

# Oracle Discoverer™ 3i Viewer

Configuration Guide for Oracle9i Application Server

Release 3.3 for Windows

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## **Oracle Discoverer 3i Viewer Configuration Guide for Oracle9i Application Server for Windows Part No. A87361-01**

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# Preface

Welcome to Oracle Discoverer 3i Viewer!

This guide explains how to configure and customize Oracle Discoverer 3i Viewer after it has been installed as part of Oracle9i Application Server.

This guide does not explain how to install Oracle Discoverer 3i Viewer. For information about installation, refer to the *Oracle9i Application Server Installation Guide*.

To use Oracle Discoverer 3i Viewer and this guide effectively, you should be familiar with HTTP servers and database concepts.

For the latest information, please read the Oracle Discoverer 3i Viewer release notes in conjunction with this guide.

## Intended Audience

This guide is intended for the person who is maintaining the Oracle Discoverer 3i Viewer. This person is typically the Discoverer Administrator.

## Conventions

*EUL*, the End User Layer™, refers to the metadata interface between the database and Discoverer.

Convention	Meaning
. . . . . .	Vertical ellipses in examples indicate omitted information not necessary for the example.
...	Horizontal ellipses in statements or commands indicate omitted material not necessary for the statement or command.
<b>boldface text</b>	Boldface type in text indicates a command name, menu name, file name, keyboard keys, or other choice or selection.
<i>italic text</i>	Italic type indicates a term defined in the text, the glossary, or in both locations. It can also represent a variable, and be used to provide emphasis.
< >	Angle brackets enclose user-supplied names.
[ ]	Brackets enclose optional clauses from which you can choose one or none.
Menu name   Command	Text in this format conveys a sequence of choices, <i>i.e.</i> , choose the menu, then the command under that menu.
<code>Courier text</code>	Text in this format indicates a command line to be typed.

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# Overview of Oracle Discoverer 3i Viewer

## 1.1 Introduction

Oracle Discoverer 3i Viewer is a business intelligence tool for viewing workbooks created by users of the client/server or web releases of Discoverer Plus (previously known as Discoverer User Edition). Using Oracle Discoverer's easy to use interface via a web browser, users can access and analyze database data.

Oracle Discoverer 3i Viewer is straightforward to set up and maintain. Oracle Discoverer 3i Viewer can be used to integrate database output into your web site and portal and is easily customized to fit in with your web site look and feel, or to build custom Discoverer applications for the web. Oracle Discoverer 3i Viewer is also optimized for performance and designed to minimize network traffic.

This chapter provides an overview of the Oracle Discoverer 3i Viewer architecture, describes the components and illustrates how Oracle Discoverer 3i Viewer works to give data access to users.

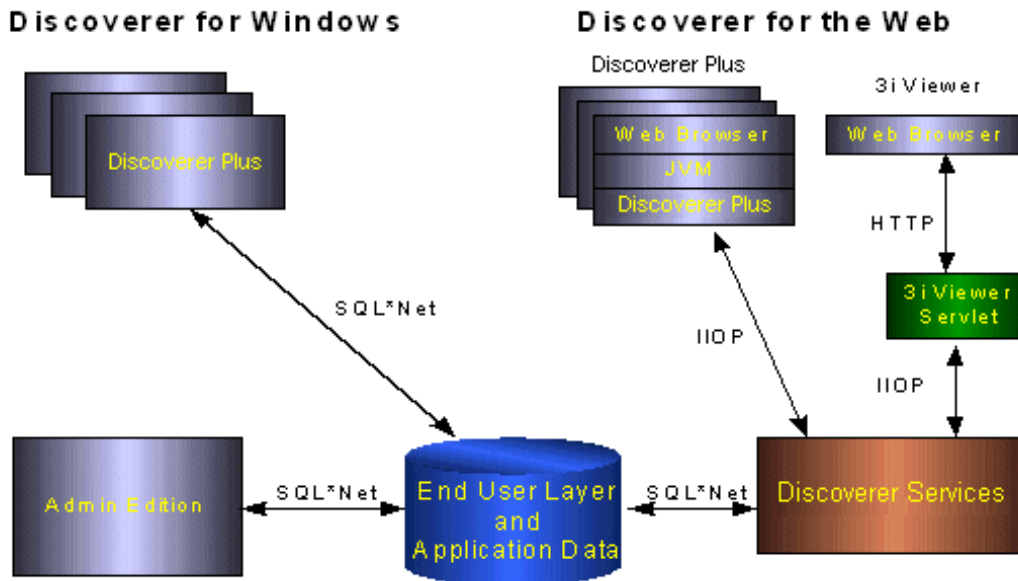
## 1.2 Oracle Discoverer 3i Viewer and Oracle9i Application Server

Oracle Discoverer 3i Viewer is installed as part of Oracle9i Application Server. The default installation is to install all Discoverer components on a single machine. However, you can install different components on different machines to improve performance (for more information, refer to Chapter 3, "Installing Oracle Discoverer 3i Viewer on multiple machines").

## 1.3 Oracle Discoverer 3i Viewer in context

Oracle Discoverer 3i Viewer can be used to view workbooks created by Discoverer Plus on client/server or the web. The deployment of Oracle Discoverer 3i Viewer is best understood by looking at its context (see Figure 1-1).

**Figure 1–1 Oracle Discoverer 3i Viewer components in context**



Oracle Discoverer 3i Viewer is deployed using an Internet computing architecture that sits on top of the existing Discoverer Services.

Oracle Discoverer Services works with the Oracle9i Application Server HTTP listener to provide a robust, scalable deployment platform for the Oracle Discoverer 3i Viewer.

## 1.4 The n- tiered architecture of Oracle Discoverer 3i Viewer

The n-tiers of Discoverer are as follows:

- Client
- HTTP Server
- Discoverer Services
- Database

This architecture takes advantage of the distributed nature of the web environment. While it is possible to install all tiers of Discoverer on the same machine, we

recommend distributing your installation over multiple machines to maximize performance.

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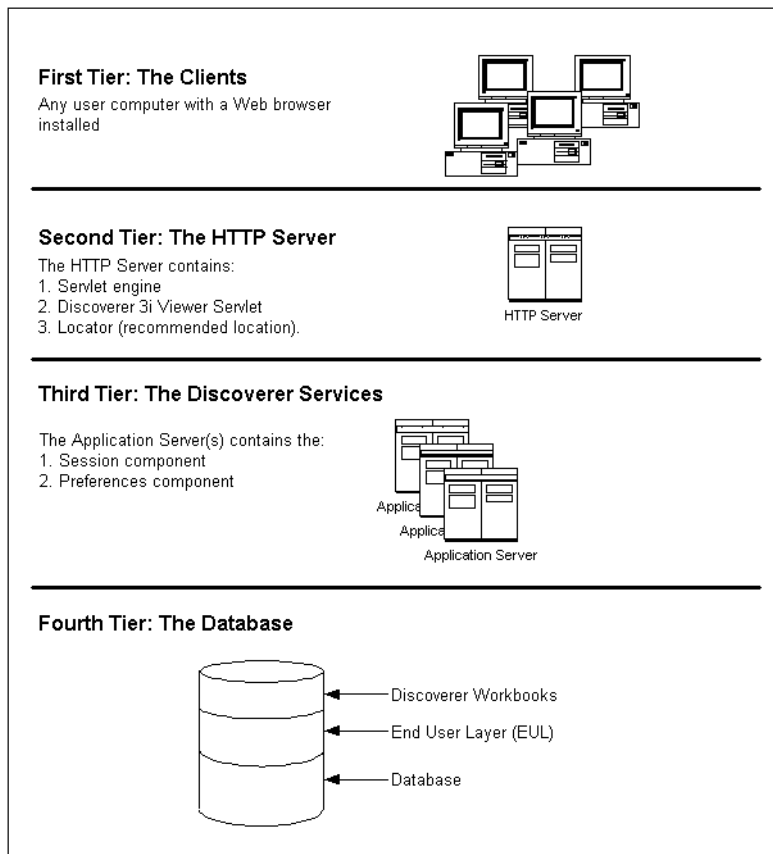
**Important:** The Discoverer End User Layer must be in the database before you can configure the client access rights and privileges. You must also first install the Discoverer Administration Edition (v3.1.36 or later).

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**Figure 1–2 The four tiered architecture of Discoverer 3i Viewer**



## 1.4.1 First tier - the Client

The first tier of the Discoverer architecture is the client—a user's computer. There is no setup or installation to do on the client machine, nor does this machine need to have access to any database. The only requirement for this computer is that it can run HTML through a web browser (e.g. Microsoft Internet Explorer 4.01 or Netscape Navigator 4.0). By accessing the URL that you (the Discoverer administrator) provide, users can connect and run Oracle Discoverer 3i Viewer to view data.

## 1.4.2 Second tier - the HTTP Server

The second tier of the Discoverer architecture is the HTTP Server tier. The Discoverer 3i Viewer Servlet is installed in the HTTP Server's servlet engine.

Note that in a multiple machine installation, a component from the Discoverer Services tier (the Locator component) is usually installed on the same machine as the HTTP Server tier.

### 1.4.2.1 What is a Servlet?

A Servlet comprises modules of Java code that run as a server application to answer HTTP requests (hence the name "Servlets", similar to "Applets" that are used on the client side). The Servlet minimizes any client-side processing.

### 1.4.2.2 What is a Servlet Engine?

A Servlet Engine comes as part of (or as a plug-in to) an HTTP Server and is the environment in which the Servlet runs. The Servlet Engine incorporates a Java Virtual Machine (JVM) and implements the Java Servlet API.

### 1.4.2.3 What is the Discoverer 3i Viewer Servlet?

The Discoverer 3iViewer Servlet generates HTML pages from HTTP requests using an XML/XSL processor.

The Discoverer 3iViewer Servlet and the XML/XSL Processor are installed in the HTTP Server's servlet engine

## 1.4.3 Third tier - the Discoverer Services

The third tier of the Discoverer architecture is the Discoverer Services. The Discoverer Services consists of three basic components:

- the Locator component



- the Session component
- the Preferences component

The components are installed on one or more **application servers**. You can install Discoverer Services on one machine or across many machines. The default Oracle9i Application Server installation is a single machine installation. For more information on installing Discoverer Services across multiple machines, see Chapter 3, “Installing Oracle Discoverer 3i Viewer on multiple machines”

In addition, two CORBA (Common Object Request Broker Architecture) components from VisiBroker—an Object Activation Daemon (OAD) and a SmartAgent component—are also installed. These CORBA components are responsible for activating new components and providing a location service whenever the user requests to begin a Discoverer session.

### 1.4.3.1 Discoverer Services Software Components

The three components that make up the Discoverer Services tier are:

- the Session component.
- the Locator component.
- the Preferences component.

#### 1.4.3.1.1 The Session Component

The Session component provides the link between the client and the database. Once a session is started, it is the client’s instance of Discoverer. The Session component contains all of the application logic and performs all of the Discoverer operations such as connecting to the database or opening a workbook.

A machine that has a Session component installed can run multiple concurrent sessions for clients. To increase overall performance, you can install the Session component on many individual machines, and each machine can run multiple concurrent sessions. Distributing the Session component on several machines also improves availability. If one machine is not operating, other machines handle the session requests.

The Session component can run on any server (application or HTTP) in the Discoverer Server configuration as long as the server is a Windows NT machine.

#### 1.4.3.1.2 The Locator Component

The purpose of the Locator is to receive a request for a session from the Servlet (the request is initiated after a URL is sent to the Servlet from the client browser), find the next application server, start a new session, and return a reference for the new session back to the Servlet. Once the Servlet has received this reference, the Servlet and the session communicate with each other and the Locator waits for the next request. The Locator component is installed on the HTTP server. You need only one Locator component on the network for the Discoverer Services.

The Locator component also helps balance the load on the available application servers because it determines which application server will start each requested session. You can specify how the Locator allocates sessions to achieve the best performance.

#### 1.4.3.1.3 The Preferences Component

The Preferences component provides a single location for preference settings for all end users. The Discoverer Services relies on stored preference settings to dictate certain aspects of behavior. You install only one Preferences component for the Oracle Discoverer Services.

Having a single Preferences component is important in a distributed environment where different components can run on different machines. The Preferences component provides consistent preference settings for all components regardless of where they are running.

### 1.4.4 Fourth tier - the database

The fourth tier of Discoverer is the database. The database contains:

- the data users want
- the End User Layer (EUL) that provides an easy to understand view of the data
- the Discoverer workbooks that users can work with to view and analyze the data

You use the Discoverer Administration Edition to create and maintain the EUL.

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**Note:** Before users can use Discoverer 3i Viewer to view data, the database **must** contain a Discoverer 3.1 EUL. You must create or update the EUL with Oracle Discoverer 3.1.36 or later of the Administration Edition for Windows95/98/NT. If you are currently using Discoverer 3.0.8, you need to upgrade to Discoverer 3.1.36 or later. If you are using Discoverer 3.1.25, you need to install the Discoverer 3.1.36 patch. Discoverer 3.1.36 is Y2K compliant and assures that your EUL and software will work correctly in the year 2000.

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## 1.4.5 Discoverer 3i Viewer Components and Hardware

The Discoverer components must each be installed on a server machine. There are three types of server machine that make up the Discoverer architecture:

- the HTTP server machine
- the Application server machine (s)
- the Master Discoverer server machine

### 1.4.5.1 The HTTP Server

The HTTP Server machine is a machine running HTTP Server software (and the servlet engine) on which you install the Discoverer 3i Viewer Servlet and the Discoverer Services Locator component. You only need one HTTP Server machine as part of your Discoverer environment. If you install the different Discoverer Services software components on a single machine, that machine is both the HTTP Server machine and the Application Server machine.

### 1.4.5.2 The Application Server machine(s)

The Application Server machine is the machine on which you install the Preferences component and the Session component. You can have one Application Server machine or many Application Server machines as part of your Discoverer environment.

If you install the different Discoverer Services software components on a single machine, that machine is both the Application Server machine and the HTTP Server machine.

If you distribute the different Discoverer Services software components across several machines, you must install the Session component (but not the Preferences component) on every machine. In this scenario, each machine is an Application Server and multiple sessions can be started on each machine. Note that the Preferences component is only installed on one Application Server machine (referred to as the Master Discoverer Server).

### 1.4.5.3 The Master Discoverer Application Server

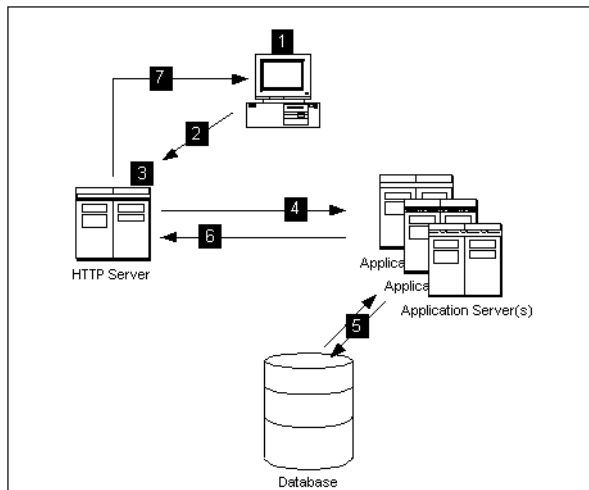
If you install the Session component on multiple Application Server machines, you must designate one of those Application Server machine as the Master Discoverer Server. In addition to the Session component, you must also install the Preferences component on the Master Discoverer Server. Note that the Master Discoverer Server is the only machine on which you install the Preferences component.

## 1.5 How Oracle Discoverer 3i Viewer Works

This section describes how Oracle Discoverer 3i Viewer works—from the point when the user launches the browser on the client computer to when data access becomes available. The following figure illustrates the basic process.

### 1.5.1 The Oracle Discoverer 3i Viewer process

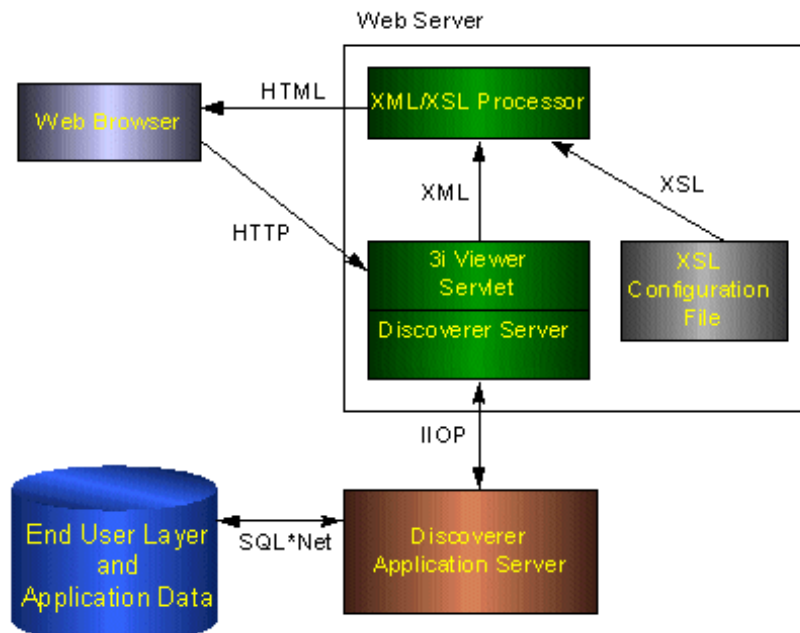
**Figure 1–3 The Discoverer 3i Viewer Process**



1. The user launches a Web browser on a client computer and types the URL of the HTTP Server.
2. The Web browser accesses the URL on the HTTP Server.
3. The Discoverer 3i Viewer servlet interprets the HTTP request.
4. The Locator starts a Session component on an Application Server machine and a Discoverer session starts.
5. The Discoverer session requests and receives data from the database.
6. The Discoverer session transmits data to the Discoverer 3i Viewer servlet.
7. The Discoverer 3i Viewer servlet generates an HTML page and sends it to the browser.

## 1.5.2 Oracle Discoverer 3i Viewer Architecture

*Figure 1-4 The Oracle Discoverer 3i Viewer Architecture*



### 1.5.3 Invoking Oracle Discoverer 3i Viewer

Oracle Discoverer 3i Viewer is invoked via a URL from a standard Web browser.

The URL is processed by a Servlet running in the Servlet engine. The Servlet uses the Locator to communicate with the Discoverer Services.

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**Note:** The Discoverer Services can be used by both Oracle Discoverer Plus and Oracle Discoverer 3i Viewer. Therefore the Discoverer Services need only be installed once for both applications.

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### 1.5.4 Processing the HTTP request

The Oracle Discoverer 3i Viewer Servlet interprets the HTTP request from the client browser, and makes the necessary calls to the Discoverer Services.

The server response represented in XML is generated by the Servlet and sent to an XML/XSL processor.

The XML/XSL processor combines XML with an XSL configuration file that defines the representation of the User Interface and generates the output (e.g. HTML) to send back to the browser.

The Oracle Discoverer 3i Viewer Servlet is composed of two primary layers - the application logic layer and the presentation logic layer.

The application logic layer manages the handling of the HTTP request, the state of the Discoverer Services, and generates the XML representing the logical state of the Discoverer server and the data for a given client.

The presentation logic layer takes the XML and uses XSL to generate a response in a given format (e.g. HTML, Microsoft Excel, XML etc.). The presentation logic can be customized to alter the appearance of the user interface (by editing XSL files). See *Chapter 5, "Customizing Oracle Discoverer 3i Viewer"* for details.

### 1.5.5 Scalability and load balancing

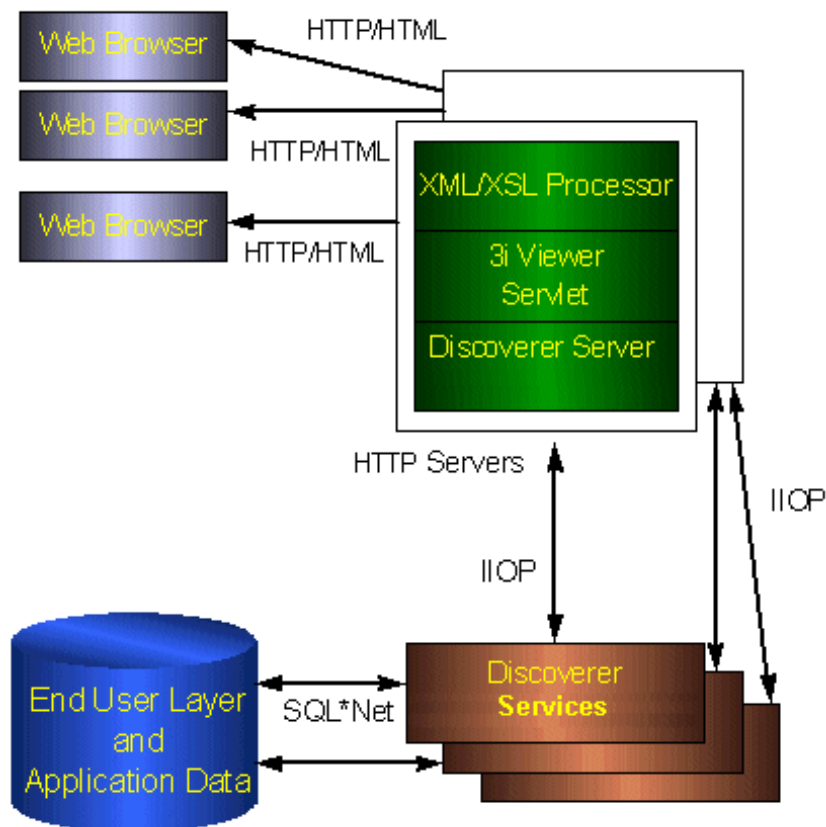
The Oracle Discoverer 3i Viewer Servlet and Discoverer Services are automatically installed to run on the Oracle9i Application Server as a single machine installation. However they are designed to be deployed on multiple machines (for more information, refer to Chapter 3, "Installing Oracle Discoverer 3i Viewer on multiple machines"). The Discoverer Services can be replicated by specifying the machines

available to Discoverer in a configuration file. Discoverer Services sessions are then started on alternate machines to balance the load.

In this way very large numbers of Discoverer users may be supported, since there is no single bottleneck. Multiple Discoverer sessions can run on a single machine, or can be spread across multiple machines as required.

The Discoverer 3i Viewer servlet can also be distributed.

**Figure 1-5 Using multiple Discoverer Application Servers for scalability**



In Figure 1-5 two HTTP servers are used to spread the load for three browser sessions. There are three server machines, with Discoverer Services running on each. In a real system there would be many users using each HTTP and application

server. Discoverer allows you to determine exactly how you want to spread the load across the available machines.



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# Running, Maintaining and Supporting Oracle Discoverer 3i Viewer

This chapter explains how to run and maintain Discoverer 3i Viewer.

The topics include:

- Running Discoverer 3i Viewer
- Using the Discoverer NT Service
- Registering and Unregistering Discoverer Services Components
- Editing the End User Preferences
- Shutting Down
- Adding and Removing Server Machines
- Setting up a secure link using HTTPS
- Frequently Asked Questions

## 2.1 Running Discoverer 3i Viewer

Once you have completed the Oracle9i Application Server installation (see the *Oracle9i Application Server Installation Guide*) you can run Discoverer 3i Viewer.

To run Discoverer 3i Viewer complete the following steps:

1. Start a browser window and type in your own details using the following as a guide:

`http://hostname.domain/servlets/discoservlet`

Where *hostname.domain* represents the Web server machine that the HTTP server is installed on. You must replace this with its fully qualified host name. For example:

`http://machinename.oracle.com/servlets/discoservlet`

This will start Oracle Discoverer 3i Viewer and you will see the following login screen:



2. Enter your User Name, Password and database connect string.
3. (Optional) If you are connecting as an Oracle Applications user (to an Oracle Applications database) select the **Oracle Applications User** check box  
If the **Oracle Applications User** check box is not displayed in the connect screen above, refer to Section A.1, “Specifying display of the Applications User Checkbox in Connect Dialog”.
4. Click Connect

You are now running Oracle Discoverer 3i Viewer.

## 2.2 Using the Discoverer NT Service

### 2.2.1 What is an NT Service?

An NT Service is a special process that NT can start automatically at startup. Typical NT Services start various computer operations, such as networking and remote access procedures, server operations, and telephony processes.

### 2.2.2 What is the Discoverer NT Service?

When you install Discoverer, the Discoverer NT service is created as an automatic NT Service called “OracleDiscoverer3i”. The Discoverer NT service automatically starts the Discoverer Services Locator component and the CORBA services whenever the NT machine is started. Using the Discoverer NT service, you can also stop all of these components by simply stopping the service from running.

A key benefit of having Discoverer Services Locator component and the CORBA services components started as a single NT service is that you do not need to remain logged onto a machine for the service (and therefore the Locator and the CORBA services) to stay running. If you launched each component individually on each machine, you would need to stay logged onto the machine(s) as the administrator. Logging off would automatically stop the components.

The Discoverer NT service runs the appropriate components based on the type of server you selected when installing Discoverer. The following table shows the components started by the Discoverer NT service for the servers.

**Table 2–1 Discoverer NT service components**

<b>Server</b>	<b>Locator</b>	<b>CORBA services</b>	<b>OAD</b>
Master Discoverer Server		X	X
HTTP Server	X	X	
Additional Discoverer Server		X	X
Single Machine Installation	X	X	X

### 2.2.3 How does the Discoverer NT service start?

When you install Discoverer, the Discoverer NT service’s Startup property is set to Automatic. In other words, the service starts automatically whenever the machine is

started. However, once the service has started automatically you can subsequently stop it and restart it manually.

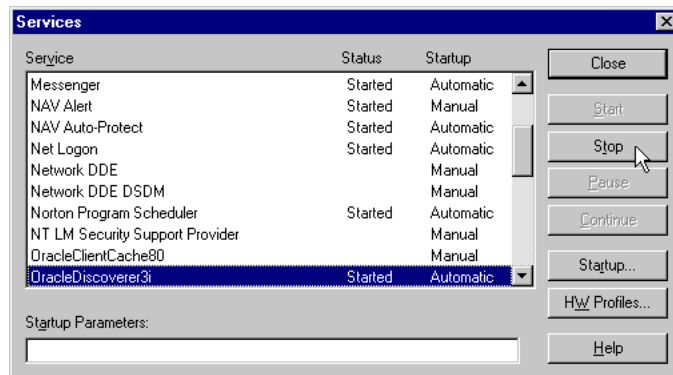
For a custom installation, the Discoverer NT service automatically starts the Locator and Smart Agent (OSAgent) on machines where you installed the Locator. On machines where you installed the Session and Preferences components, the Discoverer NT service automatically starts the CORBA services.

You can also change the Discoverer NT service's Startup property to Manual. In other words, the service does not automatically start when the computer is started. This may be useful if your network requires special services that have to start and stop in a particular sequence. You can start the other services, and then manually start the Discoverer NT service at the appropriate time.

## 2.2.4 To start and stop the Discoverer NT service manually:

1. From the Windows Start menu, choose Settings | Control Panel and double-click on the Services icon to display the Services dialog box.

The Services dialog box contains OracleDiscoverer3i.



**Status**—shows if the service is started and running. If the service has not been started, the status column is blank.

**Startup**—shows how the service is started, either manually or automatically. The Discoverer NT service is set to start automatically.

2. To stop the Discoverer NT service, select it in the dialog box and click the Stop button. Then close the dialog box.

3. To start the service, select it in the dialog box and click Start. Then close the dialog box.

**Note:** If your end users run Discoverer against an Oracle Application, always shut down the Listener before you start the Locator.

### 2.2.5 To change the Discoverer NT service to manual startup:

1. From the Windows Start menu, choose Settings | Control Panel and double-click on the Services icon.

The Services dialog box appears.

2. Select OracleDiscoverer3i in the Services dialog box.
3. Click the Startup button.

The Service dialog box for the OracleDiscoverer3i appears.

4. In the Startup Type section of the Service dialog box, select Manual.
5. Click OK.

### 2.2.6 Seeing Service Errors

The NT Event Log displays any errors that occur during startup of the Discoverer NT service. To see the NT Event Log, choose Start | Programs | Administrative Tools (Common) | Event Viewer.

Discoverer also keeps an internal log of errors that may occur when running the Locator on an HTTP Server. To see a list of Locator errors, open the Locator.log file in the <ISUITES\_HOME>\apache\apache\htdocs\DISCWB33\applet directory in the HTTP Server's root directory (or other directory if you installed the Discoverer client in some other directory).

## 2.3 Registering and Unregistering Discoverer Services Components

The Discoverer Services components must be registered with the Visibroker OAD (Object Activation Daemon). The components are registered during installation. If you remove or shut down a machine, you should unregister Discoverer Services components.

You can register and unregister components using the Windows Start menu or using the command line.

You can view the registered components for one machine or for the entire network.

To register and unregister components (and to view registered components), the VisiBroker OAD must be running and responding.

### 2.3.1 To make sure the OAD is running and responding:

If you are not sure whether the OAD is running:

1. Press Ctrl-Alt-Del and click the Task Manager button to run the Windows Task Manager.
2. Select the Processes tab.
3. Confirm that oad.exe is running and responding.

If the OAD is not running:

1. From the Windows Start menu, choose Settings | Control Panel and double-click on the Services icon to display the Services dialog box.
2. Select OracleDiscoverer3i and click the Start button.
3. When the OAD is started, click Close.

If the OAD is running but not responding

1. From the Windows Start menu, choose Settings | Control Panel and double-click on the Services icon to display the Services dialog box.
2. Click the Stop button, then click the Start button again.
3. When the OAD is started, click Close.

### 2.3.2 To see the registered components on one machine:

1. Make sure the OAD is running.
2. Open an MS-DOS window (choose Start | Command Prompt).
3. At the command prompt, type:  
`oadutil list` and press return.

---

---

**Note:** Running the oadutil command displays only the list of components registered on the machine. It does not display all the components registered on the network of Discoverer machines.

---

---

```

D:\Oracle\806\UBROKER\bin>oadutil list
oadutil list: located 3 record(s)

Implementation #1:
-----
repository_id = IDL:DCISessionManager:1.0
object_name   = UKP15601OracleDiscovererSession3.3
reference_data = 
path_name     = D:\Oracle\806\DISCW33\dis33ws.exe
activation_policy = UNSHARED_SERVER
args          = <length=4>[-session; UKP15601OracleDiscovererSession3.3; -
preference; UKP15601OracleDiscovererPreferences3.3; 1
env           = NONE

Implementation #2:
-----
repository_id = IDL:DCICollector:1.0
object_name   = UKP15601OracleDiscovererCollector3.3
reference_data = 
path_name     = D:\Oracle\806\DISCW33\dis33col.exe
activation_policy = SHARED_SERVER
args          = <length=2>[-collector; UKP15601OracleDiscovererCollector3.
3; 1
env           = NONE

Implementation #3:
-----
repository_id = IDL:DCICORBAInterface:1.0
object_name   = UKP15601OracleDiscovererPreferences3.3
reference_data = 
path_name     = D:\Oracle\806\DISCW33\dis33pr.exe
activation_policy = SHARED_SERVER
args          = <length=2>[-preference; UKP15601OracleDiscovererPreference
s3.3; 1
env           = NONE

D:\Oracle\806\UBROKER\bin>

```

In this example, the components are registered with the Discoverer Instance name of “UKP15601.” Two components are registered on the machine:

1. Preferences (-preference; UKP15601OracleDiscovererPreference3.3)
2. Session (-session; UKP15601OracleDiscovererSession3.3).

A Collector file for logging events is also registered, (-collector; UKP15601OracleDiscovererCollector3.3).

If you used the command on one of the Other Discoverer Servers, only the Session component would be registered.

### 2.3.3 To see all the registered components on the network:

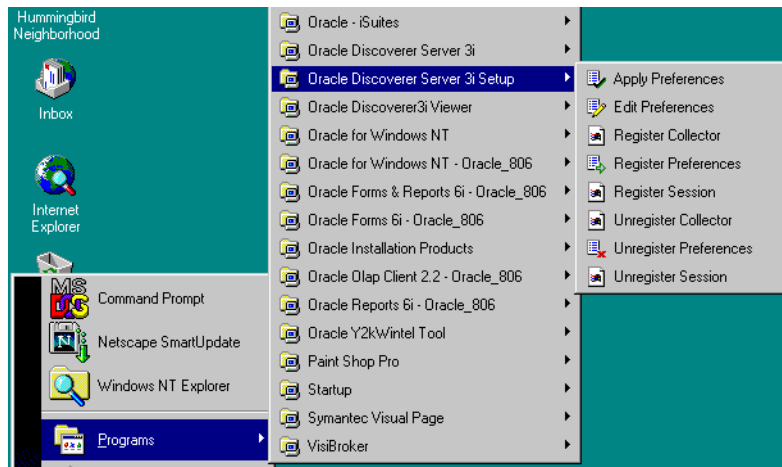
1. Make sure the OAD is running.
2. Open an MS-DOS window (choose Start | Command Prompt).
3. At the command prompt, type:  
osfind and press return.

A list shows all of the components running on the network.

### 2.3.4 Registering and Unregistering Components from the Windows Start Menu

On the machine where you want to register or unregister components:

1. From the Windows Start menu, choose Programs | Oracle Discoverer Server 3i Setup.



2. Choose the component that you want to register or unregister.  
A confirmation screen appears.

### 2.3.5 Registering and Unregistering from the Command Line

Use the Run dialog box from the Windows Start menu. You can register components using batch scripts. The batch scripts are located in the



<ORACLE\_806\_HOME>\Discwb33\util directory of the machine where the components are installed.

### 2.3.5.1 To Register the Preferences and Session components with the OAD

The Preferences and Session components must be registered with the OAD. The OAD will start a new session per connection of the client. For your convenience, scripts are available to help you with registering the Preference and Session components with the OAD.

The scripts are named:

- registerSession.bat
- registerPreference.bat

To register the Session from the command line:

1. Open an MS-DOS window.
2. Change the directory to <ORACLE\_806\_HOME>\Discwb33\util.
3. Type  

```
> registerSession.bat
```

To register the Preferences from the command line:

1. Open an MS-DOS window.
2. Change the directory to <ORACLE\_806\_HOME>\Discwb33\util.
3. Type  

```
> registerPreference.bat
```

### 2.3.5.2 To Unregister the Preferences and Session components from the OAD

For your convenience, scripts are available to help you with unregistering the Preference and Session components with the OAD.

The scripts are named:

- unregisterSession.bat
- unregisterPreference.bat

To unregister the Preferences component from the OAD:

1. Open an MS-DOS window.

2. Change the directory to <ORACLE\_806\_HOME>\Discwb33\util.

3. Type

```
> unRegisterPreference.bat
```

To unregister the Session component from the OAD:

1. Open an MS-DOS window.

2. Change the directory to <ORACLE\_806\_HOME>\Discwb33\util.

3. Type

```
> unRegisterSession.bat
```

## 2.4 Editing the End User Preferences

### 2.4.1 What are the End User Preferences?

The End User Preferences control default Oracle Discoverer behavior.

The Preferences file (pref.txt) controls default settings that apply to all end users. When a new session starts, the settings in the pref.txt file take affect.

In some cases, end users can override these settings from the Discoverer Plus Options dialog. Individual preferences are stored for each user as a unique combination of database and userid, and loaded whenever the user starts a new session. Therefore, users can log on from different client machines and still have their individual settings take effect. You can view the individual end user preference settings from within the Windows NT Registry Editor.

Also see the “*Discoverer Administration Edition Administration Guide*” for more information.

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**Note:** Editing Preferences, such as adding a machine IP address, does not require that you shut down the Preferences component. Thus, users can continue working uninterrupted while you edit.

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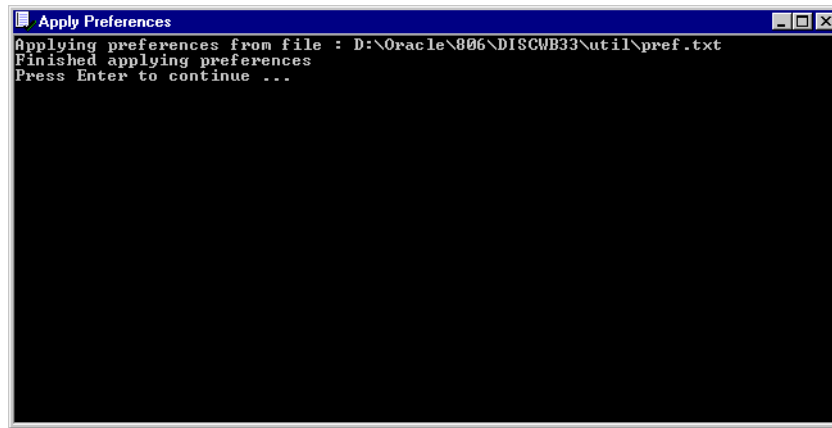
---

### 2.4.2 To set End User Preferences:

1. From the Windows Start menu, choose Programs | Oracle Discoverer Server 3i Setup | Edit Preferences.
2. The Pref.txt file appears in Notepad.

3. Edit the items in the pref.txt file. See Table 2-2, “Registry settings stored in the pref.txt file”.
4. Save the file and quit Notepad.
5. From the Windows Start menu, choose Programs | Oracle Discoverer Server 3i Setup | Apply Preferences.

A confirmation window shows that the new preferences have been saved. If you suspect that the file contains errors, check the error.txt file in the current directory.



6. To continue, press the Enter key.

The Preferences are updated in the Windows NT Registry. Preferences are now set for the Discoverer Services.

The following table shows the items in the pref.txt file.

**Table 2-2 Registry settings stored in the pref.txt file**

Affected Feature	Preference Item Key Name	Description	Default/Values
Locator	MachineIPs	IP addresses or machine names of all Discoverer Server Application servers. <b>This is the only required item in the pref.txt file.</b>	

**Table 2–2 Registry settings stored in the pref.txt file**

Affected Feature	Preference Item Key Name	Description	Default/Values
	DCW33_LOCATOR_JVM	Optional key. If present in the Registry under HKEY_LOCAL_MACHINE   SOFTWARE   ORACLE, it should point to the path of a JVM used by the Locator. Setting this key allows the Discoverer Administrator to log off the machine where the Locator is installed without also stopping the Locator.	
Session Manager	Timeout	Amount of time after which Discoverer 3i disconnects an idle session from the database. Minimum time is 180 seconds.	1800 (seconds)
	RowsPerHTML	Number of rows to display per HTML page.	25 (any whole number)
Application	CacheFlushPercentage	Percentage of cache flushed if the cache is full.	25
	MaxVirtualDiskMem	Maximum amount of disk memory allowed for the data cache.	1024000000
	MaxVirtualHeapMem	Maximum amount of heap memory allowed for the data cache.	1024000000
	QueryBehavior	Action to take after opening a workbook.	0 (0 = Run Query Automatically, 1 = Don't Run Query, 2 = Ask for Confirmation)
	ShowDialogBitmaps	End users see the bitmap graphics on Discoverer Plus dialogs.	1 (0 = off, 1 = on)

**Table 2–2 Registry settings stored in the pref.txt file**

Affected Feature	Preference Item Key Name	Description	Default/Values
	DataFormat	Applies HTML formatting to data cells in worksheets.	<pre> &lt;fontFormat fontName="Dialog" pitch="10" bold="false" italic="false" underline="false" strikethrough="false" foreground="0,0,0" background="255, 255, 255" halign="right" valign="top"&gt;&lt;/ fontFormat&gt; </pre>
	HeadingFormat	Applies HTML formatting to heading cells in worksheets.	<pre> &lt;fontFormat fontName="Dialog" pitch="10" bold="false" italic="false" underline="false" strikethrough="false" foreground="0,0,0" background="204, 204, 204" halign="left" valign="top"&gt;&lt;/ fontFormat&gt; </pre>
	TotalsFormat	Applies HTML formatting to cells that contain totals in worksheets.	<pre> &lt;fontFormat fontName="Dialog" pitch="10" bold="false" italic="false" underline="false" strikethrough="false" foreground="0,0,0" background="255, 255, 255" halign="left" valign="top"&gt;&lt;/ fontFormat&gt; </pre>

**Table 2–2 Registry settings stored in the pref.txt file**

<b>Affected Feature</b>	<b>Preference Item Key Name</b>	<b>Description</b>	<b>Default/Values</b>
	NullValue	Specifies how null values are displayed in worksheets, for example, “NULL”, “N/A”, “0”.	“NULL”
Database	DisableFanTrapDetection	Disables detection for fan trap in user queries.	0 (0 = on, 1 = off)
	DisableMultiJoinDetection	Disables multiple join detection.	1 (0 = on, 1 = off)
	DisableAutoQuery	If set to 0, queries do not automatically run when a worksheet opens.	0 (0 = on, 1 = off)
	ItemClassDelay	Fetch list of values for this amount of time before timing out.	15 (seconds)
	PredictionThresholdSeconds	Warn user if the predicted query time will exceed the number of seconds.	60 (seconds)
	PredictionThresholdSeconds Enabled	Query prediction threshold disabled (0) or enabled (1).	1
	QueryTimeLimit	Limit on query time in seconds.	1800 (seconds)
	QueryTimeLimitEnabled	Query time limit disabled (0) or enabled (1).	1
	RowFetchLimit	The maximum number of rows fetched (or retrieved).	10000 (rows)
	RowFetchLimitEnabled	RowFetchLimit parameter is disabled (0) or enabled (1).	1
	RowsPerFetch	The number of rows to fetch at once.	100 (rows)
	SummaryThreshold	Use summary table only if it is no older than this number of days.	30 (days) 0 do not use summary at all

**Table 2–2 Registry settings stored in the pref.txt file**

<b>Affected Feature</b>	<b>Preference Item Key Name</b>	<b>Description</b>	<b>Default/Values</b>
	SummaryThresholdEnabled	If enabled (1), will use the value specified by SummaryThreshold. Otherwise, Discoverer will always use summary tables if they are available.	1
	DefaultEUL	Sets the EUL you want all users to connect to. Each user can override this default from the Discoverer Plus Options dialog.	Any EUL you have created.
Oracle Applications Mode	AppsGWYUID	Specifies the public username and password for the AOL security DLL.	"APPLSYSPUB/PUB"
	AppsFNDNAM	Specified the schema in which certain vital Oracle Applications data is stored.	"APPS"
	ShowUserTypeChoice	Activates an end-user checkbox that allows them to specify whether they want to run Discoverer against an Oracle Application.	1
	DefaultUserTypeIsApps	Specifies that users run Discoverer by default against an Oracle Application.	1
Internal settings	BusinessAreaFastFetchLevel	Controls the amount of pre-caching that occurs for components and items whenever a Business Area is fetched.	1
	ObjectsAlwaysAccessible	Verify that Business Area objects and items exist in the database.	0 (0=verify; 1=don't verify and assume that the objects and items exist)
	SummaryObjectsUseCached Accessibility	Controls whether to access the summary-derived objects in the cache.	0

**Table 2–2 Registry settings stored in the pref.txt file**

Affected Feature	Preference Item Key Name	Description	Default/Values
	AvoidServerWildcardBug	Set to 1 if running against RDBMS 7.3.2 with NLS_LANG set to Japanese_Japan.JA16SJIS to avoid certain list box appearing empty.	0
	RdbFastSQLOff		0
Query Prediction and Performance	QPPEnable	Uses query prediction/performance (QPP) if set to 1.	1 (0 = false, 1 = true)
	QPPCreateNewStats	Records new statistics if set to 1.	1 (0 = false, 1 = true)
	QPPLoadStatsByObjectUseKey	Records statistics for same objects first if set to 1.	1 (0 = false, 1 = true)
	QPPUseCpuTime	Query prediction uses CPU time within its algorithm.	1 (0 = false, 1 = true)
	QPPAvgCostTimeAlgorithm		2
	QPPMaxObjectUseKey	Affects the amount of statistics to cache in memory for query prediction.	30
	QPPCBOEnforced	Will use cost-based optimizer if set to 1. Will use default optimizer if set to 0.	1
	QPPObtainCostMethod		1
	QPPMinCost	Only records or uses statistics with a cost greater than this value.	0
	QPPMaxStats	Only loads this many previous statistics.	500
	QPPMinActCpuTime	Only records or uses statistics with a CPU time greater than this value.	0
	QPPMinActElapsedTime	Only records or uses statistics with an actual elapsed time greater than this value.	0



**Table 2–2 Registry settings stored in the pref.txt file**

Affected Feature	Preference Item Key Name	Description	Default/Values
	QPPMinEstElapsedTime	Only records or uses statistics with an estimated elapsed time greater than this value.	0
	UseOptimizerHints	Will add optimized hints to SQL if set 1.	0
	QuerySQLFastFetchLevel		1
	SQLTrace	False (off).	0
Crosstab Layout	Title	Displays titles that were created in Discoverer 3.1 worksheets.	1 (0 = no, 1 = yes)
	Cell XGridline	Show horizontal gridlines.	0 (0 = no, 1 = yes)
	Cell YGridline	Show vertical gridlines.	0 (0 = no, 1 = yes)
	Axis Style	Crosstab axis position.	2 (1 = inline, 2 = outline)
Table Layout	Title	Displays titles that were created in Discoverer 3.1 worksheets.	1 (0 = no, 1 = yes)
	Cell XGridline	Show horizontal gridlines.	0 (0 = no, 1 = yes)
	Cell YGridline	Show vertical gridlines.	0 (0 = no, 1 = yes)
	Row Headings	Display row numbers on table worksheets.	0 (0 = no, 1 = yes)

## 2.5 Shutting Down

If you need to perform maintenance, change hardware settings, or perform any other tasks, you should take the server machine off line while working. This prevents users from starting sessions on that server while you work. You can shut down Discoverer in two ways:

- Shut down individual server machines
- Shut down the entire Discoverer system

*A reminder:* You do not need to shut down to edit Discoverer Preferences.

If the machine you want to shut down runs the Discoverer Services Locator component or Preferences component, you need to shut down the entire Discoverer system. These components are used to create a session, regardless of which server the Session component is on. Therefore, stopping any of these components affects the entire Discoverer system.

## 2.5.1 Shutting Down Individual Servers

You can shut down a server in two ways:

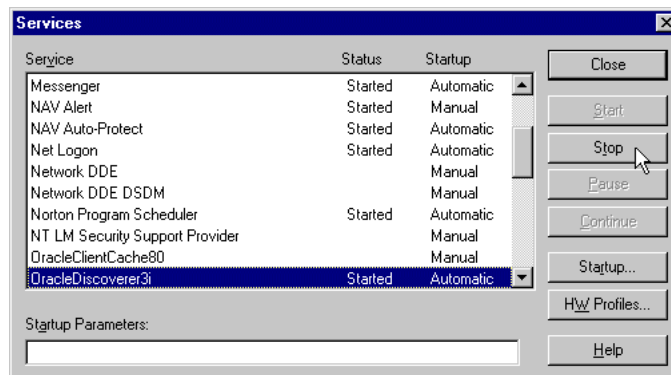
- gradually, allowing current users to disconnect when they are ready
- immediately, forcing current users to end their Discoverer session

### 2.5.1.1 To Shut Down Individual Servers Gradually

Shutting down a server gradually enables you to prevent new sessions from starting but allow current users to complete their sessions.

1. On the machine you want to shut down, from the Windows Start menu, choose Settings | Control Panel and then double-click the Services icon.

The Services dialog box appears.



2. Select OracleDiscoverer3i and click the Stop button.

Stopping the Oracle Discoverer NT service stops the CORBA services and the Locator component, which prevents any new sessions from being started on

this machine. Sessions in progress are not affected by shutting down the Oracle Discoverer NT service. Thus, users will not be interrupted while working.

After all the current users have disconnected from their sessions, you can perform your maintenance tasks. If you want to register or unregister components, the Oracle Discoverer NT service must first be restarted.

To check that all users have disconnected, open the Windows Task Manager and be sure no instances of the Session executable (**dis33ws.exe**) are running.

### 2.5.1.2 To Shut Down Individual Servers Immediately

An immediate shut down stops new user sessions from starting and stops the current sessions. To do this, you stop the Oracle Discoverer NT service on the machine (to prevent new sessions from being started) and then you stop the sessions currently running.

1. On the machine you want to shut down, from the Windows Start menu, choose Settings | Control Panel and then double-click the Services icon.

The Services dialog box appears.

2. Select OracleDiscoverer3i and click the Stop button.
3. Press Ctrl + Alt + Del and open the Windows Task Manager.
4. Select the Processes tab.
5. Choose dis33ws.exe.
6. Click End Task.
7. Repeat steps 4 and 5 for each session (dis33ws.exe) running in the Task Manager.

## 2.5.2 Shutting Down the Entire Discoverer System

To shut down the entire Discoverer system, you shut down individual machines in a specific order.

You can shut down the entire Discoverer system in two ways:

- gradually, allowing current users to disconnect when they are ready
- immediately, forcing current users to end their Discoverer session

### 2.5.2.1 To Shut Down the Discoverer System Gradually

Shutting down the Discoverer system gradually enables you to prevent new sessions from starting but allow current users to complete their sessions. To shut down gradually, you stop the Oracle Discoverer NT service on each server and then let users finish their sessions.

1. On each server, choose Settings | Control Panel from the Windows Start menu and then double-click the Services icon.
2. Select OracleDiscoverer3i and click the Stop button.

Stopping the Oracle Discoverer NT service stops the CORBA services and the Locator component, which prevents any new sessions from being started on this machine. Sessions in progress are not affected by shutting down the Oracle Discoverer NT service. Thus, users will not be interrupted while working.

You now shut down the Preferences component.

**Warning:** Do not shut down the Preferences component until all sessions are stopped. Shutting down the Preferences component while sessions are active can cause problems with active sessions.

3. Press Ctrl + Alt + Delete and open the Windows Task Manager.
4. Choose dis33pr.exe and click End Task to shut down the Preferences component.

When all of the current users have completed their sessions, the Discoverer system shuts down.

### 2.5.2.2 To Shut Down the Discoverer System Immediately

An immediate shut down stops new user sessions from starting and stops the current sessions. To perform an immediate shut down, you:

- stop the Oracle Discoverer NT service on each machine (to prevent new sessions from being started)
  - stop the sessions currently running
  - stop the Preferences component
1. On each server:
    - a. From the Windows Start menu, choose Settings | Control Panel and then double-click the Services icon.
    - b. Select OracleDiscoverer3i and click the Stop button.

2. On each machine running a current session:
  - a. Press Ctrl + Alt + Del to open the Windows Task Manager.
  - b. Choose dis33ws.exe.
  - c. Click End Task.
  - d. Repeat steps 4 and 5 for each session (dis33ws.exe) and preferences (dis33pr.exe) running in the Task Manager.

## 2.6 Adding and Removing Server Machines

You can add or remove server machines from your Discoverer system at any time.

### 2.6.1 Adding an Additional Discoverer Server machine

Follow the instructions in Chapter 3, “Installing Oracle Discoverer 3i Viewer on multiple machines” to add a new server machine to the Discoverer system.

### 2.6.2 To Permanently Remove an Additional Discoverer Server machine

Disabling the Discoverer NT service or changing its Startup property to Manual effectively removes an Additional Discoverer Server machine from the Discoverer system. You do not have to uninstall any software. However, you must also edit the pref.txt file on the Master Discoverer Server machine to remove the Additional Discoverer Server machine's IP address from it.

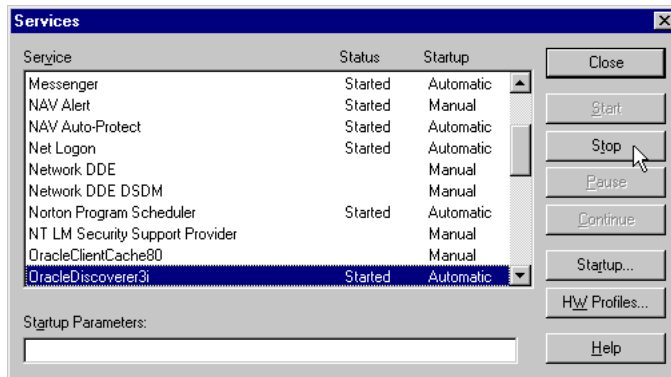
1. From the Windows Start menu, choose Programs | Oracle Discoverer Server 3i Setup | Edit Preferences.  
The pref.txt file opens in Notepad.
2. Remove the machine's IP address from the pref.txt file. Save the pref.txt file and close Notepad.
3. Choose Start | Programs | Oracle Discoverer Server 3i Setup | Apply Preferences.
4. From the Windows Start menu, choose Programs | Oracle Discoverer Server 3i Setup again and select a component on that server that you want to unregister.

The components to select depends on the server you want to remove:

- to remove the Master Discoverer Server machine, unregister both the Session component and the Preferences component

- to remove Additional Discoverer Server machines, unregister the Session component
5. Repeat for each component that you want to unregister.
  6. Now from the Windows Start menu, choose Settings | Control Panel and double-click the Services icon.

The Services dialog box appears.



7. Select OracleDiscoverer3i and click the Startup button.

The Service dialog box appears.

8. In the Startup Type section of the Service dialog box, select Manual or Disabled and click OK.

Now, the server machine will not automatically start the Discoverer NT service and therefore will not be part of the Discoverer system.

---

---

**Note:** To temporarily remove a server, shut down the Discoverer NT service.

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## 2.7 Setting up a secure link using HTTPS

To ensure that your entire discoverer document is secure and to get your browser to acknowledge a “secure” page, it is necessary to make a minor adjustment to the **disco3iv.xml** file.

Make changes as follows:

1. Open the **disco3iv.xml** file for editing
2. Change the **image\_path** to include **https** and the **full path** to the image directory.

Below is an example of the change:

### **disco3iv.xml - Before change**

```
<argument name="help_path" type="href">help</argument>
<argument name="image_path" type="href"> images</argument>
<argument name="show_login_method_control">>true</argument>
</document>
</disco_config>
```

### **disco3iv.xml - After change**

```
<argument name="help_path" type="href">help</argument>
<argument name="image_path" type="href">https://mywebserver.company.com/
disco3ivfiles/images</argument>
<argument name="show_login_method_control">>true</argument>
</document>
</disco_config>
```

## 2.8 Frequently Asked Questions

### **What environment variables are set?**

During installation, two environment variables are set for the VisiBroker products:

```
VBROKER_JAVAVM = <ORACLE_806_HOME>\jre11728o\bin\jre
VBROKER_TAG = -D
```

The CLASSPATH variable is not modified.

The PATH variable is updated with:

```
PATH =
<iSUITES_HOME>\bin;<ORACLE_806_HOME>\vbroker\bin;<ORACLE_806_HO
ME>\bin; <iSUITES_HOME>\Apache\Perl\5.00503\bin\mswin32-x86;%PATH%
```

This minimizes any conflict with other products.

### **What happens if the Locator or Preferences components stop running?**

If the Locator component goes down, no more users can log in to the system until it comes back up. Existing sessions are not affected.

The Locator component is designed so that it does not need to be shut down even when you edit the pref.txt file. By default the Locator component will pick up the edited values when the next client is connected.

Similarly, if the Preferences component goes down, the Locator component will continue to function and sessions already in progress are not affected. When the Preferences component is brought back up, the Locator component will bind to the Preferences component again.

### **What do I need to do if I get a network error?**

If Discoverer 3i Viewer receives a network exception during login, check the following:

- Are there any directories or jar files in the CLASSPATH or PATH that might interfere with Discoverer 3i? Discoverer 3i uses VisiBroker CORBA V3.4 and JDK 1.2.
- Make sure the Locator component is up and running. Did you see any error messages in the locator.log file? Make sure the locator.ior file is in the DiscWb33\applet directory.
- Make sure the VisiBroker SmartAgent and OAD are up and running and that a new session can be started.



- Make sure the Preferences component is up and running. To confirm that the Preferences component is up and running, use the Windows Task Manager and make sure that Dis33pr.exe is running.

**What do I need to do when I get ORA-12154 TNS: Could not resolve service name?**

This is an Oracle error that appears when the session cannot connect to the database alias specified in the Connect field. Check that the:

- database alias is in the tnsnames.ora file
- database alias exists in the tnsnames.ora file on every machine that runs sessions.

Hint: If you have SQL\*Plus (or any other Oracle product) running on that machine, try connecting to the database with that product.

**What do I need to do when I get a message that the Locator component cannot bind to the Preferences component?**

If the Locator component cannot bind to the Preferences component, check the following:

- Is the Preferences component up and running? To see if the Preferences component is running, use the Windows Task Manager. See Section 2.2, “Using the Discoverer NT Service” to restart the Preferences component.
- Is a SmartAgent running on the subnet? To see a list of agents, OADs, and other registered components running on the subnet, open an MS-DOS window and on the command line, type `osfind`. Note that the agents are listed first. If the SmartAgent is not running, see Section 2.2, “Using the Discoverer NT Service” to restart it.
- Is the Preferences component installed? To confirm that the Preferences component is up and running, use the Windows Task Manager and make sure that Dis33pr.exe is running.
- Is the Preferences component registered with its OAD? To confirm that the Preferences component is registered, see Section 2.3.2, “To see the registered components on one machine:”. This must be done on the machine on which the Preferences component was installed. If the Preferences component is not registered, see Section 2.3.5.1, “To Register the Preferences and Session components with the OAD”.
- Is the machine running the Preferences component on the same subnet as the machine running the Locator component and the machines running Session

components? To see a list of agents, OADs, and other registered components running on the subnet, open an MS-DOS window and on the command line, type `osfind`. Note that the agents are listed first. The Preferences component must be installed on the same subnet.

- Is the `pref.txt` file corrupted? You cannot directly determine from the `pref.txt` file that it is corrupted. To test if the `pref.txt` file is corrupted:
  1. Save a copy of the `pref.txt` file.
  2. Delete the original `pref.txt` file.
  3. From the Windows Start menu, select Run.
  4. In the Run window, type `regedit` and press [Enter].
  5. Find the registry key at `HKEY_LOCAL_MACHINE\software\oracle\WebDisco3.3`.
  6. Delete that registry key.
  7. Copy the file: “`<ORACLE_806_HOME>\DISCWB33\util\defaults.txt`” to “`pref.txt`.”
  8. Choose Start | Programs | Oracle Discoverer Server 3i Setup | Apply Preferences.
  9. Run a Discoverer session.  
If the session runs correctly, the original `pref.txt` file was probably corrupted.
  10. Quit the session.
  11. Delete the saved copy of the original `pref.txt` file because it contains the corrupted elements.
  12. Reset the end user preferences by editing the new `pref.txt` file as described in Section 2.4, “Editing the End User Preferences”.

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## Installing Oracle Discoverer 3i Viewer on multiple machines

The Oracle Discoverer 3i Viewer Servlet and Discoverer Services are automatically installed to run on the Oracle9i Application Server as a single machine installation. However they are designed to be deployed on multiple machines. The Discoverer Services can be replicated by specifying the machines available to Discoverer in a configuration file. Discoverer Services sessions are then started on alternate machines to balance the load.

In this way very large numbers of Discoverer Users may be supported, since there is no single bottleneck. Multiple Discoverer sessions can run on a single machine, or can be spread across multiple machines as required.

The Discoverer 3i Viewer servlet can also be distributed.

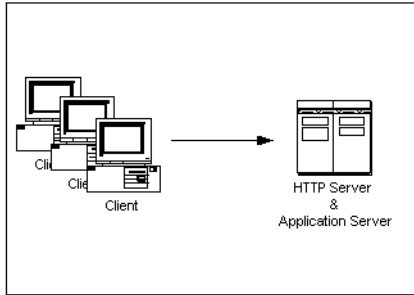
The topics include:

- What are the differences between a default installation and a distributed installation of Discoverer 3i Viewer?
- Performing a distributed installation

### 3.1 What are the differences between a default installation and a distributed installation of Discoverer 3i Viewer?

#### 3.1.1 Default Installation of Discoverer 3i Viewer

Oracle Discoverer 3i Viewer is installed as part of Oracle9i Application Server. The default installation is a single machine installation (i.e. all the Discoverer components are installed on a single machine).



In this scenario, the Oracle 9i Application Server installation has installed both of the following on the same machine:

- HTTP Server software
- all the Discoverer Services components (Locator, Session, Preferences, SmartAgent, and Object Activation Daemon)

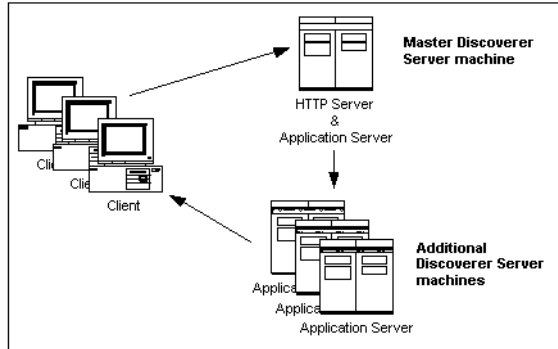
The machine is therefore both an HTTP Server machine and an Application Server machine.

When a user launches a web browser on a client machine to start Discoverer 3i Viewer, the web browser sends a request to the HTTP Server software on the server machine. That request is processed and a Discoverer session is started on the server machine.

### 3.1.2 Distributed Discoverer 3i Viewer Installation

Having a single machine acting as both the HTTP Server machine and the Application Server machine can be inefficient when supporting large numbers of Discoverer users.

For this reason, the Discoverer Services components are designed to be deployed on multiple machines. By specifying the available machines in a configuration file, Discoverer Services sessions can be started on different machines to balance the load. Multiple Discoverer sessions can run on a single machine, or can be spread across multiple machines as required.



In this scenario (as with a default installation), the Oracle 9i Application Server installation has installed both of the following on the same machine:

- HTTP Server software
- all the Discoverer Services components (Locator, Session, Preferences, SmartAgent, and Object Activation Daemon)

The machine is therefore both an HTTP Server machine and an Application Server machine. This machine is referred to as the Master Discoverer Server machine.

As well as creating a Master Discoverer Server, you also install the Oracle 9i Application Server on additional machines. These machines are referred to as Additional Discoverer Server machines.

When a user launches a web browser on a client machine to start Discoverer 3i Viewer, the web browser sends a request to the HTTP Server software on the Master Discoverer Server machine. That request is processed and a Discoverer session is started either on the Master Discoverer Server machine or on an Additional Discoverer Server machine.

Each Additional Discoverer Server machine can run multiple sessions; therefore, the number of machines you choose to use for sessions depends on how many concurrent sessions the users need, the amount of memory available, the speed of the hardware, and so forth.

## 3.2 Performing a distributed installation

### 3.2.1 Confirming connection to the default Master Discoverer Server machine

Before you start altering the default installation, we recommend you connect to the default Master Discoverer Server machine to confirm that the default installation is functioning correctly.

1. Start a Web browser on a client machine.
2. Connect to the default Master Discoverer Server by typing the following URL:

```
http://hostname.domain/servlets/discoservlet
```

where *hostname.domain* is the fully qualified name of the machine on which Oracle9i Application Server has been installed.

The Oracle Discoverer 3i Viewer login screen appears when the default installation is functioning correctly.

### 3.2.2 Confirming the name of the Master Discoverer Server machine

During installation, the machine name is used as the Master Discoverer Server instance name. Make a note of the name of the Master Discoverer Server machine now because you will need it when installing on the machines that will become Additional Discoverer Server machines.

If you are not sure of the Master Discoverer Server machine name, follow the instructions below:

1. From the Windows Start menu on the Master Discoverer Server machine, select Run.
2. In the Run window, type `regedit` and press [Enter].
3. In the Registry Editor, open the HKEY\_LOCAL\_MACHINE/SOFTWARE/ORACLE/ key.

The value of the DCW33\_INSTANCE\_NAME string is the Master Discoverer Server machine name.

### 3.2.3 Installing Oracle Discoverer on Additional Discoverer Server machines

On every machine that you want to make an Additional Discoverer Server machine:

1. Follow the instructions in the *Oracle9i Application Server Installation Guide* to install Oracle 9i Application Server on the machine you want to use as the Additional Discoverer Server machine.
2. From the Windows Start menu on the Additional Discoverer Server machine:
  - a. Choose Programs | Oracle Discoverer Server 3i Setup | Unregister Preferences.
  - b. Choose Programs | Oracle Discoverer Server 3i Setup | Unregister Collector.
  - c. Choose Programs | Oracle Discoverer Server 3i Setup | Unregister Session.
3. From the Windows Start menu on the Additional Discoverer Server machine, select Run.
4. In the Run window, type `regedit` and press [Enter].
5. In the Registry Editor, open the HKEY\_LOCAL\_MACHINE/SOFTWARE/ORACLE/ key.
6. Change the values of the following strings as shown:

String	Change value from:	Change value to:
DCW33_START_LOCATOR	1	0
DCW33_INSTANCE_NAME	Additional Discoverer Server machine name	Master Discoverer Server machine name (see Section 3.2.2, "Confirming the name of the Master Discoverer Server machine")
DCW33_OADPORT	The current port number	The same value as the value that this string has on the Master Discoverer Server machine

Note that you will need to open the Registry Editor on the Master Discoverer Server machine to find out the value of the DCW33\_OADPORT on that machine.

7. On the Master Discoverer Server machine:
  - a. From the Windows Start menu, choose Settings | Control Panel and double-click on the Services icon to display the Services dialog box.

- b. Select the OracleDiscoverer3i service in the Services dialog box and click the Stop button.
      - c. Select the OracleiAS\_HomeHTTPServer service in the Services dialog box and click the Stop button.
      - d. Close the Services dialog box.
8. On the Additional Discoverer Server machine:
  - a. From the Windows Start menu, choose Settings | Control Panel and double-click on the Services icon to display the Services dialog box.
  - b. Select the OracleDiscoverer3i service in the Services dialog box and click the Stop button.
  - c. Select the OracleiAS\_HomeHTTPServer service in the Services dialog box and click the Stop button.
  - d. Select the OracleiAS\_HomeHTTPServer service in the Services dialog box, click the the Startup button to display the Service dialog box, and select Manual as the Startup Type.
  - e. Click OK to close the Service dialog box.
  - f. Close the Services dialog box.
9. On **both** the Master Discoverer Server machine **and** the Additional Discoverer Server machine, stop any Discoverer processes that are currently running as follows:
  - a. Display the Windows Task Manager (by pressing Ctrl-Alt-Del and clicking the Task Manager button).
  - b. Select any of the following Discoverer processes if they appear on the Processes tab and click End Process:
    - dis33ws.exe
    - dis33pr.exe
    - dis33srv.exe
  - c. Close the Windows Task Manager.
10. Copy the following directory (and all of its subdirectories) **from** the Master Discoverer Server machine **to** the Additional Discoverer Server machine:  
<ORACLE\_806\_HOME>\discwb33\
  -



where <ORACLE\_806\_HOME>\ is the location in which the Oracle Discoverer Components were installed.

You can copy the discwb33 directory (and all its subdirectories) in a number of different ways. For example, you could use Windows Explorer to map a network drive on the Additional Discoverer Server machine to the appropriate drive on the Master Discoverer Server machine. Alternatively, you could use FTP software to copy the files.

11. Reboot the Master Discoverer Server machine.
12. Reboot the Additional Discoverer Server machine.
13. On the Additional Discoverer Server machine, choose Programs | Oracle Discoverer Server 3i Setup | Register Session from the Windows Start menu.

Some menu items and batch files are installed on the Additional Discoverer Server machine that are not required. We strongly recommend you remove these menu items and batch files to prevent Discoverer Services components being inadvertently accessed.

14. To remove unnecessary Discoverer Services menu items from the Additional Discoverer Server machine:
  - a. Right click on the Windows Start menu button and select Explore (Windows) or Explore All Users (WindowsNT) to display Windows Explorer.
  - b. Open the Start Menu\Programs\Oracle Discoverer Server 3i Setup directory.
  - c. Delete the following menu items:
    - Apply Preferences
    - Edit Preferences
    - Register Collector
    - Register Preferences
    - Unregister Collector
    - Unregister Preferences
  - d. Close Windows Explorer.

15. To remove unnecessary Discoverer Services batch files from the Additional Discoverer Server machine:
  - a. Open Windows Explorer and navigate to the following directory:  
`<ORACLE_806_HOME>\discwb33\util`  
where `<ORACLE_806_HOME>` is the location in which the Oracle Discoverer Components were installed.
  - b. Delete the following batch files:
    - RegisterCollector.bat
    - RegisterPreference.bat
    - StartLocator.bat
    - unRegisterCollector.bat
    - unRegisterPreference.bat

When you have installed Oracle Discoverer on every machine that you want to be an Additional Discoverer Server machine, you must:

- edit the `pref.txt` file on the Master Discoverer Server machine (see Section 3.2.4)
- edit the `tnsnames.ora` file on all Discoverer Server machines (see Section 3.2.5)
- edit the `disco3iv.xml` file on the Master Discoverer Server machine (see Section 3.2.6)

## 3.2.4 Editing the Discoverer Services `pref.txt` file

### 3.2.4.1 What is the `pref.txt` file?

The `pref.txt` file located on the Master Discoverer Server contains a number of default settings that apply to all end users.

The only information required in the `pref.txt` file is the IP addresses (or machine names) of the machines used for Discoverer 3i. The other items in the `pref.txt` file can be edited to suit your network or user requirements. See Section 3.2.4.5, “How to edit the `pref.txt` file” for more information.

A backup copy of `pref.txt` is located at `<ORACLE_806_HOME>\discwb33\util\defaults.txt` on the Master Discoverer

Server machine. If you make a mistake when editing, lose, or corrupt the `pref.txt` file, you can restore the file to its default values from the backup copy.

### 3.2.4.2 Why edit the `pref.txt` file?

In a distributed Discoverer installation, the `pref.txt` file located on the Master Discoverer Server must contain either the IP address or machine name of each Application Server machine that will run Discoverer 3i sessions.

The order of the IP addresses listed in the `pref.txt` file determines the order in which sessions are started on each machine that has a Session component installed. Editing the `pref.txt` file enables you to add Additional Discoverer Server machines and to balance the load between them.

Entries in the `pref.txt` file are comma space delimited (i.e. entries are separated by a comma followed by a space). Enclose the entries in “double quotes.”

---

---

**Note:** Using IP addresses is somewhat faster because using machine names requires one extra lookup. See your System administrator for details about using IP addresses versus machine names.

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### 3.2.4.3 What is load balancing?

Load balancing is a way to improve the performance of your Discoverer installation by distributing sessions amongst different machines to make the most efficient use of each machine. You specify the machines to use by including their IP addresses (or machine names) in the `pref.txt` file.

The Discoverer Services Locator component uses the list of machines in the `pref.txt` file to determine which machine starts the next requested session. Using a round-robin method, the Locator requests a session on each machine in order, until it reaches the end of the list of IP addresses. When the Locator reaches the end of the list, it returns to the beginning of the list and starts over.

This round-robin method enables you to balance the load placed on the machines by:

- listing the machines in a particular order
- including the same machine several times

For example, you may want one machine to handle five sessions before the next machine is used. If so, include the first machine's IP address five times before including the next machine's address in the `pref.txt` file

Load balancing can greatly affect performance. We recommend you plan a load balancing strategy before editing the `pref.txt` file. Consider the speed and performance of each server machine. For planning purposes, you can estimate that each session requires approximately 3.8 to 18 MB of memory.

### 3.2.4.4 Examples of Load Balancing

Example 1: Load balancing - equal machines

You have Discoverer Session components installed on two Application Server machines. Each machine has the same processor speed and RAM. The IP addresses for these two machines are:

**Table 3–1 Sample Server Names**

Server	Machine Name	IP address
App Server machine 1	disco1	123.456.789.1
App Server machine 2	disco2	123.456.789.2

You want App Server machine 1 to handle the first request, App Server machine 2 to handle the next, App Server machine 1 the next, and so on.

The `pref.txt` file entry would look like this:

Machine IPs="disco1, disco2"

or

Machine IPs="123.456.789.1, 123.456.789.2"

Example 2: Load balancing - one fast machine plus two other machines

You have Discoverer Sessions installed on three Application Server machines. The first Application Server machine has faster processors and more RAM. The second and third Application server machines are equal to each other in processor speed and RAM.

The IP addresses for these three machines are:

**Table 3–2 Sample Server Names**

Server	Machine Name	IP address
App Server machine 1	serve1	123.456.789.1

**Table 3-2 Sample Server Names**

Server	Machine Name	IP address
App Server machine 2	serve2	123.456.789.2
App Server machine 3	serve3	123.456.789.3

You want App Server machine 1 to handle the first three requests, App Server machine 2 to handle next one, App Server machine 3 the next one, then back to App Server machine 1 for the next three requests.

The pref.txt file entry would look like this:

```
Machine IPs="serve1, serve1, serve1, serve2, serve3"
```

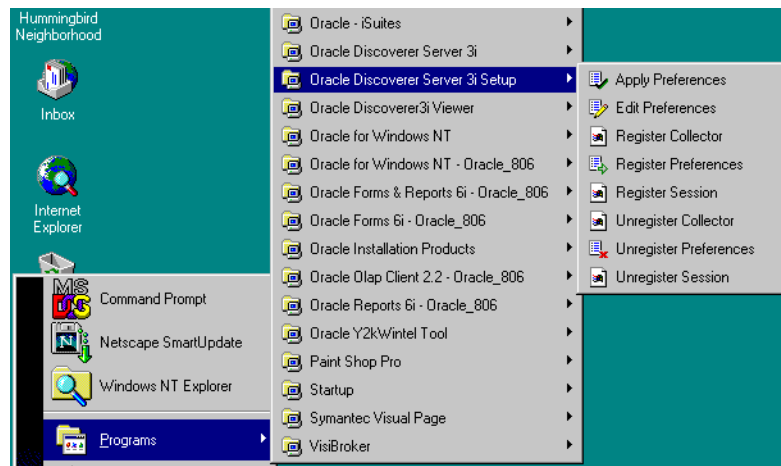
or

```
Machine IPs="123.456.789.1, 123.456.789.1, 123.456.789.1, 123.456.789.2, 123.456.789.3"
```

### 3.2.4.5 How to edit the pref.txt file

You edit the pref.txt file on the machine where you installed the Preferences component (i.e. the Master Discoverer Server machine):

1. From the Windows Start menu, choose Programs | Oracle Discoverer Server 3i Setup | Edit Preferences.



The file, Pref.txt, opens in the Notepad application.

```

pref.txt - Notepad
File Edit Search Help
# Discoverer Server Preferences File.
# To modify server preferences, edit this
# file, save it and then apply by executing
# the following:
# dis33pr.exe -apply.

# Preferences must be under one of the following types:
# Application, Database, Crosstab, Table, Administrator, Debug, Report,
# WebCharts, Fonts, Locator, Server Machine, Session Manager

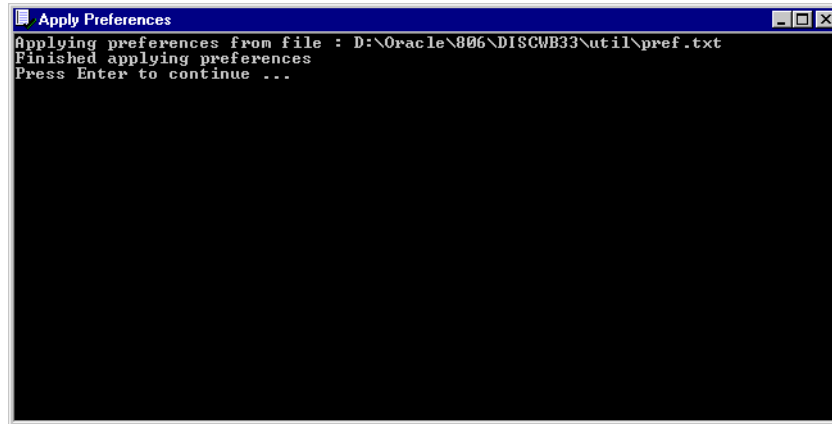
# Preference                Setting                Comment

[Locator]
# Administrator needs to set this value.
MachineIPs                  = ""                  # IP addresses.

# User visible settings.

[Session Manager]
Timeout                      = 600                # Timeout in
seconds if there is no client activity.
RowsPerHTML                  = 25                 # Number of rows
to display per HTML page
  
```

2. Type the IP address or machine name for each machine at the line labeled MachineIPs near the top of the file.
3. Separate each IP address or machine name with a comma followed by a space and enclose the entire list in “double quotes.”  
For example: “server1, server2, server3”.
4. When you’re finished editing the pref.txt file, save it and exit Notepad.  
For the changes you have made to pref.txt to take effect, you must apply preferences.
5. From the Windows Start menu, choose Programs | Oracle Discoverer Server 3i Setup | Apply Preferences.  
A confirmation window shows that the new preferences have been saved.



If errors are detected in the `pref.txt` file, the confirmation window file includes an instruction to check the `error.txt` file. Correct any errors listed in the `error.txt` file and reapply preferences before continuing.

6. To continue, press Enter.

The preferences are updated in the Windows NT Registry. Preferences are now set for the Discoverer Server Instance.

## 3.2.5 Editing the `tnsnames.ora` file

### 3.2.5.1 What is the `tnsnames.ora` file?

The `tnsnames.ora` file contains the names and aliases of all the databases that users can access using Discoverer 3i or any other Oracle product.

### 3.2.5.2 Why edit the `tnsnames.ora` file?

Each server machine in a distributed Discoverer installation must have an identical `tnsnames.ora` file.

If you have installed Discoverer on an Additional Discoverer Server machine, you must make sure the `tnsnames.ora` files on the different machines are identical by doing one of the following

- copy the `tnsnames.ora` file from the Master Discoverer Server machine to each Additional Discoverer Server machine

- edit the `tnsnames.ora` file on each Additional Discoverer Server so that it is identical to the `tnsnames.ora` file on the Master Discoverer Server machine

Note that several versions of the `tnsnames.ora` file might exist on the same machine. It is very important that you copy or edit the correct file.

### 3.2.5.3 How to copy the `tnsnames.ora` file

1. Copy the `tnsnames.ora` file **from** the following location on the Master Discoverer Server machine **to** the same location on the Additional Discoverer Server machine and replacing the existing file:

```
<ORACLE_806_HOME>\net8\admin
```

where `<ORACLE_806_HOME>` is the location in which the Oracle Discoverer Components were installed.

You can copy the `tnsnames.ora` file in a number of different ways. For example, you could use Windows Explorer to map a network drive on the Additional Discoverer Server machine to the appropriate drive on the Master Discoverer Server machine. Alternatively, you could use FTP software to copy the file.

### 3.2.5.4 How to edit the `tnsnames.ora` file

One way to edit the `tnsnames.ora` file:

1. From the Windows Start menu, choose Programs | Oracle for Windows NT - Oracle\_806 | Oracle Net8 Easy Config.

A program then runs so you can edit the Net8 configuration.

To make sure that you edit the correct `tnsnames.ora` file, do **not** use the Net8 Configuration Assistant (accessible from Programs | Oracle - iSuites | Network Administration).

## 3.2.6 Editing the `disco3iv.xml` file

### 3.2.6.1 What is the `disco3iv.xml` file?

The `disco3iv.xml` file on the Master Discoverer Server machine provides Oracle Discoverer Viewer with configuration information. Among other things, Oracle Discoverer Viewer uses the `disco3iv.xml` file to identify the Master Discoverer Server machine.



### 3.2.6.2 Why edit the disco3iv.xml file?

When you install Oracle Discoverer Viewer on multiple machines, you need to modify the disco3iv.xml file to identify the Master Discoverer Server.

### 3.2.6.3 How to edit the disco3iv.xml file and what to change

Before editing the disco3iv.xml file, we strongly recommend you take a copy of the file for future reference.

1. Use Notepad to open the disco3iv.xml file in the following location on the Master Discoverer Server machine:

```
<iSUITES_HOME>\apache\apache\htdocs\disco3iv\html
```

where *<iSUITES\_HOME>* is the location in which the Oracle Discoverer Components were installed

2. Confirm that the session name entry in the disco3iv.xml file is as follows:

```
session name="instance_nameOracleDiscovererSession3.3"
```

where *instance\_name* is the Master Discoverer Server instance name.

3. Confirm that the locator name entry in the disco3iv.xml file is as follows:

```
locator name="instance_nameOracleDiscovererLocator3.3"
```

where *instance\_name* is the Master Discoverer Server instance name.

4. Change the path entry in the disco3iv.xml file

change from:	path="http://%LOCATOR_URL%"
change to:	path="http:// <i>locator_location</i> "
where:	<i>locator_location</i> is the location of the locator.ior file
example:	path="http://machinename.oracle.com/Discwb33/Applet/"

5. Remove the following two lines in the disco3iv.xml file:

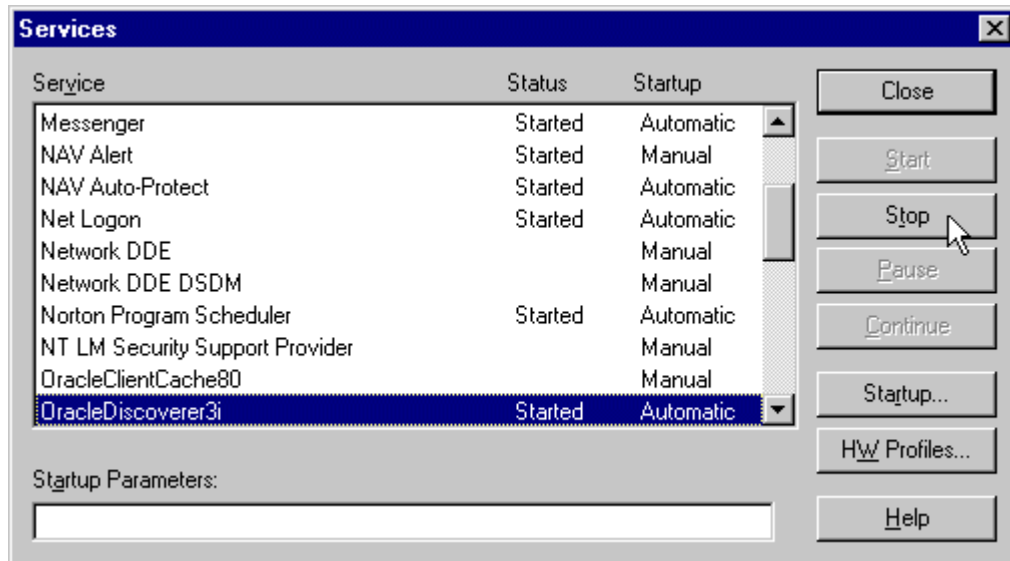
```
<!-- REMOVE THIS COMMENT LINE (A) only if Discoverer 3i Viewer is installed
on a different subnet than the Discoverer 3i Server
REMOVE THIS COMMENT LINE (B) only if Discoverer 3i Viewer is installed on a
different subnet than the Discoverer 3i Server -->
```

6. Save the file and exit Notepad.

For the changes you have made to the disco3iv.xml file to take effect, you must restart two Windows NT services on the Master Discoverer Server machine.

7. From the Windows Start menu, choose Settings | Control Panel and double-click on the Services icon.

The Services dialog box appears.



8. Select the OracleDiscoverer3i service in the dialog box and click the Stop button.
9. Select the OracleiAS\_HomeHTTPServer service in the dialog box and click the Stop button.
10. Wait for several seconds to make sure the service has stopped.
11. Select the OracleDiscoverer3i service in the dialog box and click the Start button.
12. Select the OracleiAS\_HomeHTTPServer service in the dialog box and click the Start button.
13. Close the Services dialog box.

### 3.2.7 Confirming connection to the Additional Discoverer Server

To confirm that the creation of Additional Discoverer Server machines has been successful, we recommend you connect to each Additional Discoverer Server machine as follows:

1. On each Additional Discoverer Server machine, display the Windows Task Manager (by pressing Ctrl-Alt-Del and clicking the Task Manager button) and display the Processes tab.
2. Start a Web browser on a client machine.
3. Connect to each Additional Discoverer Server by typing the following URL:

`http://hostname.domain/servlets/discoservlet`

where *hostname.domain* is the fully qualified name of the Additional Discoverer Server machine.

The Oracle Discoverer 3i Viewer login screen appears.

4. To confirm that the installation was successful, look for a process called `dis33ws.exe` that starts on the Additional Discoverer Server machine.



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# Accessing Oracle Discoverer 3i Viewer From Other Web Applications

Oracle Discoverer 3i Viewer can be accessed from other Web applications by specifying a combination of arguments in the URL. Rather than having your end users log in, choose a workbook, and worksheet, you can specify a URL that starts the Oracle Discoverer 3i Viewer for them. You can explicitly specify the settings that you want; for example, you can specify which workbook and worksheet you want to open and which parameter values to use.

This means you can embed live Discoverer reports directly onto your Web site pages simply by specifying the details in a URL. When the link is clicked the database is queried and the latest data is displayed in HTML.

After you create this URL, you can give it to end users to type into their Web browser. Or you can add the URL as a link on your company's Intranet site so that end users can make a specific database query with a single click.

In addition, you can also specify an end user's Applications Responsibility in this same URL.

## 4.1 Using arguments in URLs

You can specify username, database, EUL, workbooks, worksheets and worksheet pages as arguments placed in the URL.

Passwords are generally not displayed in the URL for security reasons. Discoverer 3i Viewer will ask users for a password before opening a worksheet.

### 4.1.1 What is the format of the URL to start Discoverer 3i Viewer automatically?

The URL you create must adhere to the standard URL command line syntax as follows:

```
http://mywebserver.mycompany.com/servletname?arg1=value1&arg2=value2&...&argN=valueN
```

where:

`mywebserver` is the Discoverer Server instance name

`mycompany.com` is your company name

`servletname` is the location and name of the Discoverer 3i Viewer servlet

The URL must always include the following mandatory arguments:

- username
- database name
- workbook name
- worksheet name

Note that the order of the mandatory arguments is not important, but all of the mandatory arguments must be present in the URL.

In addition to the mandatory arguments, you can also include the following optional arguments:

- worksheet parameters
- page numbers

### 4.1.2 Mandatory URL arguments

In all the examples below, the URL specifies:

- video33 as the username
- video33 as the database name
- sales as the workbook name
- ws2 as the worksheet name

#### 4.1.2.1 Username

<b>Format:</b>	<code>&amp;us=&lt;username&gt;</code>
<b>Example:</b>	<code>http://mywebserver.mycompany.com/disco/disco3iv ?us=video33&amp;db=video33&amp;wb=sales&amp;ws=Sheet+1</code>

#### 4.1.2.2 Database

<b>Format:</b>	<code>&amp;db=&lt;databasename&gt;</code>
<b>Example:</b>	<code>http://mywebserver.mycompany.com/disco/disco3iv ?us=video33&amp;db=video33&amp;wb=sales&amp;ws=Sheet+1</code>

#### 4.1.2.3 Workbook

<b>Format:</b>	<code>&amp;wb=&lt;workbookname&gt;</code>
<b>Example:</b>	<code>http://mywebserver.mycompany.com/disco/disco3iv ?us=video33&amp;db=video33&amp;wb=sales&amp;ws=Sheet+1</code>

#### 4.1.2.4 Worksheet

<b>Format:</b>	<code>&amp;ws=&lt;worksheetname&gt;</code>
<b>Example:</b>	<code>http://mywebserver.mycompany.com/disco/disco3iv ?us=video33&amp;db=video33&amp;wb=sales&amp;ws=Sheet+1</code>

## 4.1.3 Optional URL arguments

### 4.1.3.1 Worksheet parameter

<b>Format:</b>	<code>&amp;qp_&lt;parameter_name&gt;=&lt;parameter_value&gt;</code>
<b>Example:</b>	<code>http://mywebserver.mycompany.com/disco/disco3iv?us=video33&amp;db=video33&amp;wb=sales&amp;ws=ws2&amp;qp_City=Denver&amp;qp_City=Los+Angeles&amp;qp_Year=1995</code>

In the example, the URL specifies:

- video33 as the username
- video33 as the database name
- sales as the workbook name
- ws2 as the worksheet name
- Denver and Los Angeles as values for the City parameter
- 1995 as the value for the Year parameter

### 4.1.3.2 Page number

<b>Format:</b>	<code>&amp;pg=&lt;page_number&gt;</code>
<b>Example:</b>	<code>http://mywebserver.mycompany.com/disco/disco3iv?us=video33&amp;db=video33&amp;wb=sales&amp;ws=ws2&amp;pg=4</code>

In the example, the URL specifies:

- video33 as the username
- video33 as the database name
- sales as the workbook name
- ws2 as the worksheet name
- 4 as the page of worksheet ws2 to display



---

---

# Customizing Oracle Discoverer 3i Viewer

Oracle Discoverer 3i Viewer is easily customized to fit in with your Web site look and feel, to incorporate your companies logo or other artwork, or to build custom Discoverer applications for the Web.

This chapter covers the following areas:

- Using Oracle Discoverer 3i Viewer for Customized Web Applications
- Customization Examples

## 5.1 Using Oracle Discoverer 3i Viewer for Customized Web Applications

### 5.1.1 Customize the general appearance

The appearance of Oracle Discoverer 3i Viewer can be customized by specifying HTML formatting attributes in a single customization file. Fonts, colors and graphics are all easily changed by anyone familiar with HTML formatting.

### 5.1.2 Customize the application

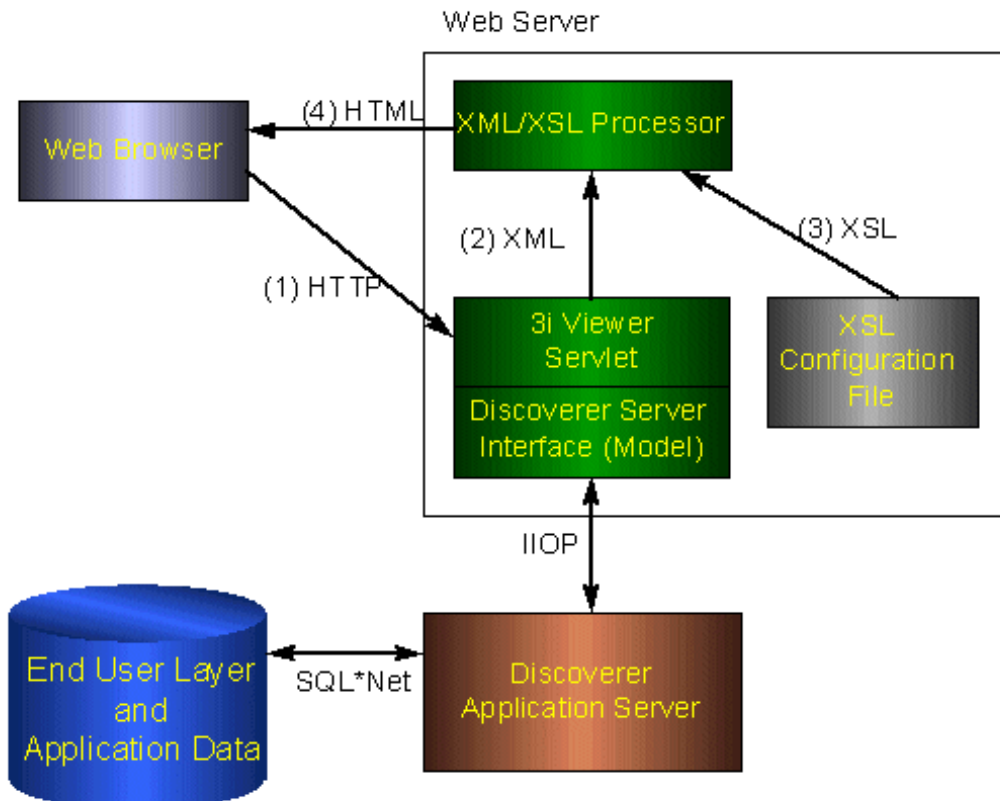
Oracle Discoverer 3i Viewer can be used to build complete custom Web applications or deliver data to other middle tier Web systems. It uses industry standard XML to represent data and application state, and the XSL stylesheet language to format the User Interface. Standard XSL tools can be used to customize the User Interface or to produce a complete embedded Business Intelligence application.

### 5.1.3 How the HTML is produced

All the HTML generated by Oracle Discoverer 3i Viewer is produced as a result of combining XML, which describes the information available, with XSL which defines how that information should be represented in HTML.

The XSL configuration file defines simple attributes, such as the fonts and colors to use, but it also defines the layout of each page, and the interactions with the user. By customizing the XSL, a specific Discoverer Application can be built and delivered on the Web.

**Figure 5–1 Oracle Discoverer 3i Viewer HTML Generation using XSL/HTML**



## 5.1.4 Steps to Generate the HTML needed to build a specific Discoverer Application

### 5.1.4.1 Step 1 Browser sends URL

After login, let's assume a Discoverer Viewer has asked for a list of workbooks that they are allowed to open in order to do some analysis of their business. The URL issued is:

```
http://myserver.mycompany.com/disco/disco3iv?us=video&db=Disco
```

The URL specifies the machine the Servlets are installed on, and the username and database connection string to use. The password is not normally shown on the URL for security reasons.

### 5.1.4.2 Step 2 XML generation

The URL is processed by the Discoverer Servlet, and the Discoverer Services is instructed to check the security setting for this user and return details of the workbooks that this user is allowed to access. The security settings are held in the End User Layer tables in the database. After this information is returned from the server, the Servlet generates the following XML:

```
<?xml version="1.0"?>
<?xml-stylesheet type="text/xsl" href="example1.xsl"?>
<discoverer version="3.3.x.x" login_method="discoverer">
  <request source="http://myserver.mycompany.com/servlets/viewer">
    <command name="_act">Connect</command>
    <command name="db">disco</command>
    <command name="in">dwb</command>
    <command name="_in">dwb</command>
    <command name="lc">>true</command>
    <command name="us">VIDEO</command>
    <command name="JServSessionId">3fb75a688d4d3c68.97.951319520796</command>
  </request>
  <account>
    <user>VIDEO</user>
    <database>disco</database>
    <eul default="true" name="VIDEO">
      <workbook name="Annual Sales Report" ref="Annual+Sales+Report">
        <description>Shows yearly and quarterly sales of products</
description>
      </workbook>
      <workbook name="Store and Band Analysis" ref="Store+and+Band+Analysis">
        <description>Shows sales by Store, broken into sales bands</
description>
```

```
</workbook>
  <workbook name="Video Sales Analysis" ref="Video+Sales+Analysis">
    <description>General purpose analysis of the Business </description>
  </workbook>
</eul>
<option name="qpw" enable="false">60</option>
<option name="qrl" enable="false">10000</option>
<option name="qtl" enable="false">1800</option>
<option name="msa" enable="false">60</option>
<option name="qif">250</option>
<option name="qll">15</option>
<option name="aq">true</option>
<option name="rv">NULL</option>
<option name="ftd">true</option>
<option name="rpp">25</option>
</account>
<export name="xls" format="application/vnd.ms-excel">Microsoft Excel Workbook
(*.xls)</export>
<export name="htm" format="text.html">Hyper-Text Markup Language (*.htm)</
export>
<export name="txt" format="text.plain">Text (Tab delimited) (*.txt)</export>
<export name="csv" format="text.plain">CSV (Comma delimited) (*.csv)</export>
<export name="prn" format="text.plain">Formatted Text (Space delimited)
(*.prn)</export>
<export name="dcs" format="text.plain">DCS (Express Format) (*.dcs)</export>
<export name="dif" format="application/vnd.ms-excel">DIF (Data Interchange
Format) (*.dif)</export>
<export name="slk" format="application/vnd.ms-excel">SYLK (Symbolic Link)
(*.slk)</export>
<export name="wks" format="application/vnd.ms-excel">WKS (Lotus 1-2-3)
(*.wks)</export>
</discoverer>
```

You can see information about three workbooks being returned - Store and Band Analysis, Video Sales Analysis and Annual Sales Report. Note there is NO information in the XML about how these workbooks names and descriptions should be displayed to the user, this is the function of the XSL file.

### 5.1.4.3 Step 3 Apply XSL

XSL is the industry standard stylesheet language defined by the World Wide Web Consortium. It allows a selection of elements from an XML file to be combined with an HTML template to generate HTML output for a Web Browser. The Oracle Discoverer 3i

Viewer User Interface is entirely defined in XSL, which means that it can be customized or copied to define alternative User Interface styles using standard Web development tools such as HTML and XSL editors. The XSL and XML is combined in an XSL processor, and HTML is generated.

#### **5.1.4.4 Step 4 Generate HTML**

Given the XML above, the standard Oracle Discoverer 3i Viewer XSL configuration file would result in HTML being generated, which is then sent back to the browser in response to the initial URL. In Oracle Discoverer 3i Viewer, the HTML generated does not use frames or javascript, and therefore makes minimal demands on the browser or Internet device used. It also means that it is easy to integrate Oracle Discoverer 3i Viewer with other Web Applications or Portals.

## 5.2 Customization Examples

This section will help you carry out a customization of the Oracle Discoverer 3i Viewer user interface where you can either modify basic attributes such as fonts, colors and graphics or create your own look and feel with a custom user interface.

### 5.2.1 Files needed for customization

The files needed to carry out either a **Quick** or a **Full** customization can be found under the **html/** directory shown below. These directories are created during the installation of Oracle Discoverer 3i Viewer in the root directory of the Web server.

```

disco3iv/
  disco3iv.jar
  html/
    disco3iv.xml
    disco3iv.xsl
    errors.xsl
    functions.xsl
    gui_components.xsl
    page_layouts.xsl
    style.xsl
  demos/      Video Stores Demo
  help/       HTML help files
  images/    User interface and help
  doc/       Installation/Administration Doc
  
```

### 5.2.2 Quick Customization

Many users want to be able to simply modify fonts and colors to fit in with their corporate standards, or to display the company logo to add branding.

These global changes can be made in a single XSL stylesheet file 'style.xml' (found in the Servlet directory *disco3iv/*) that defines special 'tags' for each style that can be modified.

You will need to be able to access the XSL files on the server.

#### 5.2.2.1 Quick customization attributes

Customizable attributes in the *style.xml* file

- Company Logo
- Text Color
- Headings
- Fonts

- Styles
- Links
- Images

### 5.2.2.2 Quick customization steps

To complete a Quick customization, take the following steps:

- Locate the file *style.xsl* in the Servlet directory `\disco3iv\html`.
- Open *style.xsl* in a text editor.
- Edit text within the `>angle brackets<` for each variable you want to change. For further information, read the detailed comments inside the file itself.
- Save your changes and exit.

### 5.2.2.3 Example of editing the style.xsl file

Further comments on how to edit this file are included within the file itself.

To insert a logo

```
<xsl:variable name="logo_src"> </xsl:variable name>
```

is changed to

```
<xsl:variable name="logo_src"> http:www.mycompany.com/images/mylogo.gif </xsl:variable name>
```

To change the color of the text:

```
<xsl:variable name="text_color">#000000</xsl:variable>
```

is changed to add the appropriate color code.

Many global style changes can be made in this way, but the overall operation of the User Interface will remain unchanged.

Another way of customizing Oracle Discoverer 3i Viewer is by using XSL, which allows a complete customized application to be made, as the next section explains.

## 5.2.3 Full Customization

This section provides information to help you create a fully customized user interface to the Oracle Discoverer 3i Viewer Servlet. Creating your own ‘look and feel’ with a custom user interface.

It consists of the following topics:

- Background
- Prerequisites
- File Structure
- Servlet Programming Interface
- Customizing Look and Feel - XML/XSL Example

### 5.2.3.1 Background

Before you start creating a custom interface to the Oracle Discoverer 3i Viewer Servlet, it is useful to understand how it works.

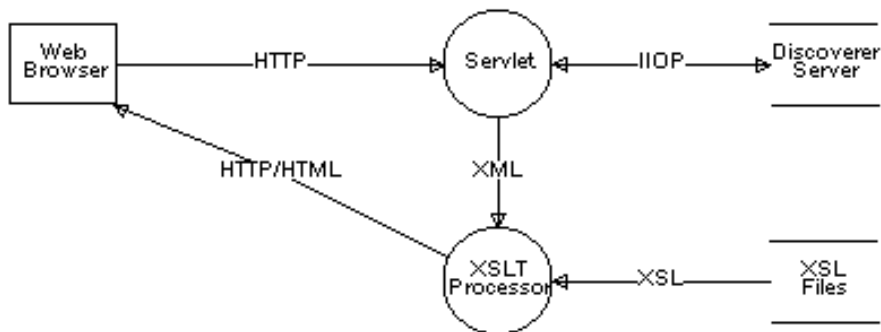
The following steps describe the flow of data that occurs when a request is made:

- The request is sent from the client (Web browser) to the Servlet using HTTP. Usually the request is encoded on the URL but the Servlet also supports GET and POST actions.
- The Servlet interprets this request and retrieves the necessary data from the Discoverer Server.
- The Servlet reformats the data returned from the Discoverer Server as XML.
- This XML file is sent to the XSLT processor which transforms it into the final output (usually HTML) using XSL templates.
- The output is then streamed back to the client that originally made the request.

This model enables a clean separation between the application logic (handled by the Servlet) and the presentation logic (handled by the XSL files). It is therefore possible to completely change the appearance of the user interface by editing the XSL files.

Figure 5–2 illustrates the data flow in Oracle Discoverer 3i Viewer.



**Figure 5–2 Oracle Discoverer 3i Viewer Data Flow**

### 5.2.3.2 Prerequisites

To be able to create your own custom user interface for Oracle Discoverer 3i Viewer, you need the following prerequisites:

- A knowledge of HTML
- A knowledge of XML, XSLT & XPath
- Access to the XSL files on the server.
- Access to the Servlet Configuration File

### 5.2.3.3 File Structure

The Servlet Configuration File specifies the name and location of the XSL file that should be applied to the XML generated by the Servlet. This XSL file imports further XSL files which together contain all the templates that are required for the presentation logic. These files are described below.

#### 5.2.3.3.1 disco3iv.xsl

This is the master XSL file. It performs the following functions:

- Gets the values of certain parameters set in the Servlet Configuration File.
- Gets the values of "Presentation" commands sent from the client.
- Imports the other XSL files.

- Examines the XML and chooses the most appropriate page layout for displaying the information.

### 5.2.3.3.2 `page_layouts.xml`

This file contains the definitions for each type of page that can be displayed. Each definition consists of a series of GUI components (in the order that they should appear on the page).

The following page layouts have been defined:

- Connect Page
- Reconnect Page
- Choose Oracle Applications Responsibility Page
- Options Page
- Choose Workbook Page
- Prepare to Run Query Page
- Modify Query Parameters Page
- Query Progress Page
- Data Available Page
- Export Worksheet Page

### 5.2.3.3.3 `gui_components.xml`

This file contains each of the GUI components (called by `page_layouts.xml`) that are used to build a page. The following list provides a few examples of GUI components:

- Page Title
- Page Footer
- List of Worksheets
- Options Form
- Query Progress Meter

### 5.2.3.3.4 `style.xml`

This file acts as a "stylesheet" by defining how certain text (such as headings) and graphics should appear. For more information, see the comments inside the file itself.

### 5.2.3.3.5 `functions.xml`

This file contains a set of functions that perform common tasks. For example, building the href attribute when creating a hypertext link.

#### **5.2.3.3.6 errors.xsl**

This file interprets any errors, warnings or messages generated by the Discoverer Server and displays more user friendly versions.

### **5.2.3.4 Servlet Programming Interface**

#### **5.2.3.4.1 Receiving data from the Servlet**

There are two methods that the Servlet can use to pass information to the XSL files:

- **XML**  
The XML contains all the information returned by the Discoverer Server as a result of the end user's request.
- **XSL Parameters**  
This method is used to pass entries in the Servlet Configuration File and "Presentation" commands from the URL to the XSL.

#### **5.2.3.4.2 Sending data to the Servlet**

As mentioned above, the Servlet is driven by the commands it receives from the client (Web browser). These commands are sent using HTTP by calling the Servlet with parameters on the URL or by creating HTML forms that define the Servlet as the "action".

You can create your own "Presentation" commands by simply preceding it with an underscore (\_) character. Any commands that begin with an underscore character are passed straight through to the XSL files as an XSL parameter. For example, specifying `_filter=sales` as a parameter on the URL results in the Servlet setting the XSL parameter "url\_filter" to "sales". You could use this parameter to filter a list of workbooks.

#### **5.2.3.5 Customizing Look and Feel - XML/XSL Example**

XSL customization is best shown with an example. You can use the XML and XSL fragments below to experiment with customization in a Web Browser.

### 5.2.3.5.1 Step 1 - The XML file

The data is a standard XML file, similar to the example below:

```
<?xml version="1.0"?>
<?xml-stylesheet type="text/xsl" href="example1.xsl"?>
<discoverer3iv version="3.3.x.x" state="login"
url="http://myserver.mycompany.com/disco/disco3iv"
login_method="disco_login">
  <account nv="NULL" aq="confirm">
    <user>video</user>
    <database>disco</database>
    <eul>
      <name>VIDEO</name>
      <workbookinfo>
        <name>Store and Band Analysis</name>
        <description>Shows sales by Store, broken into sales bands</
description>
      </workbookinfo>
      <workbookinfo>
        <name>Video Sales Analysis</name>
        <description>General purpose analysis of the Business </
description>
      </workbookinfo>
      <workbookinfo>
        <name>Annual Sales Report</name>
        <description>Shows yearly and quarterly sales of products</
description>
      </workbookinfo>
    </eul>
  </account>
</discoverer3iv>
```

It starts by specifying the XML version. The 2<sup>nd</sup> line specifies the XSL file to be applied to process the data, “example1.xsl” and the rest of the file is generated from the Oracle Discoverer 3i Viewer. The first two lines have been added here so you can type the text into a file using a text editor and then open it in a Web Browser to see the results visually as the XSL is changed. Save the file with the extension “xml” if you want to try this.

### 5.2.3.5.2 Step 2 - The XSL file

The XSL file “example1.xsl” looks like this:

```
<?xml version='1.0'?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/TR/WD-xsl">
  <xsl:template match="/">
    <HTML>
      <BODY bgcolor="#FFFFFF" link="#663300" text="#000000">
        <b><i>Choose a Workbook :</i></b><P></P>
        <TABLE BORDER="2">
          <xsl:for-each select="discoverer/account/eul/workbook">
            <TR>
              <TD width="242"><font face="Arial"><b><a href="link.htm">
                <xsl:value-of select=".@name"/></a></b></font>
              </TD>
              <TD>
                <xsl:value-of select="description"/>
              </TD>
            </TR>
          </xsl:for-each>
        </TABLE>
      </BODY>
    </HTML>
  </xsl:template>
</xsl:stylesheet>
```

### 5.2.3.5.3 Step 3 - XML+XSL = HTML

When the XML file is opened in a Web Browser, it reads in the XSL stylesheet and generates HTML which looks like this:

**Figure 5–3 List of workbooks using XML + XSL example**

<i>Choose a Workbook :</i>	
<b><u>Store and Band Analysis</u></b>	Shows sales by Store, broken into sales bands
<b><u>Video Sales Analysis</u></b>	General purpose analysis of the Business
<b><u>Annual Sales Report</u></b>	Shows yearly and quarterly sales of products

Examining the XSL file shows how the HTML is generated. Again the file starts by specifying the XML version, and the 2<sup>nd</sup> line says that this file is a stylesheet. The HTML template starts with the <HTML> tag on line 4.

```
<BODY bgcolor="#FFFFFF" link="#663300" text="#000000">
```

This line defines the colors to be used.

```
<b><i>Choose a Workbook:</i></b><P></P>
```

This is just HTML, it sets a bold italic font and inserts the text “Choose a workbook”

```
<TABLE BORDER="2">
```

```
<xsl:for-each select="discoverer/account/eul/workbook">
```

Now an HTML table is started, with a 2 line border. The next line is the first real XSL to appear - it means:

*Go through the XML data file and for each workbook tag perform all the following steps until you reach the end tag: </xsl:for-each>*

So for every workbook that appears in the XML file the following XSL is processed, and a row is inserted into the HTML table for every workbook found:

```
<TR>
  <TD width="242"><font face="Arial"><b><a href="link.htm">
    <xsl:value-of select="./@name"/></a></b></font>
  </TD>
  <TD>
    <xsl:value-of select="description"/>
  </TD>
</TR>
```

<TR> starts a new row in the table, and <TD ... > defines the table data that is to be inserted for the first column. The width of the column is set to 242 pixels and the font is set to Arial. Next a hyperlink is defined that will go to the file “link.htm” when clicked. In fact in Discoverer 3i this link target is generated dynamically, but it is shown as a static link here for simplicity.

```
<xsl:value-of select="./@name"/></a></b></font>
```

This XSL line inserts the text from the XML file for the <NAME> tag under each workbook section.

```
<TD>
  <xsl:value-of select="description"/>
</TD>
```

These lines define the 2<sup>nd</sup> column in the HTML table and insert the text for the workbook description using the <DESCRIPTION> tag in the XML file. So each row in the HTML table will contain the workbook name, made into a link to click on, and the workbook

description as text. Since there are three workbooks in the XML file, there will be three rows in the table.

Note that this example is not exactly how the Oracle Discoverer 3i Viewer shows the list of workbooks, it has been simplified here for clarity, but it illustrates how the XSL controls the appearance of the output. Also note that in Oracle Discoverer 3i Viewer, the XML and XSL are combined in the XSL processor on the middle tier, and not in the Web Browser.

#### 5.2.3.5.4 Step 4 - Customize the XSL

We can modify the XSL file to appear as follows:

```
<?xml version='1.0'?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/TR/WD-xsl">
  <xsl:template match="/">
    <HTML>
      <BODY bgcolor="#FFFFFF" link="#663300" text="#000000">
        <b><i>Choose a Workbook :</i></b><P></P>
        <TABLE BORDER="0">
          <TR>
            <TD width="500" height="100" background="../../images/
disco_banner.gif">
              <font face="Arial"><b>Performance Reports</b></font>
            </TD>
          </TR>
        </TABLE>
        <TABLE border="0">
          <xsl:for-each select="discoverer/account/eul/workbook">
            <TR>
              <TD width="242">
                <a href="link.htm">
                  
                    <xsl:attribute name="alt">
                      <xsl:value-of select="description"/>
                    </xsl:attribute>
                  </img>
                </a>
              </TD>
              <TD>
                <font face="Arial">
                  <xsl:value-of select="./@name"/>
                </font>
              </TD>
              <TD>
                <xsl:value-of select="description"/>
              </TD>
            </TR>
          </xsl:for-each>
        </TABLE>
      </BODY>
    </HTML>
  </template>
</xsl:stylesheet>
```

```
        </TD>
      </TR>
    </xsl:for-each>
  </TABLE>
</BODY>
</HTML>
</xsl:template>
</xsl:stylesheet>
```

When this file is combined with the same XML, it appears as:

**Figure 5-4** List of workbooks using the same XML with a modified XSL stylesheet:



Now the appearance of the User Interface is completely different, as it takes on a more graphical look and feel. Instead of text links there are graphical buttons for running the



reports, each with a dynamic ‘tool tip’ that pops up when you position the mouse over the button.

The XSL file is now different:

```
<TABLE BORDER="0">
  <TR>
    <TD width="500" height="100" background="../../images/
disco_banner.gif">
      <font face="Arial"><b>Performance Reports</b></font>
    </TD>
  </TR>
</TABLE>
<TABLE border="0">
```

These lines create a table and insert a graphic and the heading “Performance Reports”

```
<TABLE BORDER="0">
  <xsl:for-each select="discoverer/account/eul/workbook">
</TABLE>
```

This starts the main table that the workbook names will be displayed in, as before, but now there is no border around the table and the rows are defined differently:

```
<TD width="242">
  <a href="link.htm">
    
      <xsl:attribute name="alt">
        <xsl:value-of select="description"/>
      </xsl:attribute>
    </img>
  </a>
</TD>
```

The first table data column is defined as a hyperlink again, but this time with the image “start1.gif” as an image, rather than a text link. To get a “tooltip” to appear over an image the HTML “ALT” attribute is used.

Normally the ALT attribute is used with a simple text string:

```

```

but since we want the tool tip to be dynamic we generate the ALT tag by getting the text from the <DESCRIPTION> tab in the XML file. The <XSL:ATTRIBUTE> tag is used to do this.

Finally:

```
<TD>
  <font face="Arial">
    <xsl:value-of select="./@name"/></font>
</TD>
```

The second column in the table simply selects the name of the workbook to display, by using XSL to get it from the XML file as before.

### 5.2.4 Video Stores Demo - an example of an alternative user interface

The Video Stores demo is installed with Oracle Discoverer 3i Viewer and can be viewed following completion of a number of setup steps.

Once Oracle Discoverer 3i Viewer has been fully installed, you can configure your Web server to run the Video Stores demo.

The Video Stores demo illustrates how the Oracle Discoverer 3i Viewer user interface could be customized for an imaginary Video Store chain. You will be able to see the details which lie behind the user interface.

#### 5.2.4.1 What is installed

During installation, the Video Stores demo directory **demos\video**, its sub directories and files are created. The **\demos\video** directory is installed under the [Disco3iv\_Home]**\disco3iv\html** directory.

In the Video Stores demo directory **\demos\video** the following files are installed:

- *disco3iv.xml*  
You may need to edit this file to ensure that it refers to the correct session name. *The disco3iv.xml file contains configuration information such as where to find images for the user interface (See disco3iv.xml for details).*
- *video.xsl*  
You can edit this file to create the new user interface. *This file contains all the definitions which control the 'look and feel' of the user interface, such as the fonts, images, background, and spatial details.*

- Workbooks - These are used in the Video Stores Demo (See Section 5.2.4.2, “Set up steps”)
  - *Food and Drink.dis*
  - *Games.dis*
  - *Movies.dis*

The `\demos\video\images` directory contains all the images used in the Video Stores user interface. This is where you would place any new images the user interface needs to use.

### 5.2.4.2 Set up steps

You need to carry out the following steps:

- Create a Video Stores Demo database user  
(See the *Oracle Discoverer 3.1 Administration Guide* for details about how to create a new database user).
- Install the Video Stores Tutorial into the Video Stores Demo user created in the previous step.  
(See the *Oracle Discoverer 3.1 Administration Guide*, section on installing the Tutorial for details).
- Using Oracle Discoverer Plus, save the three Video Stores Demo workbooks into the database as the Video Stores Demo user.
- Edit the `video.xml` file to point the **username**, **password** and **database name** to the newly created Video Stores Demo user. The `video.xml` file is currently set up to point to a username `us=videodemo`, password `ps=videodemo` and database `db=disco`. This is the only change that you need to make to `video.xml`.

### 5.2.4.3 Set up Web Server

The Web server needs to be configured with the ‘Zone’ name. You need to set up a new zone for the Video Stores Demo to specify the location of the `\demos\video\disco3iv.xml` (Video Stores Demo configuration file)

### 5.2.4.4 Run the Video Stores demo

Open a Web browser and enter the following URL:

- `http://yourmachineURL/'Your new Video Demo Zone'`

The Video Stores demo will be displayed:

Year: 1995 Department: Laser Disc Rent Apply

**Video Store Analysis**  
Product Type = 'MOVIE'  
Page: 1 of 1

	Profit SUM	Sales SUM
▶ Product Category		
▶ Action	\$7,006	\$10,616
▶ Comedy	\$2,731	\$4,193
▶ Horror	\$15,179	\$22,904
▶ Romantic Comedy	\$4,873	\$7,308
▶ Sci-Fi	\$2,767	\$4,177
▶ Thriller	\$9,076	\$13,775
Sum	\$41,633	\$62,973

Video Store  
Powered by Oracle Discoverer 3i Viewer

### 5.2.4.5 Modify the video.xsl file

The video.xsl file located in `[Disco3iv_Home]\demos\video\` specifies the ‘look and feel’ for the Video Stores Customization of Oracle Discoverer 3i Viewer.

For example, you can edit the *video.xsl* file to replace any of the images displayed, including the background. You can also specify the workbooks you want to display in the Demo.

The ability to alter almost everything displayed by editing the video.xsl file illustrates how you can create not only a look and feel for your organization, but also define unique views of your data.

## 5.2.5 Customization Summary

XML and XSL provides a powerful customization environment for Oracle Discoverer 3i Viewer. Simple global formatting changes are made to a single style sheet file, while more sophisticated custom applications can be made by using completely alternative XSL pro-

cessing. In this way Oracle Discoverer 3i Viewer provides the way to integrate Business Intelligence directly into other Web applications.



Oracle Discoverer 3i Viewer provides additional capabilities for working seamlessly with Oracle Applications.

## A.1 Specifying display of the Applications User Checkbox in Connect Dialog

You can set up the Discoverer 3i Viewer Connect dialog to enable an Oracle Applications user to log on using an Applications 'Responsibility' by displaying the Applications User checkbox.

To set up the Connect dialog to display (or hide) the Applications User checkbox, access the configuration file located in:

`<iSUITES_HOME>\apache\apache\htdocs\disco3iv\html\disco3iv.xml`

and set the "**show\_login\_method\_control**" argument to "true" or "false" as required.

To specify the default state of the Applications User checkbox, change the following line in the disco3iv.xml file:

```
<application auto_connect="false" />
```

```
<application auto_connect="false" apps_logon="yourdefault" />
```

where "*yourdefault*" is either "true" or "false".

For more information about editing the disco3iv.xml file, refer to Section 3.2.6, "Editing the disco3iv.xml file".

## A.2 NT Registry Settings for Oracle Applications Users

There are four NT Registry settings that you can set in the pref.txt file specifically for Oracle Applications end users.

**Table A-1 Registry settings stored in the pref.txt file.**

<b>Preference Item Key Name</b>	<b>Description</b>	<b>Default/Values</b>
AppsGWYUID	Specifies the public username and password for the AOL security dll	"APPLSYSPUB/PUB"
AppsFNDNAM	Specified the schema in which certain vital Oracle Applications data is stored	"APPS"
ShowUserTypeChoice	Activates an end-user checkbox that allows users to specify whether they want to run Discoverer Plus against an Oracle Application. Not used by Discoverer 3i Viewer (specified in disco3iv.xml instead).	0 ( 0=hide checkbox, 1=show checkbox)
DefaultUserTypeIsApps	Specifies that users run Discoverer Plus by default against an Oracle Application. Not used by Discoverer 3i Viewer (specified in disco3iv.xml instead).	0 (0=No, 1=Yes)

For more information about editing the pref.txt file, refer to Section 2.4, "Editing the End User Preferences".