 (Cont.) URLs for Components

Component	URL or Path	Entry in portlist.ini	Login and Password
Oracle Internet Directory Manager	<i>ORACLE_HOME</i> /bin/oidadmin	Not Applicable	orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Delegated Administration Services	http://host:7777/oiddas	Oracle HTTP Server Listen port	orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Application Server Certificate Authority Administration Interface	http://host:4400/oca/admin	Oracle Certificate Authority SSL Server Authentication port	Certificate Authority Administrator Password: Use the password you supplied for the Oracle Application Server Certificate Authority administrator during installation.
Oracle Mail	User URL: http://host:7777/um Admin URL: http://host:7777/um	None	For users: orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Calendar Server	User URL: http://host:7777/ocas-bin/ocas.fcgi?sub=web Admin URL: http://host:7777/ocad-bin/ocad.cgi?object=nodeadm	None	For administration: orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Content Services	User URL: http://host:7777/content/app/	None	For administration: orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.

Table F–1 (Cont.) URLs for Components

Component	URL or Path	Entry in portlist.ini	Login and Password
Oracle Discussions	User URL: http://host:7777/discussions/app	None	For administration: orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Mobile Collaboration	Admin URL: http://host:7777/webtool/login.uix	Web Cache Listen port	
Oracle Real-Time Collaboration	User URL: http://host:7777/imtapp/app/prelogin.uix Admin URL: http://host:7777/imtapp/app/prelogin.uix	None	For administration: orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Collaboration Suite Search	User URL: http://host:7777/search Admin URL: http://host:7777/search	None	For administration: orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Voicemail & Fax	Admin URL: http://host:7777/um/	None	
Oracle Web Access Client	Admin URL: http://host:7777/ocscclient	None	For administration: orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.
Oracle Workspaces	Admin URL: http://host:7777/workspaces	None	For administration: orcladmin Password: The default password for orcladmin is the same as the password for ias_admin, which you specified during installation.

Default Port Numbers for Oracle Collaboration Suite Components

By default, the installer assigns port numbers to components from a set of default port numbers. This appendix contains a list of these port numbers.

To use a different set of port numbers, create a file called `staticports.ini`, in which you list the port numbers that you want to use.

Refer to [Section 2.4.3](#) for details.

G.1 Method of Assigning Default Port Numbers

The installer assigns default port numbers to each component using the following method:

1. The installer checks if the default port number is in use. If it is not in use, the installer assigns it to the component.
2. If the default port number is already in use by an Oracle product or by any running application, the installer tries the lowest number in the port number range. It keeps trying the port numbers in the range until it finds one that is available.

G.2 Default Port Numbers

[Table G-1](#) lists the default port numbers for components. The last column, [Name in staticports.ini](#), specifies the component name as it appears in the `staticports.ini` file, which enables you to override the default port numbers. Refer to [Section 2.4.3](#) for details.

Table G-1 Default Port Numbers and Ranges (Grouped by Component)

Component	Default Port	Port Number Range	Name in staticports.ini
Oracle Process Manager and Notification Server (OPMN)			
Oracle Notification Server Request Port	6003	6003 to 6099	Oracle Notification Server Request port
Oracle Notification Server Local Port	6100	6100 to 6199	Oracle Notification Server Local port

Table G-1 (Cont.) Default Port Numbers and Ranges (Grouped by Component)

Component	Default Port	Port Number Range	Name in staticports.ini
Oracle Notification Server Remote Port	6200	6200 to 6299	Oracle Notification Server Remote port
Containers for J2EE (OC4J)			
OC4J AJP	3301	3301 to 3400	Cannot be set through staticports.ini
OC4J RMI	3201	3201 to 3300	Cannot be set through staticports.ini
JMS	3701	3701 to 3800	Cannot be set through staticports.ini
IIOP	3401	3401 to 3500	Cannot be set through staticports.ini
IIOPS1	3501	3501 to 3600	Cannot be set through staticports.ini
IIOPS2	3601	3601 to 3700	Cannot be set through staticports.ini
Oracle HTTP Server			
Listener (OracleAS Web Cache not configured)	Applications tier: 80 Infrastructure: 7777	7777 to 7877	Oracle HTTP Server Listen port
Oracle HTTP Server Listener (SSL)	Applications tier: 443 Infrastructure: 4443	4443 to 4543	Oracle HTTP Server Listen (SSL) port
Oracle HTTP Server Listener (non-SSL, OracleAS Web Cache configured)	Applications tier: 80 Infrastructure: 7777	7777 to 7877	Oracle HTTP Server port
Oracle HTTP Server Listener (SSL, OracleAS Web Cache configured)	Applications tier: 443 Infrastructure: 4443	4443 to 4543	Oracle HTTP Server SSL port
Java Object Cache	7000	7000 to 7099	Java Object Cache port
DCM Java Object Cache	7100	7100 to 7199	DCM Java Object Cache port
SOAP server	9998	9998 to 9999	Cannot be set through staticports.ini
Port Tunneling	7501	7501 to 7599	Cannot be set through staticports.ini
Oracle HTTP Server Diagnostic port	7200	7200 to 7299	Oracle HTTP Server Diagnostic port
OracleAS Portal			
OracleAS Portal	Uses the same port as Oracle HTTP Server	None	Uses the same port as Oracle HTTP Server
OracleAS Single Sign-On			
Oracle Application Server Single Sign-On	Uses the same port as Oracle HTTP Server	None	Uses the same port as Oracle HTTP Server

Table G–1 (Cont.) Default Port Numbers and Ranges (Grouped by Component)

Component	Default Port	Port Number Range	Name in staticports.ini
OracleAS Web Cache			
OracleAS Web Cache - HTTP Listener	80	7777 to 7877	Web Cache HTTP Listen port
OracleAS Web Cache - HTTP Listener (SSL)	443	4443 to 4543	Web Cache HTTP Listen (SSL) port
OracleAS Web Cache Administration	4000	4000 to 4300	Web Cache Administration port
OracleAS Web Cache Invalidation	4001	4000 to 4300	Web Cache Invalidation port
OracleAS Web Cache Statistics	4002	4000 to 4300	Web Cache Statistics port
Oracle Enterprise Manager Application Server Control			
Application Server Control	1156	1810 to 1829	Application Server Control port
Oracle Management Agent	1157	1830 to 1849	Cannot be set through staticports.ini
Application Server Control (RMI)	1850	1850 to 1869	Application Server Control RMI port
Application Server Control (SSL)	1810	1810 to 1829	This port number is assigned after installation, when you configure Application Server Control for SSL. Refer to the <i>Oracle Collaboration Suite Administrator's Guide</i> for details.
Oracle Enterprise Manager Console HTTP port (orcl)	5500	None	Cannot be set through staticports.ini
Oracle Enterprise Manager Agent port (orcl)	1831	None	Cannot be set through staticports.ini
Log Loader	44000	44000 to 44099	Log Loader port
Oracle Internet Directory			
Oracle Internet Directory	389	3060 to 3129	Oracle Internet Directory port
Oracle Internet Directory (SSL)	636	3130 to 3199	Oracle Internet Directory (SSL) port
OracleAS Certificate Authority			
Server Authentication Virtual Host	4400	4400 to 4419	Oracle Certificate Authority SSL Server Authentication port
Mutual Authentication Virtual Host	4401	4400 to 4419	Oracle Certificate Authority SSL Mutual Authentication port

Table G-1 (Cont.) Default Port Numbers and Ranges (Grouped by Component)

Component	Default Port	Port Number Range	Name in staticports.ini
Oracle Mail			
Oracle Mail	5100	5100 to 5200	Cannot be set through staticports.ini
IMAP4	143	Fixed	Oracle Mail IMAP4 port
IMAP4 (SSL)	993	Fixed	Oracle Mail IMAP4 Secure port
POP3	110	Fixed	Oracle Mail POP3 port
POP3 (SSL)	995	Fixed	Oracle Mail POP3 Secure port
SMTP	25	Fixed	Oracle Mail SMTP port
NNTP	119	Fixed	Oracle Mail NNTP port
NNTP (SSL)	563	Fixed	Oracle Mail NNTP Secure port
Oracle Calendar			
Oracle Calendar	5730	Fixed	Oracle Calendar server
Oracle Calendar Server Manager	5734	Fixed	Oracle Calendar server manager (CSM)
Oracle Content Services			
Oracle Content Services Node Manager	Dynamically assigned	53140 to 53899	Cannot be set through staticports.ini
Oracle Content Services HTTP Node Manager	Dynamically assigned	53140 to 53899	Cannot be set through staticports.ini
Oracle Mobile Collaboration			
Wireless Notification Dispatcher Calendar	9100	9100 to 9199	Wireless PIM Notification Dispatcher
Oracle Real-Time Collaboration			
Redirector Server	Any	Not Applicable	RTC Redirector Server port
Redirector to Multiplexer	1025	Any	RTC Redirector MX port
Redirector to Oracle Presence Server	5222	5222	RTC Redirector XMPP port
Redirector to Presence Server (SSL)	5223	5223	RTC Redirector XMPP Secure port
Process Manager	1027	Any	RTC process monitor port
Oracle Voicemail & Fax			

Table G–1 (Cont.) Default Port Numbers and Ranges (Grouped by Component)

Component	Default Port	Port Number Range	Name in staticports.ini
Netmerge CCS	2019	2019 to 2020	Cannot be set through staticports.ini
Voicemail & Fax Services	None	7001 to 8000	Cannot be set through staticports.ini
SMDI Monitor Service	7000	7001 to 8000	Cannot be set through staticports.ini

Deinstallation and Reinstallation

This appendix guides you through the deinstallation and reinstallation process for Oracle Collaboration Suite.

- [Section H.1, "The Deconfig Tool"](#)
- [Section H.2, "Overview of the Deinstallation Procedure"](#)
- [Section H.3, "Deinstalling Applications Tiers"](#)
- [Section H.4, "Deinstalling Oracle Collaboration Suite Database"](#)
- [Section H.5, "Deinstalling Oracle Collaboration Suite Infrastructure"](#)
- [Section H.6, "Deinstalling a Single-Computer Installation"](#)
- [Section H.7, "Harmless Errors in the Log File"](#)
- [Section H.8, "Cleaning Up Oracle Collaboration Suite Processes"](#)
- [Section H.9, "Reinstallation"](#)

H.1 The Deconfig Tool

You must run the Deconfig tool as a part of the deinstallation procedure. This tool removes entries in OracleAS Metadata Repository and Oracle Internet Directory for the Oracle Collaboration Suite instance that you want to deinstall.

Note: You will need to set the ORACLE_HOME and ORACLE_SID variables before starting the deinstallation process.

To run the Deconfig tool, use the following commands.

```
prompt> cd $ORACLE_HOME/bin
prompt> ./ocsdeconfig.sh [-u oid_user]
                        [-w password]
```

If you run the tool without any parameters, it prompts you for the necessary information.

Running the `./ocsdeconfig.sh` command calls the `ocsdeconfig.pl` script, which passes the Oracle Internet Directory information to the DeconfigureWrapper.

H.1.1 Parameters

-u *oid_user*

Specify the Oracle Internet Directory user.

You can specify the Oracle Internet Directory user using the simple name of the user or the distinguished name (DN) of the user. For example, the simple name of the user can be `jdoe@mycompany.com`, which corresponds to the DN `cn=jdoe, l=us, dc=mycompany, dc=com`.

The Oracle Internet Directory user must have privileges for deinstalling the components that are configured in the Oracle Collaboration Suite instance that you want to deinstall. These privileges are the same as for installing and configuring the component.

For example, if you are deinstalling an Oracle Collaboration Suite 10g Infrastructure instance that is running Oracle Delegated Administration Services and Oracle Application Server Single Sign-On, make sure the user has privileges to configure these components.

To run the tool as the Oracle Internet Directory superuser, be sure to use `cn=orcladmin`, and not just `orcladmin`. These are two different users.

-w *password*

Specify the password for the Oracle Internet Directory user.

-dbp *sys_db_password*

Specify the password for the SYS user in the database. This is the OracleAS Metadata Repository database used by Oracle Internet Directory.

This value is required only if you are deinstalling an Identity Management-only instance that has Oracle Internet Directory configured.

If you specify this parameter and it is not needed, the password value is simply not used.

-help or -h

You can also run the Deconfig tool with the `-h` or `-help` parameter to display help:

```
prompt> $ORACLE_HOME/perl/bin/perl ocsdeconfig.pl -h
- or -
prompt> $ORACLE_HOME/perl/bin/perl ocsdeconfig.pl -help
```

H.1.2 Log Files Generated by the Deconfig Tool

The Deconfig tool writes its log file to the `ORACLE_HOME/cfgtoollogs/OCSDconfigureWrapper.log` file.

H.2 Overview of the Deinstallation Procedure

Follow these high-level steps to deinstall Oracle Collaboration Suite (the details are provided in later sections):

1. Deinstall Applications tier instances first.
 - a. Run the Deconfig tool on the instance.
 - b. Run the installer and click the **Deinstall Products** button.

- c. Clean up any remaining files.
2. Then deinstall the Infrastructure instances.
 - a. Run the installer and click the **Deinstall Products** button.
 - b. Clean up any remaining files.
 - c. Delete the Oracle home.

Note: If you plan to deinstall Oracle Collaboration Suite using Oracle Universal Installer, you will not be able to select Oracle Collaboration Suite components individually. All Oracle Collaboration Suite components, Oracle Collaboration Suite Infrastructure, Oracle Collaboration Suite Database, and Oracle Collaboration Suite Applications, will be deinstalled.

Notes:

- If you used Metadata Repository Creation Assistant to install the OracleAS Metadata Repository on an existing database, and you want to remove the OracleAS Metadata Repository, select the **Remove** option in Metadata Repository Creation Assistant. You can also use Metadata Repository Creation Assistant to remove the registration from Oracle Internet Directory.
- If you remove an Infrastructure instance, all Applications tier instances that depend on that Infrastructure will no longer work.

If you want to keep the Applications tier instances, you can configure them to use services from another Infrastructure. Refer to the *Oracle Collaboration Suite Administrator's Guide* for details.

Items to Remove or Clean Up

To deinstall Oracle Collaboration Suite instances, you must clean up the items listed in [Table H-1](#). The procedures are described later in this appendix.

Table H-1 Items to Deinstall

Item to Clean Up	Tool to Use
Files from the Oracle home directory	Installer If the installer does not remove all the files, you can remove the remaining files using the <code>rm</code> command.
Entries for the deleted instance in the Inventory directory	Installer
Instance name from farm page	Installer
Entries for the deleted instance in the <code>/var/opt/oracle</code> or <code>/etc</code> directory	You must remove the entries manually. Refer to: ■ Step 7 on page H-5 if you are deinstalling Applications tiers. ■ Step 7 on page H-6 if you are deinstalling Oracle Collaboration Suite Database. ■ Step 8 on page H-8 if you are deinstalling Infrastructure.
Entries for the deleted instance in Oracle Internet Directory	Deconfig tool

The installer does not permit custom deinstallation of individual components.

H.3 Deinstalling Applications Tiers

The following component-specific deconfiguration occurs when you deinstall an Applications tier instance:

- Oracle Real-Time Collaboration
- Oracle Discussions
- Oracle Workspaces
- Oracle Collaboration Suite Web Access
- Oracle Mobile Collaboration
- Oracle Content Services
- Oracle Calendar Server
- Oracle Calendar Web client
- Oracle Mail
- Oracle Collaboration Suite Search

To deinstall an Applications tier:

1. Log in as the operating system user who installed the instance you want to deinstall.
2. Stop all processes associated with the instance you want to deinstall.

Refer to *Oracle Collaboration Suite Administrator's Guide* for details on how to stop the processes.

3. Run the Deconfig tool.

```
prompt> cd $ORACLE_HOME/bin
prompt> ./ocsdeconfig.sh [parameters]
```

Refer to [Section H.1](#) for parameter details.

4. Start the installer.

```
prompt> $ORACLE_HOME/oui/bin/runInstaller
```

Note: If you are running this deinstallation procedure on Solaris 5.10, then you must run the installer from the Oracle Collaboration Suite DVD and not from `$ORACLE_HOME/oui/bin`.

5. Follow these steps in the installer:
 - a. Welcome screen: Click **Deinstall Products**.
 - b. Inventory screen: Select the instance you want to deinstall, and click **Remove**.
 - c. Confirmation screen: Verify the components selected for deinstallation. Click **Yes** to continue.
 - d. Deinstallation Progress screen: Monitor the progress of the deinstallation.
 - e. Exit the installer when the deinstallation is complete.

6. Delete any remaining files in the Oracle home directory of the deleted instance.

```
prompt> rm -rf $ORACLE_HOME
```

7. Remove the line for the deinstalled Applications tier from the `/etc/oratab` file.

Toward the end of the file, you should see lines that specify the Oracle home directory. Remove the line for the Oracle home that you deinstalled. The line would look like the following:

```
*:/$ORACLE_HOME/infra:N
```

In the preceding example, `ORACLE_HOME` is the Oracle home of the Oracle Collaboration Suite Database.

Note: Note that Portal entries in Oracle Internet Directory are not removed by the Deconfig tool or the installer.

H.4 Deinstalling Oracle Collaboration Suite Database

You can use the `ocsdeconfig` tool for deinstalling Oracle Collaboration Suite.

The following component-specific deconfiguration occurs when you deinstall Oracle Collaboration Suite using the `ocsdeconfig` tool:

- Oracle Content Services
- Oracle Collaboration Suite Web Access
- Oracle Voicemail & Fax (Windows only)
- Oracle Mail
- Oracle Workspaces
- Oracle Calendar Server
- Oracle Real-Time Collaboration

To deinstall Oracle Collaboration Suite in silent mode:

1. Log in as the operating system user who installed the instance you want to deinstall.
2. Stop all processes associated with the instance you want to deinstall.

Refer to the *Oracle Collaboration Suite Administrator's Guide* for details on how to stop the processes.

3. Run the Deconfig tool.

```
prompt> cd $ORACLE_HOME/bin
prompt> ./ocsdeconfig.sh -u oid-user-name -w password
```

Refer to [Section H.1](#) for parameter details.

4. Start the installer.

```
prompt> $ORACLE_HOME/oui/bin/runInstaller
```

Note: If you are running this deinstallation procedure on Solaris 5.10, then you must run the installer from the Oracle Collaboration Suite DVD and not from `$ORACLE_HOME/oui/bin`.

5. Follow these steps in the installer.
 - a. Welcome screen: Click **Deinstall Products**.
 - b. Inventory screen: Select the instance you want to deinstall, and click **Remove**.
 - c. Confirmation screen: Verify the components selected for deinstallation. Click **Yes** to continue.
 - d. Deinstallation Progress screen: Monitor the progress of the deinstallation.
 - e. Exit the installer when the deinstallation is complete.
6. Delete any remaining files in the Oracle home directory of the deleted instance.

```
prompt> rm -rf $ORACLE_HOME
```
7. Remove the line for the deinstalled Oracle Collaboration Suite Database from the `/etc/oratab` file.

Toward the end of the file, you should see lines that specify the Oracle home directory. Remove the line for the Oracle home that you deinstalled. The line would look like the following:

```
SID:/$ORACLE_HOME/infra:N  
*:/ $ORACLE_HOME/infra:N
```

In the preceding example, *SID* is the system identifier for the Oracle Collaboration Suite Database that you have removed and *ORACLE_HOME* is the Oracle home of the Oracle Collaboration Suite Database.

Note: Note that OracleAS Portal entries in Oracle Internet Directory are not removed by the Deconfig tool or the installer.

H.5 Deinstalling Oracle Collaboration Suite Infrastructure

This section describes how to deinstall Infrastructure instances.

H.5.1 Deinstallation Order

The Infrastructure instance could contain all the Infrastructure components, or it could contain only a subset of the components, because you have a distributed Infrastructure installation. Here are some common scenarios and their deinstallation order:

If you have an Identity Management + OracleAS Metadata Repository instance, you have only one instance to deinstall.

If you have a distributed Identity Management:

1. Deinstall the instance or instances that are running Oracle Application Server Single Sign-On, Oracle Delegated Administration Services, Oracle Directory Integration and Provisioning, and Oracle Application Server Certificate Authority.
2. Deinstall the instance running Oracle Internet Directory.

H.5.2 Deinstallation Steps

The deinstallation steps for Infrastructure are as follows:

1. Log in as the operating system user who installed the instance you want to deinstall.
2. If Oracle Application Server Certificate Authority is configured on the instance you want to deinstall, run the following commands:

```
prompt> $ORACLE_HOME/oca/bin/ocactl stop
prompt> $ORACLE_HOME/oca/bin/cmdeinst ocaAdminPassword oidAdminPassword
```

Replace *ocaAdminPassword* with the password of the Oracle Application Server Certificate Authority administrator.

Replace *oidAdminPassword* with the password of the Oracle Internet Directory user who installed Oracle Application Server Certificate Authority. The user must belong to the following groups:

- Trusted Application Admins
- iAS Admins
- Repository Owners group for the metadata repository used by Oracle Application Server Certificate Authority

The *ocactl stop* command stops OCA services. The *cmdeinst* command performs the following actions:

- Removes Oracle Application Server Certificate Authority entries from Oracle Internet Directory
 - Removes data from tables in the *oca* schema
 - Removes Oracle Application Server Certificate Authority files created by the Oracle Application Server Certificate Authority Configuration Assistant during installation
3. If Oracle Directory Integration and Provisioning is configured and running in the instance you want to deinstall, stop the Oracle Directory Integration and Provisioning server.

Ensure that Oracle Internet Directory is running.

You can stop Oracle Directory Integration and Provisioning by running the following command:

```
prompt> cd $ORACLE_HOME/bin
prompt> oidctl connect=db_connect_string server=odisrv instance=1 stop
```

In the preceding command, *db_connect_string* is the service name as listed in the file *ORACLE_HOME/network/admin/tnsnames.ora*.

For any additional Oracle Directory Integration and Provisioning servers that you started, you must stop them too. Refer to the instructions in the *Oracle Identity Management Integration Guide*.

4. If Oracle Internet Directory is configured as a replica, you must delete this node from the directory replication group (DRG). Refer to Chapter 25, "Oracle Internet Directory Replication Administration", in the *Oracle Internet Directory Administrator's Guide* for steps.
5. Start the installer.

```
prompt> $ORACLE_HOME/oui/bin/runInstaller
```

Note: If you are running this deinstallation procedure on Solaris 5.10, then you must run the installer from the Oracle Collaboration Suite DVD and not from `$ORACLE_HOME/oui/bin`.

6. Follow these steps in the installer.
 - a. Welcome screen: Click **Deinstall Products**.
 - b. Inventory screen: Select the instance you want to deinstall, and click **Remove**.
 - c. Confirmation screen: Verify the components selected for deinstallation. Click **Yes** to continue.
 - d. Deinstallation Progress screen: Monitor the progress of the deinstallation.
 - e. Exit the installer when the deinstallation is complete.
7. Delete any remaining files in the Oracle home directory of the deleted instance.

```
prompt> rm -rf $ORACLE_HOME
```

8. Remove lines for the deinstalled infrastructure instance from the `/etc/oratab` file.

Toward the end of the file, you should see lines that specify the Oracle home directory. If you are deinstalling an infrastructure instance that contains a metadata repository, there will be two lines in the file:

- One line that begins with a *
- One line that begins with the database SID

Remove both lines.

For example, if the infrastructure instance is installed in `/private1/infra`, and it includes a metadata repository whose SID is `orcl`, the lines would look like the following:

```
orcl:/private1/infra:N
*/private1/infra:N
```

H.6 Deinstalling a Single-Computer Installation

Perform the following tasks to deinstall a Oracle Collaboration Suite Infrastructure and Applications installation on a single computer:

1. Log in as the operating system user who installed the instance you want to deinstall.
2. Start the installer, as follows:

```
prompt> $ORACLE_HOME/oui/bin/runInstaller
```

Note: If you are running this deinstallation procedure on Solaris 5.10, then you must run the installer from the Oracle Collaboration Suite DVD and not from `$ORACLE_HOME/oui/bin`.

3. On the Select Installation Method screen, select the **Advanced Installation** option and click **Next**.
4. On the Specify File Locations screen, click **Installed Products**.
5. The Inventory dialog box appears. For a single-computer installation, you will find the following items under **Oracle Homes**:
 - onebox_apps
 - onebox_infra
 - onebox

These items should be removed in the order they are listed in the preceding list.
6. Select **onebox_apps** and click **Remove**. Next, select **onebox_infra** and click **Remove**. Finally, select **onebox** and click **Remove**.
7. Exit the Installer.

H.7 Harmless Errors in the Log File

If you get the following "unable to delete file" and "unable to find make file" errors in the `oraInstalltimestamp.err` file after you deinstall Web Cache or Oracle Mobile Collaboration instances, these are harmless error messages.

```
Ignoring Exception during de-install
oracle.sysman.oii.oil.OilDeinstallException:
An error occurred during runtime. oracle.sysman.oii.oil.OilDeinstallException:
An error occurred during runtime.
...
Ignoring Exception during de-install
oracle.sysman.oii.oil.OilDeinstallException:
Unable to delete file
/home/j2ee/sysman/emd/targets.xml
oracle.sysman.oii.oil.OilDeinstallException: Unable to delete file
/home/j2ee/sysman/emd/targets.xml
at instantiateFileEx.deinstallAction(instantiateFileEx.java:935)
...
Ignoring Exception during de-installoracle.sysman.oii.oil.OilDeinstallException:
Unable to find make file:
/home/j2ee/network/lib/ins_net_client.mk
oracle.sysman.oii.oil.OilDeinstallException: Unable to find make file:
/home/j2ee/network/lib/ins_net_client.mk
at ssmakeux.deinstallAction(ssmakeux.java:246)
...
```

H.8 Cleaning Up Oracle Collaboration Suite Processes

If you forgot to shut down Oracle Collaboration Suite processes before starting the installation, you must stop the processes, because the files for these processes are deleted. To check for processes that are still running, run the `ps` command:

```
prompt> ps -ef
```

To stop a process, use the `kill` command:

```
prompt> kill -9 process_id
```

You can determine the *process_id* from the `ps` command.

If you need to shut down the `dcmctl` shell process, then exit the shell by typing `exit`.

H.9 Reinstallation

The installer does not allow reinstallation of an Oracle Collaboration Suite instance in a directory that already contains an Oracle Collaboration Suite instance. To reinstall Oracle Collaboration Suite in the same directory, you must deinstall and then install it.

Troubleshooting

This appendix describes common installation problems and solutions.

This appendix contains the following sections:

- [Section I.1, "Verifying Requirements"](#)
- [Section I.2, "Troubleshooting User Interface Problems"](#)
- [Section I.3, "Troubleshooting Installation Errors"](#)
- [Section I.4, "Troubleshooting Configuration Assistants"](#)
- [Section I.5, "Troubleshooting Administration Errors After Installation"](#)
- [Section I.6, "Troubleshooting Oracle Collaboration Suite Web Client Configuration"](#)
- [Section I.7, "Troubleshooting Oracle Real Application Clusters"](#)
- [Section I.8, "Need More Help?"](#)

I.1 Verifying Requirements

Review the following information before performing any of the troubleshooting steps in this appendix:

- Ensure that the computer meets the requirements specified in [Chapter 2](#).
- Ensure that you have completed all of the preinstallation tasks specified in [Chapter 3](#).

I.1.1 Checking Dependencies

If you are installing Oracle Collaboration Suite Applications, check that the Infrastructure that you want to associate the Oracle Collaboration Suite Applications with is running during installation.

I.1.2 Reading the Release Notes

Read the *Oracle Collaboration Suite Release Notes for Linux* prior to installing Oracle Collaboration Suite. The release notes are available with the platform-specific documentation. The most current version of the release notes is available on Oracle Technology Network at

<http://www.oracle.com/technology/index.html>

I.2 Troubleshooting User Interface Problems

If you are serving non-English content and forgot to install additional languages as explained in [Section 1.8](#), the user interface might not be displayed properly because the required fonts were not installed. You can fix this by installing the fonts from the Oracle Metadata Repository Creation Assistant and Utilities CD-ROM. The steps to do so are as follows:

1. Insert and mount the Oracle Collaboration Suite CD-ROM.
2. Copy the contents of the `utilities/fonts` directory on the CD-ROM to the `ORACLE_HOME/jdk/jre/lib/fonts` directory.

I.3 Troubleshooting Installation Errors

If you encounter an error during the installation of Oracle Collaboration Suite:

- If you entered incorrect information about one of the installation screens, return to that screen by clicking **Back** until you see the screen.
- Exit the installer only to access the component log files. The log files located in the `ORACLE_HOME/cfgtoollogs` directory are inaccessible if the installer is still in use.
- If you encounter an error while the installer is copying or linking files, perform the following tasks:
 1. Note the error and review the installation logs for causes:
 - `oraInventory_location/logs/installActiontimestamp.log`
 - `oraInventory_location/logs/oraInstalltimestamp.err`
 - `oraInventory_location/logs/oraInstalltimestamp.out`
 2. Remove the failed installation by following the steps in [Appendix H](#).
 3. Correct the issue that caused the error.
 4. Restart the installation.

I.4 Troubleshooting Configuration Assistants

This section contains the following topics:

- [Section I.4.1, "General Tips"](#)
- [Section I.4.2, "Configuration Assistant Result Codes"](#)
- [Section I.4.3, "Failure During Component Configuration and Startup"](#)
- [Section I.4.4, "Irrecoverable Errors"](#)

I.4.1 General Tips

To troubleshoot errors that occur when configuration assistants are running:

- Review the installation log files listed in [Section I.3](#).
- Review the configuration assistant log files located in the `ORACLE_HOME/cfgtoollogs` directory for a specific Oracle Collaboration Suite configuration assistant. Try to fix the issue that caused the error.

- If you see a "Fatal Error. Reinstall" message, try to find the cause of the problem by analyzing the log files. Refer to [Section I.4.4](#) for further instructions.

I.4.2 Configuration Assistant Result Codes

Configuration assistant failures are noted at the bottom of the installation screen. The configuration assistant interface displays additional information, if applicable. The execution status of the configuration assistant is identified by these result codes:

Status	Result Code
Configuration Assistant Succeeded	0
Configuration Assistant Failed	1
Configuration Assistant Cancelled	-1

Result codes are written to the following log file:

```
oraInventory_location/logs/installActionstimestamp.log
```

I.4.3 Failure During Component Configuration and Startup

During the installation, configuration assistants run when the Configuration Assistants screen appears. If a configuration assistant fails, try the following procedure to correct the problem:

1. Review the installation log files.
2. Review the log files for each configuration assistant located in the `ORACLE_HOME/cfgtoollogs` directory (Example: `/data/mtier/cfgtoollogs` or `/data/infra/cfgtoollogs`).
3. Refer to the following.
 - a. If the failed configuration assistant has any dependencies, then run the dependencies again. You must do this even if the dependency completed successfully.
 - b. Run the failed configuration assistant again. If you are using the installer, select the configuration assistant and click **Retry**.

If the configuration assistant fails again after you click **Retry**, then remove the `/temp/EM_CONFIG_INSTALL.1k` file and try rerunning the configuration assistant.

If the configuration assistant fails again after you click **Retry**, then remove the component entry from the `ORACLE_HOME/sysman/emd/targets.xml` file.

- c. If an optional configuration assistant fails, and it does not have any dependencies, run the remaining configuration assistants. Uncheck the cancelled optional configuration assistant, highlight and check the next listed configuration assistant, and click **Retry**.
- d. If configuration assistant failure occurs when you are running configuration assistant execution commands from Oracle Universal Installer or on the command line, then rerun the configuration assistant execution command again.

You can use the generated script file named `configToolCommands` located in the `ORACLE_HOME/cfgtoollogs` directory to execute the failed configuration assistant again. The `configToolCommands` script is generated after you exit the installer. During silent or noninteractive installation, the `configToolCommands` script is generated immediately after configuration assistant failure.

You must perform the following tasks before using the generated script:

1. Open the autogenerated `$ORACLE_HOME/cfgtoollogs/configToolCommands` script in an editor. Search and replace all occurrences of `*Protected value, not to be logged*` with the passwords you specified during the installation. If it is a common password, then it becomes simpler and you just have to replace all occurrences of the preceding string with that common password.
2. Set the `ORACLE_HOME` environment variable to the `ORACLE_HOME` path.
3. Append the `LD_LIBRARY_PATH` environment variable with `$ORACLE_HOME/lib32:$ORACLE_HOME/lib:$ORACLE_HOME/network/lib32:$ORACLE_HOME/network/lib` and `LD_LIBRARY_PATH_64` with `$ORACLE_HOME/lib:$ORACLE_HOME/network/lib`.
4. Run the `$ORACLE_HOME/cfgtoollogs/configToolCommands` script to rerun all the failed and skipped configuration assistants.
 - Set the `ORACLE_HOME` environment variable to the `ORACLE_HOME` path.
 - Append the `LD_LIBRARY_PATH` environment variable with `$ORACLE_HOME/lib32:$ORACLE_HOME/lib:$ORACLE_HOME/network/lib32:$ORACLE_HOME/network/lib`.

Note: If the description of a configuration assistant includes an "Initial Tasks" section, you must perform these tasks before running the configuration assistant.

I.4.4 Irrecoverable Errors

Some configuration assistant failures are Irrecoverable (fatal). You cannot recover from an Irrecoverable error by correcting the problem and continuing. You must remove the current installation and reinstall Oracle Collaboration Suite. The following tasks describe the recovery procedure:

1. Deinstall the failed installation using the procedure described in [Appendix H](#).
2. Correct the cause of the Irrecoverable error.
3. Reinstall Oracle Collaboration Suite.
4. If the error reoccurs, then you must remove all Oracle installations from your computer.

I.5 Troubleshooting Administration Errors After Installation

This section explains some errors that you may encounter after installation.

I.5.1 Failure to Restart Oracle Calendar

This error may occur if you shut down the system after installation and try running `opmn` to restart all processes.

You must run `ocasctl` to restart Oracle Calendar clients.

See Also: *Oracle Collaboration Suite Administrator's Guide*

I.6 Troubleshooting Oracle Collaboration Suite Web Client Configuration

If a user logs in to Oracle Collaboration Suite and sees a generic OracleAS Portal page instead of the Oracle Collaboration Suite Home page, do the following:

1. Ensure that the user is a member of the Oracle Collaboration Suite Users group, as follows:

- a. Log in to Oracle Delegated Administration Services as `orcladmin` at the following URL:

`http://host_name:port_number/oiddas/`

Note: In a typical installation, Oracle Delegated Administration Services is located where the Infrastructure is installed.

- b. Click the **Directory** tab.
- c. Search for the user by user ID (`orclguest`, for example).
- d. Select the user from the search results, and click **Edit**.
- e. Scroll down to the **Public Groups Assignment** section, and ensure that the user is a member of the Oracle Collaboration Suite Users group.

If the user is not a member, select the **Oracle Collaboration Suite Users** box, and click **Apply**.

- f. Log out of Oracle Delegated Administration Services.
2. Ensure that the Oracle Collaboration Suite Users group is the user's default group, as follows:

- a. Log in to OracleAS Portal as the user in question. For example, go to `http://host_name:port_number/`, click **End User Login**, and log in as `orclguest`.
- b. If the Oracle Collaboration Suite Home page appears, the user is now correctly provisioned and the rest of this procedure is unnecessary.
- c. If the OracleAS Portal Welcome page appears, click **Account Info**.
- d. On the Account Info page, ensure that the user's default group is set to `OCS_PORTAL_USERS`.

If it is not, manually enter `OCS_PORTAL_USERS` for the user's default group, and click **Apply**.

- e. Ensure that the user's **Default Home Page** is blank.
- f. Click the **Home** global button. You should see the Oracle Collaboration Suite Home page. If not, proceed to Step 3.
3. If the Oracle Collaboration Suite Home page still does not appear, do the following:

- a. Log in to OracleAS Portal as the user in question. For example, go to `http://host_name:port_number/`, click **End User Login**, and log in as `orclguest`.

- b. When the OracleAS Portal Welcome page appears, click **Account Info**.
- c. On the Account Info page, ensure that the user's default group is set to OCS_PORTAL_USERS.

If it is not, manually enter OCS_PORTAL_USERS for the user's default group, and click **Apply**.
- d. Click the **Browse Pages** icon next to the **Default Home Page** field.
- e. Locate the **OCS_V2_PAGE_GROUP** page group, and click to expand it.
- f. Locate the Oracle Collaboration Suite Home page, and click **Return Object**.
- g. Click **Apply**.
- h. Click the **Home** global button and the correct home page should appear.

I.7 Troubleshooting Oracle Real Application Clusters

To ensure that the installation succeeds on the remote nodes you choose, select a path for Oracle home that is the same on all chosen nodes and is writable. Otherwise, installation on the remote nodes fails. No error message indicates this failure.

I.8 Need More Help?

If this appendix does not solve the problem you encountered, try these other sources:

- *Oracle Collaboration Suite Release Notes*, available on the Oracle Technology Network at
<http://www.oracle.com/technology/documentation>
- *OracleMetaLink* at
<http://metalink.oracle.com>

If you do not find a solution for your problem, open a service request.

Sample Load Balancer Configuration For High Availability Installations

This appendix describes a sample load balancer configuration for Oracle Collaboration Suite high availability installations.

In this sample configuration, the following four Identity Management nodes are used:

- oid1
- oid2
- sso1
- sso2

Note: In a Distributed Identity Management installation, all the preceding four nodes are required. However, for a Single Cluster or Colocated Identity Management installation, only two nodes are required and therefore, the names, `oid1` and `sso1` are interchangeable and similarly, the names `oid2` and `sso2` are interchangeable.

There are two Oracle Collaboration Suite Applications nodes in this sample configuration:

- apps1
- apps2

The configuration details are mentioned in [Table J-1](#).

Table J-1 Sample Load Balancer Configuration Details for Oracle Collaboration Suite High Availability Installations

Virtual Server	Nodes	Monitor	Persistence Settings	Purpose
im_virtual.mycompany.com:7389	oid1.mycompany.com:7389 oid2.mycompany.com:7389	ldap	No persistence required	High Availability of Oracle Internet Directory
im_virtual.mycompany.com:7777	sso1.mycompany.com:7777 sso2.mycompany.com:7777	http	Active HTTP Cookie persistence	High Availability of OracleAS Single Sign-On

Table J–1 (Cont.) Sample Load Balancer Configuration Details for Oracle Collaboration Suite High Availability Installations

Virtual Server	Nodes	Monitor	Persistence Settings	Purpose
im_ virtual.mycompany.com:4636	oid1.mycompany.com:4636 oid2.mycompany.com:4636	ldap	No persistence required	High Availability of Oracle Internet Directory Secure Sockets Layer (SSL)
im_ virtual.mycompany.com:4443	sso1.mycompany.com:4443 sso2.mycompany.com:4443	https	Active HTTP Cookie persistence	High Availability of OracleAS Single Sign-On SSL
apps_ virtual.mycompany.com:80	apps1.mycompany.com:7778 apps2.mycompany.com:7778	tcp	No persistence required	In Oracle Collaboration Suite Applications tier, port 7778 should match the Oracle HTTP Server port in the \$ORACLE_HOME/install/portlist.ini file. If the Applications tier is sharing the same node as that of highly available Identity Management, then it will be 7778 by default, unless overridden by the user who is installing the product.
apps_ virtual.mycompany.com:25	apps1.mycompany.com:25a pps2.mycompany.com:25	tcp	No persistence required	On some load balancers, the port number for SMTP is 25.
apps_ virtual.mycompany.com:143	apps1.mycompany.com:143 apps2.mycompany.com:143	tcp	No persistence required	On some load balancers, the port number for IMAP is 143.
apps_ virtual.mycompany.com:110	apps1.mycompany.com:110 apps2.mycompany.com:110	tcp	No persistence required	On some load balancers, the port number for POP is 110.
apps_ virtual.mycompany.com:9401	apps1.mycompany.com:9401 apps2.mycompany.com:9401	tcp	No persistence required	In Oracle Collaboration Suite Applications tier, port 9401 should match the Web Cache Invalidation port in the \$ORACLE_HOME/install/portlist.ini file.

Table J-1 (Cont.) Sample Load Balancer Configuration Details for Oracle Collaboration Suite High Availability Installations

Virtual Server	Nodes	Monitor	Persistence Settings	Purpose
apps_ virtual.mycompany.com:7778	apps1.mycompany.com:7778 apps2.mycompany.com:7778	tcp	No persistence required	In Oracle Collaboration Suite Applications tier, port 7778 should match the Web Cache HTTP Listen port in \$ORACLE_HOME/install/portlist.ini. If the Applications tier is sharing the same node as that of highly available Identity Management, then it will be 7778 by the user who is installing the product.

Glossary

Applications tier

The tier of Oracle Collaboration Suite that runs the server applications that provide specific functionality to end users. The term "Applications tier" replaces the term "middle tier" that was used in previous releases. Each Applications tier corresponds to an instance of Oracle Application Server. See also [Oracle Collaboration Suite Applications](#).

Client tier

The tier of Oracle Collaboration Suite that consists of the end-user applications that reside on client devices, such as desktops, laptops, wireless phones, and PDAs. See also [Oracle Collaboration Suite Applications](#).

Infrastructure tier

The tier of Oracle Collaboration Suite that consists of the components that provide services, such as identity management and metadata storage, for the [Applications tier](#). Components of the Infrastructure tier include [Oracle Collaboration Suite Database](#) and [Oracle Identity Management](#). See also [Oracle Collaboration Suite Infrastructure](#).

Oracle Collaboration Suite

An integrated suite of software applications to enable communication, messaging, and content sharing in an enterprise environment. At an architectural level, it includes three tiers: an [Applications tier](#), which consists of server applications that provide the basic functionality, a [Client tier](#), which consists of applications on desktops, laptops, and wireless devices, and an [Infrastructure tier](#), which provides centralized services, such as identity management and metadata storage, for the applications.

Oracle Collaboration Suite Applications

The applications that make up Oracle Collaboration Suite, namely:

- Oracle Calendar
- Oracle Collaboration Suite Search
- Oracle Content Services
- Oracle Discussions
- Oracle Mail
- Oracle Mobile Collaboration
- Oracle Real-Time Collaboration
- Oracle Voicemail & Fax

- **Oracle Workspaces**

Each of the preceding applications is a component of Oracle Collaboration Suite Applications. These applications rely on the services provided by the [Infrastructure tier](#). See also [Applications tier](#).

Oracle Collaboration Suite Database

The default database included with Oracle Collaboration Suite to hold application data and metadata. The Oracle Collaboration Suite Database is part of the [Oracle Collaboration Suite Infrastructure](#).

Oracle Collaboration Suite Infrastructure

The underlying components that support Oracle Collaboration Suite and provide centralized product metadata and security services, configuration information, and data repositories for [Oracle Collaboration Suite Applications](#). Oracle Collaboration Suite Infrastructure uses and builds on OracleAS Infrastructure. It includes the [Oracle Collaboration Suite Database](#) and [Oracle Identity Management](#). See also [Infrastructure tier](#).

Oracle Identity Management

An integrated set of components that provide distributed security to Oracle products and make it possible to centrally and securely manage enterprise identities and their access to applications in the enterprise. It includes the following components: Oracle Internet Directory, Oracle Directory Integration and Provisioning, Oracle Delegated Administration Services, OracleAS Single Sign-On, and Oracle Application Server Certificate Authority.

Numerics

256-color requirement, 2-3

A

adding users to groups
 using Deployment Delegation Console, 6-9
 using Oracle Directory Manager, 6-7
additional languages, 1-8
advanced installation, 1-7
 Oracle Collaboration Suite Applications, 1-8
 Oracle Collaboration Suite Infrastructure, 1-8
 Oracle Collaboration Suite Infrastructure and Applications, 1-8
applying a transform
 Oracle Connector for Outlook, D-27
applying patchset
 10g Release 1 (10.1.0.4.2), 5-2
architecture
 colocated identity management, 10-5
 distributed identity management, 10-7
 single cluster, 10-4
assigning Oracle Connector for Outlook, D-26
Automatic Storage Management, 10-20, 11-5, 12-6, 13-5
 storage option for datafiles, 11-5, 12-5, 13-5

B

basic installation, 1-5, 9-1

C

CD-ROM
 copying to a hard drive, 2-32
 installing from a remote CD-ROM drive, 2-33
CD-ROM mounting
 on Linux, 3-2
Check, 13-15
chmod warning, 10-24
CLASSPATH environment variable, 2-29
clock synchronization requirements
 for installing Oracle Internet Directory, 7-4
cluster file system
 storage option for datafiles, 11-5, 12-5, 13-5
Cold Failover Cluster

configuration, 10-22
failover, 10-19, 11-15, 12-16, 13-17
for Oracle Calendar Server, 4-10
URLs, 10-21
virtual hostname, 10-21
collaborative portlets
 configuring, 11-42, 12-42, 13-43
colocated identity management
 architecture, 10-5
command-line switches
 configuring .prf file creation, D-29
compatibility
 with earlier versions, 1-2
 with Oracle database, 2-23
component dependencies, 8-2
 on an Existing Instance of Oracle Collaborative Portlets, 8-3
 on an Existing Instance of OracleAS Portal, 8-3
 Oracle Mail, 8-2
component installation screens, 8-10
components
 default port numbers, G-1
 middle-tier components, 8-1
 ports used, 8-4
 URLs for, F-1
conduits for Synchronization, D-12
configuration assistants
 using in noninteractive mode, 14-8
configuring
 e-mail, C-16
 initialization, D-23
 Load Balancer, 13-23
 load balancer, 11-21, 12-22
 OpenLDAP directory server, C-11
 Oracle Calendar administrator, C-11, C-13
 Oracle Calendar application system, C-11, C-14, C-15
 Oracle Calendar Server, C-12
 Oracle Calendar Web client, C-16
 Oracle Connector for Outlook, D-27
 Oracle HTTP server
 with Load Balancer, 13-24
 with load balancer, 11-22, 12-23
 OracleAS Web cache
 with load balancer, 11-25, 12-26, 13-27
parallel page engine loop-back

- with load balancer, 11-23, 12-24, 13-25
- .prf file creation, D-29
- Real-Time Collaboration, 11-28, 12-28, 13-29
- Sun ONE directory server, C-11
- Syntegra Aphelion directory server, C-12
- configuring Oracle Calendar directory servers, C-11
- copying CD-ROMs or DVD to a hard drive, 2-32
- CPU requirements, 2-2
- creating a response file
 - using the Record Mode in the installer, 14-5
- creating files
 - for silent and noninteractive installation, 14-3
- custom ports
 - See* static ports, 2-18
 - specifying, E-2

D

- database
 - character set, B-2
- database administrator groups, 2-26
- database administrators
 - groups, 2-26
- database registration, 4-8
- database requirements
 - for installing Oracle Internet Directory, 7-3
- datafiles
 - storage options, 11-5, 12-5, 13-5
- dba group, 2-26
- deconfig tool, H-1
 - log files, H-2
 - parameters, H-2
- default port numbers, 2-18, G-1
- default users in Oracle Internet Directory, 6-1
- deinstallation, 14-8
 - deconfig tool, H-1
 - of middle tiers, H-4
 - Oracle Collaboration Suite Infrastructure, H-6
 - overview, H-2
- deploying
 - End-User Documentation Portal, 16-2
- DHCP
 - installing on DHCP hosts, 2-32
- directory servers, C-3
 - OpenLDAP, C-5
 - Sun ONE, C-4
 - Syntegra Aphelion, C-5
 - terminology, C-4
- disk space requirements, 2-3
- DISPLAY environment variable, 2-29
- distributed identity management architecture, 10-7
- DOM XML Extension
 - installing, 16-2
- DVD
 - copying to a hard drive, 2-32
 - installing from a remote DVD drive, 2-33

E

- eject command

- for Linux, 3-2
- End-User Documentation Portal
 - deploying, 16-2
 - installing, 16-1
 - restricting access to administration panel, 16-3
 - securing administration panel with Apache authentication, 16-3
- environment variables, 2-28
 - CLASSPATH, 2-29
 - DISPLAY, 2-29
 - LD_BIND_NOW, 2-30
 - more information about, 2-28
 - ORA_NLS, 2-30
 - ORACLE_HOME, 2-28
 - ORACLE_SID, 2-28
 - PATH, 2-29
 - set in .profile file, 2-28
 - shared library path, 2-29
 - su command and, 2-28
 - TMP, 2-30
 - TMPDIR, 2-30
 - TNS_ADMIN, 2-29
- errors
 - static ports, 2-21
- /etc/hosts file, 2-30
- expanding the Applications tier, 8-5

F

- failover
 - Cold Failover Cluster, 10-19, 11-15, 12-16, 13-17
- file system, 10-19
 - storage option for datafiles, 11-5, 12-5, 13-5
- files
 - iasconfig.xml, 11-24, 13-26
 - iasconfig.xml file, 11-39, 12-25, 12-39, 13-40
 - installation logs, 14-5
 - noninteractive installation logs, 14-7
 - ocad.conf, C-11
 - ocas.conf, C-9
 - oraInst.loc, 14-3
 - oratab, 14-3
 - Portal Dependency Settings file, 11-24, 11-39, 12-25, 12-39, 13-26, 13-40
 - PRF file, D-28
 - root.sh, 14-6, 14-7
 - slapd.conf, C-11
 - staticports.ini, 2-22

G

- General section, initialization file in Oracle Connector
 - for Outlook, D-24
- groups
 - for configuring components, 6-4
 - for database administrators, 2-26
 - for deinstalling components, 6-4
 - for installing Oracle Collaboration Suite database, 6-7
 - for Inventory directory, 2-26

- operating system, 2-25
- Oracle Collaboration Suite
 - groups for installing database, 6-7
- groups (operating system)
 - See operating system groups
- groups command, 2-28

H

- hardware requirements, 2-1
- hardware requirements for Linux systems, 2-2
- high availability
 - configurations, 10-3
 - options, 4-10
 - preinstallation steps, 10-12
 - clock synchronization, 10-13
 - configure
 - LDAP virtual server, 10-13
 - ports for load balance, 10-13
 - virtual server names, 10-13
 - path for Oracle home, 10-12
 - set up cookie persistence on the load balancer, 10-13
- principles, 10-1
- high availability configuration
 - summary of differences, 10-10
- high availability configurations
 - common requirements, 10-1
 - installation order, 10-10
 - overview, 10-1
 - requirements, 10-10
 - identical group definition, 10-11
 - minimum number of nodes, 10-11
 - previous Oracle installations, 10-11
 - properties of the Oracle user, 10-11
- httpd.conf file, 2-22

I

- ias_admin password, B-1, B-2
- ias_admin user, 1-10
- iasconfig.xml file, 11-24, 11-39, 12-25, 12-39, 13-26, 13-40
- Identity Management
 - configuring load balancers for, 11-7, 12-7
 - existing instance from Oracle Application Server, 4-33
 - installing on high availability nodes, 13-8
- identity management
 - installing on high availability nodes, 11-9, 12-9
- Identity Management architecture
 - installation order, 13-1
- Identity Management components
 - installing separately, 4-6
- Identity Management default realm location, 2-31
- Infrastructure
 - installation, 4-20
 - installation order, 4-2
 - installation types, 4-1
- initialization file, D-22

- configuring, D-23
- installation
 - log file location, 3-4
 - mount options for, 3-1
 - Oracle Calendar Desktop Client for Linux, D-2, D-4
 - Oracle Calendar Sync for Palm for Macintosh, D-9
 - Oracle Collaboration Suite Applications, 1-8
 - Oracle Collaboration Suite Infrastructure, 1-8
 - Oracle Collaboration Suite Infrastructure and Applications, 1-8
 - screens, 4-15
- installation checklists
 - for Oracle Collaboration Suite, B-2
 - for Oracle Collaboration Suite 10g Applications, B-2
 - for Oracle Collaboration Suite 10g Infrastructure, B-1
 - for Oracle Collaboration Suite Infrastructure, B-1
- installation order, 1-2
 - Oracle Internet Directory, 7-4
- installation screens, 4-12
 - OracleAS Certificate Authority, 4-18
- installation steps
 - Oracle Collaboration Suite Applications
 - without Oracle Calendar Server, 11-19, 12-20, 13-21
- installation tasks
 - 10g Release 1 (10.1.0.4.2) patchset, 5-9
 - Oracle Calendar Server, 11-16, 12-17, 13-18
 - Oracle Collaboration Suite
 - in an existing database, 5-19
- installation types, 1-4
 - advanced installation, 1-7
 - basic installation, 1-5
- installations
 - noninteractive error handling, 14-9
 - noninteractive install and Oracle Net, 14-9
 - noninteractive log files, 14-5, 14-7
- installer
 - prerequisite checks, 2-34
- installing
 - components on separate computers, 4-4
 - DOM XML Extension, 16-2
 - End-User Documentation Portal, 16-1
 - from a hard drive, 3-3
 - from CD-ROMs, 3-1
 - Identity Management components, 4-3
 - excluding Oracle Internet Directory, 4-23
 - including Oracle Internet Directory, 4-25
 - Identity Management on high availability nodes
 - first instance, 13-8, 13-9
 - subsequent instance, 13-10
 - identity management on high availability nodes
 - first instance, 11-9, 12-9
 - subsequent instance, 11-10, 12-11
 - Infrastructure, 4-20
 - existing instance of Oracle Internet Directory, 4-27

- on DHCP hosts, 2-32
- on multihomed computers, 2-32
- on NFS-mounted storage, 2-34
- on remote computers, 2-33
- Oracle Calendar application system, C-6
- Oracle Calendar application system only, C-9
- Oracle Calendar Desktop Client for Linux, D-1
- Oracle Calendar Desktop Client for
 - Macintosh, D-3
- Oracle Calendar Desktop Client for Solaris, D-3
- Oracle Calendar Desktop Client for
 - Windows, D-5
- Oracle Calendar desktop clients, D-1
- Oracle Calendar Server, 11-13, 12-14, 13-15
- Oracle Calendar server, C-6
- Oracle Calendar server only, C-8
- Oracle Calendar Sync, D-7
- Oracle Calendar Sync for Palm for
 - Macintosh, D-7
- Oracle Calendar Sync for Palm for
 - Windows, D-11
- Oracle Calendar Sync for Pocket PC, D-13, D-14
- Oracle Cluster Ready Services, 11-2, 12-2, 13-2
- Oracle Collaboration Suite
 - in an existing database, 5-18
 - on RAC, 11-6, 12-6, 13-6
- Oracle Collaboration Suite 10g Calendar, 10-20
- Oracle Collaboration Suite 10g *Infrastructure*, 4-3
- Oracle Collaboration Suite Database, 4-3
 - existing database, 4-23
 - in an Existing Database, 5-2
 - new database, 4-22
 - with Identity Management components in new database, 4-21
- Oracle Collaboration Suite in high availability environments, 10-24
- Oracle Connector for Outlook, D-15, D-18, D-22
 - additional privileges, D-25
 - specifying language for first-time installation, D-18
- Oracle Internet Directory, 4-25, 4-26
- Oracle Real-Time Collaboration Clients, D-30
- OracleAS Certificate Authority and Oracle
 - Collaboration Suite Database, 4-29
- RTC Messenger client, D-31
- Web conference client, D-31
- installing Oracle Calendar Desktop Client
 - Linux, D-1
 - Macintosh, D-3
 - Windows, D-5
- installing Oracle Calendar Sync for Palm
 - Macintosh, D-7
 - Windows, D-11
- installing Oracle Collaboration Suite 10g Calendar
 - standalone
 - installation steps, C-6
 - postinstallation configuration, C-10
 - preinstallation steps, C-3
 - system requirements, C-1
- installing Oracle Connector for Outlook

- on the desktop, D-17
 - using the .msi package, D-19
- installing Oracle products
 - first time, 1-4
- instance names, 1-9, B-1, B-2
- inventory directory
 - creating a group for, 2-26
 - determine where it is, 2-26
- IP address, 2-2

K

- kernel parameter settings for Linux x86
 - systems, 2-13
- kernel parameters, 2-12

L

- Languages section, initialization file in Oracle
 - Connector for Outlook, D-24
- languages, Oracle Connector for Outlook installation wizard, D-19
- LD_BIND_NOW environment variable, 2-30
- Linux
 - installing Oracle Calendar desktop client, D-1
 - mount commands, 3-2
- Linux systems
 - hardware requirements, 2-2
- Linux x86
 - kernel parameter settings for, 2-13
- load balancer, 11-25, 11-27, 12-26, 12-28, 13-26, 13-29
- load balancers, 11-7, 11-21, 11-23, 11-25, 11-28, 11-41, 12-7, 12-22, 12-24, 12-26, 12-28, 12-41, 13-25, 13-27, 13-29, 13-42

M

- Macintosh
 - installing Oracle Calendar desktop client, D-3
 - installing Oracle Calendar Sync for Palm, D-7
 - troubleshooting Oracle Calendar Sync for Palm, D-10
- maintaining
 - Oracle Connector for Outlook, D-25
- memory requirements, 2-2
 - reducing, 2-4
- middle tiers
 - components, 8-1, 8-2
 - deinstalling, H-4
 - using upgraded Internet Directory, 8-4
 - See also* J2EE and Web Cache middle tier
 - See also* Portal and Wireless middle tier
- mod_osso
 - reregistering, 11-27, 11-39, 12-27, 12-39, 13-28, 13-40
- modifying
 - Oracle Connector for Outlook, D-20
- monitor requirements, 2-3
- mount command
 - for Linux, 3-2
 - required privileges, 3-1

- mount options
 - installation, 3-1
- .msi package, to run the Oracle Connector for Outlook
 - installation, D-19
- msi package, to run the Oracle Connector for Outlook
 - installation, D-19
- multihomed computers
 - installing on, 2-32

N

- Network Appliance filers, 2-34
- network requirement, 2-2
- Network Topics, 2-31
- network topics
 - installing from a remote CD-ROM or DVD
 - drive, 2-33
 - installing on DHCP hosts, 2-32
 - NFS-mounted storage, 2-34
 - remote installations, 2-33
- new installation features
 - changed terminology, A-4
 - changes in Applications Tier installation, A-2
 - changes in Oracle Collaboration Suite
 - database, A-2
 - enhancements in configuration assistant, A-3
 - improved single-box installation, A-2
 - more prerequisite checks, A-3
 - no manual configuration, A-1
 - option of changing ports during installation, A-2
 - Oracle Collaboration Suite Database uses Oracle
 - Collaboration Suite 10g Database, A-4
 - support for generating installation statistics, A-3
 - support for high availability configurations, A-3
 - support for Oracle Internet Directory
 - replication, A-4
 - support for secure installation, A-3
- NFS-mounted storage
 - installing on, 2-34
- NIS and NIS+
 - support for, 2-34
- node IDs
 - selecting, 8-5
- noninteractive installation, 14-2
- noninteractive installations
 - error handling, 14-7
 - introduction, 14-1
 - overview, 14-2
 - requirements, 14-2
- not connecting a node, 8-5

O

- OcConfigWizard section, INI file in Oracle Connector
 - for Outlook, D-25
- OCsdbSchemaReg script, 4-30
 - arguments and parameters, 4-31
 - functions, 4-32
- oinstall group, 1-4, 2-26
- OpenLDAP directory server

- configuring, C-11
 - setting up, C-5
- operating system groups, 2-25
 - dba group, 2-26
 - for database administrators, 2-26
 - for Inventory directory, 2-26
 - groups command, 2-28
 - oinstall group, 2-26
 - OSDBA group, 2-26
 - OSOPER group, 2-26
- operating system patches, 2-4
- operating system requirement, 2-5, 2-6, 2-8, 2-10
- operating system update requirement, 2-5, 2-6
- operating system users, 2-27
 - groups command, 2-28
 - oracle user, 2-27
- ORA_NLS environment variable, 2-30
- Oracle Application Server instances, 1-9
- Oracle Application Server Single Sign-On
 - accessing, 7-9
- Oracle Calendar
 - application system
 - separate installation, C-6
 - configuring administrator, C-11
 - configuring application system, C-11
 - customizing the initialization file, D-7
 - e-mail
 - configuring for standalone, C-16
 - extracting files from the installation package, D-6
 - ocad.conf file, C-11
 - ocas.conf file, C-9
 - OpenLDAP directory server
 - configuring, C-11
 - server
 - separate installation, C-6
 - slapd.conf file, C-11
 - standalone, C-1
 - deinstallation, C-17
 - directory servers, C-3, C-11
 - issues and workarounds, C-18
 - upgrades, C-10
 - Sun ONE directory server
 - configuring, C-11
 - Syntegra Aphelion directory server
 - configuring, C-12
- Oracle Calendar administrator
 - opening and configuring, C-13
- Oracle Calendar application system
 - checking the status, C-15
 - configuring, C-14, C-15
 - installing, C-6, C-9
 - issues and workarounds, C-20
 - starting and stopping, C-10
- Oracle Calendar Application System Configuration
 - Assistant
 - troubleshooting, C-8
- Oracle Calendar Desktop Client
 - installing for Linux, D-1
 - installing for Macintosh, D-3
 - installing for Solaris, D-3

- installing for Windows, D-5
- Oracle Calendar desktop clients
 - installing, D-1
- Oracle Calendar Server, 10-3
 - configuring, C-12
 - high availability configuration, 10-17
 - installation tasks, 11-16, 12-17, 13-18
 - installing, 11-13, 12-14, 13-15
 - installing in high availability environments, 10-16
 - postinstallation tasks, 11-19, 12-19, 13-20
 - preinstallation tasks, 12-14, 13-15
 - checking the clusterware, 12-14, 13-15
 - mapping the IP address, 11-14, 12-14, 13-15
 - mapping the virtual host name, 11-14, 12-14, 13-15
 - setting up file system, 11-16, 12-16, 13-17
 - starting and stopping, C-12
 - steps before installing in high availability environments, 10-17
- Oracle Calendar server
 - checking port values, C-13
 - configuration assistant, C-9
 - installing, C-6, C-8
 - issues and workarounds, C-18
 - path variable
 - working with, C-14
 - preinstallation tasks, 11-13
 - checking the clusterware, 11-14
 - security mechanism configuration, C-14
- Oracle Calendar sever
 - Resource Approval, C-14
- Oracle Calendar Sync
 - installing, D-7
- Oracle Calendar Sync for Palm, D-7
 - installation for Macintosh, D-7
 - installation for Windows, D-12
 - system requirements for Windows, D-11
- Oracle Calendar Sync for Pocket PC
 - installing, D-13, D-14
 - system requirements, D-13
- Oracle Calendar Web client
 - configuring with a traditional node network, C-16
- Oracle Cluster Ready Services
 - applying 10.1.0.4.2 Patchset, 11-4, 12-4, 13-4
 - patches, 12-2
- Oracle Collaboration Suite
 - Applications and Infrastructure, 8-1
 - Applications tier, 10-3
 - CD pack, 1-2
 - colocated Identity Management architecture
 - installing, 12-1
 - Database tier, 10-1
 - distributed Identity Management Architecture
 - installing, 13-2
 - Identity Management tier, 10-2
 - in high availability environments
 - installing, 10-24
 - postinstallation tasks, 10-24
 - installation location, 1-2
 - installation types, 1-4
 - installing
 - on RAC, 11-6, 12-6, 13-6
 - installing on RAC
 - RAC storage types, 11-5, 12-5, 13-5
 - instance names
 - using, 1-9
 - multiple databases, 4-9
 - Oracle home, 1-3
 - postinstallation tasks
 - on RAC, 11-7, 12-7, 13-7
 - registry entries, updating, 11-29, 13-30
 - single cluster architecture
 - installing, 11-1
 - Web client
 - troubleshooting, I-5
- Oracle Collaboration Suite 10g Applications
 - screens, 8-6
- Oracle Collaboration Suite 10g Calendar
 - installing, 10-20
- Oracle Collaboration Suite 10g *Infrastructure*
 - installing, 4-3
- Oracle Collaboration Suite Applications
 - installation, 1-8
 - installing first instance
 - without Oracle Calendar Server, 11-19, 12-20, 13-21
 - installing subsequent instances, 11-32, 13-34
 - installation tasks, 11-32, 12-33, 13-34
 - postinstallation tasks, 11-34, 12-35, 13-36
 - installing subsequent instances of, 12-33
 - redeploying, 11-35, 13-37
 - configuring collaborative portlets, 11-42, 12-42, 13-43
 - configuring Oracle Collaboration Suite Mobile Collaboration, 11-42, 12-43, 13-44
 - configuring Oracle Discussions, 11-43, 12-43, 13-44
 - configuring Oracle Web cache clusters, 11-39, 12-40, 13-41
 - configuring the Oracle HTTP Server with the load balancer, 11-37, 12-38, 13-39
 - configuring the parallel page engine loop-back with the load balancer, 11-38, 12-39, 13-40
 - enabling frontend host and port settings, 11-41, 12-41, 13-42
 - enabling portal, 11-36, 12-37, 13-38
 - enabling session binding on OracleAS Web cache clusters, 11-41, 12-42, 13-43
 - modifying portal dependency settings, 11-39, 12-39, 13-40
 - reregistering mod_osso, 11-39, 12-39, 13-40
 - testing the configuration, 11-43, 12-43, 13-44
 - redeploying with a load balancer, 12-36
- Oracle Collaboration Suite Applications tier
 - configuring, 11-21
 - configuring with a load balancer, 12-22
- Oracle Collaboration Suite cleaning up
 - processes, H-9
- Oracle Collaboration Suite Database

- installing on RAC, 11-5, 13-5, 13-7
- RAC, installing on, 12-5
- Oracle Collaboration Suite database, 11-13, 13-15
 - registering with Oracle Internet Directory, 12-13
- Oracle Collaboration Suite Infrastructure
 - deinstalling, H-6
 - installation, 1-8
- Oracle Collaboration Suite Mobile Collaboration
 - configuring, 11-42, 12-43, 13-44
- Oracle Collaboration Suite service
 - updating registry entries in Oracle Internet Directory, 12-29
- Oracle Connector for Outlook
 - applying a transform, D-27
 - assigning, D-26
 - configuration wizard, D-27
 - deploying using group policy, D-26
 - desktop installation, D-17
 - installation wizard language, D-19
 - installing, D-18, D-22
 - installing on the desktop, D-17
 - installing with additional privileges, D-25
 - maintaining, D-25
 - modifying, D-20
 - performing an advertised installation, D-26
 - preinstallation requirements, D-17
 - removing, D-20, D-21, D-25
 - repairing, D-20
 - setting the AlwaysInstall Elevated policy, D-26
 - troubleshooting, D-21
 - upgrading, D-20, D-25
- Oracle Database
 - datafile storage options, 11-5, 12-5, 13-5
- Oracle database
 - compatibility with, 2-23
- Oracle Delegated Administration Services
 - accessing, 7-9
- Oracle Delegated Administration Services
 - components, 4-7
- Oracle Directory Integration and Provisioning
 - components, 4-7
- Oracle Discussions
 - configuring, 11-43, 12-43, 13-44
- Oracle Enterprise Manager 10g, 11-25, 12-26, 13-27
- Oracle home, 1-3
- Oracle home location, B-1, B-2
- Oracle HTTP Server
 - configuring SSL and Non-SSL Ports for, 10-14
 - possible cases, 10-15, 10-16
 - configuring static ports, 2-21
 - configuring to use ports 80 and 443 with OracleAS Web Cache as the front end, 2-22
 - configuring to use ports 80 and 443 without OracleAS Web Cache as the front end, 2-23
 - configuring with a load balancer, 11-37, 12-38, 13-39
- Oracle HTTP server, 14-6
 - using on a different port, 14-7
- Oracle Internet Directory, 4-7, 12-13
 - adding users to groups in, 6-7
 - clock synchronization requirements for
 - installing, 7-4
 - contents of a new, 6-10
 - creating users in, 6-7
 - database requirements for installing, 7-3
 - default users in, 6-1
 - global groups, 6-2
 - groups for each component, 6-3
 - groups for each Oracle Collaboration Suite database, 6-3
 - groups in, 6-2
 - host name, B-1, B-2
 - installation order, 7-4
 - installing a master Oracle Internet Directory, 7-4
 - installing a replica, 7-5
 - against an existing database, 7-7
 - overview, 7-5
 - with new database, 7-5
 - namespace, specifying, 4-11
 - overview of replication, 7-1
 - passwords, 10-14
 - port number, B-2
 - requirements for installing in replication
 - mode, 7-3
 - super user name, B-2
 - super user password, B-2
 - user name and realm for logging in to, 6-10
 - using upgraded, 8-4
- Oracle inventory directory, B-1
- Oracle Net
 - noninteractive install, 14-9
- Oracle Real Application Clusters
 - troubleshooting, I-6
- Oracle Real-Time Collaboration
 - considerations, 2-3
- Oracle Real-Time Collaboration Clients
 - installation, D-30
 - system requirements, D-30
- Oracle Universal Installer, 3-4
 - additional installations, 3-4
 - first few screens (middle tier), 8-7
 - last few screens (middle tier), 8-12
 - overview, 3-3
 - starting, 3-5, E-1
- oracle user, 1-4, 2-27
 - setting shell limits for, 2-14
- Oracle Web cache clusters
 - enabling session binding, 11-41, 12-42, 13-43
- ORACLE_HOME environment variable, 2-28
- ORACLE_SID environment variable, 2-28
- Oracle9iAS Single Sign-On
 - port number, B-1
 - port numbers, B-2
 - server host name, B-1, B-2
- OracleAS Certificate Authority
 - installation screens, 4-18
 - installing, 14-2
- OracleAS Metadata Repository
 - port 1521, 2-20
- OracleAS Portal

- enabling, 11-36, 12-37, 13-38
- enabling frontend host and port settings, 11-41, 12-41, 13-42
- existing instance from Oracle Application Server, 4-33
- load balancer
 - forntend and port settings, 11-28, 12-28, 13-29
 - URLs, 11-25, 12-26, 13-26
- OracleAS Single Sign-On
 - specifying host name on command-line, 2-31
- OracleAS Web Cache
 - configuring static ports, 2-21
- OracleAS Web cache, 11-27, 12-28, 13-29
 - configuring with load balancer, 11-25, 12-26, 13-27
 - testing the configuration, 11-32, 12-32, 13-33
- OracleAs Web cache
 - configuring clusters, 11-39, 12-40, 13-41
- oraInst.loc file, 2-26
 - creating, 14-3
- oraInstRoot.sh
 - running, 9-2, 9-3
- oraInventory directory, 2-26
 - installation log files, 3-4
 - location, 3-4, B-1
- oratab file
 - creating, 14-3
- order of installation, 1-2
- OSDBA group, 2-26
- OSOPER group, 2-26
- overview
 - Oracle Universal Installer, 3-3

P

- packages requirement, 2-5, 2-7, 2-8, 2-10
- parallel page engine loop-back
 - configuring with a load balancer, 11-38, 12-39, 13-40
- password randomizing, 4-8
- password restrictions, 1-10
- patches
 - See* operating system.
- PATH environment variable, 2-29
- PHP
 - testing, 16-1
- port 1521, 2-20, 2-25
 - already in use, 2-23
- Portal Dependency Settings file, 11-39, 12-25, 12-39, 13-40
- portlist.ini file, 2-20
- ports, 2-17
 - 1521, 2-23
 - assigned to components, 8-4
 - checking they are in use, 2-17
 - choosing port numbers, 2-20
 - component ports, 4-11
 - custom ports, 4-11
 - default port numbers, 2-18
 - determining numbers, 4-11

- list of default port numbers, G-1
- static, 2-21
- static ports, 2-18
- postinstallation tasks
 - 10g Release 1 (10.1.0.4.2) patchset, 5-12
 - enabling SSL, 15-3
 - modifying password settings for Oracle Internet Directory, 15-2
 - Oracle Calendar Server, 11-19, 12-19, 13-20
 - Oracle Collaboration Suite
 - on RAC, 11-7, 12-7, 13-7
 - Oracle Collaboration Suite in high availability environments, 10-24
 - performing component-specific tasks, 15-4
 - setting environment variables, 15-1
- preinstallation
 - Oracle Calendar Sync for Palm for Macintosh, D-8
- preinstallation requirements
 - 10g Release 1 (10.1.0.4.2) patchset, 5-2
- preinstallation requirements, Oracle Connector for Outlook, D-17
- preinstallation tasks
 - 10g Release 1 (10.1.0.4.2) patchset, 5-2
 - installing Oracle Calendar in high hvailability environments
 - checking Clusterware, 10-17
 - mapping the virtual host name, 10-17
 - mapping the virtual IP address, 10-17
 - Oracle Calendar Server, 12-14, 13-15
 - checking the clusterware, 12-14, 13-15
 - mapping the IP address, 11-14, 12-14, 13-15
 - mapping the virtual host name, 11-14, 12-14, 13-15
 - setting up file system, 11-16, 12-16, 13-17
- Oracle Calendar server, 11-13
 - checking the clusterware, 11-14
- Oracle Collaboration Suite
 - in an existing database, 5-19
- Oracle Collaboration Suite Applications, 8-6
- preparing to install
 - Oracle Collaboration Suite Database
 - in an existing database, 5-1
- prerequisite checks, 2-34, E-1
 - command, E-1
- prerequisites
 - installing Identity Management on high availability nodes, 13-7
 - configuring the load balancer, 13-7
 - synchronize the system clocks, 13-8
 - installing identity management on high availability nodes, 11-7, 12-7
 - configuring the load balancer, 11-7, 12-7
 - synchronize the system clocks, 11-8, 12-9
- PRF file
 - creation mode, D-28
- .prf file
 - creating for Oracle Connector for Outlook, D-29
- prf file
 - creating for Oracle Connector for Outlook, D-29

- processor, 2-2
- profile creation, D-28
 - silent mode, D-29
- .profile file, 2-28

R

- r, 11-8
- RAC, 11-5, 13-5, 13-7
- RAM requirements, 2-2
- raw devices
 - storage option for datafiles, 11-5, 12-5, 13-5
- Real-Time Collaboration
 - configuring, 11-28, 12-28, 13-29
- Record Mode
 - creating a response file, 14-5
- registering with Oracle Internet Directory, 11-13, 13-15
- reinstallation, H-10
- remote computers
 - installing on, 2-33
- remote installations, 2-33
- removing
 - Oracle Connector for Outlook, D-20, D-21, D-25
- repairing
 - Oracle Connector for Outlook, D-20, D-21
- replication types
 - advanced replication, 7-2
 - fan-out replication, 7-2
 - LDAP replication, 7-2
 - multimaster replication, 7-2
- requirements
 - disk space, 2-3
 - environment variables, 2-28
 - for DHCP hosts, 2-32
 - IP address, 2-2
 - memory, 2-2
 - monitor, 2-3
 - network, 2-2
 - operating system, 2-5, 2-6, 2-8, 2-10
 - operating system patches, 2-4
 - operating system update, 2-6
 - operating system updates, 2-5
 - packages, 2-5, 2-7, 2-8, 2-10
 - processor, 2-2
 - swap space, 2-3
- response files, 14-1, 14-4
 - editing, 14-4
 - error handling, 14-9
 - selecting, 14-3
 - specifying, 14-5
- root user, 1-11
 - logging in as, 1-11
- root.sh, 14-6, 14-7
 - running, 1-11
- root.sh script, 1-11
 - running, 14-6
- RTC Messenger client, installing, D-31
- runInstaller command
 - OUI_HOSTNAME parameter, 2-31

S

- screens
 - first few (middle tier), 8-7
 - last few (middle tier), 8-12
- scripts
 - root.sh, 14-6
- semms parameter
 - minimum value for, 2-16
- setting shell limits for the oracle user, 2-14
- shared library path environment variable, 2-29
- SID, 1-6
- silent and noninteractive installation
 - creating files, 14-3
- silent installation, 14-1, 14-6, 14-7
 - Oracle Calendar Desktop Client for Linux, D-2
 - Oracle Calendar Desktop Client for Solaris, D-4
 - Oracle Calendar Desktop Client for Windows, D-5
- silent installations, 14-1
- silent mode
 - installing Oracle Calendar Desktop Client for Linux, D-2
 - installing Oracle Calendar Desktop Client for Solaris, D-4
 - installing Oracle Calendar Desktop Client for Windows, D-5
- silentInstall.log file, 14-5, 14-7
- single cluster architecture, 10-4
- single cluster architecture
 - installation order, 11-1
- single-box installation
 - performing, 9-3
 - starting, 9-2
- single-computer installation, 9-1
- software requirements
 - checking for Red Hat Enterprise Linux AS/ES 3.0, 2-6
 - for SUSE Linux Enterprise Server 8 systems, 2-8
 - for SUSE Linux Enterprise Server 9 systems, 2-10
- software requirements for Red Hat Enterprise Linux AS/ES 3.0 systems, 2-5
- Solaris, installing Oracle Calendar Desktop Client, D-3
- Specify Namespace in Internet Directory
 - screen, 2-31
- specifying
 - response files, 14-5
- specifying Oracle Calendar Server node ID during the installation, 8-5
- SSL
 - connecting to Oracle Internet Directory through, 1-12
- starting
 - Oracle Universal Installer, 3-5
- static ports, 2-18
 - errors, 2-21
 - for Oracle HTTP Server, 2-21
 - for OracleAS Web Cache, 2-21
- staticports.ini file, 2-18, 2-22
 - creating, 2-20

- format, 2-18
- location on CD-ROM and DVD, 2-20
- su command, 2-28
- Sun ONE directory server
 - configuring, C-11
 - setting up, C-4
- SUSE Linux Enterprise Server 8
 - software requirements for, 2-8
- SUSE Linux Enterprise Server 9
 - software requirements for, 2-10
- swap space requirement, 2-3
- Syntegra Aphelion directory server
 - configuring, C-12
 - setting up, C-5
- SYS user
 - password restrictions, 4-10
- system requirements
 - common, C-2
 - installing Oracle Connector for Outlook, D-16
 - Oracle Calendar Application, C-2
 - Oracle Calendar Server, C-2
 - Oracle Calendar Sync for Palm for Macintosh, D-7
 - Oracle Calendar Sync for Palm for Windows, D-11
 - Oracle Calendar Sync for Pockets PC, D-13
 - Oracle Real-Time Collaboration Clients, D-30
- SYSTEM user
 - password restrictions, 4-10

T

- the Parallel Page Engine loop-back
 - configuring with the load balancer, 11-23, 12-24, 13-25
- /tmp directory, 2-30
 - space required in, 2-3
- TMP environment variable, 2-30
- TMPDIR environment variable, 2-30
- TNS_ADMIN environment variable, 2-29
- Troubleshooting
 - installation errors, 11-7, 12-7, 13-7
- troubleshooting
 - administration errors after installation, I-4
 - configuration assistants, I-2
 - installation errors, I-2
 - Oracle Calendar Application System Configuration Assistant, C-8
 - Oracle Collaboration Suite
 - Web client, I-5
 - Oracle Connector for Outlook, D-21
 - Oracle Real Application Clusters, I-6
 - response files, 14-7
 - user interface problems, I-2
- types of installation, 4-2

U

- unmount command
 - for Linux, 3-3

- required privileges, 3-1
- upgrading
 - Oracle Connector for Outlook, D-20, D-25
- upgrading and expanding Oracle Collaboration Suite
 - 10g Applications at the same time, 8-5
- URLs for components, F-1
- users (operating system)
 - See* operating system users

V

- /var/opt/oracle directory
 - oraInst.loc file, 2-26
- virtual host name
 - Cold Failover Cluster, 10-21
- virtual server
 - configuring HTTP for OracleAS Cluster (Identity Management), 10-13
 - configuring LDAP virtual server for OracleAS Cluster (Identity Management), 10-13

W

- warnings
 - chmod, 10-24
- Web conference client, installing, D-31
- Windows
 - installing Oracle Calendar desktop client, D-5