

# **Oracle® Mobile Field Service**

Implementation Guide

Release 12.2

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Oracle Mobile Field Service Implementation Guide, Release 12.2

Part No. E48994-02

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Primary Author: Ashita Mathur

Contributor: Anil.Vasudevakurup, Avinash Tiwari, Jaikant Shukla, Ravi Ranjan

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# Send Us Your Comments

## **Oracle Mobile Field Service Implementation Guide, Release 12.2**

### **Part No. E48994-02**

Oracle welcomes customers' comments and suggestions on the quality and usefulness of this document. Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

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- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
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# Preface

## Intended Audience

Welcome to Release 12.2 of the *Oracle Mobile Field Service Implementation Guide*.

This guide is intended for implementation engineers, system administrators, and any other administrator-level users who are required to implement and/or administer Oracle Mobile Field Service.

See Related Information Sources on page xii for more Oracle E-Business Suite product information.

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

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## Related Information Sources

### Integration Repository

The Oracle Integration Repository is a compilation of information about the service endpoints exposed by the Oracle E-Business Suite of applications. It provides a complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

You can navigate to the Oracle Integration Repository through Oracle E-Business Suite Integrated SOA Gateway.

### Online Documentation

All Oracle E-Business Suite documentation is available online (HTML or PDF).

- **PDF** - See the Oracle E-Business Suite Documentation Library for current PDF documentation for your product with each release. The Oracle E-Business Suite Documentation Library is also available on My Oracle Support and is updated frequently
- **Online Help** - Online help patches (HTML) are available on My Oracle Support.
- **Release Notes** - For information about changes in this release, including new features, known issues, and other details, see the release notes for the relevant

product, available on My Oracle Support.

- **Oracle Electronic Technical Reference Manual** - The Oracle Electronic Technical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for each Oracle E-Business Suite product. This information helps you convert data from your existing applications and integrate Oracle E-Business Suite data with non-Oracle applications, and write custom reports for Oracle E-Business Suite products. The Oracle eTRM is available on My Oracle Support.

## Guides Related to All Products

### Oracle E-Business Suite User's Guide

This guide explains how to navigate, enter data, query, and run reports using the user interface (UI) of Oracle E-Business Suite. This guide also includes information on setting user profiles, as well as running and reviewing concurrent programs.

You can access this guide online by choosing "Getting Started with Oracle Applications" from any Oracle E-Business Suite product help file.

## Guides Related to This Product

### Oracle Mobile Field Service User Guide

Oracle Mobile Field Service offers both connected browser-based solution and a disconnected solution that enables field service technicians to service their customers in a fully automated way. With the service request, field service technicians automatically receive the customer service history and customer install base information. For replacement parts, they can access the robust spare parts management feature of Oracle Mobile Field Service. After completing their tasks, they report labor, materials, and expenses and this information is sent back to the service organization at electronic speed so that an invoice can be given to the customer in a timely manner.

### Oracle Field Service Implementation Guide

This guide enables you to install and implement Oracle Spares Management, Oracle Advanced Scheduler, Oracle Inventory, Oracle Order Management, Oracle Service Contracts, Oracle Depot Repair, and Oracle Complex Maintenance, Repair and Overhaul for Preventive Maintenance. Integration with these applications is necessary to automate field service activities. In addition, you define codes to justify material, labor, and expense, define billing types and associate these with service activity codes and inventory items, and define skills and skill levels of field technicians. You can also define time-based and usage-based preventive maintenance programs, and forecast usage rates.

## **Oracle Field Service User Guide**

Oracle Field Service enables the automation of field service operations such as scheduling and dispatching tasks to field technicians, ordering parts, and tracking task completion. You can use its debrief capabilities to access notes and interaction history in support of call closure, and report task execution time, parts and expenses.

## **Installation and System Administration**

### **Oracle Alert User's Guide**

This guide explains how to define periodic and event alerts to monitor the status of your Oracle E-Business Suite data.

### **Oracle E-Business Suite Concepts**

This book is intended for all those planning to deploy Oracle E-Business Suite Release 12.2, or contemplating significant changes to a configuration. After describing the Oracle E-Business Suite architecture and technology stack, it focuses on strategic topics, giving a broad outline of the actions needed to achieve a particular goal, plus the installation and configuration choices that may be available.

### **Oracle E-Business Suite CRM System Administrator's Guide**

This manual describes how to implement the CRM Technology Foundation (JTT) and use its System Administrator Console.

### **Oracle E-Business Suite Developer's Guide**

This guide contains the coding standards followed by the Oracle E-Business Suite development staff. It describes the Oracle Application Object Library components needed to implement the Oracle E-Business Suite user interface described in the *Oracle E-Business Suite User Interface Standards for Forms-Based Products*. It also provides information to help you build your custom Oracle Forms Developer forms so that they integrate with Oracle E-Business Suite. In addition, this guide has information for customizations in features such as concurrent programs, flexfields, messages, and logging.

### **Oracle E-Business Suite Installation Guide: Using Rapid Install**

This book is intended for use by anyone who is responsible for installing or upgrading Oracle E-Business Suite. It provides instructions for running Rapid Install either to carry out a fresh installation of Oracle E-Business Suite Release 12.2, or as part of an upgrade to Release 12.2.

## **Oracle E-Business Suite Maintenance Guide**

This guide contains information about the strategies, tasks, and troubleshooting activities that can be used to help ensure an Oracle E-Business Suite system keeps running smoothly, together with a comprehensive description of the relevant tools and utilities. It also describes how to patch a system, with recommendations for optimizing typical patching operations and reducing downtime.

## **Oracle E-Business Suite Security Guide**

This guide contains information on a comprehensive range of security-related topics, including access control, user management, function security, data security, and auditing. It also describes how Oracle E-Business Suite can be integrated into a single sign-on environment.

## **Oracle E-Business Suite Setup Guide**

This guide contains information on system configuration tasks that are carried out either after installation or whenever there is a significant change to the system. The activities described include defining concurrent programs and managers, enabling Oracle Applications Manager features, and setting up printers and online help.

## **Oracle E-Business Suite User Interface Standards for Forms-Based Products**

This guide contains the user interface (UI) standards followed by the Oracle E-Business Suite development staff. It describes the UI for the Oracle E-Business Suite products and tells you how to apply this UI to the design of an application built by using Oracle Forms.

## **Other Implementation Documentation**

### **Oracle E-Business Suite Flexfields Guide**

This guide provides flexfields planning, setup and reference information for the Oracle E-Business Suite implementation team, as well as for users responsible for the ongoing maintenance of Oracle E-Business Suite product data. This guide also provides information on creating custom reports on flexfields data.

## **Training and Support**

### **Training**

Oracle offers a complete set of training courses to help you master your product and reach full productivity quickly. These courses are organized into functional learning paths, so you take only those courses appropriate to your job or area of responsibility.

You have a choice of educational environments. You can attend courses offered by

Oracle University at any of our many Education Centers, you can arrange for our trainers to teach at your facility, or you can use Oracle Learning Network (OLN), Oracle University's online education utility. In addition, Oracle training professionals can tailor standard courses or develop custom courses to meet your needs. For example, you may want to use your organization structure, terminology, and data as examples in a customized training session delivered at your own facility.

## **Support**

From on-site support to central support, our team of experienced professionals provides the help and information you need to keep your product working for you. This team includes your Technical Representative, Account Manager, and Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle server, and your hardware and software environment.

## **Do Not Use Database Tools to Modify Oracle E-Business Suite Data**

Oracle **STRONGLY RECOMMENDS** that you never use SQL\*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL\*Plus to modify Oracle E-Business Suite data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an Oracle E-Business Suite form can update many tables at once. But when you modify Oracle E-Business Suite data using anything other than Oracle E-Business Suite, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle E-Business Suite.

When you use Oracle E-Business Suite to modify your data, Oracle E-Business Suite automatically checks that your changes are valid. Oracle E-Business Suite also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL\*Plus and other database tools do not keep a record of changes.



# Part 1

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## Overview of Oracle Mobile Field Service



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# Introduction

This chapter covers the following topics:

- Overviews
- Technologies

## Overviews

This section provides overviews for the following:

- Oracle Field Service
- Oracle Mobile Application Foundation
- Oracle Mobile Field Service

Oracle Mobile Application Foundation provides the infrastructure for Oracle Mobile Field Service Store and Forward applications.

## Overview of Oracle Field Service

The Oracle Field Service suite supports an automated process used by service organizations to manage their field service operations. It assists in the entire service process from taking the customer call to fixing and reporting on the problem at a customer site. For a complete description of Oracle Field Service capabilities, see the *Oracle Field Service Implementation Guide* and the *Oracle Field Service User Guide*.

The following table lists all the applications in the suite.

<b>Suite Application</b>	<b>Description</b>
Oracle Field Service	This application assists in assigning tasks to service technicians, creating and dispatching daily schedules, monitoring progress, and reporting on material, expense, and labor transactions.
Oracle Advanced Scheduler	This application enables optimization of scheduling capabilities of tasks to qualified resources. It takes into account driving time, distance, and part availability, and it creates part reservations.
Oracle Spares Management	This application is used to provide additional logistics and planning features to manage a service parts inventory in a multi-location environment.
<b>Oracle Mobile Field Service Store and Forward - Laptop</b>	This application is a disconnected application typically installed on a field service technician's laptop to receive his daily schedule and report on progress, material, expense, and labor.
<b>Oracle Mobile Field Service Store and Forward - Pocket PC</b>	This application is a disconnected application for a Pocket PC so a field service technician can receive his daily schedule and report on progress, material, expense, and labor.
<b>Oracle Mobile Field Service - Wireless</b>	This application is a connected application for any wireless device. This application offers a complete, automated, and streamlined field service solution to field service technicians by providing real-time wireless access to the enterprise application. Using any wireless device, the field service technicians can remotely access the latest, most accurate and critical information to perform their job.

The Oracle Mobile Field Service applications integrate with the following application modules:

- **Oracle Install Base**  
Tracks the products installed at customer site.

- Oracle Application Foundation components

Oracle Application Foundation components such as Task Manager and Resource Manager manage various operations of Oracle Field Service.

## Overview of Oracle Mobile Application Foundation

The Oracle Mobile Application Foundation provides the infrastructure for Oracle Mobile Field Service Store and Forward - Laptop and Oracle Mobile Field Service Store and Forward - Pocket PC.

In the new architecture, the Mobile Gateway Database in the middle tier has been replaced by the Oracle10g Lite mobile server. Data replication is restricted to the enterprise and client tiers.

The advantages of this mobile architecture include the following:

- Simple to install and maintain.
- Integrates with the CRM applications suite.
- Supports multiple platforms.
- More scalable.
- Simplifies user management.
- Supports real-time job assignment. (As soon as a job is assigned, it is available for downloading.)

## Overview of Oracle Mobile Field Service

Oracle Mobile Field Service is part of the Oracle Field Service Suite of products. Oracle Mobile Field Service contains four mobile applications. These applications are:

- Oracle Mobile Field Service Store and Forward - Pocket PC
- Oracle Mobile Field Service Store and Forward - Laptop
- Oracle Mobile Field Service - Wireless

In addition, in the Oracle Field Service application there is the Field Service Technician Portal that can also be considered a mobile application. For information on the Field Service Technician Portal, see the *Oracle Field Service User Guide*.

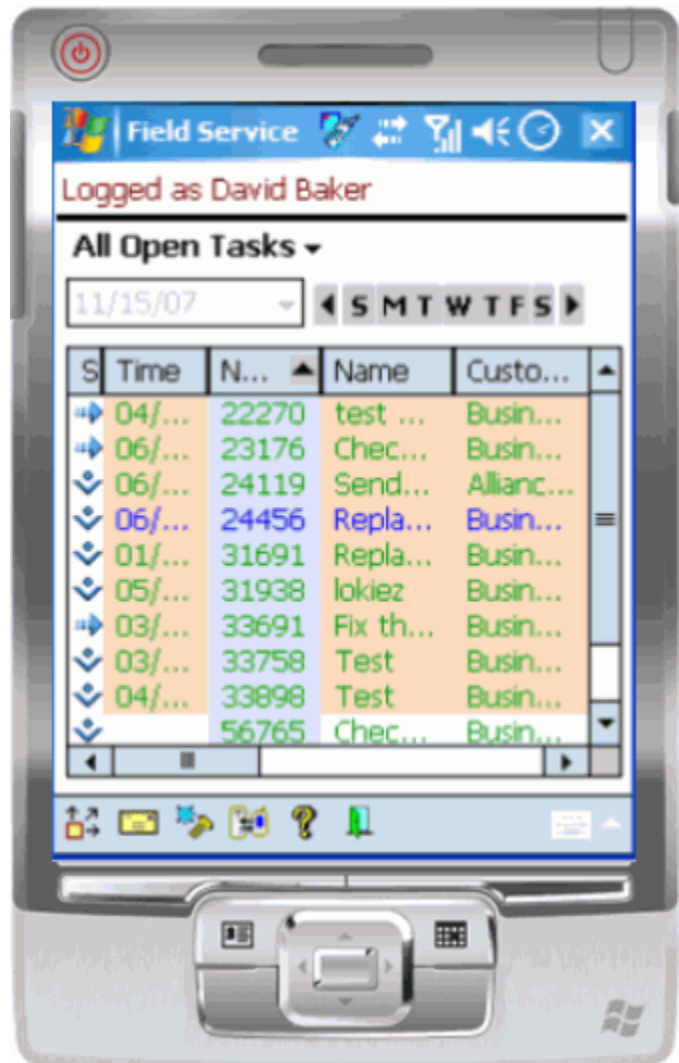
The Oracle Mobile Field Service applications convert a portable computer device into a workbench for field service technicians. The Oracle Mobile Field Service applications are the ideal solution for many service markets such as, HVAC, utilities, copier machine maintenance, telecommunications, and office supply industries. These applications

enable field service technicians the ability to print service reports, view or update install base records, and much more. For a complete description on how field service technicians may use the Oracle Mobile Field Service applications in their work day, see the individual mobile application chapters in the *Oracle Mobile Field Service User Guide*.

For all Oracle Mobile Field Service applications, the first screen or page describes the schedule for the day for the field service technician. This page or screen can also describe past and future responsibilities.

The following graphic depicts a typical technicians Task List screen of the Oracle Mobile Field Service Store and Forward - Pocket PC application.

#### **All Open Tasks**



The following graphic depicts a typical Oracle Mobile Field Service Store and Forward - Laptop - Field Service Technician Dashboard page.

## Field Service Technician Dashboard Page

**ORACLE Field Service Laptop**

Synchronize Home Logout Preferences Help

Search Service Request by Service Number Case Sensitive Advanced Search Logged In As Baker, David

**Field Service Technician Dashboard.**

View Open Tasks

Details	Service Request	Customer	Subject	Task	Update	Planned Effort	Scheduled Start Date	Assignment Status	Parts	Debrief
Show 53586	SUN MICROSYSTEMS, INC	ww	37862	2 Hour	15-Jul-2008 08:55:00	Assigned				
Show 53586	SUN MICROSYSTEMS, INC	Evaporative Emission Control System Malfunction	40375	1 Hour	16-Aug-2008 21:42:00	Working				
Show 53586	SUN MICROSYSTEMS, INC	Evaporative Emission Control System Malfunction	40376	1 Hour	17-Aug-2008 09:11:00	Working				
Show 53586	SUN MICROSYSTEMS, INC	Evaporative Emission Control System Malfunction	40379	1 Hour	18-Aug-2008 09:48:00	Working				
Show 53586	SUN MICROSYSTEMS, INC	Secondary Air Injection System Malfunction	38247	2 Hour	21-Jul-2008 12:22:17	Assigned				
Show 53586	SUN MICROSYSTEMS, INC	Air Injection System Incorrect Flow Detected	38248	2 Hour	21-Jul-2008 12:30:59	Assigned				
Show 53586	SUN MICROSYSTEMS, INC	Catalyst System Efficiency Below Threshold	38249	2 Hour	21-Jul-2008 12:31:38	Assigned				
Show 53586	SUN MICROSYSTEMS, INC	Evaporative Emission Control System Malfunction	38250	2 Hour	21-Jul-2008 12:32:08	Working				
Show 59582	Business World	Pressure Gauge	40400	2 Hour	22-Aug-2008 08:23:00	Working				

Quick Links: Create Parts Order, Parts Transfer, Calendar, Create Personal Tasks, Create Service Request

Messaging: View Messages, Create Message

Synchronize Home Logout Preferences Help

About This Page Privacy Statement

The following graphic depicts a typical Oracle Mobile Field Service - Wireless main menu. This is what the technicians see when they first enter the Wireless application:

## Main Menu



The Main Menu includes the following links:

- Today's Task
- Task Search
- Offline Schedule
- Create Service Request
- Knowledge Base
- Parts Search
- Receive Parts
- Parts Return
- Transaction History
- Mobile Queries
- Get Direction

Using this link, you can view the driving directions between any two tasks.

- Preferences
- Change Password
- About

Using this link, you can view environment details such as, technician name, responsibility, database name, and browser information.

## Technologies

This section discusses the technologies used for all of the Oracle Mobile Field Service applications.

### Oracle Mobile Field Service Store and Forward - Pocket PC and Laptop

Oracle Mobile Field Service Store and Forward - Laptop and Oracle Mobile Field Service Store and Forward - Pocket PC are built upon the Oracle Mobile Application Foundation and Oracle Mobile Field Service Store and Forward technologies.

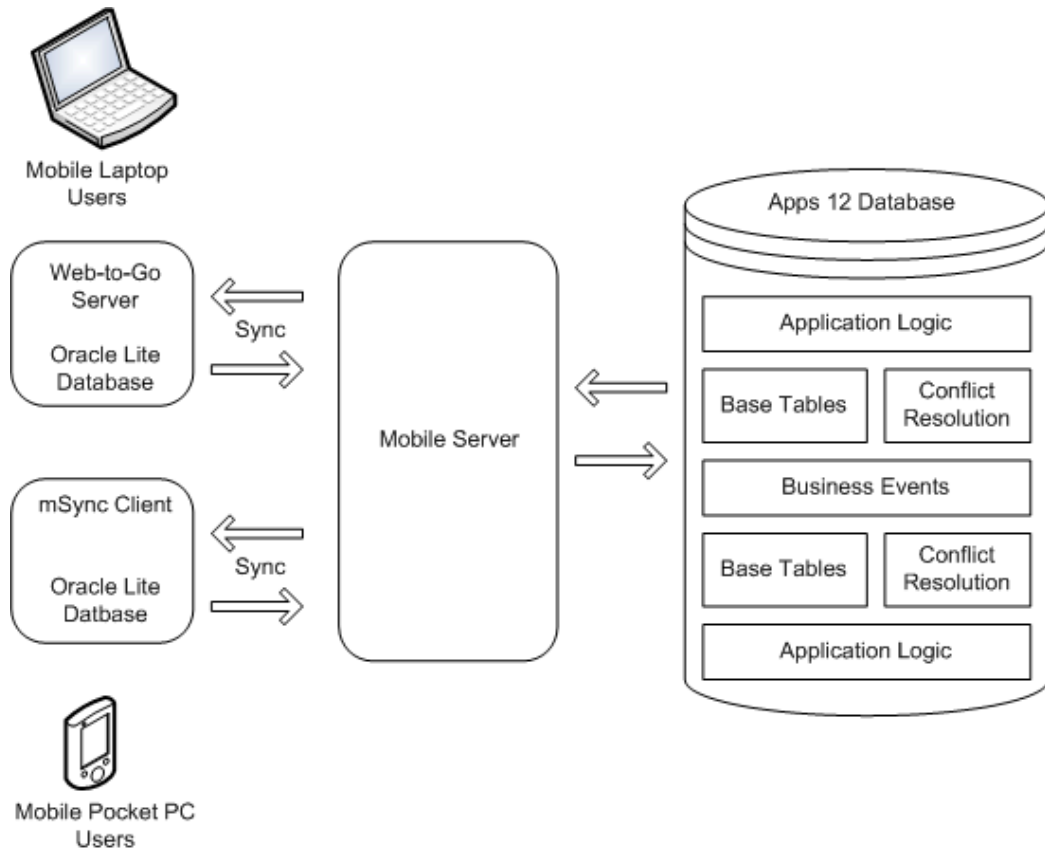
#### Oracle Mobile Application Foundation Technology

The following components form the Oracle Mobile Application Foundation:



- The mobile server repository in the Applications database.
- The Oracle10g Lite mobile server.
- For a laptop computer, a local Oracle10g Lite database and a local Web-to-Go server.
- For a Pocket PC, a local Oracle10g Lite database and mSync clients.

The following illustration summarizes the relationships between these components. In the illustration, the Oracle Applications 12 database (including application logic, business events, mobile administration schema, base tables, and conflict resolution) resides on the enterprise tier. The enterprise tier is connected to the mobile server on the middle tier. Synchronizations are used to connect the mobile server on the middle tier to the components on the client tier. On the client tier, laptop clients have a local Oracle10g Lite database and a local Web-to-Go server, while Pocket PC clients have a local Oracle10g Lite database and mSync clients on each Pocket PC.



### Oracle Mobile Application Foundation Deployment

In the sample deployment illustrated below, there are three middle-tier application Web servers. Server1-host is dedicated to offline (mobile) users, while Server2-host and Server3-host are dedicated to online users.

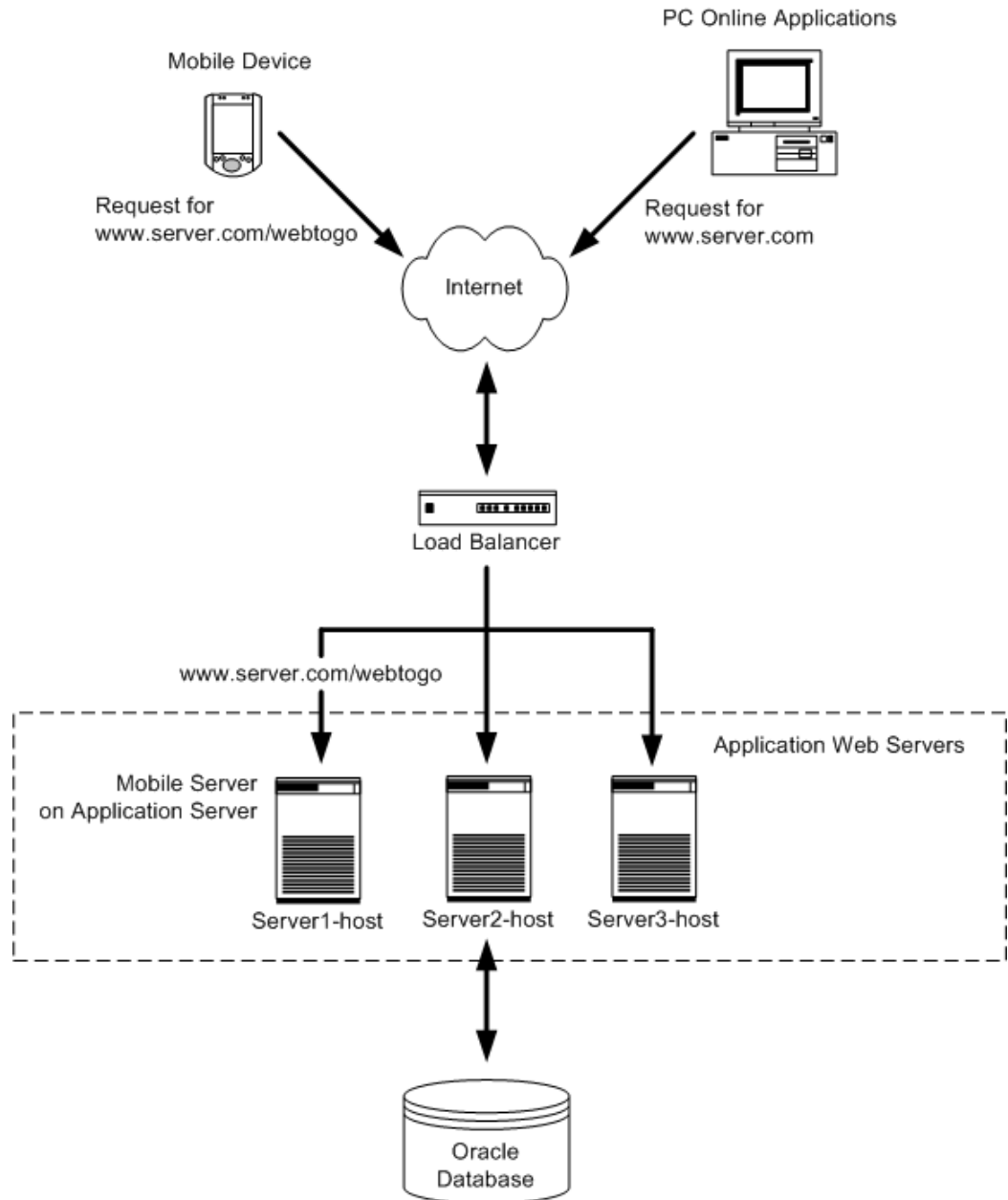
The process flow begins on the client tier, where each user (whether mobile or online) opens an HTTP connection to the middle-tier servers through a load balancer/proxy. However, the offline user connects using the following URL:

```
http://<ip-address>:<port number>/webtogo
```

URLs which specify "webtogo" are processed by the mobile server operating in standalone mode on Server1-host. URLs from the online PC applications (which do not contain webtogo) are processed by an Apache/Jserv module on either Server2-host or Server3-host.

Finally, the three Web servers on the middle tier connect to an Applications 12 database on the enterprise tier.

See Appendix D, "Mobile Synchronization Scalability and Performance", page D-1 for additional information.



**Note:** The Oracle10g Lite mobile server is configured to run in standalone mode, independent of the Oracle10g Application Server or Apache installation. In this mode, Oracle10g Lite uses its own HTTP listener.

#### Oracle Mobile Field Service Store and Forward Technology

Oracle Mobile Field Service Store and Forward contains two applications—Laptop and Pocket PC. Oracle Mobile Field Service Store and Forward - Laptop and Oracle Mobile

Field Service Store and Forward - Pocket PC are complete job-management applications that help field service technicians complete their daily responsibilities. These applications are part of the Oracle Field Service suite of applications. Oracle Field Service in turn is part of the Oracle E-Business Suite, which is an integrated set of applications designed to work together.

Oracle Mobile Field Service Store and Forward applications synchronize with the enterprise system to receive new data such as tasks and service requests. Synchronization is also important to send changes made in the Mobile Field Service Store and Forward applications such as newly created report items and updated task statuses.

The enterprise system is based on the Oracle 12 database. Information is exchanged between the mobile computer device and the enterprise system through the mobile server. The laptop computer uses the Web-to-Go server and the Oracle10g Lite database to send and receive information from the mobile server. The Pocket PC uses the mSync Client and the Oracle10g Lite database to send and receive information from the mobile server. Oracle Mobile Field Service Store and Forward technology is graphically represented in the figure found in Oracle Mobile Application Foundation Technology, page 1-6.

## Oracle Mobile Field Service Wireless

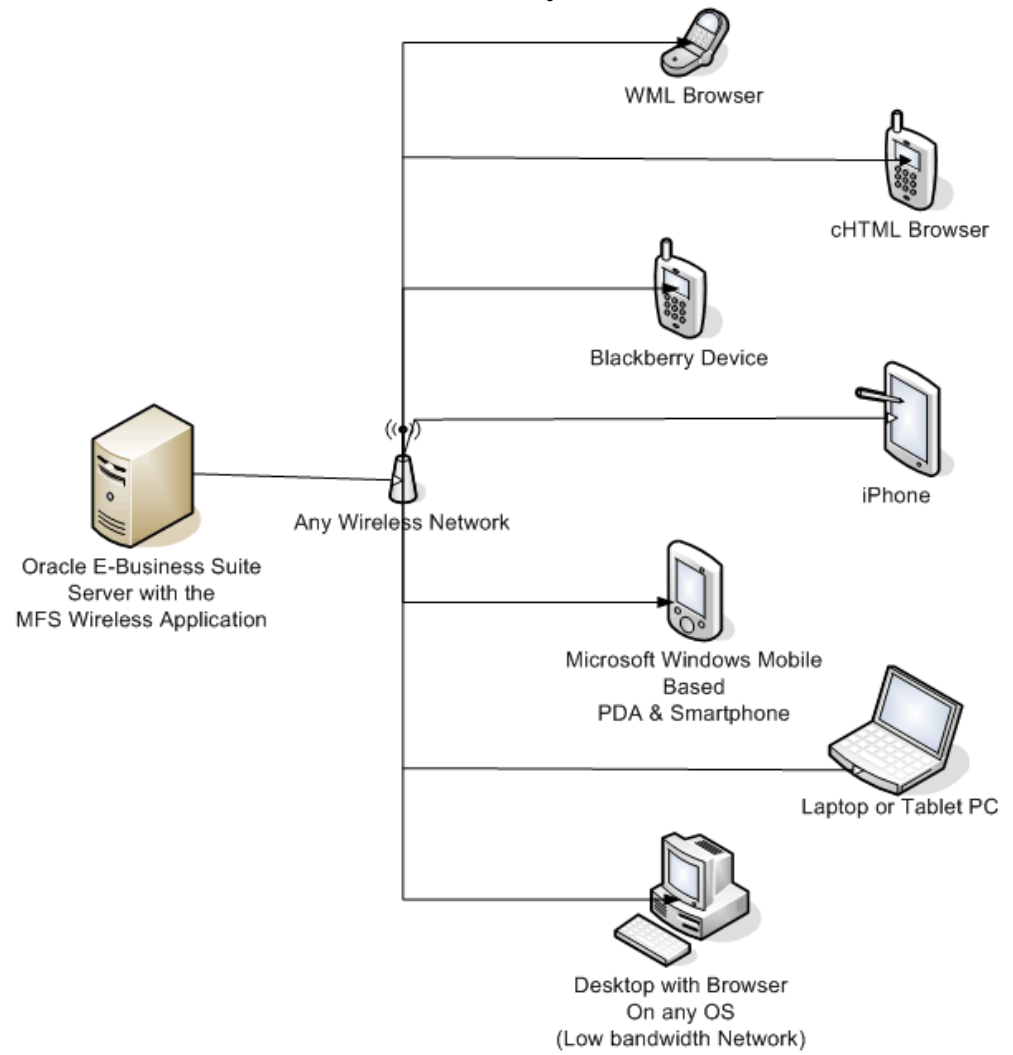
Oracle Mobile Field Service Wireless provides the most flexible, scalable, and reliable mobile infrastructure. Oracle Mobile Field Service Wireless provides browser based internet access on mobile devices independent from the underlying wireless infrastructure including networks, protocols, devices, markups, and gateways.

Refer to *Oracle E-Business Suite Installation Guide: Using Rapid Install* for details about installing Oracle Mobile Field Service applications.

Oracle Mobile Field Service supports the following technology:

- Small Form Factor: This includes WAP-enabled phones, some smaller RIM pagers, and iMode.

***MXML Transformation for WAP, iMode, and Tiny HTML***





# Part 2

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## **Implementing Oracle Mobile Field Service Store and Forward (Offline)**





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# Requirements and Dependencies

This chapter covers the following topics:

- Overview
- Minimum Software Requirements
- Minimum Hardware Requirements
- Minimum Pocket PC Communication Requirements
- Oracle Mobile Application Foundation Dependencies
- Oracle Mobile Field Service Store and Forward Installation Dependencies

## Overview

This chapter describes the minimum software and hardware requirements of the Oracle Mobile Field Service Store and Forward applications along with Oracle Mobile Application Foundation and Oracle Mobile Field Service dependencies.

## Minimum Software Requirements

This section describes the minimum software requirements necessary to run Oracle Mobile Field Service Store and Forward on various platforms.

### Enterprise Server

Refer to Installing Oracle Applications for the overall software requirements of the Oracle E-Business Suite.

### Laptop Client

- Operating system: Windows NT 4.0 (Service Pack 5), Windows 2000, Windows XP, or Windows ME

- Browser: Microsoft Internet Explorer, version 6.0 or later. This is the recommended browser for all HTML-based applications.

## Pocket PC Client

This section describes the minimum software requirements for the Pocket PC and the PC used during the installation.

### Desktop PC (Pocket PC Desktop)

- Operating system: Windows NT 4.0 (Service Pack 5), Windows 2000, Windows XP, or Windows ME
- ActiveSync 3.6 and above

### Pocket PC

- Operating system: Windows Mobile 5.0, Windows Mobile 6.0, Windows Mobile 6.1, or Windows Mobile 6.5

## Minimum Hardware Requirements

### Enterprise Server

Refer to Installing Oracle Applications for overall hardware requirements for the E-Business Suite.

Refer to Appendix E, "Customization Support", page E-1 for a description of the mobile server.

### Laptop Client

- Computer: IBM-compatible with Pentium III processor
- Disk space: 1 GB
- Monitor: 256 color display
- RAM: 128 MB
- Other requirements: serial port, Internet connection, mouse or pointer device

### Pocket PC Client

This section describes the minimum hardware requirements for the Pocket PC and the PC used during the installation.

### **Desktop PC**

- Computer: IBM-compatible with a Pentium I processor
- Disk space: 50 MB free space
- Monitor: 256 color display
- RAM: 32 MB
- Other requirements: serial port, Internet connection, and mouse or pointer device

### **Pocket PC**

- Pocket PC 2000, Pocket PC 2002, or Pocket PC 2003 supporting device
- Processors supported:
  - ARM
  - XScale
- 16 MB RAM

## **Minimum Pocket PC Communication Requirements**

The Pocket PC can synchronize over any network that supports HTTP. This includes the following type of communications:

- Wired Modem
- Wireless Modem

## **Oracle Mobile Application Foundation Dependencies**

Before setting up the Oracle Mobile Application Foundation, there are several other Oracle applications or components which you must first install and implement.

## **Oracle Mobile Field Service Store and Forward Installation Dependencies**

Before setting up Oracle Mobile Field Service Store and Forward, there are several other Oracle applications or components which you must first install and implement.



---

# Implementing Oracle Mobile Application Foundation

This chapter covers the following topics:

- Overview
- Installing and Configuring Oracle Database Lite 10g Release 3
- Setting Profile Options for Mobile Application Foundation
- Scheduling Concurrent Programs for Mobile Application Foundation

## Overview

This chapter describes the following procedures, which are required to successfully implement the Oracle Mobile Application Foundation:

- Installing and Configuring Oracle Database Lite 10g Release 3
- Setting Profile Options for Mobile Application Foundation
- Scheduling Concurrent Programs for Mobile Application Foundation

## Installing and Configuring Oracle Database Lite 10g Release 3

### Using Oracle E-Business Suite

You must install and configure Oracle10g Lite Release 3 (10.3.0.1) followed by additional patch sets mentioned below before implementing Oracle Mobile Application Foundation. Oracle10g Lite is not included in the Oracle E-Business Suite Rapid Install, so you must install Oracle10g Lite before proceeding to the Oracle Mobile Application Foundation implementation steps. For installation details, please see the appropriate platform-specific version of the *Oracle10g Lite Installation and Configuration*

*Guide Release 10.3.0.1.*

If you are upgrading from a previous version of Oracle E-Business Suite, then you must apply the correct patches for the Oracle Mobile Application Foundation before installing and configuring Oracle10g Lite.

The correct sequence is as follows:

1. Install Oracle10g Lite release 10.3.0.1, followed by installing Oracle10g Lite patches 10.3.0.2. Also configure the Olite10g. See *Installing and Configuring the Mobile Server*, page 3-2.
2. Implement the Oracle Mobile Application Foundation.

## Installing and Configuring the Mobile Server

This section provides steps to install and configure Oracle Database Lite 10g in a standalone mode. This procedure installs and configures the mobile server on the application server that processes connections from mobile users.

### Installing Oracle Lite 10G R3 Mobile Server:

The current supported Oracle Lite version is 10.3.0.2. It should be installed by first installing Oracle Lite 10gR3 (10.3.0.1) followed by Oracle Lite 10gR3 10.3.0.2 patchset.

**Important:** Oracle Lite server can be started only from the server it was installed on. For example, if it was installed on **host1**, it cannot be started from **host2** even if the \$ORACLE\_HOME in host1 is accessible from host2.

Use this procedure to install the Oracle Lite 10g R3 Mobile Server and its associated patchset:

1. Install the Oracle Lite 10g R3 server.

Oracle Lite 10g R3 can be downloaded from Oracle Technology Network (OTN):

Oracle® Database Lite 10g Release 3 (10.3.0.1.0) for your platform.

Follow the appropriate platform-specific steps in the *Installing the Mobile Server* section of the *Oracle Database Lite 10g Installation and Configuration Guide Release 3*.

2. Install the Oracle Lite 10gR3 10.3.0.2 Patchset.

Oracle Lite 10gR3 10.3.0.2 Patchset can be downloaded from OTN.

### Editing the Environment Variable:

Complete the following procedure to set all relevant environment variables to implement the Oracle Mobile Application Foundation:

1. Log in to the operating system as "applmgr" (the owner of the Applications file system) and set the environment. Execute the script APPSORA.env (UNIX) or envshell.cmd (Windows) to source the applications environment. For additional information, see Setting the Environment in the *AD Utilities Reference Guide*.
2. Copy, edit, and source the appropriate file.

**For Unix:**

1. Copy the file \$ASG\_TOP/admin/template/asgovars\_ux.env to \$ASG\_TOP/admin/template/asgovars.env or to any other location where scripts are usually stored.
2. Edit \$ASG\_TOP/admin/template/asgovars.env to set the values for the following variables:
  - DISPLAY = "0.0"
  - ORACLE\_HOME = [location of the Oracle Lite 10g installation]
  - JAVA15\_HOME = [location of the JDK 1.5 installation]
3. Source the following script: **\$ASG\_TOP/admin/template/asgovars.env**

**Important:** The script asgovars.env (UNIX) or asgovars.cmd (Windows) sets all environment variables for a mobile implementation.

**For Windows:**

1. Copy \$ASG\_TOP\admin\template\asgoavars\_nt.env to \$ASG\_TOP\admin\template\asgovars.cmd or to any other location where scripts are usually stored
2. Edit \$ASG\_TOP\admin\template\asgovars.cmd to set the values for the following variables:
  - Set ORACLE\_HOME = [location of the Oracle Lite 10g installation]
  - Set JAVA15\_HOME = [location of the JDK 1.5 installation]
3. Source the following command: **\$ASG\_TOP\admin\template\asgovars.cmd**

**Important:** The script asgoavars.env (UNIX) or asgovars.cmd (Windows) sets all environment variables for a mobile implementation.

## Performing Oracle Lite 10gR3 Post-Install Steps:

The following post-install steps are required to configure Oracle Lite mobile server for Mobile Field Service Store and Forward. The changes required in the relevant configuration files are mentioned below.

**Important:** In the steps mentioned below, ORACLE\_HOME environment variable refers to the location where Oracle Lite 10gR3 mobile server was installed.

### Configuring Server-Side webtogo.ora

Make the following changes to the file:

\$ORACLE\_HOME/mobile/server/bin/webtogo.ora

1. Edit the [FILESYSTEM] section, add the following line:

```
ALTERNATE_DIR=$CSM_TOP/html/download/CSML=/CSML
                &$CSM_TOP/html/download/CSW2=/CSW2
                &$CSM_TOP/html/download/MYSETUP=/MYSETUP
```

Here, \$CSM\_TOP, \$CSL\_TOP should be replaced with the actual full-path values for your instance. For example: \$CSM\_TOP ? /lafrz/srv\_top/app/sedvr12/csm/12.0.0

**Note:** To make sure the above changes haven't affected webtogo from properly running (improper settings can do that), start mobile server and access the logon page: <http://<host name>:port/webtogo>

The page should display a logon screen. If there is an error in the page, check for typos in above parameter.

2. Edit the [EXTERNAL\_AUTHENTICATION] section, add the following:

```
CLASS=oracle.apps.asg.setup.AsgAuthenticator
EXPIRATION=0
```

3. Edit the [CONSOLIDATOR] section, add the following line:

```
JOB_ENGINE_AUTO_START=NO
```

### Configuring Client-Side webtogo.ora

Make the following changes to the file:

\$ORACLE\_HOME/mobile\_oc4j/j2ee/mobileserver/applications/mobileserver/setup/common/webtogo/webtogo.ora

The changes in this file impact the behavior of webtogo on the laptop.

1. Edit the [WEBTOGO] section, replace the existing JAVA\_OPTION parameter with the following single line:



```
JAVA_OPTION=-Xms20m -Xmx50m -Djbo.SQLBuilder=OLite  
-Djbo.TypeMapEntries=Oracle
```

### Setting Up External Authentication

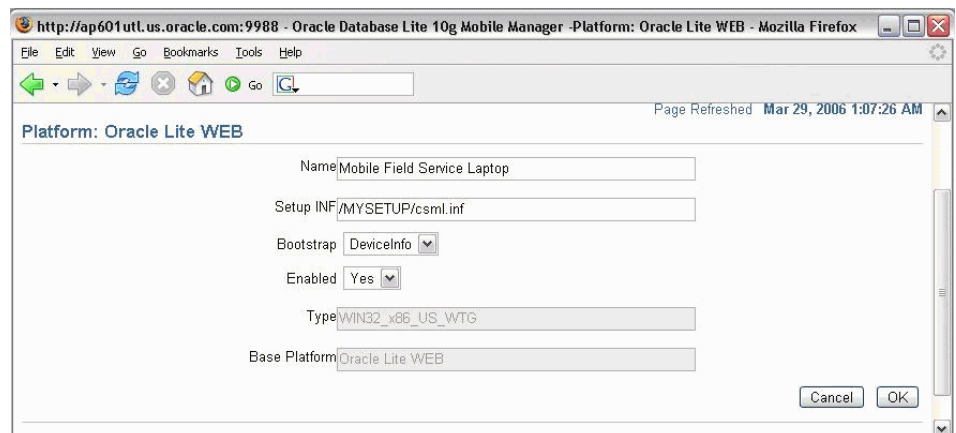
1. Open the file application.xml in \$ORACLE\_HOME/mobile\_oc4j/j2ee/mobileserver/config and add the following line to it:

```
<library path="$JAVA_TOP"/>
```

Where \$JAVA\_TOP should be replaced with the actual full-path value for your instance. Add this line as the last line of all the <library\_path=""/> lines.

### Configuring Platforms

1. Configure the Mobile Field Service Laptop Platform:
  1. Login to Oracle Lite Mobile Manager (<http://<host name>:<port>/webtogo>) using user and password: Administrator/<password>
  2. Select Mobile Devices tab and Platforms sub tab.
  3. Search for all platforms for Language *English*.
  4. Select the platform *Oracle Lite Web* and click Extend button.
  5. Enter Mobile Field Service Laptop in the Name field.
  6. Enter /MYSETUP/csml.inf in the Setup INF field.



7. Click OK.
8. Open a new browser and go to the URL:  
<http://<host>:<port>/webtogo/admin/console/setup/setuppage.uix>  
You should be able to view the Mobile Field Service Laptop link in the

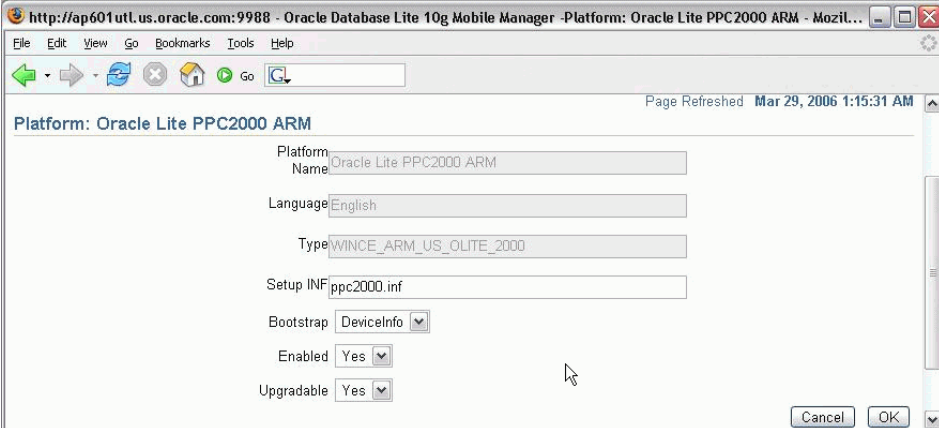
platforms listed.

2. Enable Oracle Lite PPC 2000 ARM Platform:

1. Login to Oracle Lite Mobile Manager (<http://<host name>:<port>/webtogo>) using user and password: Administrator/<password>
2. Select Mobile Devices tab and Platforms sub tab
3. Search for all platforms for Language *English*.
4. Click on link for Oracle Lite PPC 2000 ARM Platform.

**Note:** No changes to platforms are required for Pocket PC applications.

5. Select Yes in the Enabled field and click OK.



The screenshot shows a web browser window with the address bar displaying <http://ap601utl.us.oracle.com:9988>. The page title is "Oracle Database Lite 10g Mobile Manager - Platform: Oracle Lite PPC2000 ARM - Mozilla...". The page content shows the configuration for the "Platform: Oracle Lite PPC2000 ARM". The fields are as follows:

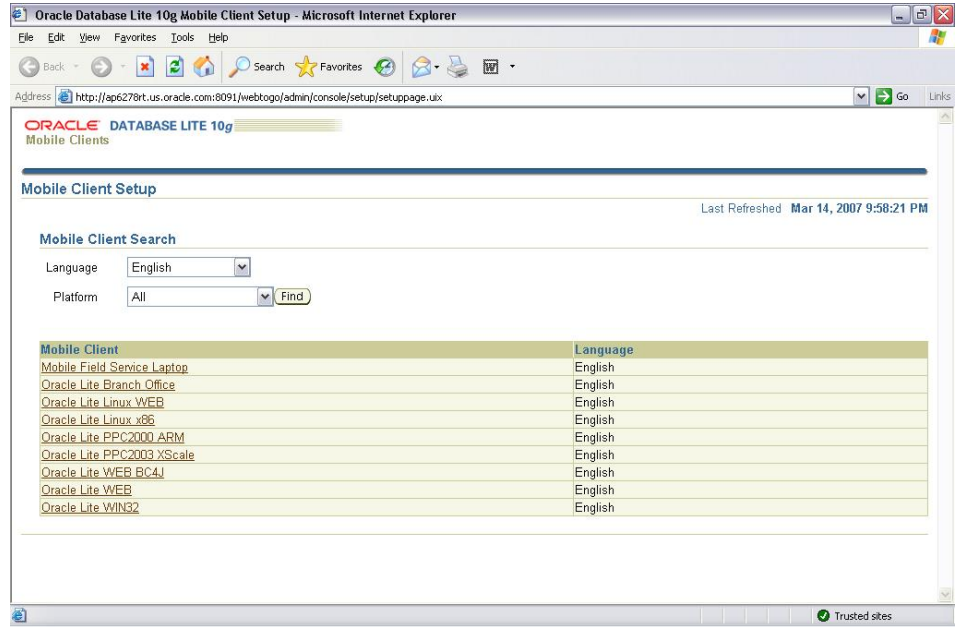
Field	Value
Platform Name	Oracle Lite PPC2000 ARM
Language	English
Type	WINCE_ARM_US_OLITE_2000
Setup INF	ppc2000.inf
Bootstrap	DeviceInfo
Enabled	Yes
Upgradable	Yes

At the bottom right of the form, there are "Cancel" and "OK" buttons. The page was refreshed on Mar 29, 2006 1:15:31 AM.

6. Open a new browser and go to the URL:

<http://<host>:<port>/webtogo/admin/console/setup/setuppage.uix>

You should be able to view the Oracle Lite PPC 2000 ARM link in the platforms listed.



## Publishing Mobile Applications

Perform the following steps to publish mobile applications:

1. Source the env file to set the Oracle Applications environment variables like \$APPL\_TOP and so on.
2. Use the following java command to run InstallationManager:

```
java -Xms32m -Xmx1536m
-DJTFCBCFILE=<DBC_FILE_NAME>-DAFLOG_ENABLED=TRUE
-DAFLOG_LEVEL=STATEMENT
oracle.apps.asg.setup.InstallationMgr<DB_HOST_NAME><DB_PORT_NUM><DB_
SID><APPS><APPS_PASSWORD>MOBILEADMIN<MOBILEADMIN_PASSWORD><PROD_TOP>
<INI_FILE><ZIP_FILE>
```

Where:

<PROD_TOP>	<INI_FILE>	<ZIP_FILE>
CSM_TOP	CSW.ini	html/download/CSW.zip
CSM_TOP	CSML.ini	html/download/CSML.zip
CSM_TOP	CSW_WM6_ARM.ini	html/download/CSW.zip

## Starting and Stopping the Mobile Server

The following steps are mentioned here for quick reference. The Install Guide for Oracle Lite 10gR3 has the complete instructions.

1. Starting the Mobile Server:
  1. Configure \$ASG\_TOP/admin/template/asgovars\_ux.env. Copy existing template to, say, \$ASG\_TOP/admin/template/asgovars.env.
  2. Edit the file \$ASG\_TOP/admin/template/asgovars.env as:
    - JAVA13\_HOME="/local/java/jdk1.4.2"
    - ORACLE\_HOME=<OLITE\_HOME>
    - DISPLAY = "0.0"
  3. Source the \$ASG\_TOP/admin/template/asgovars.env
  4. cd \$ORACLE\_HOME/mobile/server/bin/
  5. Execute runmobileserver script. (Please edit the runmobileserver script to add nohup to the command to start java. You can also add step (3) into this script).
2. Stopping the Mobile Server:
  1. Enter command: ps -wwef | grep oc4j.jar | grep <process\_owner\_name>
  2. Kill all processes returned by above command.

## Migrating Users:

After upgrading to Oracle E-Business Suite, the following steps are required to migrate users.

1. Run Manages Mobile User concurrent program.

This step is required for customers who are using the Oracle Mobile Field Service Store and Forward - Laptop application. Oracle Mobile Field Service Store and Forward - Pocket PC application users are not impacted by this step. Schedule this program with the Update Existing Users parameter set to 'Yes'. The program will update all existing Oracle Mobile Field Service Store and Forward - Laptop users and migrate them.
2. Synchronize Mobile Field Service Store and Forward application.

Users should synchronize with the mobile server. They should not make any changes in the Oracle Mobile Field Service Store and Forward application before synchronizing. Once synchronization is completed successfully, users are migrated

and can continue to use the Oracle Mobile Field Service Store and Forward application as usual.

## Installing the Oracle Database Lite 10g Mobile Server on Additional Servers

You can set up the mobile server on additional servers to support a greater number of mobile users and distribute the load.

For each additional server you want to set up, follow the steps in "Installing and Configuring the Mobile Server", page 3-2 . When prompted to install the repository, specify **NO**. The mobile server repository has already been installed as part of the primary server setup.

**Note:** In the webtogo.ora file, the parameter `TRACE_FILE_POOL_SIZE` is set to 5 by default. Under this default setting, only five users will synchronize when trace is enabled. Therefore, when trace is enabled, please set the parameter to a large number like 1000.

## Setting Profile Options for Mobile Application Foundation

Set the following profile options for ASG and JTM. The table indicates the profile name, a brief description, the level at which to be set, and the recommended value (the default value).

Profile	Description	Level to be Set	Recommended (Default) Value
ASG: Auto Upgrade All Users	<p>This profile option can be used to turn off the controlled upgrade option.</p> <p>When this profile is enabled as <i>Yes</i> the controlled upgrade option for the administrator is not available. All users will be upgraded the next time they synchronize after a mobile application patch is applied.</p>	Site, Application (Oracle Mobile Application Foundation), Responsibility, and User	Default is No. The controlled upgrade feature is turned on by default. This means whenever a new patch is applied, the administrator has to use the controlled upgrade administration screens to rollout the mobile upgrade to the users.

Profile	Description	Level to be Set	Recommended (Default) Value
ASG: Enable Mobile User	<p>You can gain access to the Mobile Field Service application, regardless of your associated responsibilities. When you are mapped to multiple responsibilities and all responsibilities have rights to access the Mobile Field Service application, you can access the application with the oldest responsibility (gained access first).</p> <p>The Responsibility's <b>Application</b> field value <i>must be populated with Field Service</i>.</p>	Site, Application, Responsibility, and User	<ul style="list-style-type: none"> <li>• <i>Yes</i>: Set this profile option to Yes at the responsibility level for the responsibility needing access to the Mobile Field Service application. All users that are associated with that responsibility are granted access rights to the Mobile Field Service application.</li> <li>• <i>No</i>: If this profile option is set to No, all users that are associated with that responsibility cannot access the Mobile Field Service application.</li> </ul>
JTM: Application Conflict Rule	This profile option is used to determine whether updates on the client will go through or are rejected when a record is changed on the CRM instance after the particular record was sent to the client.	Site, Application, Responsibility, and User	Default is Server Wins.

Profile	Description	Level to be Set	Recommended (Default) Value
JTM: Concurrent Program History Level	Keeps track of how many times the JTM Master concurrent program has run.	Site, Application, Responsibility, and User	Numeric value.
JTM: Mobile Applications Enabled	This setting dictates if the mobile applications will be used.	Site, Application, and Responsibility	Y if you want to enable mobile applications. N will disable updates to mobile devices.
JTM: Time Picker Format (HH12)	Determines the display in the time drop down for laptop.	Site, Application, Responsibility, and User	Default is 24.

## Scheduling Concurrent Programs for Mobile Application Foundation

Schedule the concurrent programs listed in the following table for the Oracle Mobile Application Foundation. The Oracle Mobile Field Service Store and Forward applications use these concurrent programs for processing information.

For instructions on how to set up concurrent programs, refer to the *Oracle E-Business Suite Setup Guide*.

Name	Application	Description	Default (Recommended) Schedule
PROCESSES UPLOADED MOBILE DATA	Laptop Pocket PC	Processes uploaded mobile data and applies it to the enterprise system.	Every one minute.
MANAGES MOBILE USERS	Laptop Pocket PC	Creates or removes mobile users automatically based on assigned mobile responsibilities.	Every one hour or schedule as required.  This program can be run manually at any time.

Name	Application	Description	Default (Recommended) Schedule
JTM MASTER CONCURRENT PROGRAM	Laptop  Pocket PC	<p>The JTM master concurrent program, which runs all concurrent jobs registered by mobile applications.</p> <p>The JTM Master concurrent program accepts the lookup, transaction, inventory, and customer categories as parameters.</p>	<p>TRANSACTION: every five minutes.</p> <p>LOOKUP: once a day.</p> <p>INVENTORY: once a day.</p> <p>CUSTOMER: once a day.</p> <p>PURGE: as often as required (Default is set to once per month) See "Setting Profile Options for Mobile Application Foundation", page 3-9 .</p>



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# Implementing Oracle Mobile Field Service Store and Forward

This chapter covers the following topics:

- Overview
- Installing the Mobile Application Patches
- Customizing Mobile Field Service Store and Forward - Pocket PC Using Custom Components (Custom Hooks)
- Confirming Required Enterprise Setups
- Setting Profile Options for Oracle Mobile Field Service Store and Forward Applications
- Creating and Managing Mobile Users
- Assigning Customers to Mobile Field Service Technicians
- Testing the Mobile Field Service Store and Forward Applications Implementation

## Overview

This chapter describes how to implement Oracle Mobile Field Service Store and Forward. The following are the basic steps needed to do this:

1. Verify dependencies.  
See "Oracle Mobile Field Service Installation Dependencies".
2. Implement the Mobile Application Foundation.  
See Chapter 3, "Implementing Oracle Mobile Application Foundation", page 3-1.
3. Publish the mobile application.  
See "Installing the Mobile Application Patches", page 4-2 .

4. (Optional) Customize the Oracle Mobile Field Service Store and Forward - Pocket PC application using custom components (Custom Hooks).  
See Customizing Mobile Field Service Store and Forward - Pocket PC Using Custom Components (Custom Hooks), page 4-2.
5. Confirm the required enterprise setups.  
See "Confirming Required Enterprise Setups", page 4-4 .
6. Set profile options for Oracle Mobile Field Service Store and Forward Applications.  
See "Setting Profile Options for Oracle Mobile Field Service Store and Forward Applications", page 4-7.
7. Create and manage mobile users.  
See "Creating and Managing Mobile Users", page 4-26 and Assigning Customers to Mobile Field Service Technicians, page 4-33.
8. Test the mobile application implementation.  
See "Testing the Mobile Field Service Store and Forward Applications Implementation", page 4-39.

## Installing the Mobile Application Patches

Depending on the Oracle Mobile Field Service Store and Forward application that you are implementing, install the required patches using the adpatch utility.

Complete the following steps to install the required patches for the desired Oracle Mobile Field Service Store and Forward application:

1. Shut down the Oracle10g Lite mobile server.
2. Install the required patches using the AD utility.
3. Start the Oracle10g Lite mobile server.
4. After applying the patch, ensure that the Mobile Field Service Store and Forward applications concurrent programs are running.  
See Scheduling Concurrent Programs for Mobile Application Foundation., page 3-11

## Customizing Mobile Field Service Store and Forward - Pocket PC Using Custom Components (Custom Hooks)

Optionally, using the Mobile Field Service call outs for the Mobile Field Service Store

and Forward - Pocket PC (custom hooks) the functionality and user interfaces for the application can be enhanced and customized using a custom component.

This functionality includes a set of predefined interfaces provided by Oracle. Customers can develop a COM Component by implementing these interfaces. The COM Component will have implementation of all the methods defined in the interface, which the COM Component is implementing. These methods are also referred to as "Custom Hooks".

Custom COM Components need to be installed and registered on the Windows Mobile device where the Mobile Field Service Store and Forward - Pocket PC application is running. The Mobile Field Service Store and Forward - Pocket PC application at run time will detect the custom COM component and invoke the hooks with the required parameters.

Implementation of these hooks can use these parameters in various ways to achieve enhanced functionality and a personalized user interface:

- Reposition controls on the screen.
- Show/Hide controls on the screen.
- Get/Set values to/from the controls on the screen.
- Enforce custom validation.
- Set cursor/focus to specific control on the screen.
- Setting default value to a drop down list.
- Add/Remove values to/from a drop down list.
- Invoke custom screens.
- Invoke specific Mobile Field Service Store and Forward - Pocket PC application screens.
- Initialize specific variables to be used in the screen to default values.

Custom hooks will be invoked from the Mobile Field Service Store and Forward - Pocket PC after initialization (post-UI-initialize) and before exiting (pre-save and pre-exit) for the following screens:

- Task Details
- Debrief
- Flex Fields
- Create Debrief Labor Line

- Update Debrief Labor Line
- Create Debrief Part Use
- Update Debrief Part Use
- Create Debrief Multiple Part Use
- Create Debrief Part Return
- Update Debrief Part Return
- Create Debrief Expense
- Update Debrief Expense

## Confirming Required Enterprise Setups

This section describes how to set up the enterprise-side system so certain mobile features work properly on the mobile computer device.

### Setting Up Service Requests:

The following table lists the service request setups that can be used to create, view, and update tasks in an Oracle Mobile Field Service Store and Forward application.

Component	Required or Optional
Service Request Statuses	Required
Service Request Severities	Required
Service Request Types	Required
Service Request Urgencies	Optional
Problem Codes	Optional
Resolution Codes	Optional
Service Request Templates	Optional

For details, refer to the *Oracle TeleService Implementation Guide*.

### Linking Service Request Statuses to Service Request Types

Service request statuses have to be linked to service request types. Use the following procedure:

1. Switch to the Field Service Manager responsibility.
2. Navigate to **Field Service Setup > Service Requests > Request Types**.
3. Click to select a service request type from the table.
4. Click **Related Statuses**.
5. In the window, link Service Request Statuses to the Service Request Type.
6. Click **Save**.
7. To finish, close the window.

For more information, refer to the *Oracle TeleService Implementation Guide*.

### Setting Up Tasks:

The following table lists the task setups that can be used to create, view, and update tasks in an Oracle Mobile Field Service Store and Forward application.

Component	Required or Optional
Task Statuses	Required
Task Status Transitions	Required
Task Types	Required
Task Priorities	Required
Task Templates	Optional

Set up the required components listed above. For details, refer to the *Oracle Field Service Implementation Guide* for these Field Service-specific setups.

- The task status that is selected during service-task-creation is the one from the Field Service profiles: CSF: Default In Planning Status. You cannot change this.
- When a service task is created, there will be no task assignment

automatically created.

### **Setting Up Oracle Field Service Debrief:**

Oracle Field Service Debrief is part of the Oracle Field Service application and is used to report all material, expense, and labor transactions. From the Oracle Field Service Debrief page, you can update inventory, install base, and charges.

When material, expense, and labor transactions are recorded in one of the Oracle Mobile Field Service Store and Forward applications, all transactions are shown and updated to inventory, install base, and charges from the Oracle Field Service Debrief.

Ensure that Oracle Field Service Debrief is fully implemented and set up as described in the *Oracle Field Service Implementation Guide*.

### **Setting Up Install Base:**

This procedure is only required if you are using Install Base. If so, Install Base should be set up to support Install Base updates when doing material transactions in an Oracle Mobile Field Service Store and Forward application. This should be set up after performing the setup steps necessary for debrief reporting.

An Oracle Mobile Field Service Store and Forward application supports two scenarios that affect Install Base:

- Removing a part
- Installing a new part

The following procedures are required to set up Install Base:

- Setting up system items for Install Base transactions
- Setting up Install Base profile options
- Removing and installing parts in Oracle Mobile Field Service Store and Forward - Laptop

See Appendix A, "Item Handling for the Oracle Mobile Field Service Store and Forward Applications", page A-xii for complete details.

**Note:** Changing the install base replication profiles during operation becomes effective when the value is changed. Information will not be changed with retroactive effect based on the profiles.

### **Setting Up Counters:**

The set up of counters is only required if you are using Install Base. The following are

the setups for counters that must be performed to report counter readings in an Oracle Mobile Field Service Store and Forward application:

- Counters
- Counter groups
- Counter properties
- Miscellaneous reading types

Refer to the *Oracle TeleService Implementation Guide*.

**Note:** Only counters of type REGULAR are supported by the Oracle Mobile Field Service Store and Forward applications. Both counter values and counter property values can be entered in an Oracle Mobile Field Service Store and Forward application.

### **Setting Up Messaging:**

Confirm that Messaging has been successfully installed and implemented.

## **Setting Profile Options for Oracle Mobile Field Service Store and Forward Applications**

You can set profiles within the Windows or Self Service applications (Functional administrator: Core Services > Profiles).

The following sections describe Oracle Mobile Field Service Store and Forward features that are controlled through profile settings.

### **Setting Up Profile Options for Oracle Mobile Field Service Store and Forward - Laptop:**

For Oracle Mobile Field Service Store and Forward - Laptop, set the profile options listed in the following table. The table indicates the profile option name, a brief description, and available options.

Profile	Description	Options
CSF: Restrict Service Request Creation to Scheduled Sites	Validates customer to prevent technicians from creating a service request if that customer does not have a task with working status.	<p>If the profile value is set to Yes, then the application checks for open tasks for that customer site. If the profile value is set to No, then technicians are able to copy any service request.</p> <p>Default: No</p>
CSF: Capture travel information	This profile determines if capturing travel information is enabled, within the Debrief page.	<ul style="list-style-type: none"> <li>• <i>None</i>: Default</li> <li>• <i>Time</i></li> <li>• <i>Distance</i></li> </ul>
CSF: Default Commit task status	This profile option defines the default status when the task is committed.	All defined task statuses. <i>Assigned</i> is the default.
CSF: Default Debrief Business Process	The business process selected with this profile option is the default business process within the Debrief page.	All defined business processes.
CSF: Default Debrief Service Activity Code	The service activity code selected with this profile option is the default service activity code within the Debrief page.	All defined service activity codes.
CSF: Default Distance Unit	The default unit of measure for distance.	<ul style="list-style-type: none"> <li>• <i>Miles</i>: Default</li> <li>• <i>Kilometers</i></li> </ul>
CSF: Default Return Reason (For Material Debrief)	The return reason selected with this profile option is the default return reason during debrief.	All defined return reasons.
CSF: Default Task Type for Personal Tasks	Default task type for personal tasks.	All defined task types. The <i>Private</i> attribute is set to <i>Yes</i> .



Profile	Description	Options
CSF: Default Task Status for Personal Tasks	Default task status for personal tasks.	<p>All defined task statuses.</p> <p>The <i>Assignment</i> and <i>Assigned</i> attributes are set to <b>Yes</b>.</p> <p>The <i>Rejected</i>, <i>On hold</i>, <i>Cancelled</i>, and <i>Schedulable</i> attributes are set to <b>No</b>.</p>
CSF: The unit of measure for hours	You must define this setting to correspond with the value in the MTL_UNITS_OF_MEASURE table.	-
CSF: The unit of measure for minutes	You must define this setting to correspond with the value in the MTL_UNITS_OF_MEASURE table.	-
CSFW: Planned Task Window	Planned task window in days.	-
CSM: Data Routed to Group Owner	<p>Used during the synchronization of data for the members of a multiple user laptop group.</p> <p>When set to Yes, the data is routed to the owner of the group that the user is a part of. When set to No, the data is routed to the individual user.</p>	<ul style="list-style-type: none"> <li>• <i>Yes</i>: Default. Data will be sent to the group owners out queue.</li> <li>• <i>No</i>: Data will be sent to the individual users out queue.</li> </ul>

Profile	Description	Options
CSM: Labor Line Total Check	<p>Reasonability check to ensure total time at site does not exceed total labor time plus delta.</p> <p>For debrief reporting in Oracle Mobile Field Service Store and Forward - Laptop, the difference between max (last labor end date/time) and min (earliest labor start date/time) must not be more than one hour greater than the sum of labor line durations.</p> <p>Max - min &lt;= sum of labor lines + T</p> <p>T is the time in hours. The profile setting provides the value for this.</p>	<ul style="list-style-type: none"> <li>• 0: Default. The check is not valid.</li> <li>• 1: T = 1</li> <li>• 2: T = 2</li> </ul>
CSM: Purge Interval (Days)	<p>Defines the number of days before purging data from Oracle Mobile Field Service Store and Forward - Laptop. This is executed only for closed tasks. For example, if this profile is set to 5, a closed task after five days is purged from the laptop. The associated service request is also purged if there are no other open tasks for that service request.</p>	<p>A value representing the number of days before data is removed from Oracle Mobile Field Service Store and Forward - Laptop. If you specify zero days, the data is never removed.</p>

Profile	Description	Options
CSM: Time Reasonability Check Apply	<p>Reasonability checks to ensure that valid inputs are entered during debrief and task creation on the mobile computer device.</p> <p>The following reasonability checks must be added to Oracle Mobile Field Service Store and Forward - Laptop, to ensure quality of data entered by the technician:</p> <ul style="list-style-type: none"> <li>Values entered for Planned Start date/time must be greater than Incident date/time on service request header for create/update of task.</li> <li>Values entered for Planned End date/time must be greater than Incident date/time on service request header for create/update of task.</li> <li>Values entered for Service Date and Labor Start date/time on Debrief may not be less than Incident date/time on service request header.</li> <li>Values entered for Service Date on Debrief may not be less than Incident date/time on service request header</li> <li>Values entered for Labor Start date/time and Service Date on Debrief may not be future-based on current date/time on</li> </ul>	<ul style="list-style-type: none"> <li><i>Yes</i>: default</li> <li><i>No</i></li> </ul>

Profile	Description	Options
	the device.	
	<ul style="list-style-type: none"> <li>Values entered for Labor End date/time and Service Date on Debrief line item may not be future-based on current date/time on the device.</li> <li>Values entered for Labor End date/time and Service Date on Debrief may not be less than Incident date/time on service request header.</li> </ul>	

#### **Setting Up Profile Options for Oracle Mobile Field Service Store and Forward - Pocket PC:**

Set the profile options listed in the following table. The table lists the profile option name, a brief description, and available options.

Profile	Description	Options
CSF: Default Labor Debrief Date/Time	This profile is used in the Labor Debrief screen to define labor debrief start and end times based on status updates to task assignments.	<ul style="list-style-type: none"> <li> <i>Status Change</i>: Start time and end time are defaulted from the task assignment audit table. In cases where technicians select a working status more than once, the last set of transition times are defaulted. For example: <ul style="list-style-type: none"> <li>From any status to a status with a Working flag enabled defines labor start.</li> <li>From a Working status to any other status without the Working flag defines labor end.</li> </ul> </li> <li><i>Schedule Date</i>: Start time and end time are defaulted from a task's scheduled date. This is the default.</li> <li><i>System Date</i>: Start time and end time are defaulted from the system date.</li> <li><i>None</i>: Nothing is defaulted.</li> </ul>
CSF: Default Service Activity Code for Labor	The service activity code selected with this profile is the default service activity code for labor within the Labor Debrief screen.	<ul style="list-style-type: none"> <li>All defined service activity codes.</li> <li><i>Null</i>: default</li> </ul>

Profile	Description	Options
CSF: Default Service Activity Code for Travel	The service activity code selected with this profile is the default service activity code for travel within the Labor Debrief screen.	<ul style="list-style-type: none"> <li>All defined service activity codes.</li> <li><i>Null</i>: default</li> </ul>
CSF: Mandatory Labor Debrief (Y/N)	<p>If this profile is set to Yes, technicians cannot complete or close a task until they create a labor line.</p> <p><b>Note:</b> Sometimes technicians have only travel debrief lines and no labor debrief lines. In such cases, profile CSF: Mandatory Labor Debrief honors travel debrief lines.</p>	<ul style="list-style-type: none"> <li><i>Yes</i></li> <li><i>No</i>: default</li> </ul>
CSF: Mandatory Resolution Code (Y/N)	<p>If the profile is set to Yes and the resolution code is not entered, technicians cannot change the task assignment status to statuses with complete or close flags enabled until they enter the resolution code.</p> <p>The Debrief Summary screen checks whether a resolution code exists for the service request when technicians change the assignment status to Completed or Closed.</p>	<ul style="list-style-type: none"> <li><i>Yes</i></li> <li><i>No</i>: default</li> </ul>
CSM: Allow Free Form Installed Base Identifier	If set to Yes, this profile allows data that is uploaded from a client to be checked for free form data. If such data is present, then it is processed.	<ul style="list-style-type: none"> <li><i>Yes</i></li> <li><i>No</i></li> </ul>

Profile	Description	Options
CSM: Email Account Name for Message Interception	This profile operates in the context of one of the ways that a server can notify a client to initiate background synchronization. The profile holds the name of the e-mail account configured in the Pocket PC for which incoming e-mails are intercepted.	<ul style="list-style-type: none"> <li>• <i>SMS:</i> The application intercepts SMS messages.</li> <li>• <i>Null:</i> The application executes DM commands to initiate automatic synchronization.</li> </ul>
CSM: Enable Create Task	Enables or disables the create task functionality.	<ul style="list-style-type: none"> <li>• <i>Yes:</i> default</li> <li>• <i>No</i></li> </ul>
CSM: Enable Create SR	Enables or disables the create service request functionality.	<ul style="list-style-type: none"> <li>• <i>Yes:</i> default</li> <li>• <i>No</i></li> </ul>
CSM: Enable Online Access	Provides Pocket PC technicians with limited access to the Mobile Field Service Wireless application.	<ul style="list-style-type: none"> <li>• <i>Y</i></li> <li>• <i>N:</i> default</li> </ul>
CSM: Enable Update Task Assignment Status	Enables or disables the functionality to update the task assignment status.	<ul style="list-style-type: none"> <li>• <i>Yes:</i> default</li> <li>• <i>No</i></li> </ul>
CSM: Enable View Customer Product	Enables or disables the functionality to view a customer product.	<ul style="list-style-type: none"> <li>• <i>Yes:</i> default</li> <li>• <i>No</i></li> </ul>
CSM: Mobile Field Service Wireless URL	Defines the URL for the Oracle Mobile Field Service Wireless application. This URL is used to access the application from the S&F Pocket PC.	A URL. This value is null by default.

Profile	Description	Options
CSM: Mobile Query Schema Name	Defines the name of the custom schema that holds objects for the SQL type of query. This profile can be set at either site or responsibility level.	A name, which must be for a non-EBS, custom schema. It is null by default.
CSM: Restrict Number of Items to Search for in LOV	Limits the number of search results that are displayed in the search pages, if there are too many items. You can limit the search by using a filter to reduce the number of items retrieved in the search.	Can be <b>1</b> to any number. The default is <b>100</b> .

### Setting Up Profile Options Common to Oracle Mobile Field Service Store and Forward - Laptop and Pocket PC:

Set the profile options listed in the following table. The table lists the profile option name, a brief description, and its available options.

Profile	Description	Options
CSM: Allow Counters Download for Parties	Used during the customer download process to control the amount of data that is downloaded.  This profile value controls whether counters should be downloaded.	<ul style="list-style-type: none"> <li>• Yes: Default: All counters will be downloaded.</li> <li>• No: No counters will be downloaded.</li> </ul> <p>If the profile is set to No, counters tied to item instances will still be downloaded as part of downloading task assignments.</p>



Profile	Description	Options
CSM: Allow Service Contract Download for Parties	<p>Used during the customer download process to control the amount of data that is downloaded.</p> <p>This profile value controls whether contracts should be downloaded for a customer during the customer download process.</p>	<ul style="list-style-type: none"> <li>• Yes: Default: All associated contracts are downloaded.</li> <li>• No: None of the contracts are downloaded.</li> </ul> <p>If set to No, the contracts tied to individual service requests will still be downloaded.</p>
CSM: Allow Service History Download for Parties	<p>Used during the customer download process to control the amount of data that is downloaded.</p> <p>This profile value controls whether service request history records should be downloaded for the Install Base items of customers selected as part of the customer download.</p>	<ul style="list-style-type: none"> <li>• Yes: Default: All associated service request history records subject to CSM: Number of Previously Closed Service Requests profile value are downloaded.</li> <li>• No: No service request history records are downloaded.</li> </ul> <p>If set to No, the service request history tied to Install Base instances will continue to be downloaded.</p>

Profile	Description	Options
CSM: Automatic Synchronization Interval for Data Download	Use to set the synchronization interval to download data to a mobile device.	<p>The profile can be 0 or another value. Device Manager initiates synchronization based on the value if this profile is set to a positive integer.</p> <p>Default: 60.</p> <p><b>Caution:</b> The mobile device also checks the platform level setup such as "time interval" or "specific time" on any day and initiates automatic synchronization based on this platform level setup. Do not set this up in order to prevent Device Manager from initiating automatic synchronization based on this setup.</p>

Profile	Description	Options
CSM: Automatic Synchronization Interval for Data Upload	Use to set the synchronization interval to upload data from a mobile device.	<p>The profile can be 0 or another value.</p> <p>Device Manager initiates synchronization based on the value if this profile is set to a positive integer. Device Manager never initiates automatic synchronization if this profile is set to a negative integer.</p> <p>Default: 60.</p> <p><b>Caution:</b> The mobile device also checks the platform level setup such as "time interval" or "specific time" on any day and initiates automatic synchronization based on this platform level setup. Do not set this up in order to prevent Device Manager from initiating automatic synchronization based on this setup.</p>
CSM: Email IMAP Host Name	Specifies the host name of the server used for retrieving responses to mobile queries based on e-mail.	Default: Null
CSM: Email IMAP User Name	Specifies the user name for the server used for retrieving responses to mobile queries based on e-mail.	Default: Null
CSM: Email IMAP User Password	Specifies the user password for the server used for retrieving responses to mobile queries based on e-mail.	Default: Null

Profile	Description	Options
CSM: Email SMTP Host Name	Specifies the host name of the server used for sending mobile queries based on e-mail.	Default: Null
CSM: Email SSL Enabled	Specifies whether to SSL-enable the connection to the mail server for mobile queries based on e-mail.	Default: <i>No</i>
CSM: Enable Auto sync Status Notification	Provides an administrator with the ability to notify a technician whenever background synchronization occurs.	A technician sees a popup message if the profile value is <i>Yes</i> . If you decide not to notify technicians, then set the profile value to <i>No</i> . Default: <i>Yes</i>
CSM: First Alert Timeout Interval	Sets the number of minutes to wait before the first remainder e-mail is sent.	The profile can be to 0 or another value. Default: 60
CSM: Second Alert Timeout Interval	Sets the number of minutes to wait (from the time of the first remainder) before the second remainder e-mail is sent.	This profile can be 0 or another value. Default: 120
CSM: Third Alert Timeout Interval	Sets the number of minutes to wait before the third and last remainder e-mail is sent.	The profile value can be 0 or any other value. Default: 180
CSM: Inbox for Email Interface	Specifies the address to which technicians send mobile queries by e-mail.	Default: Null
CSM: Item Category Filter	Use to filter item categories.	-
CSM: Item Category Set Filter	Use to filter item category sets.	-

Profile	Description	Options
CSM: Maximum Attachment Size	A technician can upload service request attachments such as, photos, drawings, and diagnostic data, from their pocket PC to the enterprise. You can view the uploaded data on the enterprise, after synchronization completes successfully. The Attachment sizes are limited to the value entered in this profile.	The value of this profile represents the size in Mega Bytes (MB) of the attachment for each service request/task for each Sync. If this profile option is not populated, the value is considered zero and you cannot upload or download attachments.
CSM: Notification of Synchronization	Provides administrators and technicians with the ability to view errors during synchronization.	Administrators can set this profile at responsibility level to any valid field service resource.  Default: Null
CSM: Notifications Scope	Defines to whom messages can be sent.	<ul style="list-style-type: none"> <li>• <i>Resource Group</i>: Default</li> <li>• <i>All Users</i></li> </ul>
CSM: Notify on Deferred Records	Provides the ability to notify administrators and technicians whenever an error occurs during the data upload process.	Set this profile option at responsibility level. Administrator can set this profile at responsibility level to any valid field service resource.  Default: Null
CSM: Notify on Email Mobile Query Exceptions	E-mail will be sent to the e-mail address of the comma-separated list of user names listed in this profile. The e-mail will be sent as HTML or TEXT or not sent at all, based on the preference set by each user.	Set this profile at the responsibility level.  Default: Null
CSM: Number of IB Items at Location	The number of install base items to be downloaded for a given customer location.	Can be 0 to any number. The default is 0.

Profile	Description	Options
CSM: Number of Previously Closed Service Requests	Defines the number of previously closed service requests to be replicated. It is recommended that you send down three to five service requests. Do not set very high values because of laptop computer limitations on data set size.	Use <b>0</b> to disable the history functionality. The default is <b>0</b> .
CSM: Synchronous Service History Collection	Sets how previously closed service requests are collected (performance is a factor).	<ul style="list-style-type: none"> <li>• <i>Yes</i>: synchronous history collection.</li> <li>• <i>No</i>: asynchronous history collection. This is the default.</li> </ul>
JTM: Application Conflict Rule	Enables Oracle Mobile Field Service Store and Forward - Laptop to handle updates to the database from the laptop and Pocket PC.	<ul style="list-style-type: none"> <li>• <i>Client Wins</i>: Changes made by the mobile user are always applied to the enterprise database. No timestamp checking is executed.</li> <li>• <i>Server wins</i>: Changes made by the mobile user are applied to the enterprise database if the record has not been modified since the mobile user last synchronized. If the record was modified in the meanwhile, the mobile user's change is not applied and becomes a deferred transaction.</li> </ul>
JTM: Mobile Applications Enabled	Set the profile at the Oracle Mobile Field Service responsibility level to Y. Only after setting the profile value can you enable hooks or business events.	<ul style="list-style-type: none"> <li>• Y: Yes</li> <li>• N: No</li> </ul>

Profile	Description	Options
CSF: Allow Overlapping Debrief Lines	Setting the profile to <b>No</b> does not allow overlapping labor lines within a task. Therefore, a field service technician cannot have two labor lines for the same time period. The second labor line starts only after the first one has finished.	<ul style="list-style-type: none"> <li>• <b>Yes:</b> The technician can enter overlapping actual start and end times for various assignments for a given day.</li> <li>• <b>No:</b> Default. The technician cannot enter the overlapping times.</li> </ul>
CSF: Business Process	Enables you to specify the order of task completion for the field service technician.	<ul style="list-style-type: none"> <li>• <b>1:</b> The field service technician is to work on one task at a time in a fixed order (ordered by scheduled start date).</li> <li>• <b>2:</b> The field service technician can only work on one task, but in any order. Only the task with a <b>Working</b> status can be updated. If no task is at a <b>Working</b> status, the status of all open tasks can be updated. The field service technician can select a task by setting its status to <b>Working</b>.</li> <li>• <b>3:</b> The field service technician can work on any number of tasks in any order. The working flag is ignored, in this scenario.</li> </ul>
CSF: Default Labor Debrief Date/Time (Scheduled Date, System Date, None, Assignment Status)		

Profile	Description	Options
CSF: Update Planned/Scheduled Times Allowed	Specifies whether field service technicians are allowed to change the planned or scheduled times of the tasks they have received on the laptop computer.	<ul style="list-style-type: none"> <li>• <i>Yes</i></li> <li>• <i>No</i></li> </ul>
Service: Inventory Validation Organization	Defines to whom messages can be sent.	<ul style="list-style-type: none"> <li>• <i>Resource Group: Default</i></li> <li>• <i>All Users</i></li> </ul>

### Setting Up Non-Oracle Mobile Field Service Profile Options for Oracle Mobile Field Service Store and Forward Applications:

Set the profile options listed in the following table. The table lists the profile option name, a brief description, and available options.

Profile	Description	Options
Client Timezone	Timezone in which the device is present (field service technicians local time).	-
CSF: Default In Planning Status	Default status that is assigned to tasks that are created in the Oracle Mobile Field Service Store and Forward applications.	All task statuses
HZ: Language for Country Display	This is the default language that is used to translate the country name for foreign address formatting. This is typically the language of the country where the item is mailed.	-



Profile	Description	Options
HZ: Reference Language	This is the default language that is used to determine the locale for name and address formatting. If the value is null, the NLS language of the current session is used.	-
HZ: Reference Territory	This is the default territory that is used to determine locale for name and address formatting. If this value is null, the NLS territory for the current session is used.	-
ICX: Date format mask	Date display format: <ul style="list-style-type: none"> <li>• DD/MM/YYYY</li> <li>• YY/MM/DD</li> <li>• MM/DD</li> <li>• DD/MM</li> </ul>	-
ICX: Numeric characters	Your numeric characters preference.	-
JTM: TimePicker Format (HH24/HH12)	Time displayed in 12 or 24 hours.	-
Server Timezone	Timezone in which the server is present.	-
Time unit of measure class	This is the unit of measure class, representing time.	<ul style="list-style-type: none"> <li>• <i>Time</i>: default</li> <li>• <i>Period</i></li> </ul>
Task Manager: Default assignee status	This profile defines the assignees task status default value.	All defined task statuses. <i>Assigned</i> is the default.

Profile	Description	Options
Task Manager: Owner type for a task	This profile defines the default owner type for the task.	All defined owner types.

## Related Topics

Uploading Attachments, *Oracle Mobile Field Service User Guide*

Using the Messaging Page, *Oracle Mobile Field Service User Guide*

## Creating and Managing Mobile Users

Before you can use the Mobile Field Service Store and Forward applications (Pocket PC and Laptop) you need to define a resource with the Oracle Mobile Field Service and Enable Online Access responsibilities and then download that resource to the mobile application.

For the Mobile Field Service Store and Forward - Pocket PC application you define individual resources with the Oracle Mobile Field Service and Enable Online Access responsibilities. For Pocket PC each resource will use one mobile device.

For the Mobile Field Service Store and Forward - Laptop application you can define individual resources or you can define a multiple user laptop group. For individual resources, you will define those resources with the Oracle Mobile Field Service and Enable Online Access responsibilities, and they will use a single mobile device.

For a multiple user laptop group, you will define several resources with the Oracle Mobile Field Service and Enable Online Access responsibilities and assign them to a multiple user laptop group. In this case, the group of resources will all use and share a single mobile device.

The Manages Mobile Users concurrent program in the Mobile Application Foundation periodically allocates resources for users that have a mobile responsibility, so there will be a delay between when the responsibility is assigned and when the change will take effect. Refer to "Scheduling Concurrent Programs for Mobile Application Foundation", page 3-11 for information on how to manually run the concurrent program to expedite the creation of a new user.

Access to the Oracle Mobile Field Service Store and Forward - Laptop and Pocket PC applications is based on the same user name and passwords as the Enterprise application. Mobile users can change their passwords from their handheld devices, online, in the Enterprise application, and by requesting that the system administrator make this change for them. For information on changing passwords, see the *Oracle E-Business Suite Security Guide*.

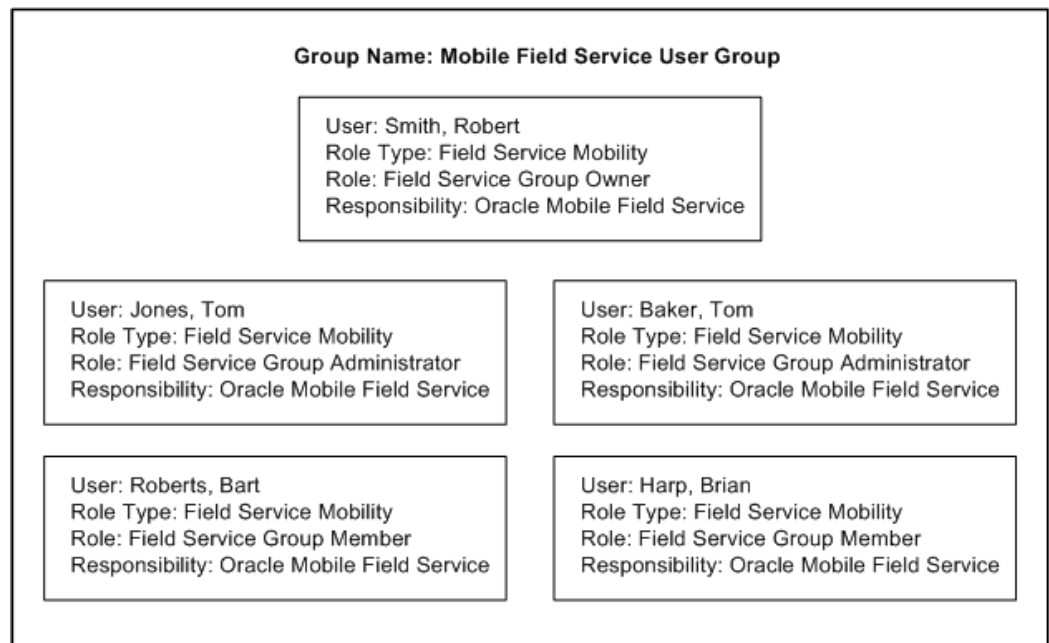
**Important:** It is strongly recommended that you do not change the password at the mobile server level. This is not supported.

If you remove the Oracle Mobile Field Service and Enable Online Access responsibilities from a user, that user is no longer able to use the Oracle Mobile Field Service Store and Forward application and synchronize. However, the application remains on their mobile computer device.

## Understanding Multiple User Laptop Groups

Multiple user laptop groups enable multiple resources to be able to use and share a single laptop device for the Mobile Field Service Store and Forward - Laptop application. The Mobile Field Service Store and Forward - Pocket PC application does not have this capability. Using a single laptop device saves on hardware cost and enables flexible deployments (groups and single users can share the same laptop) when implementing the application.

This figure illustrates how you would set up a multiple user laptop group.



When you set up a multiple user laptop group each group will contain the following resources with the Role Type of Field Service Mobility and these roles:

- One Field Service Group Owner.
- One or more Field Service Group Administrators.
- One or more Field Service Group Members.

The Field Service group owner has the ability to download, install, activate the Mobile Field Service Store and Forward - Laptop application, and synchronize all the data for the group in the laptop device. Plus, they have the ability to view and reassign tasks to the group members and reassign service requests to related groups.

The Field Service group owner is authenticated during the initial installation of the Mobile Field Service Store and Forward - Laptop application. After the installation of the application, the Field Service group owner will activate the members (group administrators and group members) in the group using the Field Service Administrator Dashboard.

The Field Service group administrator has the ability to synchronize all data for the group, view and reassign tasks to the group members, and reassign service requests to related groups.

The Field Service group member has the ability to synchronize all data for the group, and can view and work on tasks assigned only to them.

Field Service group owners and administrators will use the Field Service Administrator Dashboard to manage their technicians schedules and tasks for the group they are responsible for. The Field Service Administrator Dashboard is similar to the Field Service Technician Dashboard in the Laptop application. For information on the Field Service Administrator Dashboard, see Understanding the Field Service Administrator Dashboard, *Oracle Mobile Field Service User Guide*.

Field Service group members (technicians) will use the Field Service Technician Dashboard to view and work on the tasks assigned to them. For information on the Field Service Technician Dashboard, see Understanding the Field Service Technician Dashboard, *Oracle Mobile Field Service User Guide*.

## Prerequisites

- ☐ You have already created a resource for use in the Oracle Field Service application.

For information on creating a resource, see Setting Up Field Service Technicians and Dispatchers in the *Oracle Field Service Implementation Guide*.

### To Create an Individual Mobile User:

#### **Assign the Mobile Field Service and Enable Online Access Responsibilities to the Resource**

1. Navigate to the Users window in the Enterprise application. (System Administrator: Security > User > Define).  
The Users window appears.
2. Query for an existing Field Service resource.
3. Select *Oracle Mobile Field Service* and *Enable Online Access* for the Responsibility field

under the Direct Responsibilities tab.

Field Service/Palm appears by default in the Application field. Plus, the current date appears by default in the From Effective Date field.

4. (Optional) Enter a Description for the responsibility.
5. (Optional) Enter a To Effective Date to indicate when the responsibility will no longer be active.
6. Save your work.

### **Download the Mobile Field Service Resources to the Mobile Field Service Store and Forward Applications**

7. Navigate to the Submit Request window (System Administrator: Concurrent > Requests).

The Find Request window appears.

8. Click Submit a New Request.

The Submit a New Request window appears.

9. Select the Single Request option and click OK.

The Submit Request window appears.

10. Select Manages Mobile Users in the Name field.

The Parameters window appears.

11. Click OK and Click Submit.

The Manages Mobile Users concurrent program is initiated. In the log file of the completed concurrent program request you can view whether the user ID was created successfully for the Oracle Mobile Field Service Store and Forward - Pocket PC and Laptop applications.

The Manages Mobile Users concurrent program is part of the Mobile Application Foundation. So, you do not have to manually run the Manages Mobile User program if you have this program set to automatically run at certain times. If this is the case, there will be a delay between when the responsibility is assigned and when the change will take effect.

### **To Create a Multiple User Laptop Group:**

**Important:** Multiple User Laptop Groups are only available for use in the Mobile Field Service Store and Forward - Laptop application. Pocket PC does not have this capability.

### **Assign the Mobile Field Service and Enable Online Access Responsibilities to the Resources for the Group**

1. Navigate to the Users window in the Enterprise application. (System Administrator: Security > User > Define).

The Users window appears.

2. Query for an existing Field Service resource that you want to include in the group.
3. Select *Oracle Mobile Field Service* and *Enable Online Access* for the Responsibility field under the Direct Responsibilities tab.

Field Service/Palm appears by default in the Application field. Plus, the current date appears by default in the From Effective Date field.

4. Save your work.
5. Repeat Steps 2 - 4 for each resource you want to include in the multiple user laptop group.

One resource will be the Field Service Group Owner, one or more resources will be Field Service Group Administrators, and one or more resources will be Field Service Group Members.

### **Assign the Multiple User Laptop Roles to the Resources for the Group**

6. Navigate to the Resource window (Field Service Administrator: CRM Foundation > Resource Manager > Maintain Resources > Resources).

The Find Resources window appears.

7. Select the resource Name and click Find.

The Resource Search Results window appears.

8. Select the resource row and click Resource Details.

The Resource page appears displaying the Roles tab.

9. For the resource select a Role Type of *Field Service Mobility* and a Role. Roles are: Field Service Group Owner, Field Service Group Administrator, and Field Service Group Member.

10. Save your work.

11. Repeat Steps 7 - 10 for each resource that you want to include in the multiple user laptop group.

To define a multiple user laptop group you need to define at a minimum a Field Service group owner and a Field Service group administrator.

### **Define the Multiple User Laptop Group and Assign the Resources to the Group**

12. Navigate to Define Groups window (Field Service Administrator: CRM Foundation > Resource Manager > Maintain Resources > Groups).

The Define Groups window appears.

13. Enter the multiple user laptop group name in the Name field.
14. Select the Exclusive Flag check box.
15. (Optional) Enter a Description for the group.
16. Select the Used In tab.
17. Select *Field Service Mobility* and *Support* for Application Areas.
18. Select the Members tab.
19. Select the Name of resource that you want to add to the group.

The Category, Number, and Organization fields appear for the resource.

20. Select the resource row that you just added and click Member Roles.

The Member Roles window appears.

21. Select a Role Type of *Field Service Mobility* and a Role for the resource. Roles are: Field Service Group Owner, Field Service Group Administrator, and Field Service Group Member.
22. Click OK.
23. Save your work.
24. Repeat steps 19 -23 for each resource you want to add to the multiple user laptop group.

**Important:** Defining the same resource in multiple groups (multiple user laptop groups) is not supported.

### **Download the Mobile Field Service Resources to the Mobile Field Service Store and Forward - Laptop Application**

25. Navigate to the Submit Request window (Field Service Administrator: CRM Foundation > Requests > Run).

The Submit a New Request window appears.

26. Select the Single Request option and click OK.

The Submit Request window appears.

27. Select Manages Mobile Users in the Name field.

The Parameters window appears.

28. Click OK and Click Submit.

The Manages Mobile Users concurrent program is initiated. In the log file of the completed concurrent program request you can view whether the user IDs and group were created successfully for the Oracle Mobile Field Service Store and Forward - Laptop application.

The Manages Mobile Users concurrent program is part of the Mobile Application Foundation. So, you do not have to manually run the Manages Mobile User program if you have this program set to automatically run at certain times. If this is the case, there will be a delay between when the responsibility is assigned and when the change will take effect.

#### **Install the Mobile Field Service Store and Forward - Laptop Application**

29. The Field Service Group Owner installs the Mobile Field Service Store and Forward - Laptop application on the device to be shared by the group.

For information on installing the Oracle Mobile Field Service Store and Forward - Laptop application, see Installing Oracle Mobile Field Service Store and Forward - Laptop, page 5-1.

#### **Activate the Resources for the Multiple User Laptop Group**

30. Log in to the Mobile Field Service Store and Forward - Laptop application as the group owner of the multiple user laptop group (Field Service Group Owner).

The Field Service Administrator Dashboard appears.

31. Click the Initialize Member link in the Configuration section of the page.

The Members page appears displaying all the members of the group.

32. Click the Initialize check box and enter the password for each member you want to activate for the group.

33. Click the Save link and then the OK link.

The members of the group are now activated and can now use the laptop device to access the Mobile Field Service Store and Forward - Laptop application.

34. Click the Field Service Administrator Dashboard link to return to the dashboard.

#### **Disable Members in the Multiple User Laptop Group**

35. Log in to the Mobile Field Service Store and Forward - Laptop application as the as



the group owner of the multiple user laptop group (Field Service Group Owner).  
The Field Service Administrator Dashboard appears.

36. Click the Initialize Member link in the Configuration section of the page.

The Members page appears displaying all the members of the group.

37. Click the Disabled check box next to the member you want to disable.

38. Click the Save link and then click the OK link.

The member is disabled from the multiple user laptop group. They can no longer use the device that the group is using.

## Assigning Customers to Mobile Field Service Technicians

Before technicians or administrators can create service requests using the Oracle Mobile Field Service Store and Forward applications they need to have customers assigned to them and then the customer information needs to be downloaded to the mobile applications.

If technicians receive task assignments from the Enterprise system during the first synchronization before customers have been assigned to them, they will still be able to create a service request against the customers which are already downloaded to their mobile device.

For information on creating service requests in the Mobile Field Service Store and Forward - Pocket PC application, see *Working with Service Requests, Oracle Mobile Field Service User Guide*. For information on creating service requests in the Mobile Field Service Store and Forward - Laptop application, see *Creating Service Requests, Oracle Mobile Field Service User Guide* in the Field Service Technician Dashboard and *Creating Service Requests, Oracle Mobile Field Service User Guide* in the Field Service Administrator Dashboard.

A system administrator will assign customers to the individual technicians or they will assign customers to the field service group owner if you are using a multiple user laptop group. In addition, if you are using multiple user laptop groups you have the option to associate other groups to your multiple user laptop group. Relating these groups together gives the administrator of the group the ability to assign and reassign work within the related groups.

After you assign customers to technicians and associate the related groups you will then run the JTM Master concurrent program to download all the customer and associated group information to the Oracle Mobile Field Service Store and Forward applications.

When running the JTM Master concurrent program to download the customer information you will select the *Customer* parameter when initiating the concurrent program.

When you run the JTM Master concurrent program the program references three profile

options to determine the amount of data it will download related to the customers and products assigned to the technicians. The profile options it references are:

- CSM: Allow Counters Download for Parties: If set to Yes, the counters for all of the Install Base items associated to the customer will be downloaded. If set to No, no counters will be downloaded. If the profile is set to No, counters tied to item instances will still be downloaded as part of downloading task assignments.

For each counter downloaded the profile option CSM: Maximum readings per counter controls the number of readings that are downloaded.

- CSM: Allow Service Contracts Download for Parties: If set to Yes, service contracts associated to a customer will be downloaded. If set to No, no service contracts will be downloaded. If set to No, the contracts tied to individual service requests will still be downloaded.
- CSM: Allow Service Request History Download for Parties: If set to Yes, all associated service request history records subject to CSM: Number of Previously Closed Service Requests profile value are downloaded. If set to No, no service request history records are downloaded.

After determining the amount and type of data to be downloaded, the JTM Master concurrent program will then download all the customer and equipment data for the customers assigned to the technicians.

The customer data includes all contacts and addresses for the customer being downloaded. Customers are TCA Organization and person parties. Contacts are the person parties associated to these customer parties with the "Contact of" relationship type. Addresses are the party sites and locations associated to these customer parties.

The equipment data includes the asset and product records in the Oracle Install Base that are owned by the customer parties being downloaded.

In addition, all the related resource groups to a multiple user laptop group will be downloaded. This will enable administrators of a group to manage the work load within the related groups.

## Prerequisites

- ☐ The following profile options have been setup:
  - CSM: Allow Counters Download for Parties
  - CSM: Allow Service Contract Download for Parties
  - CSM: Allow Service Request History Download for Parties

### **To Assign Customers to a Technician that is Not a Member of a Multiple User Laptop Group**

1. Navigate to the Technician Customers page (Mobile Field Service Administrator: Oracle Mobile Field Service Administrator > Select the Technician Customer tab).

The Technician Customers page appears displaying all the employees that are group owners. The Show Group Owners check box is selected by default.

2. Enter search criteria for the user that you want to assign customers to and click Search.

You can search for users by:

- Employee Name
- Group Name
- User Name
- Role Name

3. Select the user and click Assign Customers.

The Assign Customer page appears.

4. Enter search criteria for a specific customer by entering a Customer Name and Address and clicking Search or retrieve all customers by not entering any customer information and clicking Search.

The customers that match your search criteria display in the Available Customers section of the page.

5. Select the customers that you want to add to this user in the Available Customers section and click the Move link.

Click the Move All link if you want to move all customers that appear in the Available Customers section to the Selected Customers section of the page.

Customers are moved from the Available Customers section of the page to the Selected Customers section of the page.

6. (Optional) To remove customers that were previously selected for a user, select the customers in the Selected Customers section and click the Remove link. To remove all selected customers click the Remove All link.

Customers are moved from the Selected Customers section to the Available Customers section of the page.

7. Click Done.

The Technician Customers page appears.

### **To Download the Customer Information to the Mobile Application**

8. Navigate to the Submit Request window (System Administrator: Concurrent > Requests).

The Find Requests page appears.

9. Click Submit a New Request.

Submit a New Request window appears.

10. Select the Single Request option and click OK.

The Submit Request window appears.

11. Select JTM Master Concurrent Program in the Name field.

The Parameters window appears.

12. Select a Category of *Customer* and click OK.

13. Click Submit.

The JTM Master concurrent program is initiated. All the relevant customer information is downloaded to the Oracle Mobile Field Service Store and Forward applications for the user.

The JTM Master concurrent program is part of the Mobile Application Foundation. So, you do not have to manually run the JTM Master program if you have this program set to automatically run at certain times. If this is the case, there will be a delay between when the customer is assigned and when the customer information will be downloaded.

After successful completion of the concurrent program, technicians will now be able to create service requests for any of the customers and asset or products they are responsible for. For information on creating service requests in the Mobile Field Service Store and Forward - Pocket PC application, see *Working with Service Requests, Oracle Mobile Field Service User Guide*. For information on creating service requests in the Mobile Field Service Store and Forward - Laptop application, see *Creating Service Requests, Oracle Mobile Field Service User Guide* in the Field Service Technician Dashboard and *Creating Service Requests, Oracle Mobile Field Service User Guide* in the Field Service Administrator Dashboard.

### **To Assign Customers to a Technician that is a Member of a Multiple User Laptop Group**

1. Navigate to the Technician Customers page (Mobile Field Service Administrator: Oracle Mobile Field Service Administrator > Select the Technician Customer tab).

The Technician Customers page appears displaying all the employees that are group owners. The Show Group Owners Only check box is selected by default.

2. Enter search criteria for the Field Service Group Owner user that you want to assign customers to and click Search.

You can search for users by:

- Employee Name
- Group Name
- User Name
- Role Name

The employees that match the search criteria appear in the search results table.

3. Select the Field Service Group Owner user and click Assign Customers.

**Important:** You can assign customers to individual members of the multiple user laptop group but the customer association will still roll up to the group owner of the multiple user laptop group.

The Assign Customer page appears.

4. Enter search criteria for a specific customer by entering a Customer Name and Address and clicking Search or retrieve all customers by not entering any customer information and clicking Search.

The customers that match the search criteria display in the Available Customers section of the page.

5. Select the customers that you want to add to this user in the Available Customers section and click the Move link.

Click the Move All link if you want to move all customers that appear in the Available Customers section to the Selected Customers section of the page.

Customers are moved from the Available Customers section of the page to the Selected Customers section of the page.

6. (Optional) To remove customers that were previously selected for a user, select the customers in the Selected Customers section and click the Remove link. To remove all selected customers click the Remove All link.

Customers are moved from the Selected Customers section to the Available Customers section of the page.

7. Click Done.

The Technician Customers page reappears.

### **To Assign Related Groups to the Multiple User Laptop Group**

8. Select the Related Groups tab.
9. Select the multiple user laptop group that you want to relate other groups to in the Group Name field and click Search.  
  
All available groups appear in the Available Related Groups section of the page.
10. Select the groups that you want to relate to this group in the Available Related Groups section and click the Move link.  
  
Click the Move All link if you want to move all groups that appear in the Available Related Groups section to the Selected Related Groups section of the page.  
  
Groups are moved from the Available Related Groups section of the page to the Selected Related Groups section of the page.
11. (Optional) To remove groups that were previously selected for a group, select the groups in the Selected Related Groups section and click the Remove link. To remove all selected groups click the Remove All link.  
  
Groups are moved from the Selected Related Groups section to the Available Related Groups section of the page.
12. Click Done.  
  
A confirmation message appears at the top of the page stating that the changes were applied successfully.
13. Click Done again.  
  
The Related Groups page reappears.

### **To Download the Customer Information to the Mobile Application**

14. Navigate to the Submit Request window (System Administrator: Concurrent > Requests).  
  
The Find Requests page appears.
15. Click Submit a New Request.  
  
The Submit a New Request window appears.
16. Select the Single Request option and click OK.  
  
The Submit Request window appears.
17. Select JTM Master Concurrent Program in the Name field.  
  
The Parameters window appears.

18. Select a Category of *Customer* and click OK.

19. Click Submit.

The JTM Master concurrent program is initiated. All the relevant customer information is downloaded to the Oracle Mobile Field Service Store and Forward applications for the user.

The JTM Master concurrent program is part of the Mobile Application Foundation. So, you do not have to manually run the JTM Master program if you have this program set to automatically run at certain times. If this is the case, there will be a delay between when the customer is assigned and when the customer information will be downloaded.

After successful completion of the concurrent program, technicians and administrators will now be able to create service requests for any of the customers and asset or products they are responsible for. In addition, administrators will be able to assign service requests to the groups related to their multiple user laptop group. For information on creating service requests, see *Creating Service Requests, Oracle Mobile Field Service User Guide* in the Field Service Technician Dashboard and *Creating Service Requests, Oracle Mobile Field Service User Guide* in the Field Service Administrator Dashboard.

## Testing the Mobile Field Service Store and Forward Applications Implementation

After you have implemented the Oracle Mobile Field Service Store and Forward applications, you should then test that the implementation is successful.

### Running the Test:

Complete the following steps to verify that the implementation of one of the Oracle Mobile Field Service Store and Forward applications was successful:

1. Create a test user and then assign the user the *Oracle Mobile Field Service* responsibility.

The Oracle Mobile Field Service responsibility is used for both the Oracle Mobile Field Service Store and Forward - Laptop and Pocket PC applications.

2. Install the Oracle Mobile Field Service Store and Forward - Laptop or Pocket PC application on the desired test mobile computer device.

For details on how to install Oracle Mobile Field Service Store and Forward - Laptop or Oracle Mobile Field Service Store and Forward - Pocket PC, see *Installing Oracle Mobile Field Service Store and Forward - Laptop*, page 5-1 and *Installing Oracle Mobile Field Service Store and Forward - Pocket PC*, page 6-1.

3. Create a service request and task using the Service Request window in the

enterprise system.

4. From the Field Service Dispatch Center, schedule and assign the task just created to the test user.
5. Synchronize the mobile computer device using the Oracle Mobile Field Service Store and Forward - Laptop or Pocket PC application.  
  
The Oracle Mobile Field Service Store and Forward - Laptop or Pocket PC application receives the task.
6. Change the task assignment status for the task on the mobile computer device and then synchronize.
7. Confirm that the task assignment status update is reflected in the Field Service Dispatch Center for the task.

### **Final Checks:**

If you have problems running the Oracle Mobile Field Service Store and Forward - Laptop or Pocket PC application, ensure that you have met the following requirements:

- Material items must be created and associated with the field service technicians inventory.
- The task state transitions must be set up in Field Service.
- Field service technicians must have a location associated with them.
- A request or task must have a location before it can be scheduled.
- The Oracle Mobile Field Service responsibility must be granted to the user, to access the Oracle Mobile Field Service Store and Forward - Laptop or Pocket PC application.
- Labor and expense items need to be set up.
- If you are still experiencing problems, then use the diagnostics described in "Diagnostic Testing Oracle Mobile Field Service", page 7-3 .



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## Installing Oracle Mobile Field Service Store and Forward - Laptop

This chapter covers the following topics:

- Installing Oracle Mobile Field Service Store and Forward - Laptop
- Launching Oracle Mobile Field Service Store and Forward - Laptop
- Bouncing the Web-to-Go Client

### Installing Oracle Mobile Field Service Store and Forward - Laptop

This section describes how to install the Web-to-Go server and Oracle10g Lite database, in addition to the Oracle Mobile Field Service Store and Forward - Laptop application. This additional software is necessary for Oracle Mobile Field Service Store and Forward - Laptop to operate.

For the minimum software and hardware requirements for the a laptop computer, see Minimum Software Requirements, page 2-1 and Minimum Hardware Requirements, page 2-2 .

#### To Install Oracle Mobile Field Service Store and Forward - Laptop on Your Laptop Computer:

1. Open a Web browser window.
2. Open the following URL, where <Mobile Server> is the domain name or IP address of the mobile server:  
  
`http://<Mobile Server>/setup`  
  
For example: `http://130.35.88.214/setup`
3. Click the link to download the Mobile Client for Web-to-Go - setup program and save it.

If you are using the Internet Explorer, right click with the mouse, and choose the option **Save target as** and then click **OK**. Then select a location where you want to save the setup program and click **Save**.

4. From Windows Explorer, double-click the `setup.exe` file that you just downloaded.

Once started, the setup program prompts you to specify an install directory.

5. Provide the user name and respective password.
6. Choose an install directory.

For example, `C:\MOBILECLIENT\ora_HOME` and then click **OK**. The setup program downloads all the required components.

Once the installation is complete, your browser launches and opens the Oracle10g Lite Workspace Logon page. This page contains fields where you specify your user name and password.

If the browser does not launch automatically, the setup program box will have the Web-to-Go URL displayed on it. For example, `http://my-laptop`. In this case, click the URL.

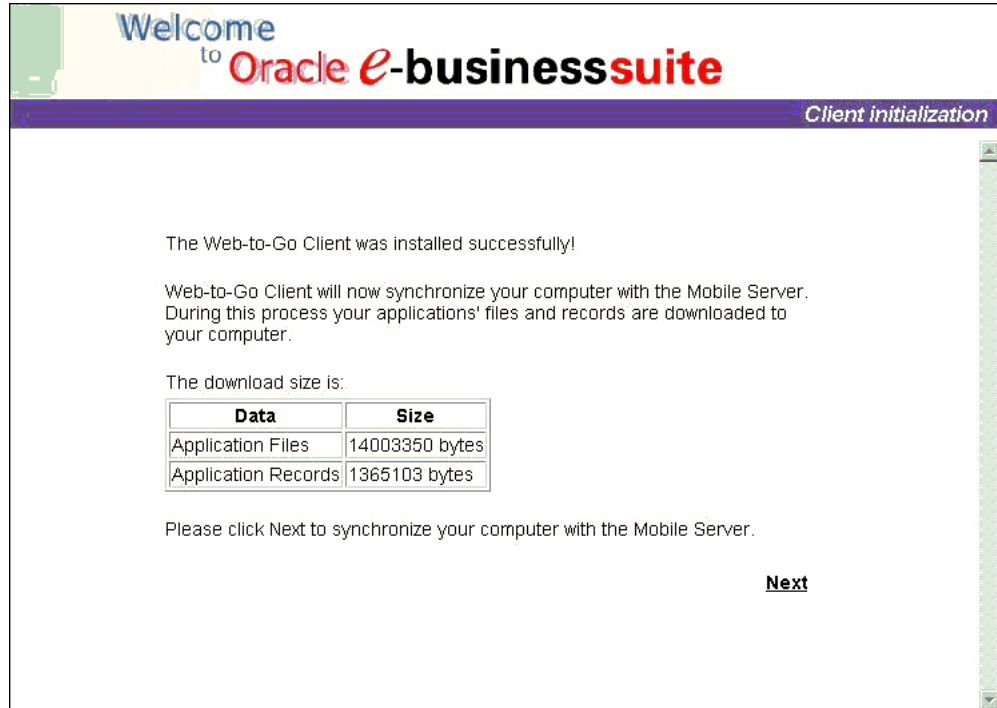
**Note:** You can always use the URL `http://localhost` to access the Web-to-Go server without having to know the name of the laptop computer.

7. After the browser launches, logon using the same user name and password that you use for online applications.

If the browser returns a "Page Not Found" error, check your proxy settings. In Microsoft Internet Explorer, ensure that the Bypass Proxy for Local Addresses check box is selected under **Tools > Internet Options > Connections > LAN Settings**. Reload the page and try again.

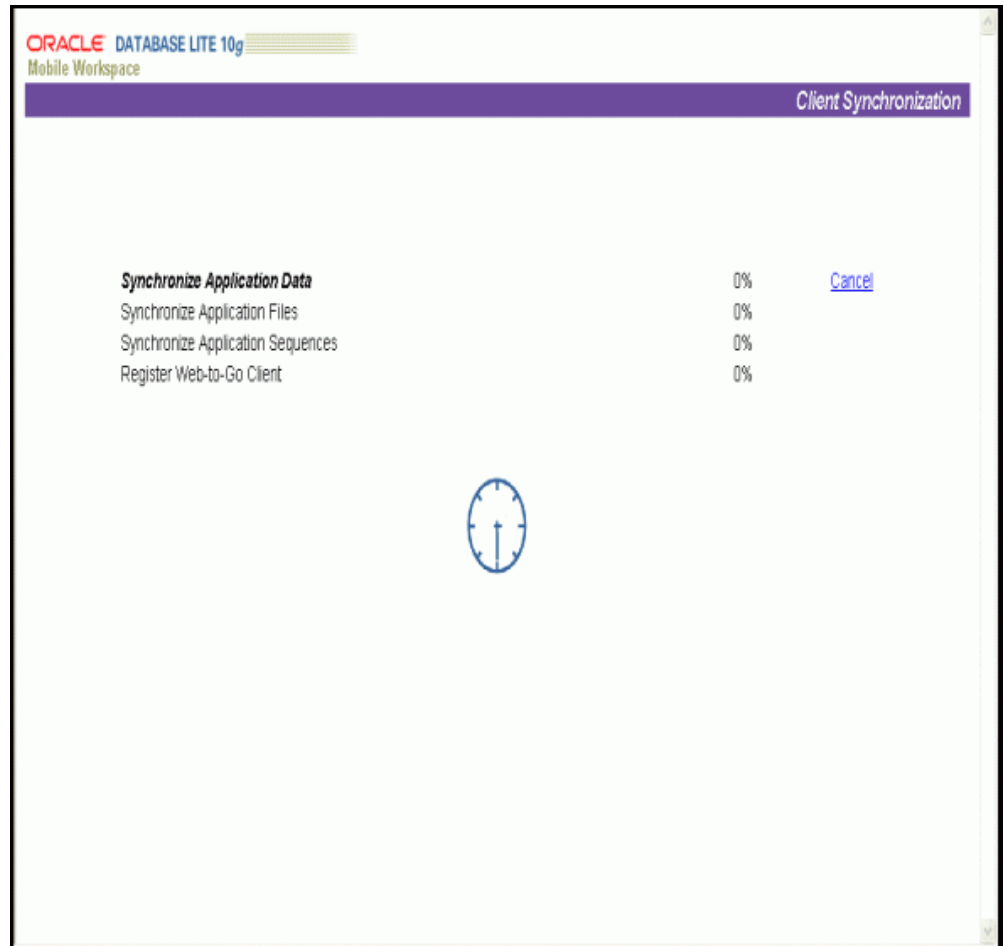
**8. Click Logon.**

The Oracle10g Lite Client Initialization page appears displaying the initialization status for the files and records of the Oracle Mobile Field Service Store and Forward - Laptop. This status includes the amount of bytes downloaded onto your laptop computer.

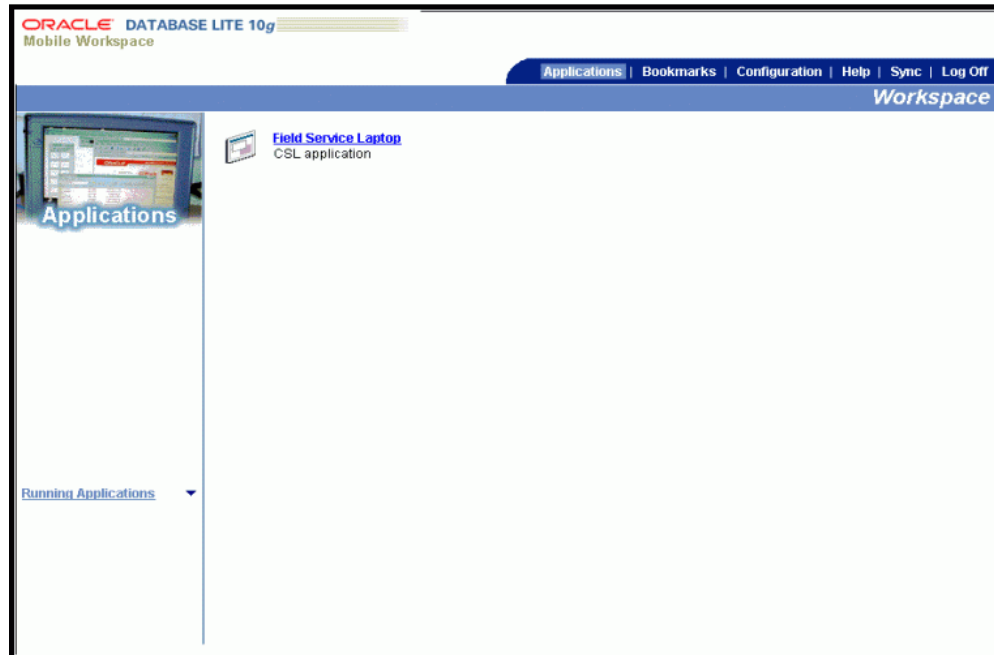


9. Click **Next**.

The Oracle10g Lite Client Synchronization page appears with the current synchronization process in bold, italic text. A percentage value is found near each synchronization process to indicate its status. The initial synchronization downloads the application and your initial set of data. The synchronization takes several minutes; therefore, do not exit the browser until the synchronization is complete.

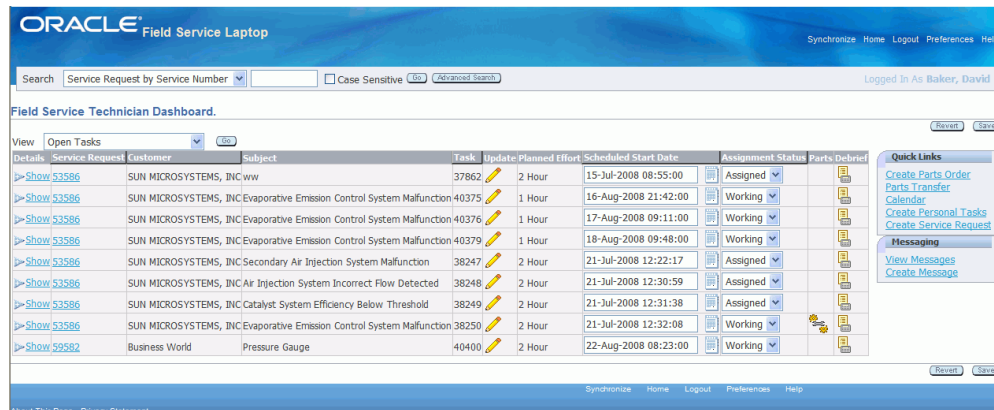


After synchronization completes, the browser displays the Oracle 10g Lite Workspace page.



#### 10. Click **Field Service Laptop**.

The Oracle Mobile Field Service Store and Forward - Laptop Field Service Technician Dashboard page appears.



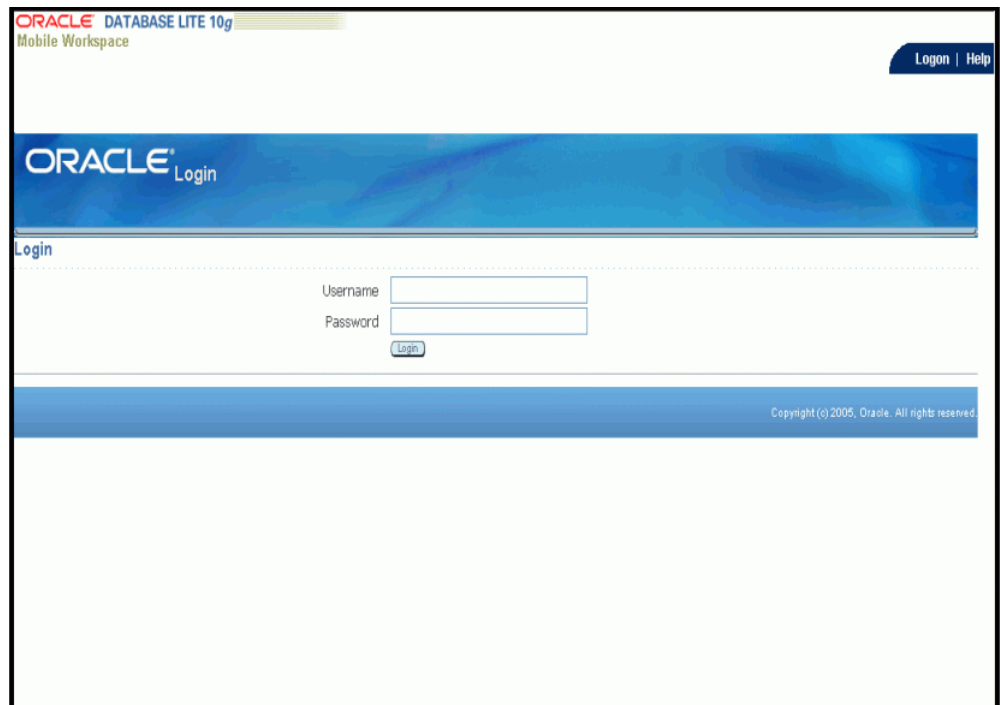
## Launching Oracle Mobile Field Service Store and Forward - Laptop

### To Launch the Oracle Mobile Field Service Store and Forward - Laptop Application:

1. From the Start menu, select Programs > Oracle for Windows NT > Web to Go.

The internet browser opens to the login page. You can also access the login page by clicking on the Web-to-Go icon on the desktop.

Your internet browser opens the Oracle E-Business Suite login page.



2. Enter your user name and password in the appropriate fields and then click Login.

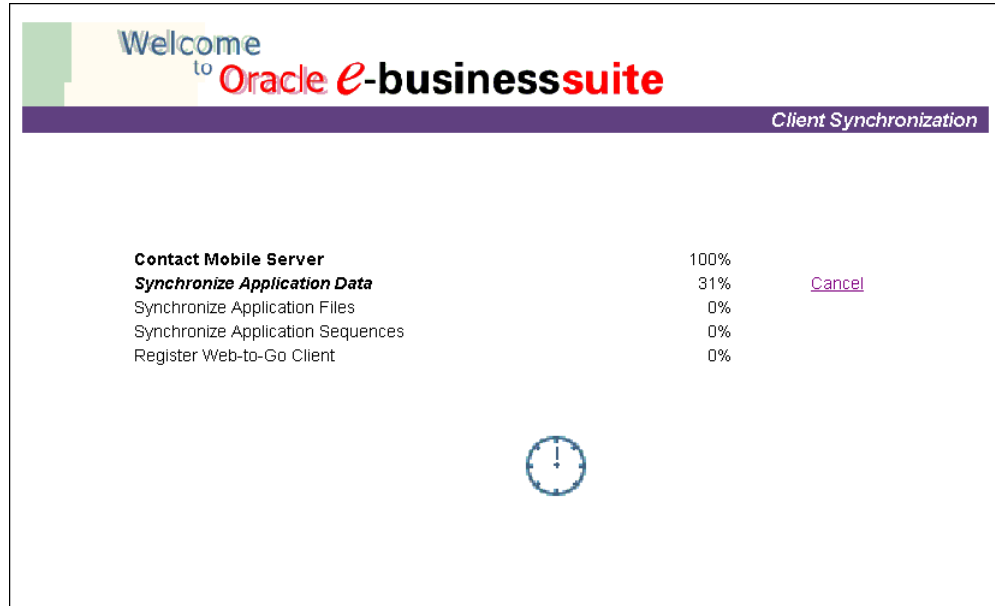
Oracle Mobile Field Service Store and Forward - Laptop Field Service Technician Dashboard page appears.

To receive new data assigned to you such as, new tasks and service requests, you need to synchronize with the enterprise system. Likewise, to send the changes that you make such as, creating debrief lines and updating task statuses, you need to synchronize with the enterprise system.

3. To do an incremental synchronization, click the Synchronize link in the upper right corner of the Field Service Technician Dashboard page.

The Oracle E-Business Suite Client Synchronization page appears with the current synchronization process in bold, italic text. A percentage value is found near each synchronization process to indicate its status.

Click the Cancel link to terminate the current synchronization process.



## Bouncing the Web-to-Go Client

This procedure should be used only for debugging purposes.

### To Bounce the Web-to-Go Client:

1. Right click on the Web-to-Go Client located in the system tray.
2. Select the Exit option.
3. From the Start menu, select Programs > Oracle for Windows NT > Web to Go.



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# Installing Oracle Mobile Field Service Store and Forward - Pocket PC

This chapter covers the following topics:

- Installing Oracle Mobile Field Service Store and Forward - Pocket PC
- Launching Oracle Mobile Field Service Store and Forward - Pocket PC
- Creating a Shortcut for Oracle Mobile Field Service Store and Forward - Pocket PC
- Subsequent Synchronizations for Oracle Mobile Field Service Store and Forward - Pocket PC

## Installing Oracle Mobile Field Service Store and Forward - Pocket PC

You install the Oracle Mobile Field Service Store and Forward - Pocket PC application from a desktop PC. First, you download and install the application on a PC. Then you synchronize the Pocket PC with the PC to transfer the software onto the Pocket PC.

To install the Oracle Mobile Field Service Store and Forward - Pocket PC application on your Pocket PC, complete the procedures in the order listed in the following table:

Procedure	Perform At
1. Downloading and Installing the Oracle10g Lite Setup Program, page 6-2	Client PC (the PC to which the Pocket PC syncs)
2. Synchronizing the Client Desktop PC with the Pocket PC, page 6-3	Pocket PC
3. Configuring mSync on the Pocket PC, page 6-5	Pocket PC

Procedure	Perform At
4. Performing a Full Synchronization, page 6-3	Pocket PC
5. Launching Oracle Mobile Field Service Store and Forward - Pocket PC, page 6-8	Pocket PC

For the minimum software and hardware requirements for the Oracle Mobile Field Service Store and Forward - Pocket PC application, see Minimum Software Requirements, page 2-1, Minimum Hardware Requirements, page 2-2, and Minimum Pocket PC Communication Requirements, page 2-3.

## Downloading and Installing the Oracle10g Lite Setup Program

Perform this procedure from the client PC desktop. In this procedure, you will download the mobile client from the mobile server and install the Oracle10g Lite setup program.

### Steps

1. Open your browser.
2. Enter the following URL in your browser, where <Mobile Server> is the domain name or IP address of the mobile server:  
`http://<Mobile Server>/webtogo/setup`  
For example: `http://130.35.88.214:8000/webtogo/setup`
3. Click the link to download the mobile client for Oracle Lite PPC2000 ARM or Oracle Lite PPC2003 ARMV4, or Oracle Lite PPC2003 XScale setup program according to the device and processor and save it.

## Mobile Client Setup

### Mobile Client Search

Language

Platform

Mobile Client	Language
<a href="#">Mobile Field Service Laptop</a>	English
<a href="#">Oracle Lite Branch Office</a>	English
<a href="#">Oracle Lite Linux WEB OC4J</a>	English
<a href="#">Oracle Lite Linux WEB</a>	English
<a href="#">Oracle Lite Linux x86</a>	English
<a href="#">Oracle Lite PPC2003 ARMV4</a>	English
<a href="#">Oracle Lite PPC50 ARMV4I</a>	English
<a href="#">Oracle Lite PPC60 ARMV4I</a>	English
<a href="#">Oracle Lite WEB BC4J</a>	English
<a href="#">Oracle Lite WEB OC4J</a>	English
<a href="#">Oracle Lite WEB</a>	English
<a href="#">Oracle Lite WIN32</a>	English

If you are using Internet Explorer, right click with the mouse, choose the option **Save target as**, and then click **OK**. Choose a location to save the setup program and click **Save**.

- Using Windows Explorer, double click the setup.exe file that you just downloaded to run the setup program.

Once started, the setup program prompts your to enter user name and password and after authentication prompts you to specify an install directory.

- Choose an install directory, for example, C:\Olite, and then click **OK**.

The Setup program downloads all the required components.

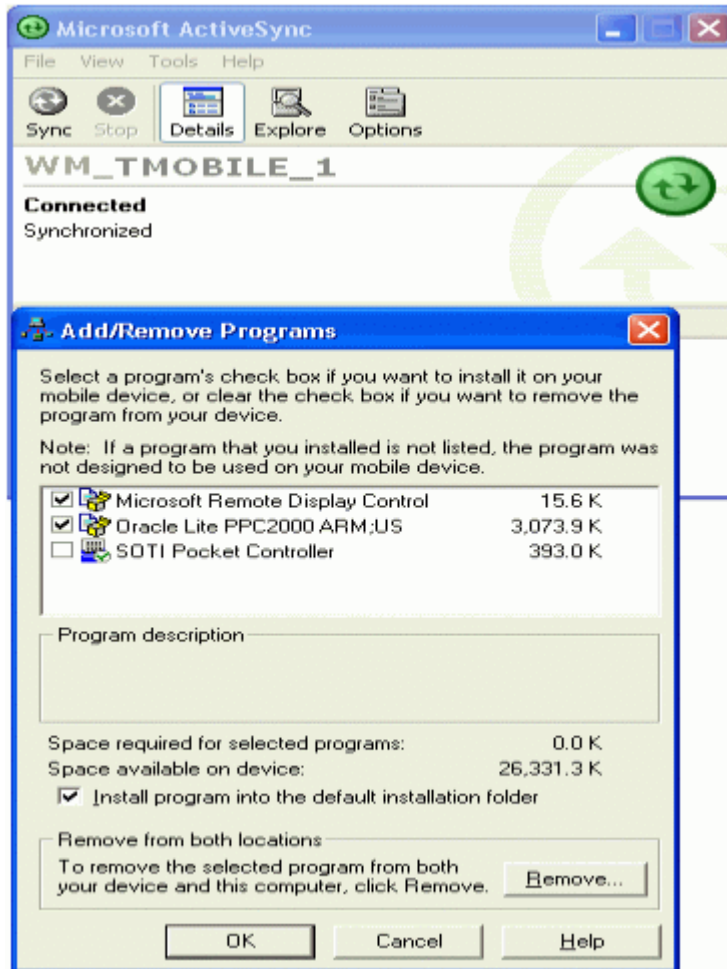
## Synchronizing the Client Desktop PC with the Pocket PC

### Steps

- Connect the device to the client PC.
- If you have not installed the Microsoft ActiveSync, install it and rerun the setup program.
- Start Microsoft ActiveSync and then install Oracle10g Lite

Select Tools > Add remove > [processor type], where [processor] is either SH3, SH4 or ARM.

### Microsoft ActiveSync



4. Perform an ActiveSync to put Oracle10g Lite components on the Pocket PC.

**Note:** To do an ActiveSync to retrieve Oracle Mobile Field Service Store and Forward - Pocket PC itself and the data associated with it, the computer that hosts the ActiveSync manager must be able to connect to the mobile server using HTTP. Therefore, you must be able to connect to the mobile server through HTTP.

You can also retrieve the application and copy the data onto the Pocket PC by connecting to any of the following modes:

- Wireless
- Infrared

- USB
- ActiveSync
- Modem

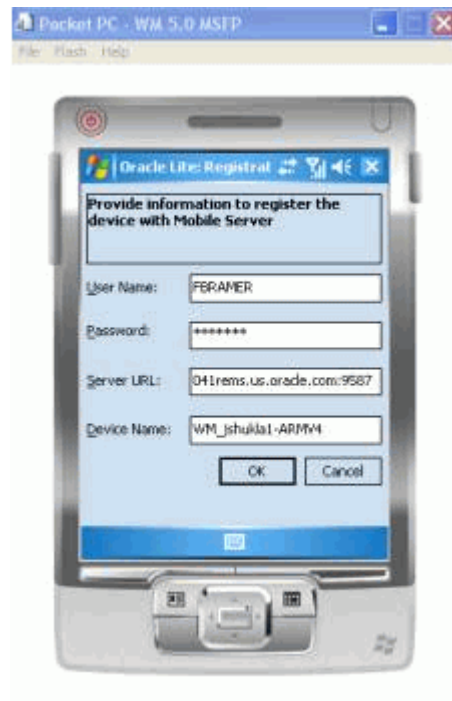
## Configuring mSync on the Pocket PC

Follow this procedure to install the Oracle Mobile Field Service Store and Forward - Pocket PC application and the database on the Pocket PC.

### Steps

1. Using the Pocket PC, select Start > Programs > Oracle DM.

The Oracle Lite Registration screen appears.



2. Enter User Name, Password, and webtogo link and tap OK.
3. Using the Pocket PC, select Start > Programs > Oracle Msync.  
The Msync application is launched.



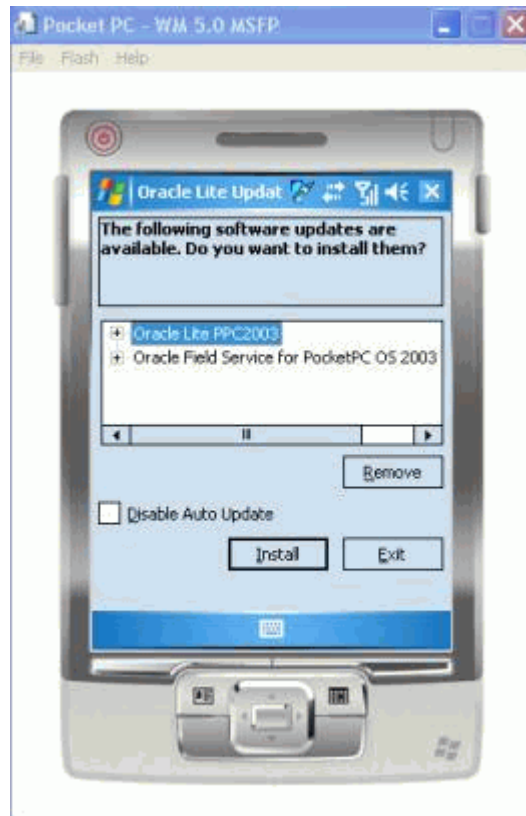
4. For each field, enter the value as indicated in the following table and then tap **Apply**:

Field	Value
User	mSync client user name. This is case insensitive. (This is the Mobile Field Service Store and Forward - Pocket PC user name.)
Password	mSync client password. This is case insensitive.
Change check box	Leave this check box deselected.
Save Password check box	Select this check box to save the mSync user name and password.
Server	IPAddress:port
Use Proxy check box	Select this check box if appropriate.

Field	Value
Force Refresh check box	Leave this check box deselected.

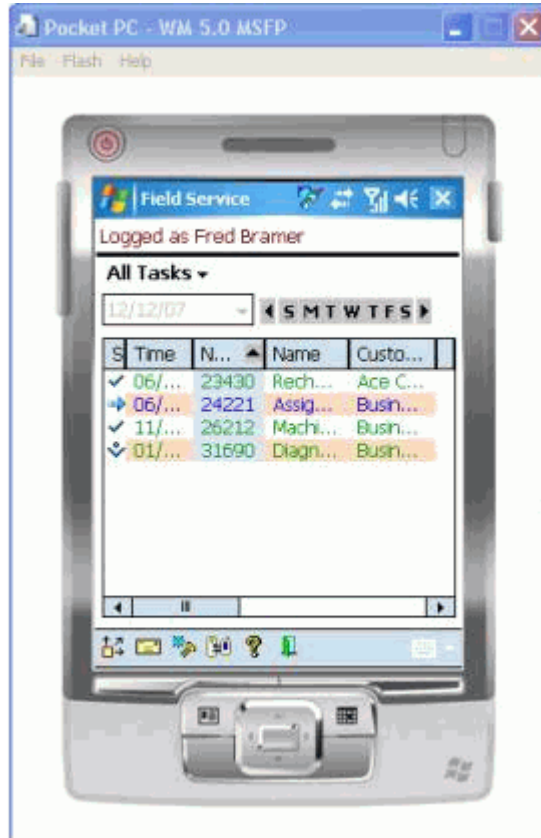
5. Tap Sync to perform the first synchronization.
6. After synchronization is successful, exit the Msync application.

This will launch Oracle Lite Updates and install Oracle Mobile Field Service - Pocket PC application (and Olite update if required).



7. Tap the Install button and follow the steps to install the application and updates.
8. Using the Pocket PC, select Start > Programs > File Explorer.
9. Navigate to MyDevice>Orace folder on the device. Launch **FieldService.exe** in the folder. Provide the user name and password.

The Pocket PC application appears.



## Performing a Full Synchronization

Complete the following steps to perform a full synchronization:

### Steps

1. Ensure that you are connected to the network.
2. Tap **Sync** to start the synchronization.

After the ActiveSync, the mobile database and the mobile application are replicated to the client.

## Launching Oracle Mobile Field Service Store and Forward - Pocket PC

Complete the following procedure to launch the Oracle Mobile Field Service Store and Forward - Pocket PC application on the Pocket PC.

### Steps

1. On the pocket PC device, choose **Start > Programs**.



The Programs screen appears.

2. Tap the File Explorer icon.

The My Documents screen appears.

3. From the drop-down menu, select `MyDevice`.

The My Device screen appears.

4. Tap the ORACE folder.

The Oracle screen appears containing the `Fieldservice.exe` file.

5. Click on `Fieldservice.exe`.

The Oracle Mobile Field Service Store and Forward - Pocket PC application appears.

## Creating a Shortcut for Oracle Mobile Field Service Store and Forward - Pocket PC

Complete the following steps to create a desktop shortcut for Oracle Mobile Field Service Store and Forward - Pocket PC:

1. Select the `FieldService.exe` file in the `\My Device\Oracle` directory to get the selection options.

This is the same as the cut-and-paste option on the Pocket PC.

2. Choose the **Copy** option.

3. Go to the directory where the link is to be created.

For example, `\My Device\Windows\Start Menu`.

4. Click on the **Edit** option in the bottom menu bar.

5. In the menu pop-up, select **Create Shortcut**.

The application can now be accessed through the shortcut and will be listed in the Start Menu List of programs.

## Subsequent Synchronizations for Oracle Mobile Field Service Store and Forward - Pocket PC

Most synchronization between the enterprise application and the Pocket PC occurs automatically. This section describes how to manually synchronize the database on the Pocket PC.

## Steps

1. Access the Oracle Mobile Field Service Store and Forward - Pocket PC application.
2. Go to the home page of the application.
3. Click the mSync icon.

---

## Diagnostic Testing

This chapter covers the following topics:

- Overview
- Diagnostic Testing Oracle Mobile Application Foundation
- Diagnostic Testing Oracle Mobile Field Service Store and Forward Applications
- Configuring Debug Logging
- Common Issues

### Overview

Diagnostic testing can be done for the Oracle Mobile Application Foundation and the Oracle Mobile Field Service Store and Forward applications. This chapter describes how to run these diagnostics. After your initial implementation, you should run the entire set of pre-seeded diagnostic tests to verify that the implementation has been successful. Subsequently, the tests can be run whenever a problem arises.

### Diagnostic Testing Oracle Mobile Application Foundation

Please refer to the *Oracle Applications CRM System Administrator's Guide* or the online help for the CRM System Administrator Console for instructions on how to use the Oracle Diagnostics for Applications user interface.

#### Running Pre-Seeded Tests:

Use the following procedure to run the pre-seeded Oracle Mobile Application Foundation diagnostic tests:

##### Steps

1. Log in to the CRM System Administrator Console as a system administrator.

2. Click the Diagnostics tab.
3. Select **CRM Gateway for Mobile Services** from the Application drop-down list.
4. Click **Advanced**.
5. You can run any of the following pre-seeded tests.

The following table lists diagnostic tests, their descriptions, and associated symptoms and resolutions.

Test	Description	Symptom	Resolution
Oracle Lite Setup	Checks if the Oracle10g Lite version installed is correct. Checks if the database access permissions for the Oracle10g Lite schema are set properly.	An error occurs while applying mobile application patches.	Review the diagnostic report and schedule or install/apply the correct Oracle10g Lite patches.
Mobile Concurrent Program Setup	Checks if all the mobile concurrent programs are working.	Changes from the mobile client are not applied to the enterprise system.  Users are not able to synchronize. They might get invalid username/password errors.  Many mobile application concurrent programs are not working.	Review the diagnostic report and schedule or run the concurrent program to apply changes.
Mobile User Hook Registration	Checks if mobile applications register vertical user hooks properly and the execute flag is set to run.	Changes on JTF Notes, CS Counter, or CSI Item Instance on the enterprise do not synchronize to the mobile device.	Reapply the JTM patch to register and set up the execute flag to run.

Test	Description	Symptom	Resolution
Mobile Framework Setup	This test verifies the Configuration Setup for the mobile framework.	Application publishes incorrectly or synchronization fails.	Change the scripts and republish the application.
Mobile Application Upgrade History	This report shows the status of mobile application upgrades.	Upgrades fail.	Republish the application.
User Summary	This test shows the User Status Summary.	Users are not created properly.	Look at the test results and rerun the MANAGES MOBILE USER concurrent program.
User Detail	This test provides detailed information about a specified mobile user.	Need to investigate user history.	View user history and take appropriate action.

## Diagnostic Testing Oracle Mobile Field Service Store and Forward Applications

Run diagnostic tests to ensure that the install and operation of the Oracle Mobile Field Service Store and Forward applications is correct.

### Steps:

Complete the following steps to access the diagnostic screens of the enterprise application:

1. Log in to the CRM System Administrator Console as a system administrator.
2. Click the Diagnostics tab.
3. Depending on your mobile computer device, select either **Oracle Field Service/Palm** or **Oracle Field Service/Laptop** from the Application drop-down list.

**Note:** The Oracle Field Service/Palm responsibility is used for the Oracle Mobile Field Service/Pocket PC application.

The Diagnostics application displays the Test Summary table and a table showing any failures in the past week.

4. Click the Advanced tab.

In the Advanced tab, enter the parameters for the test that you want to run. From the Basic tab, you can run all non-parameter tests for the application.

Refer to the *Oracle Applications CRM System Administrator's Guide* or the online help system to learn how to use the Diagnostics Framework user interface.

The client-side tests run automatically on the mobile computer device when you open an Oracle Mobile Field Service Store and Forward application. You can also run these tests any time to verify the correct setup of the Oracle Mobile Field Service Store and Forward application.

The following table lists diagnostic tests, test descriptions, observed symptoms, and proposed resolutions for Oracle Mobile Field Service Store and Forward - Laptop:

Test for Oracle Mobile Field Service Store and Forward - Laptop	Location	Problem	Resolution
JTM Master Concurrent Program	Backend	Are the concurrent programs running?	Provides detailed diagnostic information about the JTM Master Concurrent Program. If necessary, it tells system administrators which settings should be modified.

<b>Test for Oracle Mobile Field Service Store and Forward - Laptop</b>	<b>Location</b>	<b>Problem</b>	<b>Resolution</b>
Environment Setup	Backend	Is the environment correct?	Provides support for debugging the configuration of Oracle9i Lite. It enables the administrator to check if the recommended settings are followed correctly. It also helps in identifying common issues with external authentication, installation manager, profile option values, and so on.

The following table lists diagnostic tests, test descriptions, observed symptoms, and proposed resolutions for Oracle Mobile Field Service Store and Forward - Pocket PC:

<b>Test for Oracle Mobile Field Service Store and Forward - Pocket PC</b>	<b>Location</b>	<b>Problem</b>	<b>Resolution</b>
Responsibility	Backend	User may not have proper responsibility.	Assign proper responsibilities.
Profile values	Backend	Profile values for Field Service Palm are not set.	Set profile values.
User Hooks Registration	Backend	Hooks registration is not done.	Contact your Oracle technical support representative.
Check Concurrent Program	Backend	All required concurrent programs might not be running.	Make sure that the concurrent programs are running.

<b>Test for Oracle Mobile Field Service Store and Forward - Pocket PC</b>	<b>Location</b>	<b>Problem</b>	<b>Resolution</b>
JTM Concurrent Program registration	Backend	For JTM Concurrent Program APIs are not registered.	Contact your Oracle technical support representative.
JTM Master Concurrent Program	Backend	Are the concurrent programs running?	Provides detailed diagnostic information about the JTM Master Concurrent Program. If necessary, it tells system administrators which settings should be modified.
Environment Setup	Backend	Is the environment correct?	Provides support for debugging the configuration of Oracle9i Lite. It enables the administrator to check if the recommended settings are followed correctly. It also helps in identifying common issues with external authentication, installation manager, profile option values, and so on.
Task diagnostic	Backend	Task is assigned incorrectly.	Assign task correctly.
Check required list of values	Backend	List of values are empty.	Create all list of values.



## Configuring Debug Logging

This section describes how to configure debug logging for troubleshooting problems with mobile operations.

Oracle Mobile Field Service Store and Forward applications use the CRM Technical Foundation logging framework to log messages to a central repository that is shared by both the database and the middle tier servers. Each log message belongs to one of the following severities:

- Statement
- Procedure
- Event
- Exception
- Error
- Unexpected

UI screens give system administrators convenient and simple controls for configuring and viewing the logs. Refer to the *Oracle Applications CRM System Administrator's Guide* or the online help for the CRM System Administrator Console to learn how to use the logging screens.

### Steps:

Complete the following steps to configure logging for all modules:

1. Log in to the CRM System Administrator Console as a system administrator.
2. Navigate to `Setting > System > Debug Logging > Configuration`.
3. Set the following values:
  - Enabled = ON
  - Level = Statement
  - Repository = Database
  - Module filter = `include string csm%, asg%, jtm%`
4. Click **Update** to save the values.
5. Bounce Apache (the middle-tier server).

**Note:** Turn the logger off after you finish troubleshooting. This changes the values of the above fields back to their original values. Logging at this level of detail consumes resources and could impact the performance of your system.

In addition to these logs, you can use the Oracle10g Lite mobile server logging facility to troubleshoot problems with user synchronizations. Refer to the *Oracle10g Lite Mobile Server Administration Guide* for more details.

## Common Issues

This section describes the most common issues encountered in the implementation of the Oracle Mobile Field Service Store and Forward applications.

### **Viewing Items Stocked in a Subinventory:**

#### **Problem**

Trackable items that have been stocked in a subinventory are not displayed in the inventory list of the application.

#### **Resolution**

This may be a replication issue. Please check that the install base instances have been created for the stocked items in the back of the database. If the instances do exist but the items still do not display on the laptop, please contact Oracle Support.

---

## Administrative Tasks

This chapter covers the following topics:

- Overview
- Setting the Conflict Resolution Rule
- Configuring the Interapplication Bar
- Manually Creating Mobile Users
- Managing Concurrent Programs
- Viewing User Synchronization Statistics
- Working with Upload Errors
- Managing Deferred Upload Errors
- Managing Discarded Upload Errors
- Managing Passed Upload Errors
- Defining and Editing Mobile Queries
- Setting Up Mobile Queries Based on E-Mailmobile querysetting up for e-mail
- Using the Oracle10g Lite Administration Windows

### Overview

This chapter describes how to perform the following administrative tasks for the Oracle Mobile Application Foundation:

- Setting the Conflict Resolution Rule
- Configuring the Interapplication Bar
- Manually Creating Mobile Users
- Managing Concurrent Programs.

- Viewing User Synchronization Statistics
  - Viewing Synchronization Summary Tables on the Home Page
  - Viewing Synchronization Details on the Sync Detail Page
  - Viewing Synchronization Summary Reports
  - Viewing Engineer Synchronization Details
  - Viewing Load Distribution
- Working With Upload Errors
  - Understanding Upload Errors
  - Purging Upload Errors
  - Viewing the Upload Errors Summary
- Managing Deferred Upload Errors
  - Working With the Deferred Upload Errors of a Particular User Synchronization Session
  - Editing the Details of Deferred Upload Errors
- Managing Discarded Upload Errors
- Managing Passed Upload Errors
- Defining and Editing Mobile Queries
- Setting Profiles for E-Mail Mobile Queries
- Using the Oracle10g Lite Administration Screens

**Note:** There is a mobile administrator responsibility that is similar to the system administrator responsibility. Any user who has been granted the mobile administrator responsibility can perform administrative activities for the Oracle Mobile Application Foundation. You must log in as a user with this responsibility to access the Mobile Field Service Administrator Console, which is where the relevant administration screens are located.

## Setting the Conflict Resolution Rule

The profile option, JTM: Application Conflict Rule, specifies the conflict resolution rule that is used in case of updates to the same entity by both the enterprise system and the Oracle Mobile Field Service Store and Forward applications.

This profile option determines how the Oracle Mobile Field Service Store and Forward applications make updates to the database. The following are the possible types of updates:

- *Client wins.* Changes made by the mobile user are always applied to the enterprise database. No timestamp checking is done.
- *Server wins.* Changes made by the mobile user are applied to the enterprise database if the record has not been modified since the mobile user last synchronized. If the record has been modified in the meanwhile, then the mobile user's change is not applied.

## Configuring the Interapplication Bar

You can set up the Interapplication Bar to conveniently navigate between the CRM System Administrator Console and the Mobile Application Foundation Administration Console. This is an optional procedure. Performing this setup will allow administrators to easily navigate from the Mobile Application Foundation Administration Console to the CRM System Administrator Console in order to run diagnostic tests and check error logs.

To navigate between the CRM System Administrator Console and the Mobile Application Foundation Administration Console, you will need to create a user who has both mobile administrator ("MobileAdmin") and system administrator ("CRM HTML administration") responsibilities. Log in as that user to the CRM System Administrator Console and set up the Interapplication Bar with the two applications being "CRM Gateway for Mobile Services" and "CRM HTML administration".

Refer to the *Oracle E-Business Suite CRM System Administrator's Guide* or the online help for the CRM System Administrator Console for instructions on how to successfully set up the Interapplication Bar.

## Manually Creating Mobile Users

The Oracle Mobile Application Foundation allocates resources for mobile users when they are assigned a responsibility that is associated with a mobile application (such as the responsibility "Oracle Mobile Field Service"). The concurrent program MANAGES MOBILE USERS runs periodically and creates or removes these mobile user resources based on the assigned responsibilities. A user who recently has been assigned a mobile responsibility will not be able to synchronize until after this concurrent program runs.

The user cannot change his or her password on the mobile client, and will need to do so online.

During system testing, it may be helpful to create users more rapidly. In this case, you can manually run the MANAGES MOBILE USERS concurrent program using the Concurrent Manager.

The home page of the Mobile Application Foundation Console displays the number of users who do not have the correct mobile subscriptions. To view the error messages associated with the mobile user subscription failures, run the diagnostic tests described in "Diagnostic Testing Oracle Mobile Application Foundation", page 7-1.

## Managing Concurrent Programs

The JTM master concurrent program runs all concurrent jobs registered by Oracle Mobile Field Service Store and Forward applications. The JTM master concurrent program uses the following category types:

- TRANSACTION
- LOOKUP
- INVENTORY
- CUSTOMER
- PURGE

For a complete description of these category types, see *Scheduling Concurrent Programs for Mobile Application Foundation*, page 3-11.

The Mobile Concurrent Program Summary page displays the JTM concurrent program details for all the concurrent programs related to Oracle Mobile Field Service Store and Forward. The mobile concurrent program displays how many times the program has currently ran, and the maximum and the minimum times taken to finish the program.

The concurrent program screens enable you to view the status of mobile logic (PL/SQL) modules, which process the various business events for the Oracle Mobile Field Service Store and Forward applications. The mobile logic modules are grouped in various categories and the frequency of their execution is based on the category. You can change the mobile logic modules from one category to another or add a new category and hence change the frequency of execution, based on the business requirements. These screens can also be used to understand the resources used by mobile logic modules, identify and resolve any performance bottlenecks.

### Steps:

Complete the following steps to view the concurrent program summary and view the log history for a concurrent program.

1. Login as a Mobile Field Service Administrator.
2. Select the Concurrent Program tab.

The Concurrent Program Summary page appears.

### Concurrent Program Summary page

ORACLE<sup>®</sup> Mobile Field Service Administrator

Home Logout Preferences Diagnostics

Home Sync Reports Upload Errors Concurrent Program Controlled Upgrade Technician Customers

Program Summary Program Detail Query Summary Category Definition

Concurrent Program Summary Page

Category	Enabled	Phase	Status	By	Scheduled	Apply Interval	Apply Interval Unit	Scheduled Interval	Number of Runs	Minimum Elapsed Time	Maximum Elapsed Time	Average Elapsed Time	Last Start Date	Last End Date	View Log
<a href="#">Customer</a>	Y							0	0						<a href="#">View Log</a>
<a href="#">Inventory</a>	Y							0	0						<a href="#">View Log</a>
<a href="#">Lookup</a>	Y							0	0						<a href="#">View Log</a>
<a href="#">Purge</a>	Y							0	0						<a href="#">View Log</a>
<a href="#">Transaction</a>	Y							0	0						<a href="#">View Log</a>

Home Sync Reports Upload Errors Concurrent Program Controlled Upgrade Technician Customers Home Logout Preferences Diagnostics

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3. Click the View Log link for a concurrent program in the table row.

The Concurrent Log page appears displaying the log details of the program from the first run of the program. The log page describes the status of the concurrent program in each run.

### Mobile Concurrent Program Details:

The Mobile Concurrent Program Detail page displays the details for each of the concurrent programs. Using this page, you can re-assign a concurrent program to another category. For example, you can re-assign a concurrent program from LOOKUP to TRANSACTION by making a selection from a drop-down list. You can also enable and disable concurrent programs by specifying YES or NO from a drop-down list. These changes can be done even in runtime and will be effective from the next run of the concurrent program.

## Concurrent Program Detail page

**ORACLE** Mobile Field Service Administrator

Home Logout Preferences Diagnostics

HomeSync ReportsUpload ErrorsConcurrent ProgramControlled UpgradeTechnician Customers

Program SummaryProgram DetailQuery SummaryCategory Definition

Concurrent Program Detail Page

Procedure NameEnabled  
CategorySync Start Time  
StatusSync End Time

Previous1-10Next 10

Select All | Select None

Select Procedure Name	Start Date	End Date	Elapsed Time	Category	Enabled	Status	View Log
<input type="checkbox"/> CSM_BUS_PROCESS_TXNS_EVENT_PKG.REFRESH_ACC	17-JUL-2008 04:05:24	17-JUL-2008 04:05:30	6	Lookup	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_CURRENCY_EVENT_PKG.REFRESH_ACC	17-JUL-2008 04:05:30	17-JUL-2008 04:05:31	1	Lookup	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_LOOKUP_EVENT_PKG.REFRESH_ACC	17-JUL-2008 04:05:31	17-JUL-2008 04:05:44	13	Lookup	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_MESSAGES_EVENT_PKG.REFRESH_ACC	17-JUL-2008 04:05:44	17-JUL-2008 04:05:57	13	Lookup	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_PROFILE_EVENT_PKG.REFRESH_ACC	17-JUL-2008 04:05:57	17-JUL-2008 04:06:04	7	Lookup	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_SYSTEM_ITEM_EVENT_PKG.REFRESH_ACC	17-JUL-2008 01:14:05	17-JUL-2008 01:15:12	67	Inventory	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_TXN_BILL_TYPES_EVENT_PKG.REFRESH_ACC	17-JUL-2008 04:06:04	17-JUL-2008 04:06:06	2	Lookup	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_SYSTEM_ITEM_EVENT_PKG.REFRESH_MTL_ONHAND_QUANTITY	17-JUL-2008 01:15:13	17-JUL-2008 01:15:27	14	Inventory	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_UOM_EVENT_PKG.REFRESH_ACC	17-JUL-2008 04:06:06	17-JUL-2008 04:06:08	2	Lookup	Yes	FINE	<a href="#">View Log</a>
<input type="checkbox"/> CSM_UTIL_PKG.REFRESH_ALL_APP_LEVEL_ACC	17-JUL-2008 04:06:08	17-JUL-2008 04:06:08	0	Lookup	Yes	FINE	<a href="#">View Log</a>

Previous1-10Next 10

## Mobile Concurrent Query Summary:

The following graphic contains the details for a specific query. This information appears in table format, providing such details as the query statement, description, and last start and end dates.



## Concurrent Query Summary page

**ORACLE® Mobile Field Service Administrator**

Home Logout Preferences Diagnostics

Home Sync Reports Upload Errors Concurrent Program Controlled Upgrade Technician Customers

Program Summary Program Detail Query Summary Category Definition

Concurrent Query Summary Page

Query ID:  Enabled: ☐

Access Table:  Sync Start Time:  Sync End Time:

Status:  Description Like:

Go

Previous 1-10 Next 10

Query ID	Query Statement	Description	Start Date	End Date	Elapsed Time	Enabled	Status	Access Table Name	View Log
2	SELECT DISTINCT bpt.BUSINESS_PROCESS_ID, bpt.TRANSACTION_TYPE_ID, bpt.LAST_UPDATE_DATE FROM CS_BUSINESS_PROCESSES bpr, CS_BUS_PROCESS_TXNS bpt WHERE bpr.BUSINESS_PROCESS_ID = bpt.BUSINESS_PROCESS_ID AND bpr.FIELD_SERVICE_FLAG = 'Y'	This concurrent query populates/processes the access table JTM_CS_BUS_PROCESS_TXNS_ACC for pub item CS_BUS_PROCESS_TXNS	24-JAN-2006 19:44:00	24-JAN-2006 19:44:00	0	N	Fine	JTM_CS_BUS_PROCESS_TXNS_ACC	<a href="#">View Log</a>
3	select * from cs_transaction_types_b	This concurrent query populates/processes the access table JTM_CS_TRANSACTION_TYPES_ACC for pub item CS_TRANSACTION_TYPES_VL	24-JAN-2006 19:44:00	24-JAN-2006 19:44:00	0	N	Fine	JTM_CS_TRANSACTION_TYPES_ACC	<a href="#">View Log</a>
5	select * from cs_business_processes where field_service_flag='Y'	This concurrent query populates/processes the access table JTM_CS_BUSINESS_PROCESSES_ACC for pub item CS_BUSINESS_PROCESSES	24-JAN-2006 19:44:00	24-JAN-2006 19:44:00	0	N	Fine	JTM_CS_BUSINESS_PROCESSES_ACC	<a href="#">View Log</a>
6	select * from cs_incident_cycle_steps	This concurrent query populates/processes the access table JTM_CS_INCL_CYCLE_STEPS_ACC for pub item CS_INCIDENT_CYCLE_STEPS	24-JAN-2006 19:44:00	24-JAN-2006 19:44:00	0	N	Fine	JTM_CS_INCL_CYCLE_STEPS_ACC	<a href="#">View Log</a>

## Mobile Concurrent Category Summary:

The following graphic displays the definition of each category. The categories are defined in a table by such information as category type, description, and start and end active dates.

You can move queries from one category to another or create your own category and then seed queries in them.

## Category Summary page

**ORACLE® Mobile Field Service Administrator**

Home Logout Preferences Diagnostics

Home Sync Reports Upload Errors Concurrent Program Controlled Upgrade Technician Customers

Program Summary Program Detail Query Summary Category Definition

Category Summary Page

Add

Lookup Type	Lookup Code	Meaning	Description	Enabled	Start Active Date	End Active Date
CON_PROGRAM_CATEGORY	CUSTOMER	Customer	Customer	Y		
CON_PROGRAM_CATEGORY	INV	Inventory	Inventory	Y		
CON_PROGRAM_CATEGORY	LOOKUP	Lookup	lookup	Y		
CON_PROGRAM_CATEGORY	PURGE	Purge	purge	Y		
CON_PROGRAM_CATEGORY	TXC	Transaction	Transaction	Y		

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## Viewing User Synchronization Statistics

This section covers the following tasks:

- Viewing Synchronization Summary Tables on the Home Page, page 8-8

- Viewing Synchronization Details on the Synch Detail Page, page 8-8
- Viewing Synchronization Summary Reports, page 8-10
- Viewing Engineer Synchronization Details, page 8-11
- Viewing Load Distribution, page 8-12

## Viewing Synchronization Summary Tables on the Home Page

The home page of the Mobile Field Service Administrator Console provides the following features:

- The **Sync Exceptions** table:  
This table displays a summary of critical synchronization and upload errors. You can click the links provided to display detailed error reports.
- The **Sync Summary** table:  
This table displays a summary of synchronization metrics: You can view the number of synchronizations that occurred on the current date, the average time per synchronization, and the maximum synchronization time.

To navigate to the home page of the Mobile Field Service Administrator Console, log in as Mobile Field Service Administrator. The home page will automatically display the two tables as described above.

### Screenshot

An image of the Mobile Field Service Administrator Console home page is provided below:

**Mobile Field Service Administrator Console - Home page**

ORACLE Mobile Field Service Administrator			
<a href="#">Home</a>   <a href="#">Sync Reports</a>   <a href="#">Upload Errors</a>   <a href="#">Concurrent Program</a>   <a href="#">Controlled Upgrade</a>   <a href="#">Technician Customers</a>   <a href="#">Home</a>   <a href="#">Logout</a>   <a href="#">Preferences</a>   <a href="#">Diagnostics</a>			
Home Page			
Sync Exceptions			
Today's Sync Errors	Total Sync Errors	Today's Deferred Errors	Total Deferred Errors
0	19	0	0
Sync Summary			
Users Synced Today	Average Sync Time (Sec)	Maximum Sync Time (Sec)	
0			
<a href="#">About this Page</a>   <a href="#">Privacy Statement</a>   Copyright (c) 2008, Oracle. All rights reserved.			

## Viewing Synchronization Details on the Sync Detail Page

Use this procedure to view details about the synchronizations of particular user sessions.

## Steps

1. In the Mobile Field Service Administrator Console, from the Home tab, click the link in the Today's Sync Errors or Total Sync Errors column.

You can click the link in the Today's Deferred Errors or Total Deferred Errors column to view the details of the deferred upload errors.

The Sync Details page appears. On the Sync Detail Page, the synchronization details for each user session are displayed.

2. Review the data provided, which includes user name, the time of the synchronization, the data set size of the last synchronization, if any exceptions occurred during the synchronization, and how many upload errors have occurred for that particular user.

3. If desired, you can filter what data appears on the Sync Detail page. At the top of the page you can search by user name, synchronization time, and whether there was an exception in the synchronization.

You can search by one or more of these parameters. To do so, enter values as desired into the fields, and then click Go to perform the search.

## Screenshot

An image of the Sync Detail page is provided below:

### Sync Detail page

User Name	Employee Name	Device Type	Sync Start Time	Sync End Time	Sync Duration (Sec)	Data Set Size (Bytes)	Sync Status
DBAKER	Baker, David	LAPTOP	24-JUL-2008 17:21:24	24-JUL-2008 17:21:26	2	4536	FAILURE
DBAKER	Baker, David	LAPTOP	21-JUL-2008 14:38:53	21-JUL-2008 14:38:55	2	4579	SUCCESS
DBAKER	Baker, David	LAPTOP	21-JUL-2008 14:34:15	21-JUL-2008 14:34:30	15	4648	SUCCESS
DBAKER	Baker, David	LAPTOP	21-JUL-2008 14:11:58	21-JUL-2008 14:16:56	298	889564	SUCCESS
DBAKER	Baker, David	LAPTOP	09-JUL-2008 05:31:13	09-JUL-2008 05:35:02	229	892528	SUCCESS
DBAKER	Baker, David	LAPTOP	09-JUL-2008 05:05:06	09-JUL-2008 05:17:26	740	172159	FAILURE
DBAKER	Baker, David	LAPTOP	24-JUL-2008 17:27:39	24-JUL-2008 17:28:58	79	677549	SUCCESS
DBAKER	Baker, David	LAPTOP	03-AUG-2008 22:23:12	03-AUG-2008 22:26:31	199	677507	SUCCESS
DBAKER	Baker, David	LAPTOP	30-JUL-2008 01:26:59	30-JUL-2008 01:31:00	241	677507	SUCCESS
DEMO_OWNER	Demo_Owner,	LAPTOP	14-JUL-2008 23:15:46	15-JUL-2008 00:09:02	3196	678492	SUCCESS

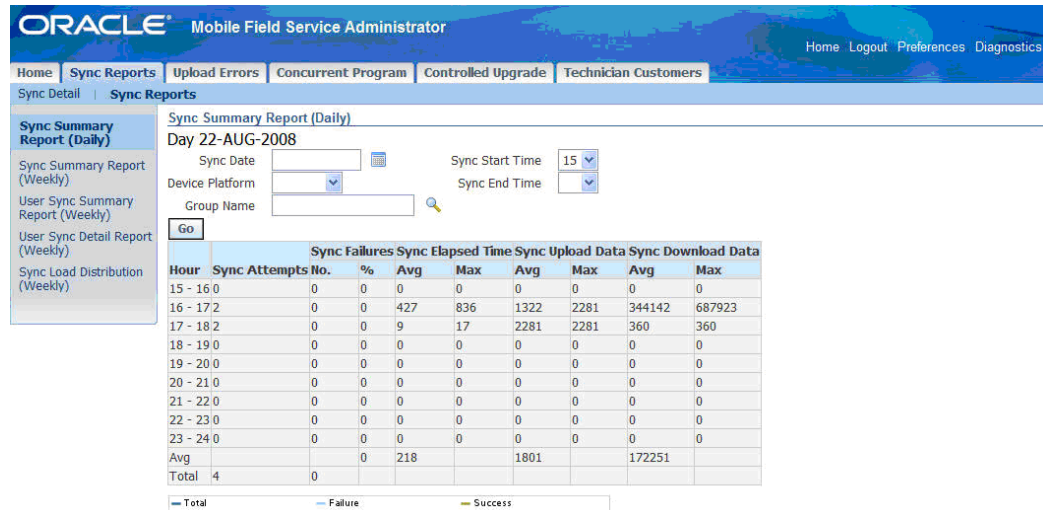
There is also a daily synchronizations report, which you can access from the Sync Reports sub tab. It offers a searchable table that lists how many synchronization attempts and failures have occurred during specified hours on a given date. It also provides metrics on the average and maximum synchronization times, upload data

sizes, and download data sizes. You can filter the table by date and device type, as well as specify the range of hours (Start Time and End Time) displayed.

## Viewing Synchronization Summary Reports

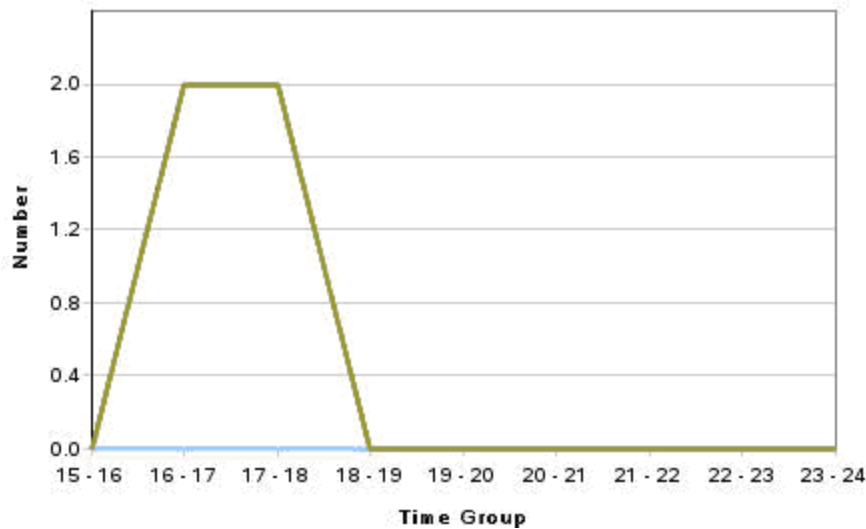
For each hour of the day, the following report summarizes the synchronization for the entire system along with a graph. Use this report to view the overall synchronizing pattern of the day.

### Sync Summary Report (Daily) page (1 of 2)



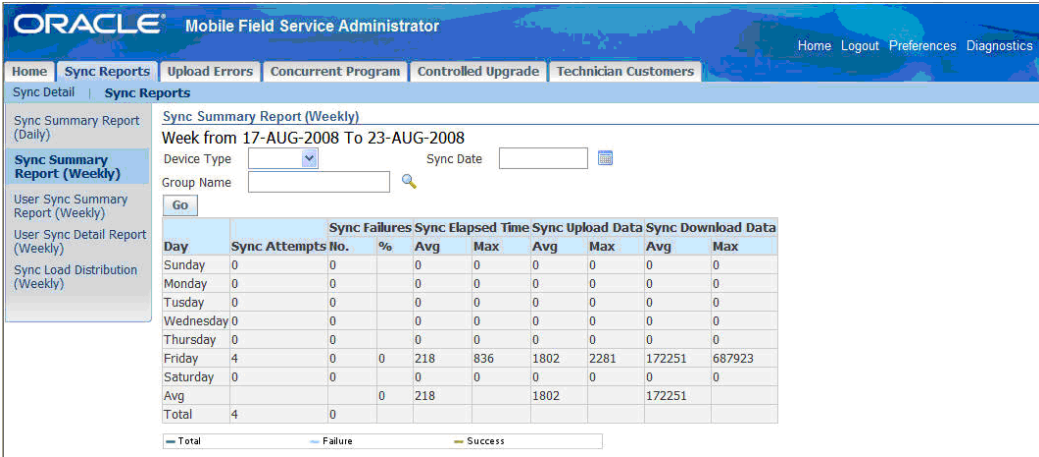
### Sync Summary Report (Daily) page (2 of 2)

#### Sync Chart

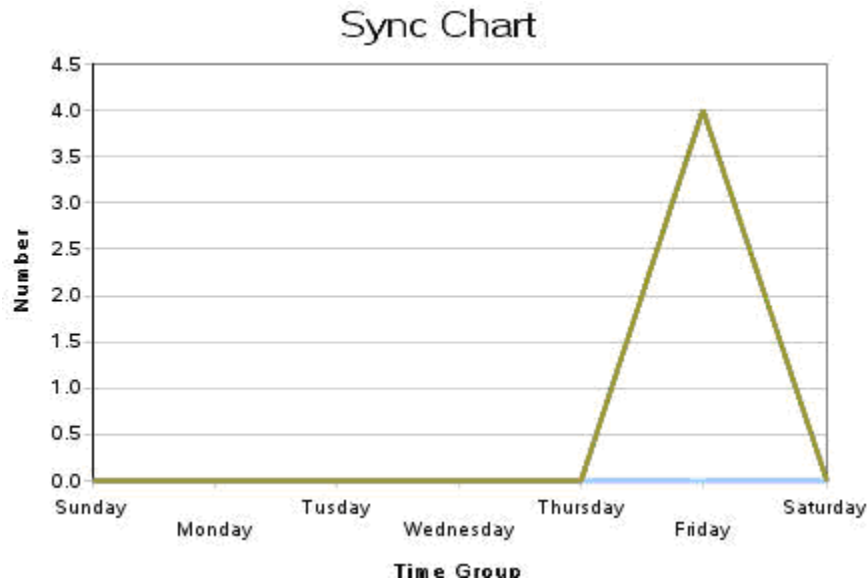


The following report displays the summary of the synchronization for the entire system for each week on daily basis along with a graph. Use this report to view the overall synchronizing pattern of the week.

**Sync Summary Report (Weekly) page (1 of 2)**



**Sync Summary Report (Weekly) page (2 of 2)**



**Viewing Engineer Synchronization Details**

The following report summarizes the synchronizations for all engineers for each week. Use this report to compare the different synchronizing activities for each engineer.

### User Sync Summary Report (Weekly) page

**ORACLE** Mobile Field Service Administrator

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Sync Detail Sync Reports

Sync Summary Report (Daily)  
Sync Summary Report (Weekly)  
**User Sync Summary Report (Weekly)**  
User Sync Detail Report (Weekly)  
Sync Load Distribution (Weekly)

**User Sync Summary Report (Weekly)**

Week from 17-AUG-2008 To 23-AUG-2008

User Name  Employee Name   
Device Type  Sync Date   
Group Name

User Name	Employee Name	Sync Attempts	No.	%	Avg	Max	Avg	Max	Avg	Max
DBAKER	Baker, David	4	0	0	218	836	1802	2281	172251	687923
Avg			0	0	218		1802		172251	
Total		4	0							

The following report displays the details of all the synchronizations for an engineer for each week. Use this report to view the detailed statistics of all the synchronizations done by the engineer.

### User Sync Detail Report (Weekly) page

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Sync Detail Sync Reports

Sync Summary Report (Daily)  
Sync Summary Report (Weekly)  
User Sync Summary Report (Weekly)  
**User Sync Detail Report (Weekly)**  
Sync Load Distribution (Weekly)

**User Sync Detail Report (Weekly)**

Week from 17-AUG-2008 To 23-AUG-2008

User Name  Employee Name   
Sync Date  Group Name

User Name	Employee Name	Status	Sync Start Time	Sync End Time	Elapsed Time	Upload Data Byte	Download Data Byte
DBAKER	Baker, David	SUCCESS	22-AUG-2008 16:20:49	22-AUG-2008 16:34:45	836	363	687923
DBAKER	Baker, David	SUCCESS	22-AUG-2008 16:43:37	22-AUG-2008 16:43:54	17	2281	360
DBAKER	Baker, David	SUCCESS	22-AUG-2008 17:06:44	22-AUG-2008 17:07:01	17	2281	360
DBAKER	Baker, David	SUCCESS	22-AUG-2008 17:09:37	22-AUG-2008 17:09:38	1	2281	360

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## Viewing Load Distribution

The following report displays the load distribution for each hour over a span of days. This report helps you in traffic modelling and estimation of the load on the system.

[illegible]

### Sync Chart

Time Group	Number
Sunday	0.0
Monday	0.0
Tuesday	0.0
Wednesday	0.0
Thursday	0.0
Friday	4.0
Saturday	0.0
Summary	4.0

This section covers the following tasks:

- Administrative Tasks 8-13

## Understanding Upload Errors

During upload, some of the data that is synchronized might not be applied to the enterprise database.

The following situations might cause upload errors:

- **System Issues:** System issues might cause upload errors if the system is on a different mobile patch level than what is required. Administrators should verify the correct patch levels if this situation is suspected.
- **Setup Issues:** Setup issues might cause upload errors if the correct business process type or profile setting is not set on the enterprise system. For example, in an expense line, it is necessary that the expense type is set correctly. If the expense type is set as "lunch" on the enterprise system while on the mobile device the expense line is set as "dinner," then this issue might cause an upload error.
- **Faulty Data or Data Conflicts:** Faulty data or data conflicts can also cause upload errors. For example, multiple people attempting to update the same record can cause data conflicts where the server and the client to go out of sync.

The Mobile Application Foundation maintains a log of all errors that occur during the upload process. In the Upload Error pages, you can view and reapply these errors. In the case of a system or setup issue, you only need to fix the system or setup issue and then reapply the error. In the case of faulty data or data conflicts, you need to modify the data and then apply the error.

You can change data or system elements as needed and then reapply errors to the enterprise database. If they are successful, then you can delete them from the error tables. If they continue to fail, then you can choose to either modify them once more and try again, or to discard the failed errors and delete them from the error tables.

The Mobile Application Foundation logs every user synchronization session that has errors during upload, as well as the actual errors. For example, a user synchronization session could consist of uploading two service requests and three debrief lines. In this session, suppose two of the debrief lines failed to be applied to the enterprise system. This session would have two upload errors. You can choose to discard one or both of these errors. However, when you reapply even one of the errors, all the errors in the user session will be reapplied. Therefore, it is recommended that you make changes to all the errors in a synchronization session before reapplying the session.

Depending on how they are handled by the administrator, upload errors can be classified as follows:

- **Deferred:** These transactions did not go through to the main database tables. Either they have never been reapplied, or they have been reapplied multiple times and always failed.
- **Passed:** These transactions have been successfully reapplied. Only transactions that



originally failed and later were successfully reapplied are shown here. Passed upload errors can be purged (permanently deleted) from the system by an administrator.

- **Discarded:** These are transactions that you want to remove from the system because reapplying them has never been successful. Discarded upload errors are analogous to files that are in the "Recycle Bin" or the "Trash." Discarded upload errors can be purged (permanently deleted) from the system by an administrator.

## Purging Upload Errors

Administrators should periodically purge all stored upload errors, because the table in the enterprise system which holds them will grow infinitely large unless its contents are occasionally removed.

## Viewing the Upload Errors Summary

Use this procedure to view the upload errors summary.

### Steps

1. In the Mobile Field Service Administrator Console, select the Upload Errors tab.

The Upload Error Summary page appears providing summary information for deferred, discarded, and passed upload errors.

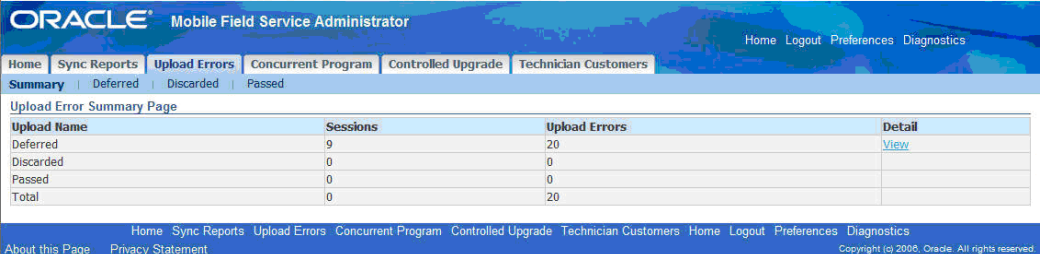
2. To view further information about the errors, click the appropriate View link in the Detail column.

Alternatively, you can click a sub tab to navigate to the respective detail page for that error type.

### Screenshot

An image of the Upload Error Summary page is provided below:

#### Upload Error Summary page



ORACLE® Mobile Field Service Administrator			
Home Logout Preferences Diagnostics			
Home Sync Reports Upload Errors Concurrent Program Controlled Upgrade Technician Customers			
Summary   Deferred   Discarded   Passed			
Upload Error Summary Page			
Upload Name	Sessions	Upload Errors	Detail
Deferred	9	20	<a href="#">View</a>
Discarded	0	0	
Passed	0	0	
Total	9	20	
Home Sync Reports Upload Errors Concurrent Program Controlled Upgrade Technician Customers Home Logout Preferences Diagnostics			
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## Managing Deferred Upload Errors

Upload errors are generated during the upload process when some of the data fails to be applied to the enterprise database. Upload errors can be caused by the following:

- System issues.

It is possible that the system is on a different mobile patch level than what is required.

- Setup issues.

The correct business process type or the correct profile setting is not set on the enterprise system. For example, it is necessary that the expense type for an expense line is set correctly.

- Faulty data or conflicts.

Oracle Mobile Application Foundation maintains a log of all upload errors. You can use the Mobile Field Service Administrator Console to view and manage these errors.

Deferred upload errors are transactions that did not go through to the main database tables. Either they have never been reapplied, or they have been reapplied multiple times and always failed.

### To Manage Deferred Upload Errors:

Use this procedure to manage deferred upload errors:

1. In the Mobile Field Service Administrator Console, select the Upload Errors tab and then the Deferred sub tab to navigate to the Deferred Transactions Summary page.

## Deferred Transactions Summary page

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Summary Deferred Discarded Passed

Deferred Transactions Summary Page

User Name% Employee Name Sync Date 15-Jul-2008

Last Apply Date Publication Item Name Sync ID Error Description

Group Name

Go

Select All Select None

Select	User Name	Employee Name	Sync ID	Sequence	Last Apply Date	Sync Date	Publication Item Name	Times Applied	Error Description	Detail
<input type="checkbox"/>	CHMARTIN	Martin, Chris	107	3	15-JUL-2008 23:06:39	15-JUL-2008 23:05:01	CSF_M_DEBRIEF_LABOR	1	End date and time must be between 15-Jul-2008 01:16 and 15-Jul-2008 23:59	<a href="#">Detail</a>
<input type="checkbox"/>	CHMARTIN	Martin, Chris	114	1	15-JUL-2008 23:15:15	15-JUL-2008 23:11:59	CSF_M_DEBRIEF_LABOR	1	End date and time must be between 15-Jul-2008 01:16 and 15-Jul-2008 23:59	<a href="#">Detail</a>
<input type="checkbox"/>	DEMO_OWNER	Demo_Owner,	67	1	15-JUL-2008 02:46:11	15-JUL-2008 02:45:23	CSF_M_SR_CONTACTS	1	API Programming Error (CS_ServiceRequest_UTIL.Validate_Group_Id): The value "100001125" for parameter p_owner_group_id is invalid.	<a href="#">Detail</a>
<input type="checkbox"/>	DEMO_OWNER	Demo_Owner,	67	2	15-JUL-2008 02:46:11	15-JUL-2008 02:45:23	CSF_M_SR_CONTACTS	1	API Programming Error (CS_ServiceRequest_UTIL.Validate_Group_Id): The value "100001125" for parameter p_owner_group_id is invalid.	<a href="#">Detail</a>
<input type="checkbox"/>	DEMO_OWNER	Demo_Owner,	67	3	15-JUL-2008 02:46:10	15-JUL-2008 02:45:23	CSM_INCIDENTS_ALL	1	API Programming Error (CS_ServiceRequest_UTIL.Validate_Group_Id): The value "100001125" for parameter p_owner_group_id is invalid.	<a href="#">Detail</a>

Discard Reapply

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- If desired, you can search for errors by one or more of the provided parameters: user name, synchronization date, publication item name, or the error description that failed. The default result set displays all user synchronization sessions that failed. To perform a search, enter values into the appropriate fields, and then click **Go**. You can use the percent sign (%) as a wildcard character.
- Review the Deferred Transactions Summary table, which displays a summary of user synchronization session errors. The table contains the following columns:
  - User Name:** The name of the mobile user whose data had errors.
  - Synch ID:** The ID of the synchronization session.
  - Last Apply Date:** The date and time at which the user last synchronized the data.
  - Error Count:** The number of errors that have occurred.
  - Times Applied:** This displays the number of times the transaction was reapplied unsuccessfully, after it was deferred. For a new upload error, the value is "1."
  - Select:** In this column you can select a check box to work with a particular error (you can reapply it, discard it, or view its details).
- To view further details about a particular user synchronization session, click the **Sync ID** link located in that row in the table.

The Deferred Transaction Detail page appears.

5. To edit transactions details, click the **Details** link located in that row in the table.

The Transaction Edit page appears.

6. To discard errors, select the appropriate check box(es), then click the **Discard** button.
7. To reapply errors, select the appropriate check box(es), then click the **Reapply** button.

### To Work with the Deferred Upload Errors of a Particular User Synchronization Session:

Use this procedure to work with the deferred upload errors of a particular user synchronization session:

1. To reach the Deferred Transactions Detail page, follow this navigation path in the Mobile Field Service Administrator Console:
  1. Select the Upload Errors tab.
  2. Select the Deferred sub tab.
  3. Click a **Sync ID** link.

#### Deferred Transactions Detail page

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Summary Deferred Discarded Passed

Deferred Transactions Detail Page

User NameCHMARTIN Sync ID107

Last Apply Date15-JUL-2008 23:06:39 Sync Date15-JUL-2008 23:05:01

Upload Errors1 Times Applied1

Sequence Name	Publication Name	Publication Item Name	Publication Wrapper Package Name	Last Apply Date	Sync Date	Error Detail	Detail
3	SERVICEP	CSF_M_DEBRIEF_LABOR	CSM_SERVICEP_WRAPPER_PKG	15-JUL-2008 23:06:39	15-JUL-2008 23:05:01	End date and time must be between 15-Jul-2008 01:16 and 15-Jul-2008 23:59	<a href="#">Detail</a>

[Return to Previous Page](#)

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The Deferred Transactions Detail page appears displaying information about the user synchronization session and the errors that occurred in that session. The error information displayed includes the following:

1. **Sequence Number:** A synchronization session includes all the records updated by the mobile user. The sequence number indicates the order of this record among the records that were applied to the enterprise database.
2. **Publication Name:** Publication name refers to a group of mobile tables which

comprise the data store for the mobile application in the mobile device. For example, SERVICEL refers to Oracle Mobile Field Service Store and Forward - Laptop, while SERVICEP refers to Oracle Mobile Field Service Store and Forward - Pocket PC. A mobile application is composed of Publications (data) and a mobile application (code).

3. **Publication Item Name:** Publication item names are the names of the mobile tables in Oracle Mobile Field Service Store and Forward - Laptop or in Oracle Mobile Field Service Store and Forward - Pocket PC. A publication item is part of a publication.
4. **Publication Wrapper Package Name:** The wrapper name is the name of the PL/SQL packaged procedure which is responsible for applying the client changes to the enterprise database.
5. **Last Apply Date:** The date when the error was last applied.
6. **Error Detail**

2. To access the page where you can view and edit the details of a particular error, click the appropriate **Detail** link.

The Transaction Edit page appears.

### To Edit the Details of Deferred Upload Errors:

Use this procedure to edit the details of a particular deferred upload error:

1. To reach the Transaction Edit page where you can edit the details of deferred upload errors, follow one of these two navigation paths in the Mobile Field Service Administrator Console:
  1. Select the Upload Errors tab.
  2. Select the Deferred sub tab.
  3. Click a **Detail** link in the table, opening the Transaction Edit page.

Alternative method.

1. Select the Upload Errors tab.
2. Select the Deferred sub tab.
3. Click the **Sync ID** link in the table, opening the Deferred Transactions Detail page.
4. Click the **Detail** link in the table, opening the Transaction Edit page.

### Transaction Edit page

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Summary Deferred Discarded Passed

Transaction Edit Page

User Name: CHMARTIN Sync ID: 107  
Publication Item Name: CSF\_M\_DEBRIEF\_LABOR Sequence: 3  
Error Description: End date and time must be between 15-Jul-2008 01:16 and 15-Jul-2008 23:59

DEBRIEF\_LINE\_ID: 1000001000047  
INVENTORY\_ITEM\_ID: 225885  
TXN\_BILLING\_TYPE\_ID: 619  
TASK\_ASSIGNMENT\_ID: 451415  
RESOURCE\_ID: 100001526  
LABOR\_START\_DATE: 16-JUL-2008  
LABOR\_END\_DATE: 16-JUL-2008  
BUSINESS\_PROCESS\_ID: 1164  
LAST\_UPDATE\_DATE: 16-JUL-2008  
QUANTITY: 2  
UOM\_CODE: HR  
SERVICE\_DATE: 16-JUL-2008  
ITEM\_NAME: FSLaborR12  
ITEM\_DESCRIPTION: Labor Item  
TRANSACTION\_TYPE\_ID: 593  
LABOR\_REASON\_CODE: DIAGNOSIS  
ATTRIBUTE1:  
ATTRIBUTE2:

Save Discard

2. The Transaction Edit Page displays details about a particular deferred upload error. On this page, you can do one of the following:
  - Discard this error: Click **Discard**.
  - Change the values of this error: If faulty values are causing the upload error, you can edit values as desired in the fields provided, and then click **Save** to apply changes.

## Managing Discarded Upload Errors

Discarded upload errors are transactions that you want to remove from the system. Reasons for discarding transactions include the following:

- Reapplying them has never been successful.
- The mobile user entered an incorrect value and wants to undo the transaction.
- The transaction has become old due to multiple failures and the user has created more recent transactions.

Discarded errors are analogous to files in the "Recycle Bin" or the "Trash." Use this procedure to manage discarded upload errors.

### To Manage Discarded Upload Errors:

1. In the Mobile Field Service Administrator Console, select the Upload Errors tab and

then the Discarded sub tab to navigate to the Discarded Transactions Summary page.

### Discarded Transactions Summary page

ORACLE® Mobile Field Service Administrator

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Summary Deferred **Discarded** Passed

Discarded Transactions Summary Page

User Name  Employee Name

Last Apply Date  Sync Date

Publication Item Name  Publication Wrapper Package Name

Group Name  Error Description

Go

Select	User Name	Employee Name	Sync ID Sequence	Publication Item Name	Last Apply Date	Sync Date	Times Applied	Error Description
No results found.								

Purge

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2. If desired, you can search for errors by one or more of the provided parameters: user name, synchronization date, publication item name, or the name of the wrapper that failed. The default result set displays all user synchronization sessions that have been discarded. To perform a search, enter values into the appropriate fields and then click **Go**. You can use the percent sign (%) as a wildcard character.
3. Review the Discarded Transactions Summary table, which lists discarded user synchronization session errors. The table contains the following columns:
  - **User Name:** The name of the mobile user whose data had errors.
  - **Synch ID:** The ID of the synchronization session.
  - **Last Apply Date:** The date and time at which the user last synchronized the data.
  - **Error Count:** The number of errors that have occurred.
  - **Times Applied:** This column displays the number of times the transaction was reapplied unsuccessfully, after it was deferred. For a new upload error, the value is "1."
  - **Select:** In this column, you can select which errors you want to purge.
4. To purge discarded errors, ensure that the errors that you want to purge are selected in the table. Alternatively, you can purge all errors by clicking **Select All** and then **Purge**.

**Note:** Purging will permanently delete the discarded errors from

the system.

## Managing Passed Upload Errors

Passed upload errors are transactions have been successfully reapplied. Please note that only transactions that originally failed and later were successfully reapplied are shown in the Upload Errors tab. Use this procedure to manage passed upload errors.

### To Manage Passed Upload Errors:

1. In the Mobile Field Service Administrator Console, select the Upload Errors tab and then the Passed sub tab to navigate to the Passed Transactions Summary page.

#### *Passed Transactions Summary page*

The screenshot displays the 'Passed Transactions Summary page' within the Oracle Mobile Field Service Administrator interface. The page features a navigation bar at the top with tabs for Home, Sync Reports, Upload Errors (selected), Concurrent Program, Controlled Upgrade, and Technician Customers. Below the navigation bar, there are sub-tabs for Summary, Deferred, Discarded, and Passed (selected). The main content area includes search filters for User Name, Last Apply Date, Publication Item Name, Group Name, Employee Name, Sync Date, Publication Wrapper Package Name, and Error Description. A 'Go' button is located below the filters. The table below the filters has columns: Select User Name, Employee Name, Sync ID, Sequence, Publication Item Name, Last Apply Date, Sync Date, Times Applied, and Error Description. The table currently shows 'No results found.' and a 'Purge' button is at the bottom left.

2. If desired, you can search for errors by one or more of the provided parameters: user name, synchronization date, publication item name, or the name of the wrapper that failed. The default result set displays all passed errors. To perform a search, enter values into the appropriate fields, then click **Go**. You can use the percent sign (%) as a wildcard character.
3. Review the Passed Transactions Summary table, which lists passed user synchronization session errors. The table contains the following columns:
  - **User Name:** The name of the mobile user whose data had errors.
  - **Sync ID:** The ID of the synchronization session.
  - **Last Apply Date:** The date and time at which the user last synchronized the data.
  - **Error Count:** The number of errors that have occurred.



- **Times Applied:** This column displays the number of times the transaction was re-applied unsuccessfully, after it was deferred. For a new upload error, the value is "1."
  - **Select:** In this column, you can select which errors you want to purge.
4. To purge passed errors, confirm that the errors you want to purge are checked off in the table. Alternatively, you can purge all errors by clicking **Select All** and then **Purge**.

**Note:** Purging will permanently delete the discarded errors from the system.

## Defining and Editing Mobile Queries

You can create and update mobile queries and then download them to technicians' mobile devices. When defining these queries, you give the query a name, assign it to a responsibility, and then specify its retention policy, input variables, output format, and the name of the work flow or BPEL Process that runs the query.

### To Define a New Mobile Query:

1. Log in as Mobile Field Service Administrator.
2. Select the Mobile Query tab and then the Create Mobile Query subtab.
3. Fill out the upper region of the Create Mobile Query page and use the following list that further explains certain fields in the region:
  - **Query Type:** LOV that consists of SQL, PL/SQL, and Workflow.
  - **Workflow Name:** Displays all valid workflow names that include a few seeded workflows. This is applicable only if you select the query type as Workflow.
  - **Query Text:** Supply a SQL statement that uses the table name defined the profile CSM: Mobile Query Schema Name. The specified schema must be a non-EBS, custom schema. It is null by default. All valid table names defined in the custom schema are possible. The default table is ASG\_USER.
  - **Enable for Email:** In this LOV, select Yes if you want to run this query from e-mail as well as from a Mobile Field Service device.. Select No if you want to run the query only from a Mobile Field Service device. For more steps for e-mail mobile queries, see Setting Up Mobile Queries Based on E-Mail, page 8-25.

- **Access Restricted by Responsibility:** In this LOV, select Yes or No.

The mobile query access is controlled by responsibility if the flag is set to Yes. This means that this mobile query can be accessed only by users with the responsibility associated with this mobile query. In this case, you must set up this user as a FND\_USER in E-Business Suite. If you want to provide access to this mobile query to users who do not have an FND\_USER ID, such as non-employees or third party engineers, then set this flag to No. Doing so allows any user to run this mobile query.

**Caution:** Take extreme care when setting this flag to No. It is your responsibility to define any and all security logic as part of implementing this mobile query.

- **Output Format:**
    - Select Form if the output contains only one record.
    - Select Table if the output contains multiple records.
    - Select As an Attachment for output such as Word or Excel.
    - Select Custom when you are using a custom module that you have implemented with the Mobile Field Service Pocket PC SDK.
  - **Execution Mode:** Mode values may be Synchronous or Asynchronous, and Asynchronous is the default. With the synchronous mode, technicians are able to submit a query and receive the query response in a single sync session. With the asynchronous mode, technicians submit the query and synchronization with server. They will receive the Query response after the next synchronization.
4. Fill out the Query Variables region of the Create Mobile Query page and use the following list that further explains certain fields in the region:
  5. In the Query Variable region of the page, enter the variable name from the table whose value you want to query. Provide any desired default value for the variable name.
  6. Click Add Another Row to supply an additional row for another variable.
  7. Select the check boxes for the variables that you want to retain in the query template or click Delete to delete selected rows.
  8. Click save to save your named query template.

9. Click Test to run the query for accuracy.

### **To Search for and Edit a Mobile Query:**

1. Log in as Mobile Field Service Administrator.
2. Select the Mobile Query tab and then the Search Mobile Query subtab.
3. In the upper part of the page, enter the desired elements of the query description for your search criteria and click Go.

The result of the search appears in the lower part of the page.

4. Select a mobile query for subsequent actions as defined by the following list:
  - Click Update to edit the query in the Update Mobile Query page.
  - Click Delete to remove a query from the list.
  - Click Clone to create a copy of an existing mobile query.
  - Click Run to execute the query.
  - Click Create to save the query.

## **Setting Up Mobile Queries Based on E-Mail**

Mobile queries are not limited to the synchronization process using store and forward client devices. Technicians can make such queries independent of these devices by using an e-mail client. For this method, as implementers and administrators you define and test queries much as you do for store and forward devices but now must perform additional steps unique to the requirements of e-mail processing.

### **To Define a Mobile Query for E-Mail:**

1. Perform the steps to define a mobile query in Defining and Editing Mobile Queries, page 8-23 and make sure that you select Yes in the Enable for Email LOV.

### **To Set Server Profiles for E-Mail Mobile Queries:**

Because these mobile queries are based on e-mail, you must define the target outgoing, SMTP, server and the retrieving, IMAP, server.

1. Log in as Mobile Field Service Administrator.
2. In the Oracle Mobile Field Service Administrator console, select the Mobile Query tab and then the Email Profiles Setup subtab.

3. Enter values for the following profiles. Refer as needed to their detailed descriptions in the list of profiles common to store and forward devices, page 4-16.
  - CSM: Email IMAP Host Name
  - CSM: Email IMAP User Name
  - CSM: Email IMAP User Password
  - CSM: Email SMTP Host Name
  - CSM: Email SSL Enabled
  - CSM: Inbox for Email Interface
4. Click Save.
5. Someone with system administrator responsibility must set the profile CSM: Notify on Email Mobile Query Exceptions.

#### **To Set Status Environmental Profiles:**

For the application to resolve status query commands, several other profiles must be set.

1. Verify and if necessary, reset the following profiles:
  - CSF: Default "In Planning" task status
  - CSF: Default "Accepted" task status
  - CSF: Default "Cancelled" task status
  - CSF: Planned Task Status for Planned Task
  - CSF: Default Rejected Task Status
  - CSF: Default Task Type for Personal Tasks
  - CSF: Default Working task status

## **Using the Oracle10g Lite Administration Windows**

Oracle10g Lite provides an administrative console that can be accessed from the following URL:

`http://<mobile_server_IP_address>/webtogo`

The administrator can log into the mobile server console. The console can be used for the following tasks:

- Changing password for the mobile server repository
- Stopping or starting the mobile server, independent of the Apache listener
- Enabling or disabling trace options
- Setting up exception events for automatic synchronization

Refer to the *Oracle10g Lite Mobile Server Administration Guide* for details.

**Note:** Whenever you change the mobile server repository password using this administration screen, you should also make sure to set the profile option `ASG_CONS_PASSWORD` with the new password. Failure to do so will cause errors while applying Mobile Application patches.



---

# Customizing Dashboard Views for Oracle Mobile Field Service Store and Forward - Laptop

This chapter covers the following topics:

- Understanding Dashboard Customized Views
- Customizing Dashboard Views
- Changing View Element Sequence
- Causing Personalization Changes to go into Effect

## Understanding Dashboard Customized Views

Field technicians and administrators can arrange the information on their dashboards to meet their specific needs. The Field Service Technician Dashboard and Field Service Administrator Dashboard are delivered with four seeded views (Today's Tasks, Unassigned Tasks, Service Requests without tasks, and Open Tasks), which contain a preselected sequence of display columns. The number of tasks that display per page is set as well. Technicians and administrators can duplicate, and then modify the seeded views to personalize them, or they can create an entirely new view in which the task search criteria are determined by the technician or administrator.

**Important:** Dashboard customizing functionality is available only from the Mobile Field Service Developer responsibility.

See Customizing Dashboard Views, page 9-1.

## Customizing Dashboard Views

Use this procedure to personalize views.

## Steps:

1. From the Mobile Field Service Developer responsibility, navigate to the Mobile Field Service Personalization Page.

ORACLE® Mobile Field Service Developer

Diagnostics Home Logout Preferences Personalize Page

Mobile Field Service Personalization Page

Uix File Directory : \$CSM\_TOP/html

Please Choose NLS Language : AMERICAN Please select Responsibility Site

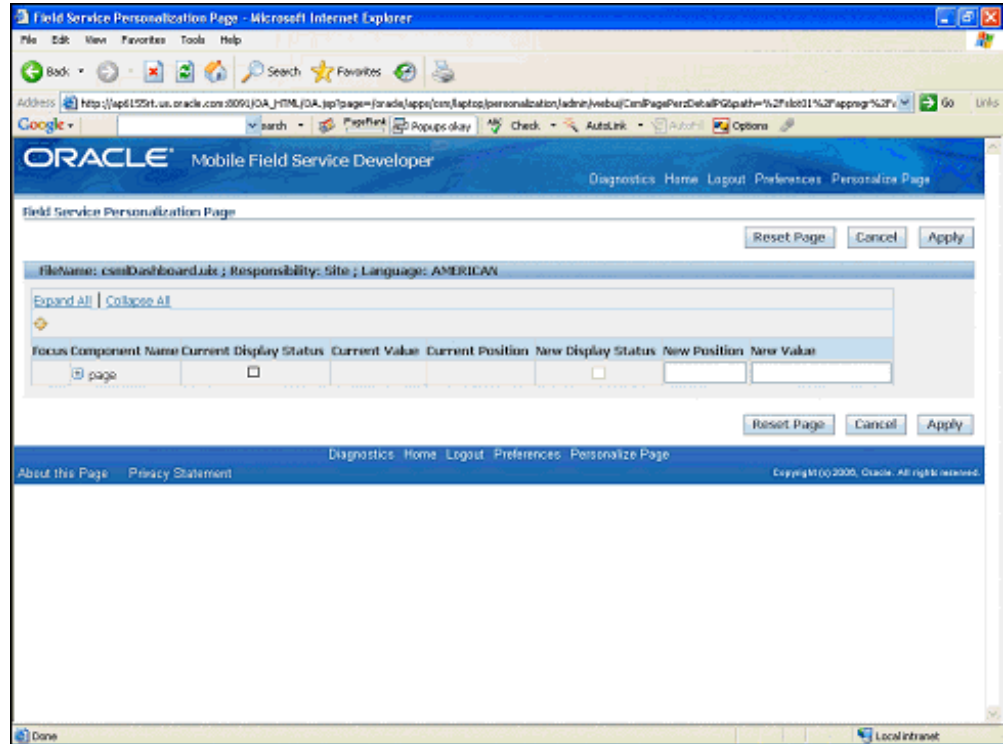
Personalize Advanced Table: (PerzSumData)

Page Name	UIX File Name	
Create Personal Task	csmlPersonalTaskCreate.uix	
Create Task	csmlTaskCreate.uix	
Create Service Request	csmlSrCreate.uix	
Service Request Details	csmlSrDetails.uix	
Service History	csmlServiceHistory.uix	
Task Details	csmlTaskDetails.uix	
Daily Task View	csmlDailyTask.uix	
Weekly Task View	csmlWeeklyTask.uix	
Monthly Task View	csmlMonthlyTask.uix	
Install Base Details	csmlIBDetails.uix	
Item Details	csmlProductDetails.uix	
Create Order	csmlOrderCreate.uix	
Parts Transfer	csmlPartsTransfer.uix	
Create Order Details	csmlOrderDetails.uix	

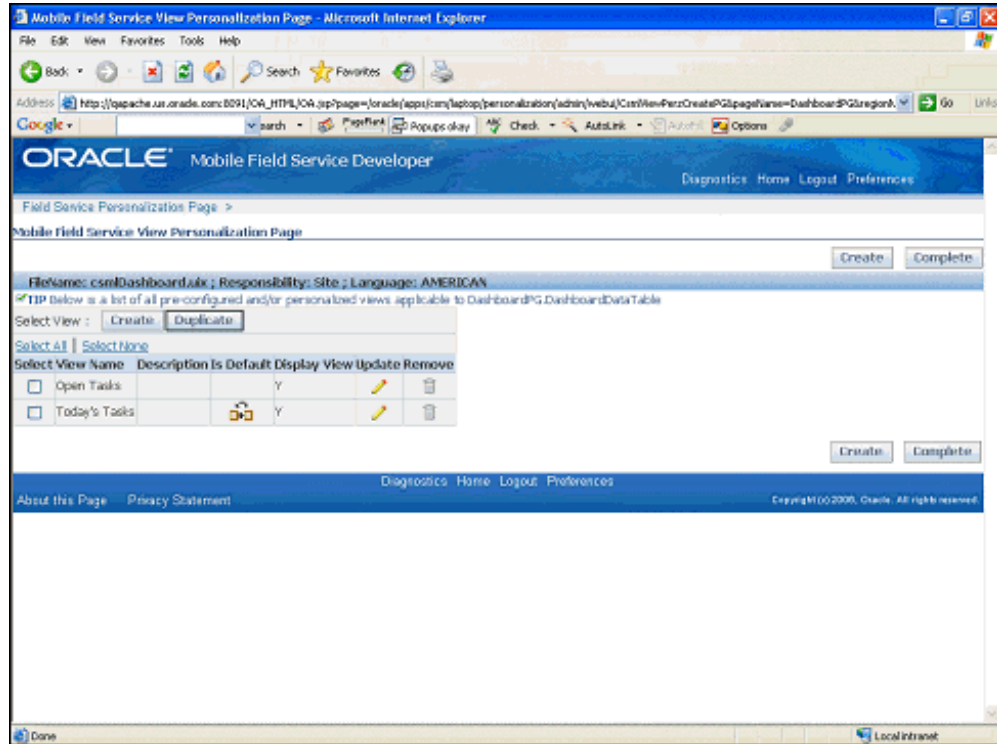
2. The personalization feature is limited to the Site and Responsibility level. Select the level of personalization along with the language from the drop down menus in the header portion of the Mobile Field Service Personalization page.
3. Click the Personalize icon in the row for the Dashboard page name, UIX Filename csm|Dashboard.uix.

The personalization icon launches the Field Service Personalization Page.





4. Click Expand All.

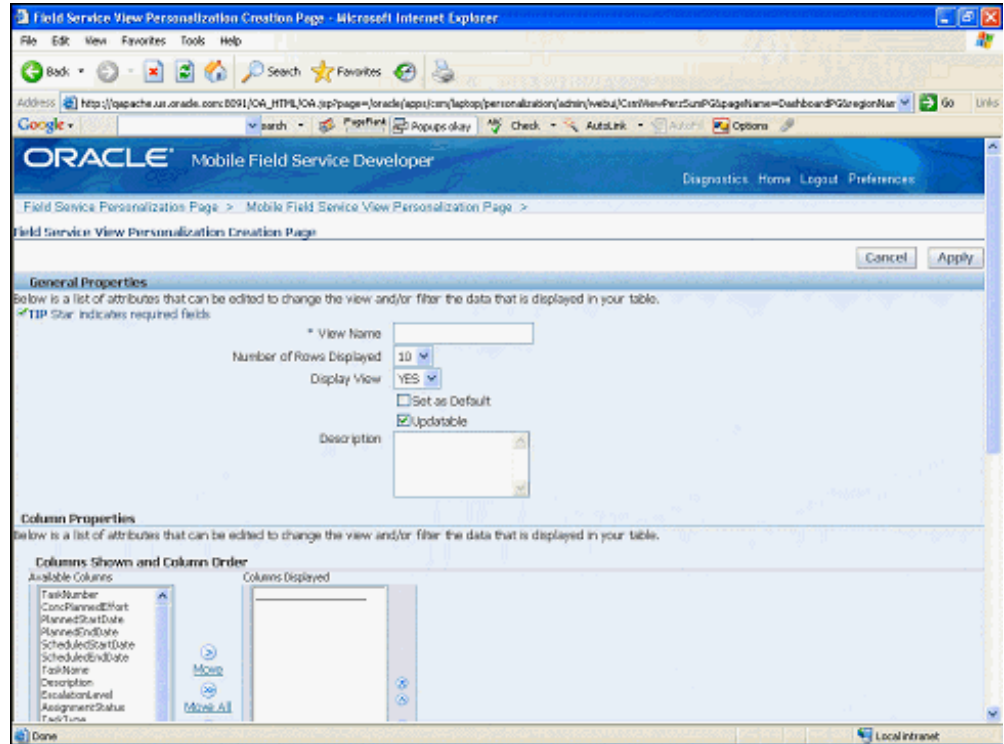


5. Click the Include Dashboard Table link.

This launches the mobile Field Service Personalization page.

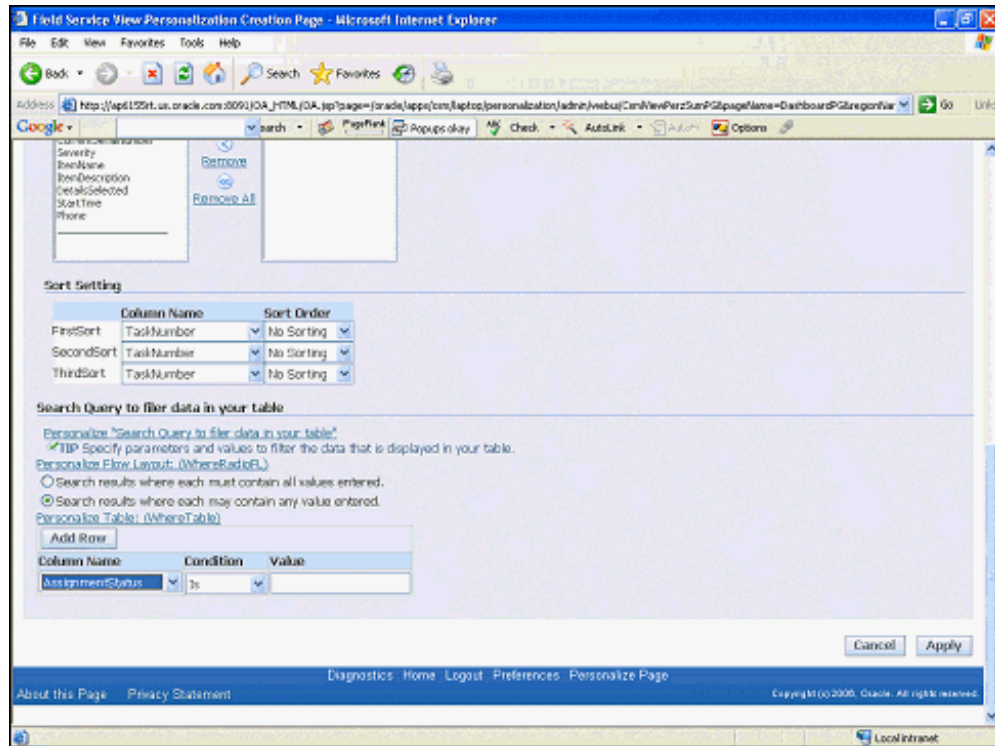
6. From this page you can modify an existing view, duplicate an existing view, or create a new view.
  - To modify an existing view, select the view, and then click the Update icon in the row for the selected view.
  - You can personalize any of the views in the dashboard by duplicating the view under a different name, and then changing the parameters for the duplicated view to fit your needs. To duplicate an existing view, select the view, and then click Duplicate.
  - To create a new view, click Create.

This screen capture displays the result of clicking Create, to create a new view. The Field Service View Personalization Creation Page appears.

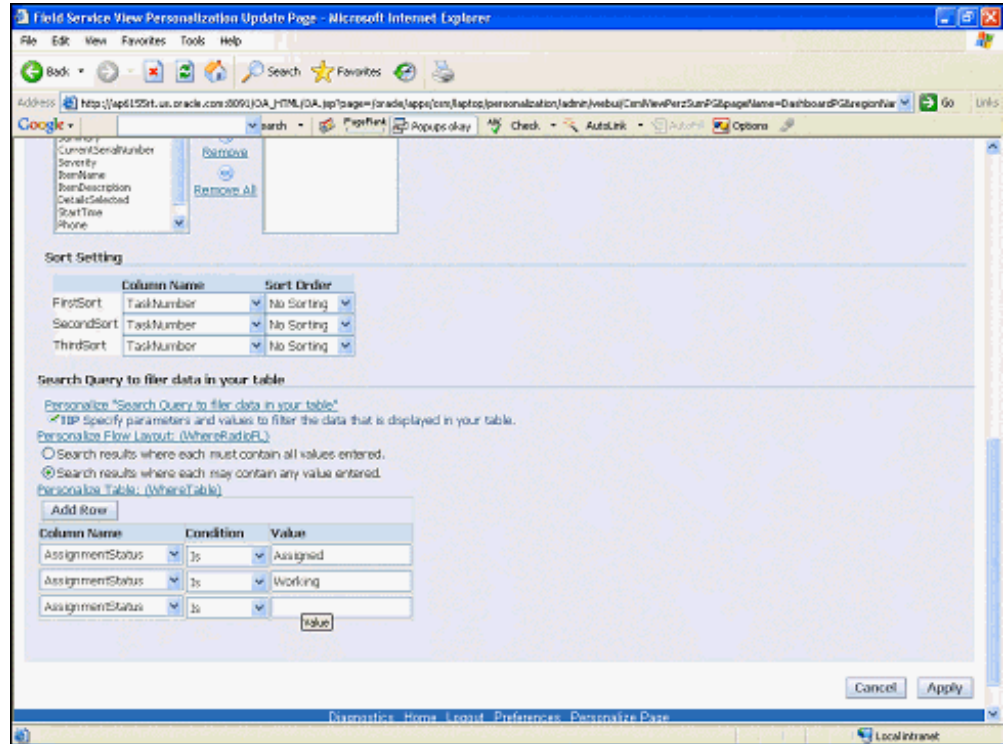


7. On this page you:
  - Enter the View Name.
  - Enter the View Description.
  - Specify the number of rows to display per page.
  - Select the Set as Default check box if you want this view to open when the Dashboard is launched.
  - Select the Updateable check box if you want to enable this view to be modified in the future.
8. In the Column Properties region, select the columns of information that you want to have appear in the view by moving the column labels from the Available Columns dialog box to the Columns Displayed dialog box. To remove a column, move it from the Columns Displayed dialog box to the Available Columns dialog box.
9. The left-to-right sequence that columns appear in the view depend on the top-to-bottom sequence of column labels in the Displayed Columns dialog box. Select the column labels in the Displayed Columns dialog box, and the use the arrows to adjust the sequence as desired.

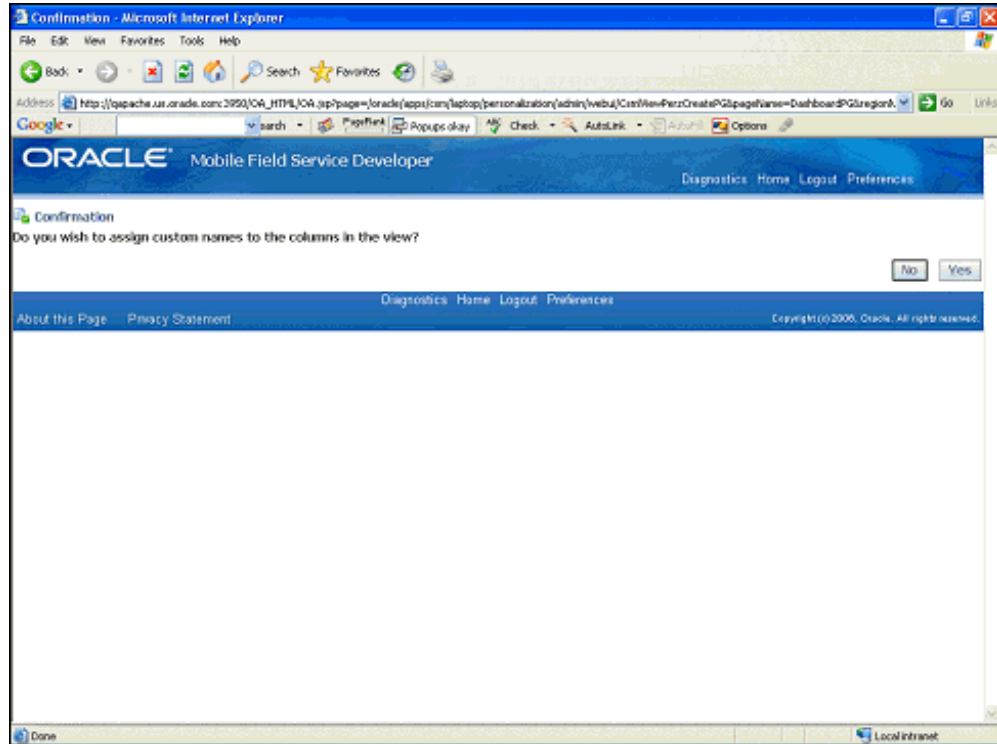
10. In the Sort Setting region, you can define the primary, secondary, and tertiary sort column names, and whether the sort order is ascending, descending, or no sorting.



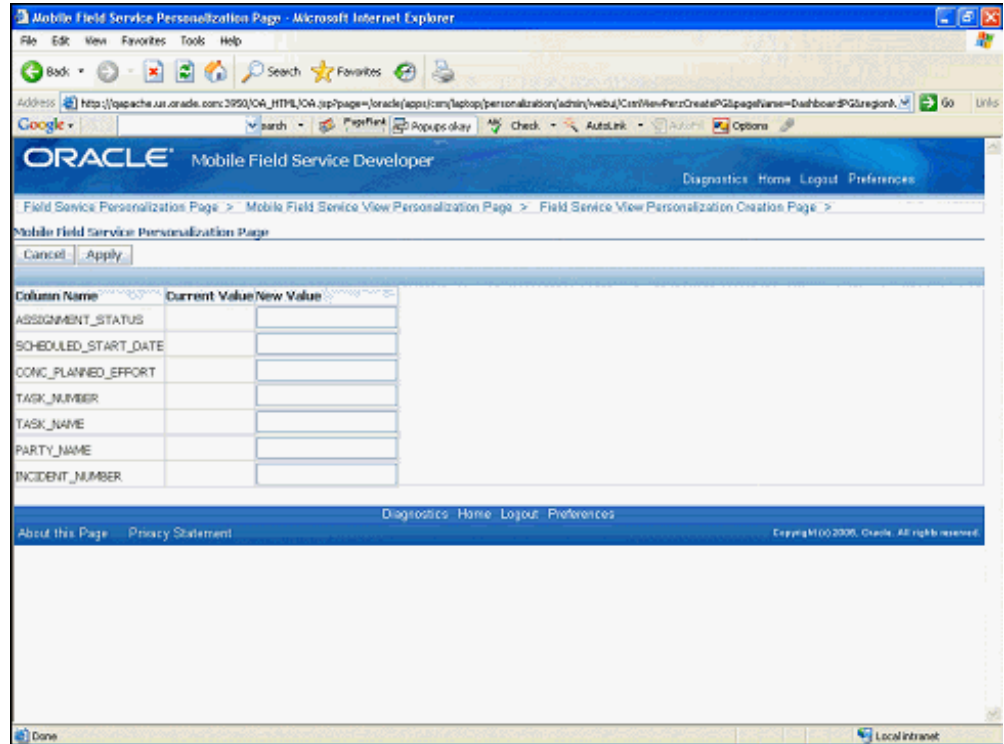
11. The view spread table is populated based on the Search Query criteria that you specify in the Search Query to filter data in your table region.
12. Begin by choosing one of the following radio buttons:
  - Search results where each must contain all values entered. The search behaves like the "and" logic condition. The tasks retrieved to the table will match all the defined search criteria.
  - Search results where each may contain any values entered. The search behaves like the "or" logic condition. The tasks retrieved to the table will match one or more of the defined search criteria.
13. Next, add one or more task search criteria to the view. Specify Column name, condition (is, is not, greater than, and so on), and value.
14. If you need more rows to specify more criteria, click Add Row.



15. When you have finished creating the view, click Apply.  
The Confirmation page appears.



16. If you want to assign custom names to the columns in this view, click Yes.  
A page that lists the column names in this view appears.



17. Change the column names as desired by entering the new name in the New Value column.
18. Click Apply to return to the Mobile Field Service View Personalization Page.  
The new view is listed in the table.
19. Click Complete.

## Changing View Element Sequence

You can change the sequence that elements appear in Views.

### Example

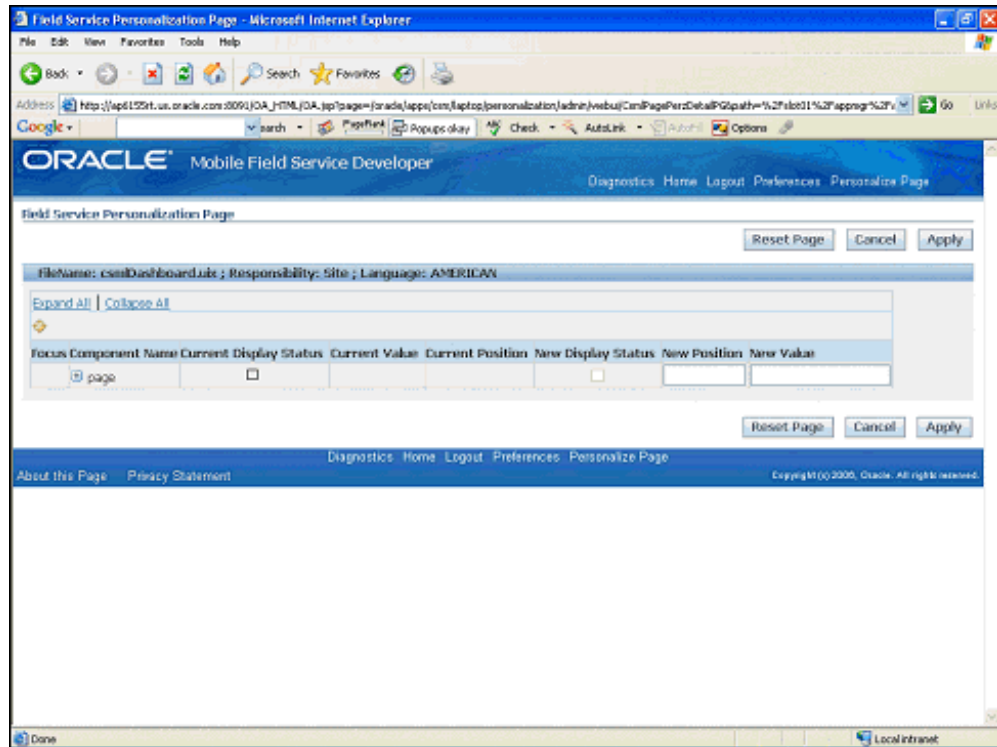
For example, in the Main View, the default sequence of Quick Links is:

- Create Parts Order
- Parts Transfer
- Calendar
- Create Personal Tasks
- Create Service Request

Use this procedure to change the sequence of view elements.

### Steps:

1. From the Mobile Field Service Developer responsibility, navigate to the Field Service Personalization Page.
2. Click the Personalize icon in the row for the Dashboard page name, UIX Filename csm|Dashboard.uix.



3. Click Expand All. Alternatively, click the "+" sign to expand the page.

Each row in the table represents an element of the Dashboard page. Notice that some elements are nested within others. The Current Display Status check box indicates whether the element displays on the page. The Current Position indicates the sequence of the element with respect to its nested siblings.

### Example

For example, the screen capture shows that nested within the document\_document element, the "Metacontainer csm|TaskCreate\_meta\_container" is at Current Position 1, and the "contents\_csm|TaskCreate\_contents\_0" is at Current Position 2.

**Note:** The Current Position column and Current Display column are display only.



ORACLE® Mobile Field Service Developer

Diagnostics Home Logout Preferences Personalize Page

Field Service Personalization Page

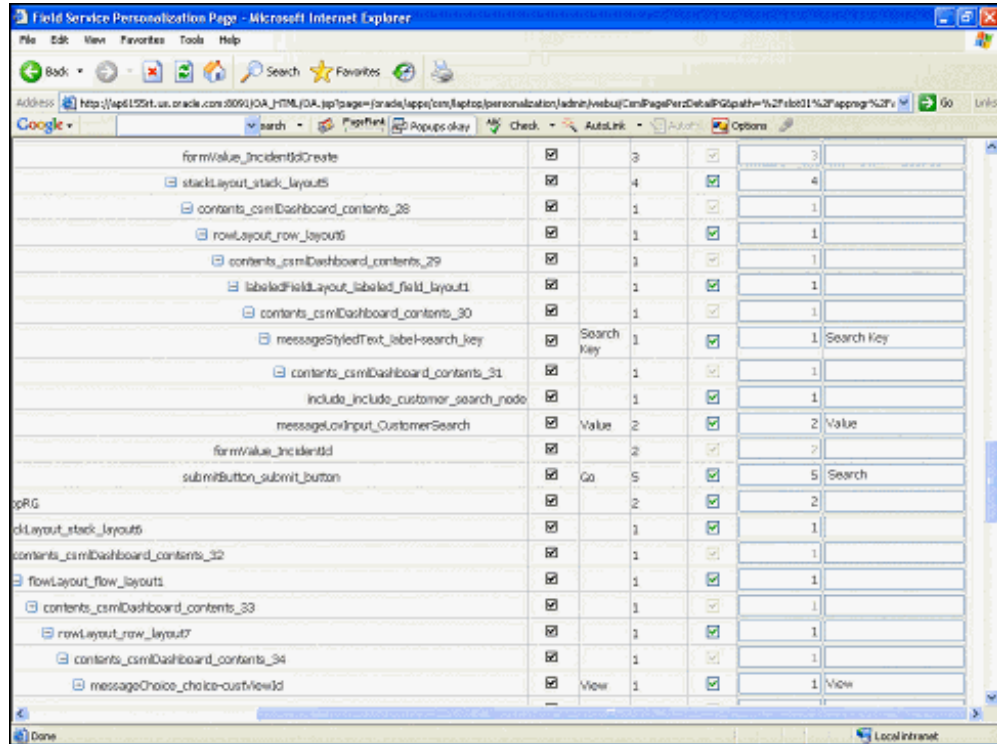
Reset Page Cancel Apply

FileName: csmTaskCreate.uix; Responsibility: Site; Language: AMERICAN

Personalize Header: (PageHeader)  
 Personalize H Grid: (PageHGrid)  
 Expand All Collapse All

Focus Component Name	Current Display Status	Current Value	Current Position	New Display Status	New Position	New Value
page	<input type="checkbox"/>			<input type="checkbox"/>		
templates	<input checked="" type="checkbox"/>		1	<input checked="" type="checkbox"/>	1	
content_page	<input checked="" type="checkbox"/>		2	<input checked="" type="checkbox"/>	2	
dataScope	<input checked="" type="checkbox"/>		1	<input checked="" type="checkbox"/>	1	
contents_csmTaskCreate_contents	<input checked="" type="checkbox"/>		1	<input checked="" type="checkbox"/>	1	
document_csmTaskCreate_document	<input checked="" type="checkbox"/>		1	<input checked="" type="checkbox"/>	1	
metaContainer_csmTaskCreate_metaContainer	<input checked="" type="checkbox"/>		1	<input checked="" type="checkbox"/>	1	
contents_csmTaskCreate_contents_0	<input checked="" type="checkbox"/>		2	<input checked="" type="checkbox"/>	2	
body_csmTaskCreate_body_0	<input checked="" type="checkbox"/>		1	<input checked="" type="checkbox"/>	1	

4. For example, scroll to the row that represents the Quick Links region.  
 The field that represents the Create Parts Order link is in Current Position 1. The field that represents Transfer Parts link is in Current Position 2.
5. To switch the sequence of these links, switch the New Position numbers.  
 Change the Create Parts Order link to New Position 2, and the Transfer Parts link to New Position 1.
6. To hide an element, such as the Create Personal Tasks link, clear the Current Display Status check box.
7. To change the label of an element, scroll to the labeled element, such as the search "Go" button (submission\_submit\_button). The Current Value is set to "Go". To change the label, enter a new value in the New Value field located at the far right of the table. For example, to change "Go" to "Search" change the label to "Search" in the New Value field.



8. Click Apply.

## Causing Personalization Changes to go into Effect

For the personalization changes to take effect in the Oracle Mobile Field Service Store and Forward - Laptop application the JTM Master Concurrent Program with Lookup category needs to be executed.

Use this procedure to cause personalization changes to go into effect.

### Steps:

1. Navigate to the Submit Request window (Field Service Manager: Other > View Requests).  
The Find Requests window appears.
2. Click Submit a New Request.  
The Submit a New Request window appears.
3. Select the Single Request option and click OK.  
The Submit Request window appears.

4. Select JTM Master Concurrent Program in the Name field.  
The Parameters page appears.
5. Select the *Lookup* category and click OK.
6. Click Submit.  
The JTM Master Concurrent Program is initiated. Wait until the program progresses to a Completed status.
7. Startup the Mobile Field Service Store and Forward - Laptop application. See Launching Oracle Mobile Field Service Store and Forward - Laptop, page 5-6.
8. Click the Synchronize link.  
Ensure that the synchronization completes successfully.
9. When the synchronization completes successfully, open the new or modified view to verify the result.



---

## Setups for Oracle Mobile Field Service Store and Forward - Pocket PC

This chapter covers the following topics:

- Personalizing Screens
- Setting Up Wireless Integration
- Setting Up Automatic Synchronization and Notification
- Setting Up Usability and Security
- Setting Up Cross-Task Validation Rules

### Personalizing Screens

Administrators can personalize certain screens. After personalization, the modified screens are available at site or responsibility level. All technicians with this responsibility inherit this personalization.

#### **To Download the MFSPerzAsst.exe Utility:**

1. Uncomment the section in the setup.inf file under folder \$CSM\_TOP/html/download/CSW2/custom/wce/wm6 to download the MFSPerzAsst.exe file to the Pocket PC client.
2. Increase the version of the setup.inf file.
3. Synchronize from your administrator's Pocket PC to download MFSPerzAsst.exe to that Pocket PC.

#### **To Personalize Pocket PC Screens with MFSPerzAsst.exe:**

1. In your administrator's Pocket PC, navigate to the ORACE folder.

2. Tap MFSPerzAsst.  
The MFS Personalization screen appears.
3. From the list of personalizable screens, select the one that you want to edit.  
Currently Task Details and SR Details are available.
4. If you want to load the last saved personalization, tap Load Saved.
5. If you want to restore the original settings, tap Load Default.
6. In the Data Field column, select the check box for a field that you want to show, and clear the check box for a field that you want to hide.
7. In the Mandatory column, use the LOV to select Yes, No, or Not Applicable for each field. Not Applicable means that a field cannot be made mandatory or non-mandatory by personalization.
8. Tap Up and Down to change the field order in the screen.
9. Click Save to save the personalization.
10. Click Close to close and exit the MFS Personalization screen.

#### **To Propagate a Personalized Screen:**

1. Copy the personalization delta file, \*.per, from the \Orace\config folder of your administrator's Pocket PC to the server folder  
\$CSM\_TOP/html/download/CSW2/custom/wce/wm6.
2. Uncomment the section in the setup.inf file to download the .per file to a technician's Pocket PC.

## **Setting Up Wireless Integration**

Through integration with Oracle Mobile Field Service Wireless, the Pocket PC can access some screens from the Wireless application. Use this procedure to set up the integration.

### **Prerequisites**

- ☐ Users must have the Field Service Wireless responsibility to access Wireless integration feature from the Mobile Field Service (S&F) application.

### **To Set Up Wireless Integration:**

1. Set the following profiles:

- CSM: Mobile Field Service Wireless URL

This specifies the URL of the wireless server. The typical format of this URL is `http(s)://<ebs_host>:<port>/OA_HTML/csfw.jsp`

- CSM: Enable Online Access

Possible values are Y and N. Set the value to Y so that the menu displays the options to access the wireless application functions.

2. Verify the installation of InstallMFSNavigator.

The normal installation of the Oracle Mobile field Service application automatically installs the InstallMFSNavigator.cab component on a Pocket PC. To check this, navigate to Start > Settings > Remove Programs, and verify that the entry "Oracle InstallMFSNavigator" is on the list.

## **Setting Up Automatic Synchronization and Notification**

Both the laptop and Pocket PC store & forward devices have the feature of automatic synchronization and associated notification. Use this procedure to set it up.

### **To Set Up Automatic Synchronization:**

1. Set the following profiles:

- CSM: Automatic Synchronization Interval for Data Download:
- CSM: Automatic Synchronization Interval for Data Upload:
- CSM: Email Account name for message interception:

### **Set up an e-mail account to receive notification e-mails**

2. Set the account display name of this e-mail account as the value of profile "CSM: Email Account name for message interception". This is required to intercept the e-mails in the Pocket PC.

3. Ensure that the following parameters are set in the E-mail Setup window:

- Message format: Plain Text
- Message download limit: Entire message

- Download attachments: Do not download

### **Verify the installation of InstallAutoSync**

The normal installation of the Oracle Mobile field Service application automatically installs the InstallAutoSync.cab component on a Pocket PC.

4. To check this, navigate to Start > Settings > Remove Programs, and verify that the entry "Oracle InstallAutoSync" is on the list.

### **Run AutoSync Manager (ASMgr)**

AutoSync Manager (ASMgr) manages automatic synchronization. External Interface Manager (EIM) intercepts e-mail messages. Normally the startup of the Field Service application automatically launches AutoSync Manager (ASMgr) and External Interface Manager (EIM) in the background.

5. Verify that the ASMgr icon, with up and down arrows, appears near the top of the Start screen and that the EIM icon, a plug, appears near the bottom right of the screen.
6. On startup of the device, AutoSync Manager (ASMgr) is launched, and you must enter your user name and password in the Login screen.  
ASMgr then automatically starts EIM.
7. Alternatively, you can launch ASMgr directly from /OraCE by tapping ASMgr.exe.

## **Setting Up Usability and Security**

The Pocket PC store & forward device has several features of usability and security. Use this procedure to set them up.

1. Set the following profiles. For details about these profiles, see "Setting Up Profile Options for Oracle Mobile Field Service Store and Forward - Pocket PC, page 4-12."
  - CSF: Restrict Service Request Creation to Scheduled Sites
  - CSF: Mandatory Labor Debrief (Y/N)
  - CSF: Mandatory Resolution Code (Y/N)
  - CSF: Default Labor Debrief Date/Time (Scheduled Date, System Date, None, Assignment Status)
  - CSF: Default Service Activity Code for Travel
  - CSF: Default Service Activity Code for Labor



## Setting Up Cross-Task Validation Rules

Administrators have the ability to set up and define cross-task validation rules that govern updates to task assignment statuses. Doing so prevents tasks for different customer sites being in the same status in a technician's trip on any specific day.

### To Set Up Cross-Validation Rules:

1. Navigate to the Cross Task Validation Setup window.
2. In the Assignment Status LOV for each rule row, select a status that technicians are not allowed to apply to more than one task and more than one site on any single day.

The Assignment Status LOV displays all statuses that have the Task status and Task Assignment status flags selected.

3. Optionally, select a start date and end date for a status rule.
4. Click Add Another Row if you want to create a new rule.
5. Click Apply to save your setup data.

The application blocks technicians who try to violate a cross-validation rule and displays an explanatory message.



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## Troubleshooting

This chapter covers the following topics:

- Troubleshooting the Application Publishing
- Troubleshooting the Mobile User Concurrent Program
- Reviewing Upload Errors
- Manually Publishing Mobile Applications
- Understanding the Java Utility Command Syntax
- Publishing Applications with Multiple Mobile Server Instances
- Usage Examples
- Tracing Oracle10g Lite Mobile Server
- Troubleshooting Screen Personalization
- Troubleshooting Wireless Integration
- Troubleshooting Automatic Synchronization and Notification

### Troubleshooting the Application Publishing

Use this chapter to troubleshoot any problems that you are having with Oracle Mobile Application Foundation or Oracle Mobile Field Service Store and Forward.

Please check to ensure that the environment variables are set correctly in the file `asgovars.env`. Run the relevant diagnostic check as described in "Running Pre-seeded Tests", page 7-1.

### Troubleshooting the Mobile User Concurrent Program

This section discusses known issues regarding the concurrent program that creates mobile users, `Manages Mobile Users`. This Java concurrent program creates mobile users. JDK 1.3.1 is required in the concurrent tier.

## Problems and Resolutions

### The Concurrent Program Fails to Create Mobile Users

**Problem:** After the patch is applied and the post-installation setup is completed, the concurrent program still does not work.

**Resolution:** Restart the concurrent managers so that the new environment settings are initialized. To find out whether a concurrent request is being initialized to JDK 1.3.1 settings, use the following script:

```
select variable_name,value
from fnd_env_context e,
fnd_concurrent_processes p,
fnd_concurrent_requests r
where p.concurrent_process_id = e.concurrent_process_id
and p.concurrent_process_id = r.controlling_manager
and r.request_id=&request_id
and e.variable_name in ('AF_JRE_TOP','AFJVAPRG','AF_CLASSPATH')
```

This script accepts a concurrent request ID and prints the environment settings for that request.

### The Concurrent Program Only Works Intermittently

**Problem:** The concurrent program only works intermittently.

**Resolution:** Make sure all concurrent managers are restarted. It is possible that only one concurrent manager was restarted. However, a concurrent request might be started by any of the concurrent managers. If all the concurrent managers are not restarted, then some of the requests might not have the correct settings. To verify this, use the script listed above for requests that fail.

### The Concurrent Program Log Shows the Error Message

**"oracle.lite.web.resource.ResourceException: java/lang/ThreadLocal"**

**Problem:** The log generated by the concurrent request shows this error.

**Resolution:** This is the clearest indication that the JDK version is not 1.3.1. The above mentioned class (ThreadLocal) is in JDK 1.2.2 or higher. Again, check if the environment settings are correct.

### All Environment Settings Appear Correct, But the Concurrent Program Still Does Not Work

**Problem:** The environment settings that appear in the script listed in "The Concurrent Program Fails to Create Mobile Users", page 11-2 indicate that JDK 1.3.1 is used. However, the concurrent program still fails.

**Resolution:** Look into the concurrent request's log file and look for any exceptions. Then for each of the environment variables AF\_JRE\_TOP, AFJVAPRG, and AF\_CLASSPATH, check if the files listed exist.

## Reviewing Upload Errors

Upload errors are generated during the upload process when some of the data fails to be applied to the enterprise database. Upload errors can be caused by the following:

- System issues.

It is possible that the system is on a different mobile patch level than what is required.

- Setup issues.

The correct business process type or the correct profile setting is not set on the enterprise system. For example, it is necessary that the expense type for an expense line is set correctly.

- Faulty data or conflicts.

Oracle Mobile Application Foundation maintains a log of all upload errors. You can use the Mobile Application Foundation Administration Console to view and manage these errors. See the upload errors sections in Chapter 8, "Administrative Tasks", page 8-1 for further details.

## Manually Publishing Mobile Applications

For the mobile applications to function, you must create mobile application objects and publish the mobile application file. You can accomplish this by running the Java post-install program for each mobile application. The Java post-install program does the following:

- Registers the mobile object definitions for the mobile applications in the Oracle10g Lite mobile server repository.
- Publishes the mobile applications to the Oracle10g Lite mobile server repository.

Use the following procedure to run the Java post-install program:

- Shut down the mobile server while publishing mobile applications and then restart the mobile server after publishing is complete.

### Steps

1. Run the environment variable script.

See "Steps to Run the Environment Variable Script", page 3-2 for a complete description of this procedure.

2. Publish the application for the mobile framework (JTM):

```
java -Xms32m -Xmx1536m -DJTFDBCFILE=<DBC_NAME>-  
DAFLOG_ENABLED=TRUE-  
DAFLOG_LEVEL=STATEMENT oracle.apps.asg.setup.InstallationMgr  
<DB_HOST_NAME><DB_PORT_NUM><DB_SID><APPS><APPS_PASSWORD>  
MOBILEADMIN<MOBILEADMIN_PASSWORD> CSM_TOP CSML.ini  
html/download/csml.zip
```

See "Understanding the Java Utility Command Syntax", page 11-4 for an explanation of the command syntax of this Java program.

3. Publish the mobile applications for the mobile products that you want to implement.

See "Usage Examples", page 11-5 for usage examples for Oracle Mobile Field Service Store and Forward - Laptop and Oracle Mobile Field Service Store and Forward - Pocket PC.

## Understanding the Java Utility Command Syntax

The following Java utility is used in the preceding procedure, "Manually Publishing Mobile Applications", page 11-3:

```
java -DJTFDBCFILE=<DBC FILE PATH> -DAFLOG_ENABLED=TRUE  
  
-DAFLOG_LEVEL=STATEMENT oracle.apps.asg.setup.InstallationMgr  
<DB_HOSTNAME> <DB_PORTNUM> <ORACLE_SID> <APPS_USER_NAME> <APPS_PASSWD>  
<PROD_TOP_NAME> <INI_FILE_NAME> <ZIP_FILE_NAME>
```

Its command syntax is as follows:

- DJTFDBCFILE, DAFLOG\_ENABLED, and DAFLOG\_LEVEL are used by the JTT Logging Framework.
- DBC\_FILE is usually found under the \$FND\_TOP/secure directory.
- The parameters <DB\_HOST\_NAME>, <DB\_PORT\_NUMBER>, <ORACLE\_SID>, <APPS\_USER\_NAME>, and <APPS\_PASSWD> are used to generate the connection string to the database.
- <PROD\_TOP\_NAME> refers to the application directory for the mobile product for which the publishing is done. It should be NULL if publishing is not done.
- <INI\_FILE\_NAME> refers to the name of the list file which has the list of files to be published. It should be NULL if publishing is not done.
- <ZIP\_FILE\_NAME> refers to the name of the zip file which contains the files to be published. The location of this file is relative to the <PROD\_TOP\_NAME>. It should be NULL if publishing is not done.

## Publishing Applications with Multiple Mobile Server Instances

If you plan to set up multiple mobile servers to support a greater number of mobile users and distribute the load, you should publish the mobile application only once, to the primary server.

The primary server is usually the mobile server which you set up first and installed the repository on. This server contains the directory location where the mobile application files are stored when you publish them. The webtogo.ora file contains an entry, ROOT\_DIRECTORY, which points to this location.

Secondary mobile servers need to have access to the location of this root directory through network file sharing (NFS). The ROOT\_DIRECTORY webtogo.ora entry of the secondary mobile servers will point to this directory location.

When you publish applications, you need to set the ORACLE\_HOME to the location of the directory where the primary mobile server is installed.

## Usage Examples

To run the post-install step for Oracle Mobile Field Service Store and Forward - Pocket PC, the command would be:

```
java -Xms32m -Xmx1536m -DJTFDBCFILE=<DBC_NAME> -
DAFLOG_ENABLED=TRUE-DAFLOG_LEVEL=
STATEMENToracle.apps.asg.setup.InstallationMgr
<DB_HOST_NAME><DB_PORT_NUM><DB_SID><APPS><APPS_PASSWORD>
MOBILEADMIN<MOBILEADMIN_PASSWORD> CSM_TOP CSW.ini html/download/CSW.zip
```

to run the post-install step for Oracle Mobile Field Service Store and Forward - Laptop, the command would be:

```
java -Xms32m -Xmx1536m -DJTFDBCFILE=<DBC_NAME> -
DAFLOG_ENABLED=TRUE-DAFLOG_LEVEL=
STATEMENToracle.apps.asg.setup.InstallationMgr
<DB_HOST_NAME><DB_PORT_NUM><DB_SID><APPS><APPS_PASSWORD>
MOBILEADMIN<MOBILEADMIN_PASSWORD> CSM_TOP CSML.ini
html/download/CSML.zip
```

Use this java command to run InstallationManager:

```
java -Xms32m -Xmx1536m -DJTFDBCFILE=<DBC_NAME> -
DAFLOG_ENABLED=TRUE-DAFLOG_LEVEL=
STATEMENToracle.apps.asg.setup.InstallationMgr
<DB_HOST_NAME><DB_PORT_NUM><DB_SID><APPS><APPS_PASSWORD>
MOBILEADMIN<MOBILEADMIN_PASSWORD><PROD_TOP><INI_FILE><ZIP_FILE>
Where:
```

PROD_TOP	INI_FILE	ZIP_FILE
CSL_TOP	csl/CSL.ini	html/download/csl.zip

PROD_TOP	INI_FILE	ZIP_FILE
CSM_TOP	CSW.ini	html/download/CSW.zip
CSM_TOP	CSML.ini	html/download/CSML.zip
CSM_TOP	CSW_2000_ARM.ini	html/download/CSW.zip
CSM_TOP	CSW_2003_XSCALE.ini	html/download/CSW.zip

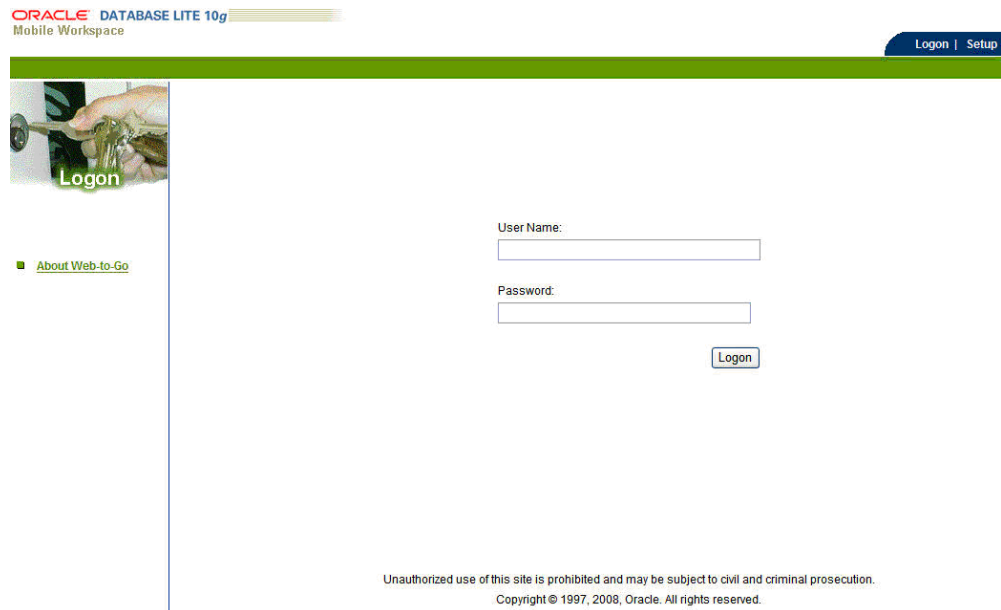
## Tracing Oracle10g Lite Mobile Server

This section lists the steps required to enable or disable tracing in Oracle10g Lite mobile server for selected users. These steps do not require the mobile server to be restarted.

### Enabling Tracing in Oracle10g Lite Mobile Server

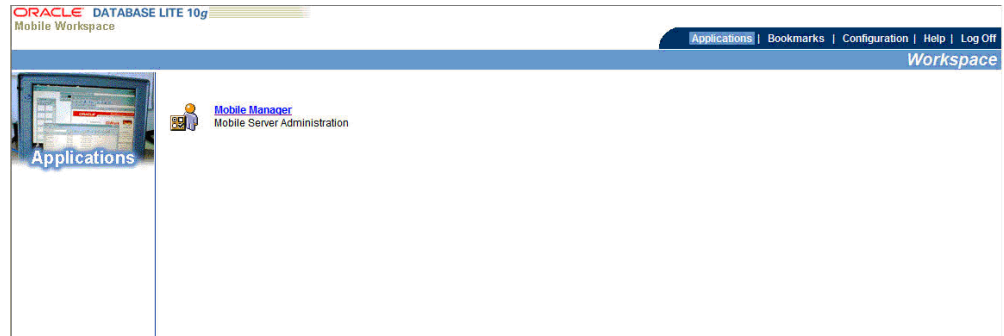
1. Access the Mobile Server Login page.

This page is available at: `http://<mobile_server_host>:<port>/webtogo`



2. Enter Administrator in the User Name field and the password in the Password field, and then click **Logon**.





3. Click **Mobile Manager** link.

The Mobile Manager page appears.

4. Select the Server tab.

5. Click **Trace** on the left side of the page.

The Server Trace Settings page appears.

6. Set the following parameters:

- For Trace Output, select Yes..
- For System Filter, select both the HTTP Requests and SQL Statements check boxes.
- In User Filter section, click the Selective Users radio button and then type the comma-separated list of users.

7. Scroll down and specify the following:

- Click the File radio button to specify the destination.
- Type trace.log in the Trace File base name field.
- Type 10 in the Trace file size of (in MB) field.
- Type 15 in the Trace file pool size field.
- Select the Create trace file for every user check box.

With the above settings, every user will have a separate trace file. These trace files are located in the Oracle10g Lite \$ORACLE\_HOME/mobile/server/bin folder. The files are named trace\_log\_<user\_name><log\_file\_num>.log. So, for example, user FBRAMER's trace files are named as trace\_log\_FBRAMER1.log, trace\_log\_FBRAMER2.log, and so on. The Trace file pool size (15 in this case) specified above controls when the log\_file\_num cycles. For example, once trace\_log\_FBRAMER15.log reaches 10MB size, the next file name will be trace\_log\_FBRAMER1.log. Note that it will overwrite existing file with the same name. So, the Trace file pool size should be set so that all the files will be available as needed.

8. Click **Save**.

A dialog box appears indicating that the save was successful.

9. Click **OK**.

### Files to be Uploaded

The following files need to be uploaded after obtaining trace.

- trace\_sys1.log. If available, trace\_sys2.log and so on.
- trace\_log\_main1.log. If available, trace\_log\_main2.log and so on.
- trace\_log\_<user\_name>\*.log. See step 7 in "Enabling Tracing in Oracle10g Lite Mobile Server", page 11-6.

### Disabling Tracing in Mobile Server

1. Complete steps 1 through 4 in "Enabling Tracing in Oracle10g Lite Mobile Server", page 11-6.
2. Click **Trace** on the left side of the page and then set Trace Output to No.

ORACLE Database Lite 10g  
Mobile Manager  
Mobile Servers | Mobile Devices  
Mobile Server: rws60050rems.us.oracle.com:8332 >

Page Refreshed Aug 22, 2008 4:44:34 PM

**Trace Settings**

**Trace Properties**

Trace Output: NO

**Destination**

☐ Console

☒ File

Trace Base File name: /slot/ems1432/appmgr/app

Trace File Size (in mb): 10

Trace File pool Size: 5

☐ Remote

Trace monitor host:

Trace monitor port: 0

**System Filter**

☒ HTTP Request

☒ SQL Statements

☒ Java Methods

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3. Click **Save**.

A dialog box appears indicating that the save was successful.

4. Click **OK**.

## Troubleshooting Screen Personalization

Checking screen personalization involves some simple checks for administrator and technician:

1. For the administrator:

Verify that MSFPerzAsst.exe is present under the ORACE folder of the administrator's Pocket PC. If not, then verify that the corresponding section of the setup.inf file is uncommented under folder \$CSM\_TOP/html/download/CSW2/custom/wce/wm6.

2. For a technician:

Verify that the <screen name>.per file is present under the ORACE\config folder of the technician's Pocket PC.

## Troubleshooting Wireless Integration

A technician can perform some simple checks to troubleshoot wireless integration with a pocket PC.

**To Check Wireless Integration:**

1. Verify that the profile values are set correctly. Navigate to them at Field Service > Preferences in the Pocket PC.
2. Verify that the InstallMFSNavigator component is installed on the Pocket PC device.

## **Troubleshooting Automatic Synchronization and Notification**

Use these step to troubleshoot automatic synchronization and notification.

1. Verify that ASMgr and EIM are running.
2. If ASMgr is not running, then run ASMgr by tapping ASMgr in the Orace folder.
3. If EIM is not running, then run EIM by tapping ASMgr Menu Options > MFS EIM.
4. Verify that the value of profile "CSM: Email Account name for message interception" and the e-mail account display name in the Pocket Outlook are the same.
5. If the names are not the same, then set the profile value, run the JTM Master Lookup concurrent program, and synchronize to get the latest profile value downloaded to the client device.
6. Check Field Service > Preferences or ASMgr > Options > MFS EIM Email Account to see the value of "CSM: Email Account name for message interception" in the Pocket PC.
7. If it is not defined, then verify that the e-mail account setup in the Pocket PC has Message Format set to Plain Text.
8. Verify that the e-mail account setup in the Pocket PC has Message Download Limit set to "Entire message."
9. Verify that the e-mail account setup in the Pocket PC has Download Attachments set to "Do not download."

# Part 3

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## Implementing Oracle Mobile Field Service - Wireless (Online)



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## Overview of Oracle Mobile Field Service - Wireless Implementation

This chapter covers the following topics:

- Oracle Mobile Field Service - Wireless Implementation Overview
- Architectural Overview
- Terminology

### Oracle Mobile Field Service - Wireless Implementation Overview

The Oracle Mobile Field Service - Wireless application enable field technicians access to mission-critical data by accessing the enterprise database through a wireless device.

The Oracle Mobile Field Service - Wireless application is a solution for field service technicians on tethered mobile devices. This means that the device has a continuous connection to the Oracle Enterprise applications. Field service technicians connect to this application by choosing a URL on their wireless device's web browser. After completing the required login, they can access real-time information from the enterprise database.

With this solution, the field service technician can carry on his daily tasks using any mobile device with internet capabilities (with a web browser).

Oracle Mobile Field Service Wireless can be deployed over any protocols, including WML, HDML, or Tiny HTML. This solution works over any wireless standard such as, CDMA, CDPD, GSM, GPRS, HSCSD, and TDMA.

### Technology Requirements

Oracle Mobile Field Service - Wireless enables read and write functions to the enterprise database through a wireless connection between a mobile device and the Internet Service Provider (ISP).

The following components are involved:

- Enterprise Database: This is the enterprise data that field service technicians will access through a wireless device.
- Enterprise Applications Web Server: This is the http server used to connect to the enterprise applications.
- Oracle AS Wireless Edition (ASwe): This server is used to transform XML to any markup language (WML or HDML.)
- WEB-enabled wireless device: This device is capable of displaying Web pages in a web-enabled browser.

## Architectural Overview

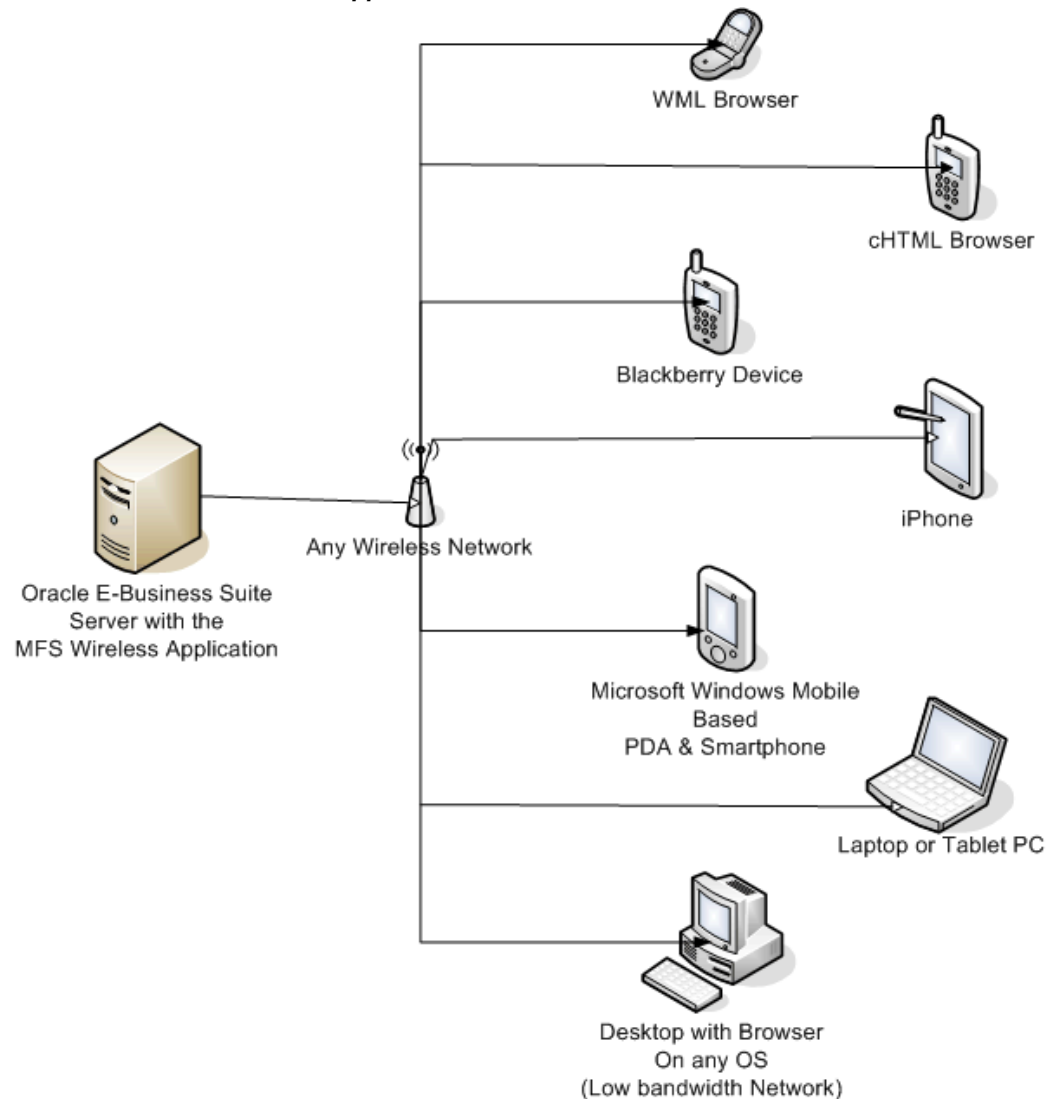
This section provides an overview of the architectural structure that underpins the functionality of Oracle Mobile Field Service - Wireless.

### Oracle Mobile Field Service Wireless

The following diagram, Architecture of the Wireless Application, is described in the following text.



### Architecture of the Wireless Application



Oracle Mobile Field Service (MFS) Wireless is similar to any other Web-based application, but it is intelligent enough to cater to various kinds of devices like a WAP based device, cHTML (iMode) device, Blackberry, iPhone, PDA, Smartphone, laptop, tablet PC, and a normal PC.

### Application Logic for Oracle Mobile Field Service Wireless

The application logic for Oracle Mobile Field Service Wireless is as follows:

1. Device browser sends a page request.
2. Request comes to EBS MFS application over a wireless network.

3. MFS Wireless application detects the end device and requests the core EBS server for the data.
4. Core MFS Wireless application generates a Mobile XML (MXML) page with response.
5. MFS Wireless Server application has an built-in MCS server that translates the response MXML page into a mark-up language such as HTML, cHTML, or WAP, that is specific to the end device.
6. Device-specific markup page travels to the device browser over the wireless network.
7. Device browser renders the response page.

## Terminology

The following terms are used throughout this document:

- **WIRELESS\_SERVER:** This is the Web-Server for the AS Wireless Edition (for example, `http://<Wireless_Server_name>:<port number>`).
- **ENTERPRISE SERVER:** This is the web server for the Oracle Enterprise applications (e-Business applications). Typically, since there are a lot of URLs that access the Enterprise applications, depending on which applications you are using (`jtflogin.jsp`, `csfwlgnm.jsp`, and so on), this would indicate the common HTML directory.

### Example

For example, if `http://<Enterprise Host>:<Port Number>/OA_HTML/jtflogin.jsp` is the JTF URL for the Enterprise application, and `http://<Enterprise Host>:<Port Number>1/OA_HTML/csfwlgnm.jsp` is the Oracle Mobile Field Service - Wireless application, then **ENTERPRISE\_SERVER** is `http://<Enterprise Host>:<Port Number>/OA_HTML`, where `<Port Number>` is the non-ssl http port for the web server.

- **MIDDLE\_TIER:** This is the wireless option of the ASwe. The middle tier is divided into two installations: infrastructure and server. In this situation, this would refer to the Server Installation where Wireless Option is selected.
- **ORACLE\_HOME:** This is where the wireless option of the Oracle ASwe is installed. Please note there might be two **ORACLE\_HOMEs** (Infrastructure Home and the middle-tier home). In this case, **ORACLE\_HOME** is used only for the middle-tier home.
- **PANAMA\_HOME:** This would be **ORACLE\_HOME/wireless**.

- OA\_HTML is the common html directory for all the products in the Oracle Enterprise application.
- OA\_HTML\_URL is the URL for the Enterprise applications (Example: ENTERPRISE\_SERVER).



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## Requirements and Dependencies

This chapter covers the following topics:

- Minimum Software Requirements

### Minimum Software Requirements

The following software is required to run the Oracle Mobile Field Service - Wireless application.

- Oracle Field Service



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## Implementing Oracle AS Wireless Server

This chapter covers the following topics:

- Introduction
- Installing Oracle AS Wireless Server
- Expanding Oracle Application Server Tier for Wireless Option
- Using Single Sign On
- Setting Up an Application Link to Point to Oracle Mobile Field Service - Wireless
- Setting SSL Certificates for HTTPS Access
- Supporting Microsoft Windows Mobile 6
- Setting Proxies
- Setting Location Services

### Introduction

Currently, it is not required to implement Oracle iAS Wireless Server if you are implementing Oracle Mobile Field Service - Wireless *without* Oracle Mobile Field Service - Voice. In this case, you can skip this chapter and continue with the next chapter. No additional setup is required, and you can directly log in to the application from a device by entering URL of the form

```
http(s)://<host_name>:<port>/OA_HTML/csfw.jsp
```

Oracle Application Server Wireless which is a part of Oracle Application Server 10g R2 (10.1.2) provides access to any corporate portal, application, or data, on any wireless device on any network. Oracle Mobile Field Service - Wireless uses Oracle AS Wireless server's Multi Channel Service (MCS) to deploy the web based application which can be accessed by many mobile devices. The wireless revolution has produced many mobile devices, each with different feature sets and varying form factors. Along with this variety of devices has come a variety of markup languages for authoring applications such as HTML, WML, cHTML, XHTML and more. OracleAS Wireless abstracts the

developer from device specific markup languages and provides a single development model and environment for building browser-based, and messaging applications.

## Installing Oracle AS Wireless Server

The Oracle Application Server 10g R2 (10.1.2) is delivered with these components:

- J2EE and Web Cache middle tier
- OracleAS Infrastructure
- Portal and Wireless middle tier
- Business Intelligence and Forms middle tier

The minimum hardware requirements for OracleAS Wireless components are:

- OracleAS Infrastructure
  - Memory: 1GB
  - Disk Space: 3.7 GB
  - Space in TEMP directory: 400MB
  - Swap Space: 1.5 GB
- Portal and Wireless middle tier
  - Memory: 1GB
  - Disk Space: 1.2 GB
  - Space in TEMP directory: 400MB
  - Swap Space: 1.5 GB

To use the Oracle Mobile Field Service - Wireless application you have to install the Portal and Wireless middle tier.

To set up the Portal and Wireless Developer Topology, you need to install:

- OracleAS Infrastructure
- Portal and Wireless middle tier

It is possible to install both the OracleAS Infrastructure and the Portal and Wireless middle tier on same hardware if the hardware requirements are met but you will have to install them on different ORACLE HOMES.



For information on the platform specifics steps on how to install OracleAS infrastructure and the Portal and Wireless middle tier, see the *Oracle Application Server Installation Guides for Oracle Application Server 10g R2 (10.1.2)*.

## Expanding Oracle Application Server Tier for Wireless Option

In the case where you have already implemented OracleLite for the Mobile Field Service Store and Forward (Offline) solution using Oracle Application Server 10.1.2 'J2EE and Webcache', and you want to use that same installation for wireless as well, you can expand the middle tier. As mentioned earlier, the Wireless option has a dependency on the Oracle Infrastructure, one has to install the Oracle Infrastructure first on a different ORACLE HOME before expanding.

Use this high-level procedure to expand the middle tier:

### Steps:

1. Install the Oracle Infrastructure. For example, Oracle Home ora\_infra
2. Expand "J2EE and Webcache" middle tier installation to "Portal and Wireless Option". For example, Oracle Home ora\_mid

For more information on the exact steps to expand a middle tier, see the Expanding a Middle Tier section in the *Oracle Application Server Installation Guide*.

3. Verify you can access the Oracle AS Wireless Portal page by using this URL:

`http(s)://<wireless server host name>:<port>>/ptg/rm`

For example, `http://mycompany:7777/ptg/rm`

## Using Single Sign On

If you are planning on using the single sign on (SSO) for the Oracle Mobile Field Service - Wireless application, you will have to configure that same SSO server for OracleAS Wireless as well.

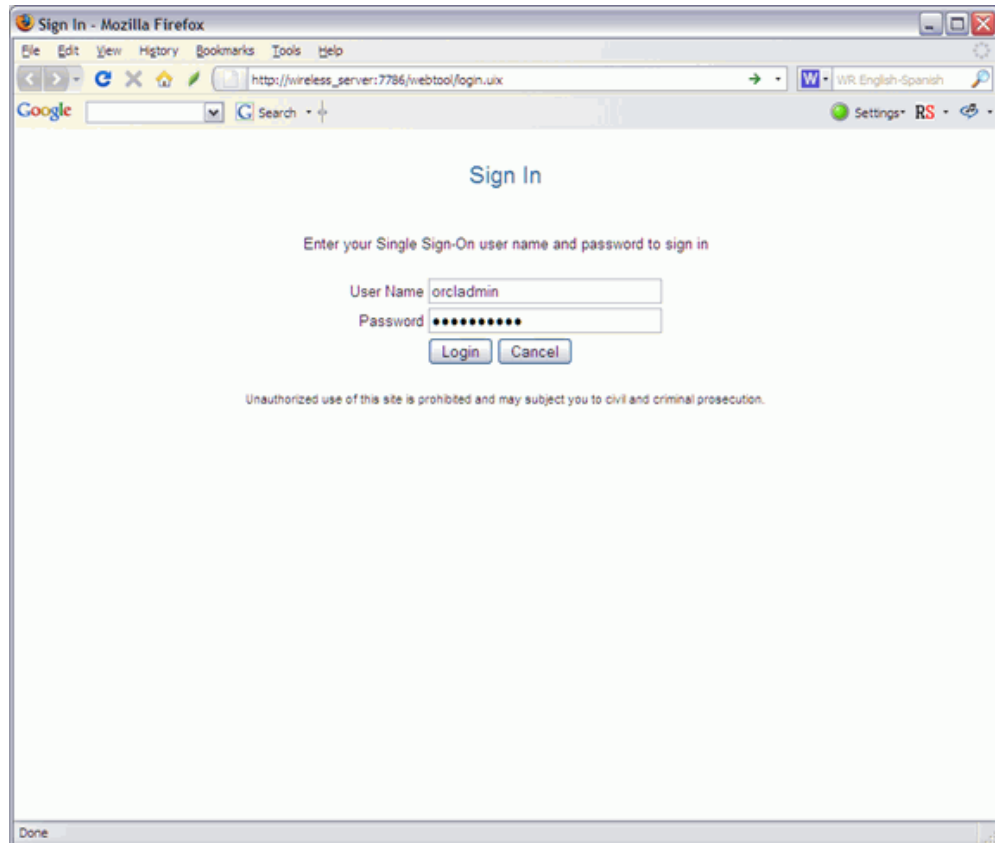
For more information on single sign on, see the *Oracle Application Server Wireless Administrator's Guide (10g Release 2 (10.1.2))*.

## Setting Up an Application Link to Point to Oracle Mobile Field Service - Wireless

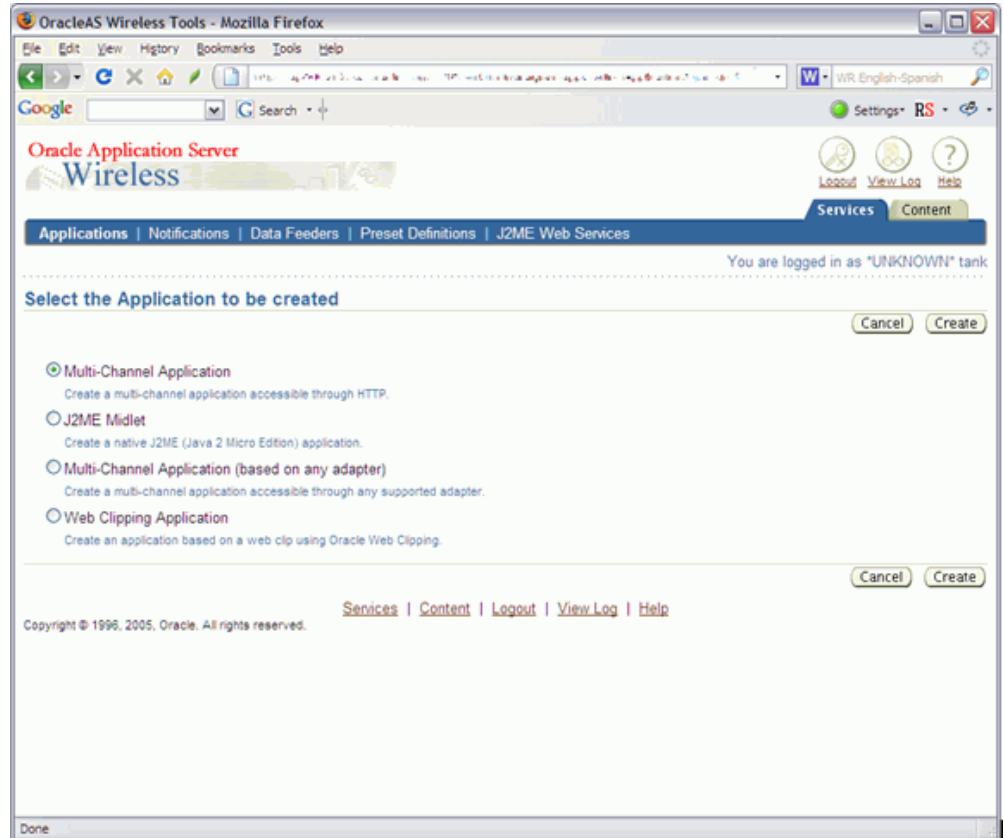
The following procedures enable you to set up an application link to point to Oracle Mobile Field Service - Wireless:

## To Set Up Mobile Field Service - Wireless Application for Local Login:

1. Open the AS Wireless Server Webtool using URL: `http(s)://<host name>:<port>/webtool/login.uix`



2. Login using the *orcladmin* user.
3. Click Services and then click Create Application.
4. Select Multi-Channel Application.

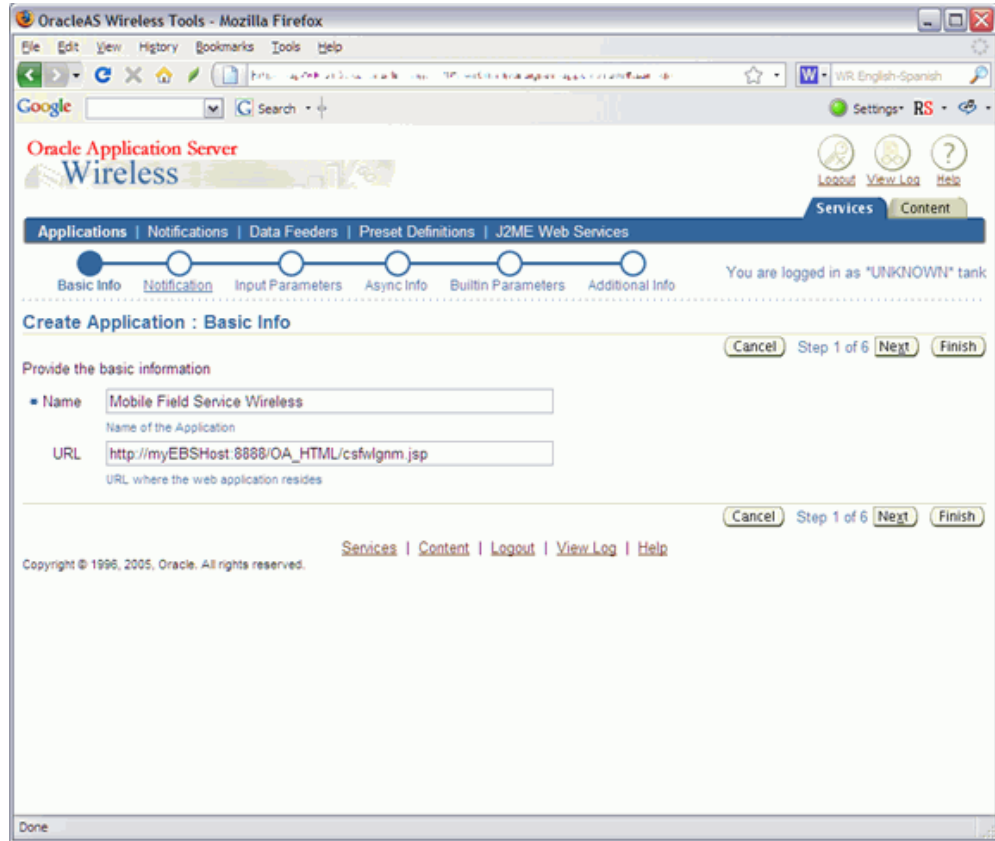


5. Enter the name of the application.

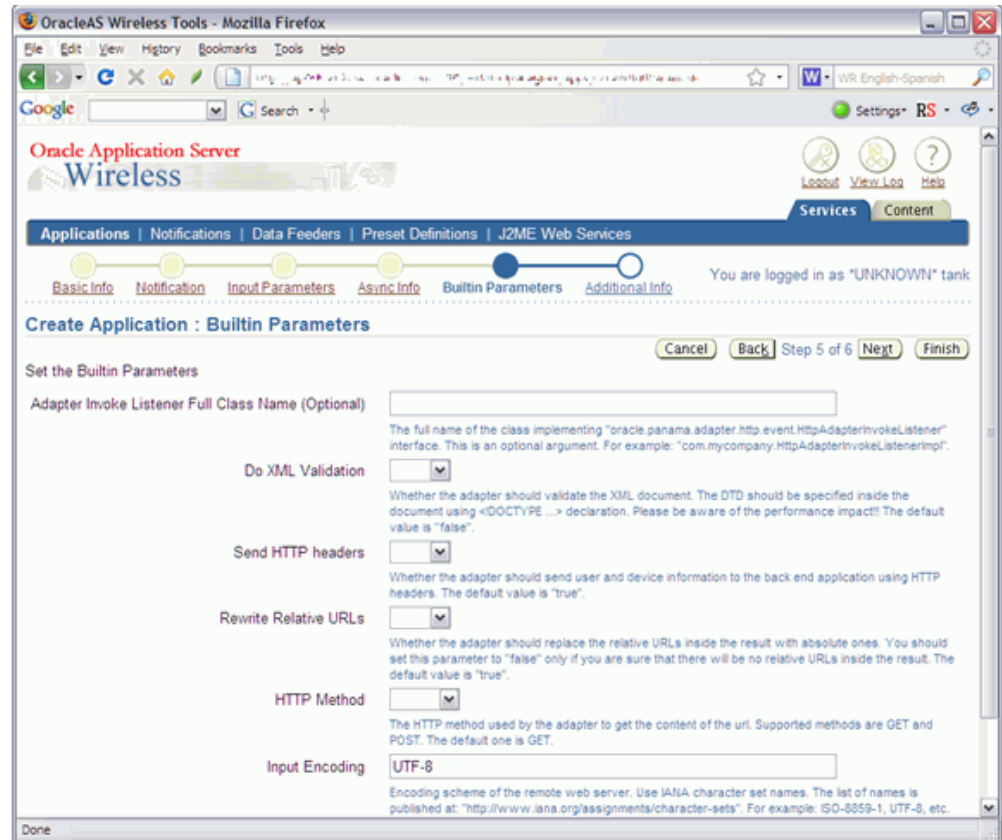
For example, Mobile Field Service Wireless.

6. Enter the URL which points to the Oracle E-Business Suite node.

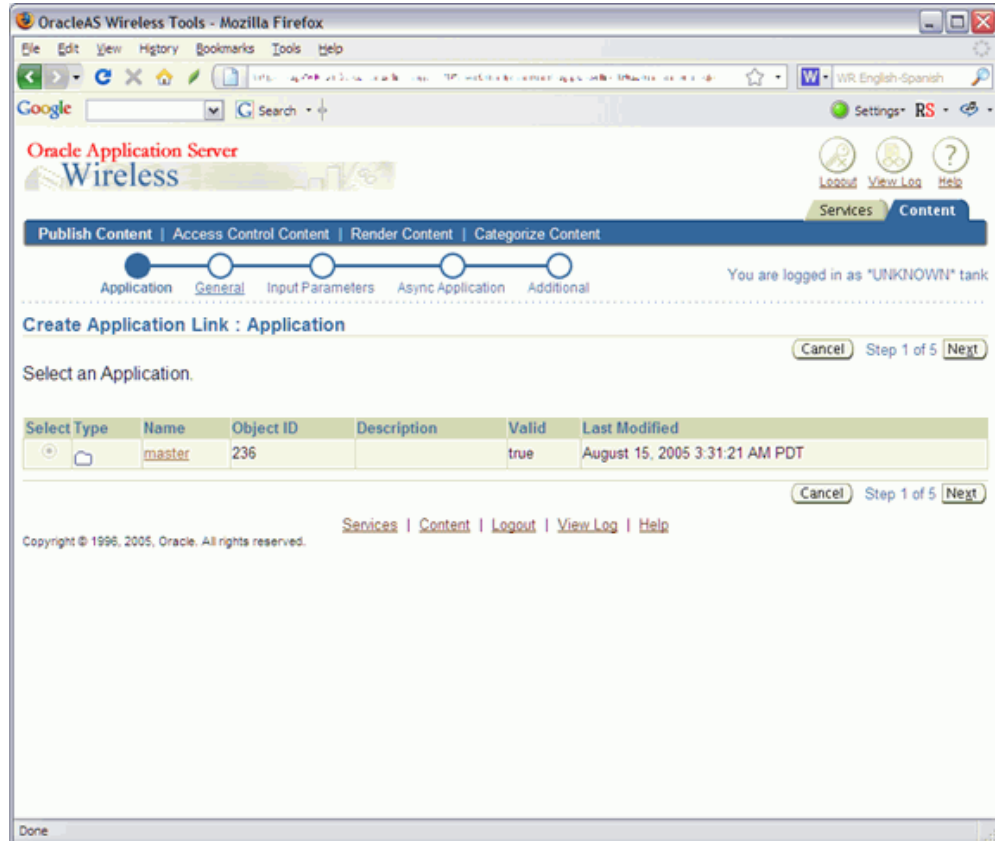
The URL for the Mobile Field Service - Wireless local login is: **http(s)://<EBS host name>:<port>/OA\_HTML/csfwlgnm.jsp**



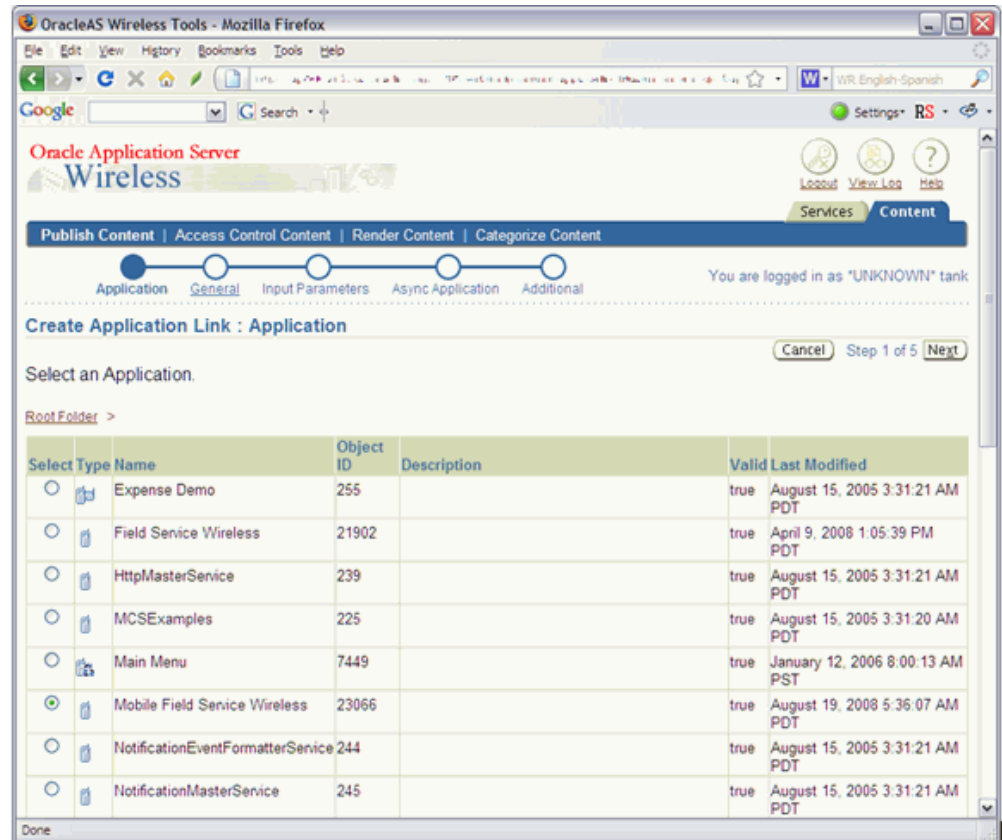
7. Click the Next button until you reach the Builtin Parameters page.
8. (Optional) If you are going to use National Language Support (NLS) languages enter UTF-8 in the Input Encoding field.



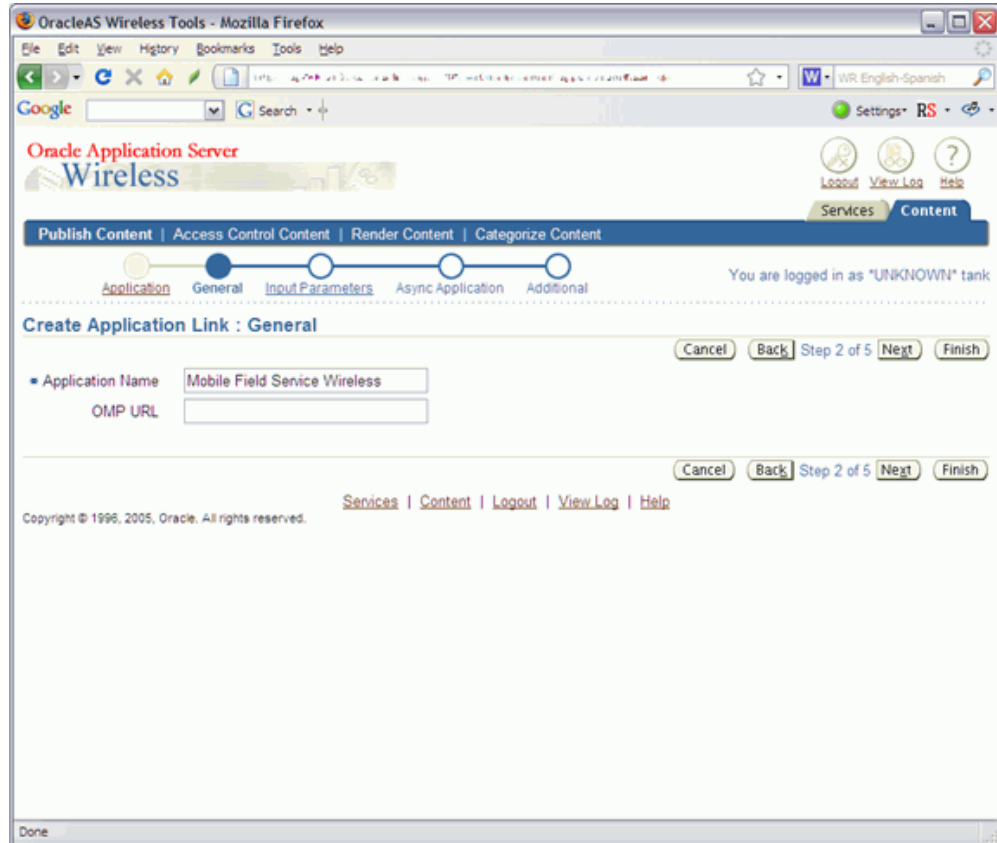
9. Click Finish.
10. To enable this application, select the Content tab and then click Add Application link.



11. Select the application which you created by clicking "Master" application and then click Next.

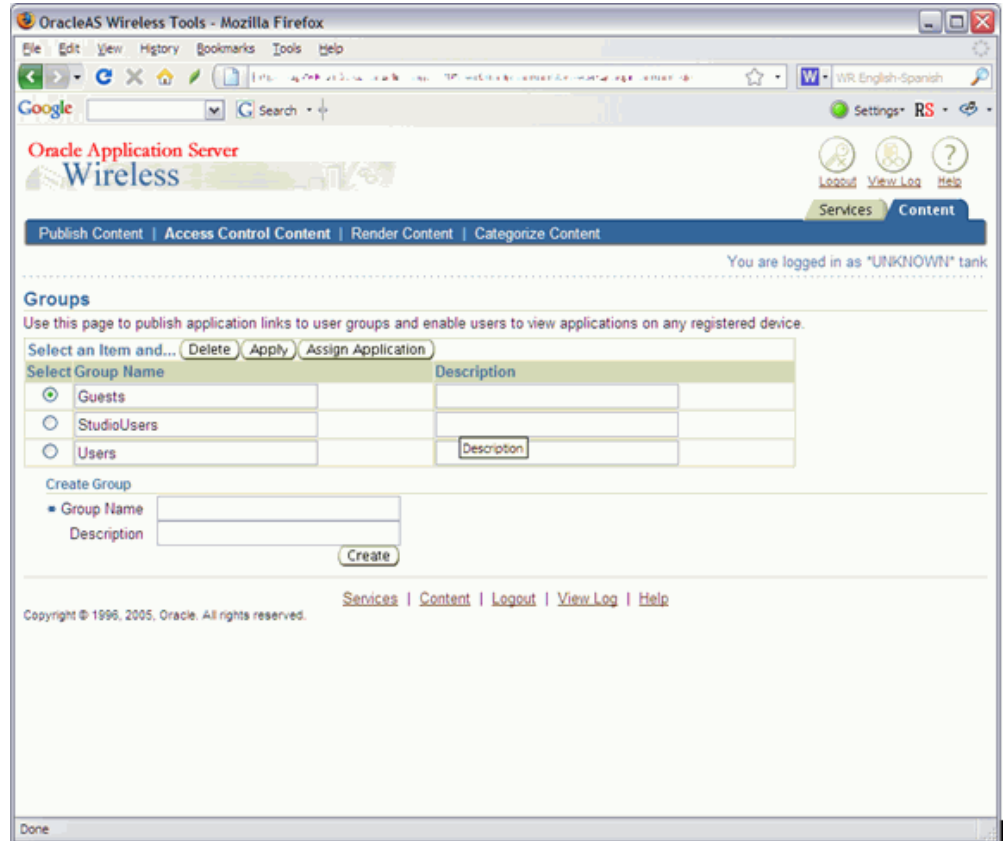


12. Enter the Application Link name for your application.  
For example, Mobile Field Service Wireless.

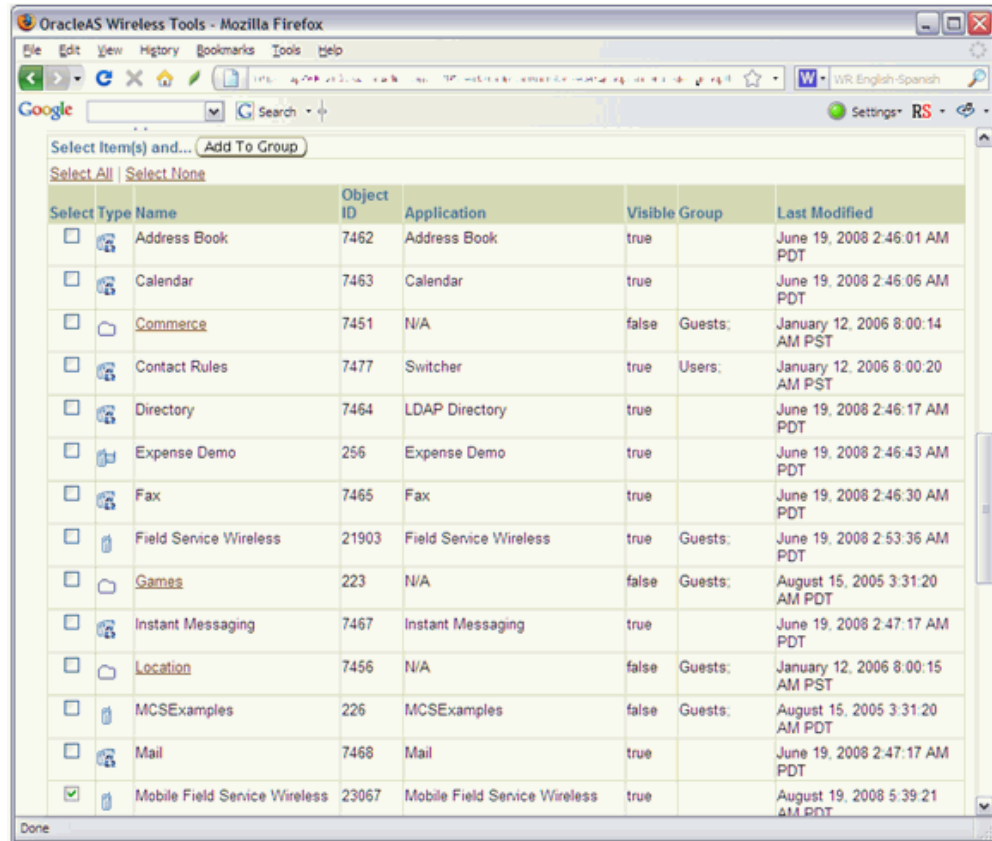


13. To make this link available to all users, select the Content tab again and then select the Access Control Content sub tab.
14. Select "Guests" group and click Assign Application button.





15. From the Available Applications table select the application link which you created and click the Add to Group button.



16. Click Finish.

### To Set Up Mobile Field Service - Wireless Application for Single Sign On Login:

To use single sign on (SSO) authentication for the Mobile Field Service - Wireless application, perform all the steps as mentioned above in the procedure "To Set Up Mobile Field Service - Wireless Application for Local Login" but in Step 6 provide this URL: **http(s)://<<EBS host name>>:<<port>>/OA\_HTML/csfwSSO.jsp**

## Setting SSL Certificates for HTTPS Access

The OracleAS Wireless Server is a middle tier between mobile devices and mobile content. Some devices use the HTTP(S) protocol to communicate with the OracleAS Wireless Server. The OracleAS Wireless Server uses the HTTP(S) protocol to retrieve content from content providers. This means that there are two HTTP(S) hops between a mobile device and mobile content. They both can be configured to use HTTPS. To support HTTPS between a mobile device and the Wireless Server, you must configure the Oracle HTTP server to accept HTTPS requests.

For more information, see the *Oracle HTTP Server Administrator's Guide*.

For content providers, the OracleAS Wireless Server functions as a virtual browser. Like other browsers, the OracleAS Wireless Server uses certificates to positively identify certification authorities and publishers. Before you can use HTTPS to connect to a content provider, you must download the content provider's SSL root certificates. After you download the certificate, copy it to the OracleAS middle-tier machine.

**Important:** If you have more than one middle tier, then you should copy the file to all middle-tier machines. The file must be in the same location on all of the middle-tier machines.

After you have copied the certificate file to the middle-tier machine, you must configure the OracleAS Wireless Server to use that certificate. If you have more than one middle-tier machine, you must configure only the first middle tier; all middle tiers will use the same settings (that is why the certificate file must be in the same location on all middle-tier machines).

Use this procedure to set a certificate for the Oracle AS Wireless Server:

### **To Set a Certificate for the Oracle AS Wireless Server:**

1. Navigate to the Oracle Enterprise Manager 10g Application Server Control.
2. From the Oracle Enterprise Manager 10g Application Server Control, select the OracleAS Wireless middle-tier node on the Farm page and then click Wireless on the Application Server Home page to access the OracleAS Wireless system management functions.
3. Click the Site Administration tab of the OracleAS Wireless Home page. From the General Configuration section, select HTTP, HTTPS Configuration.

The HTTP, HTTPS Configuration screen appears.

The SSL section enables you to add a certificate. The OracleAS Wireless Server supports two certificate file formats: Base64 or PKCS#7.

4. Enter the absolute path to the certificate file in the SSL section on the screen. You can set more than one certificate by clicking Add Another Row.
5. Click OK.
6. After you have setup the SSL certificate, restart the Wireless process before you start to use it.

## **Supporting Microsoft Windows Mobile 6**

Oracle Mobile Field Service - Wireless (11.5.10 to 12.1) is supported on the Microsoft Windows Mobile 6 based PDA/Smartphone browser.

All the functionality supported in earlier versions of Microsoft Windows Mobile PDA/Smartphone is also supported for Microsoft Windows Mobile 6 including Signature Capture.

## Setting Proxies

To properly set the proxy settings for the portal server, use the following procedure. This procedure is used to support the Directions module in the Oracle Mobile Field Service - Wireless application.

### Steps:

1. Log into Enterprise manager of ASwe using the URL `http://WIRELESS_SERVER:portName` (default 1810).
2. Log into Enterprise Manager as `ias_admin`. After login the screen would have at least two stand alone instances, one being the Infrastructure and the other being the middle tier.
3. Click on the Stand-alone middle tier instance.
4. Navigate to the configuration page by clicking on Wireless > Site Administration.
5. Click on the HTTP or HTTPS configuration. Enter the appropriate values.
6. Save your settings when you are finished.

## Setting Location Services

Use the following procedure to set the location services for the server. eLocation is the recommended provider. This procedure is used to support the Directions module in the Oracle Mobile Field Service - Wireless application.

### Steps:

1. Log into Enterprise manager of ASwe using the URL `http://WIRELESS_SERVER:portName` (default 1810).
2. Log into Enterprise Manager as `ias_admin`. After login the screen would have at least two stand alone instances, one being the Infrastructure and the other being the middle tier.
3. Navigate back to Middle tier Instance > Wireless > Site Administration.
4. Click on Location Services under Component Configuration.

5. Set up the Geocoding configurations.
6. Set the Routing Configuration.
7. Set the Map Provider Configuration.
8. When you have completed the Map Provider configuration, restart all the services for the Middle tier.



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## Implementing Oracle Mobile Field Service - Wireless

This chapter covers the following topics:

- Overview of the Implementation Tasks for Mobile Field Service - Wireless
- Confirming Setup of Other Oracle Applications
- Setting Up the User with Wireless Responsibility
- Setting Up the Profile Options for the Mobile Field Service Wireless User
- Setting Up Default Organization and Subinventory
- Setting Profile Options for Task Summary Display, Date Format
- Setting Up the Spares Management Order Parts Profile Option
- Setting Up Task Scheduling and Assignment Profile Options
- Setting Up the Email Server Profile Option
- Setting Up Signature Control
- Using Functional Security for Personalization
- Verifying the Implementation

### Overview of the Implementation Tasks for Mobile Field Service - Wireless

To implement the Oracle Mobile Field Service - Wireless application several steps need to be performed. These steps are outlined in the section below.

### Mobile Field Service - Wireless Implementation Task Sequence

To successfully implement the Mobile Field Service - Wireless application, complete these steps in the order shown in the following table:

Required	Step Title
Yes	Confirm Setup of Other Oracle Applications.
Yes	Set Up the User with Wireless Responsibility
Yes	Set Up the Profile Options for the Mobile Field Service Wireless User.
Yes	Set Up Default Organization and Subinventory.
Optional	Set Profile Options for Task Summary Display, Date Format.
Optional	Set Up the Spares Management Order Parts Profile Option.
Optional	Set Up Task Scheduling and Assignment Profile Options.
Optional	Set Up the Email Server Profile Option.
Optional	Set Up the System for Route Directions.
Optional	Set Up Signature Control.
Optional	Verify the Implementation.

## Confirming Setup of Other Oracle Applications

Before setting up Oracle Mobile Field Service - Wireless, you must install and fully implement these Oracle applications or components:

- Oracle Field Service

This includes all the Oracle applications necessary for a fully operational Field Service application. For more information on the specific steps necessary for Field Service implementation, see the *Oracle Field Service Implementation Guide*.

Optionally, you'll need to implement the following applications to run all the functionality available for Oracle Mobile Field Service - Wireless:

- Oracle Spares Management

This application is necessary if you are using any of the parts order or parts search functionality.



**Note:** All other Oracle applications necessary for a full installation of Field Service (for example, Oracle Install Base, Oracle Shipping, and so on) are required for Oracle Mobile Field Service - Wireless. See the *Oracle Field Service Implementation Guide* for details.

- Oracle Knowledge Management

This application is required if you plan to access your organization's Knowledge Base. If you want to use the Oracle Mobile Field Service - Wireless category search functionality, you must configure categories according to the *Oracle Knowledge Management User Guide*.

- Oracle Advanced Supply Chain Planning

Oracle Mobile Field Service - Wireless interfaces with Spares Management and, through Spares, uses the Available-to-Promise (ATP) functionality in the Advanced Supply Chain Planning application for its parts ordering and parts search functionality.

- Oracle Advanced Scheduler

This application is mandatory for the task scheduling feature to work properly.

For information regarding the installation and implementation of these applications and components, see the appropriate documentation for each product.

## Setting Up the User with Wireless Responsibility

Use this procedure to assign the wireless responsibility to the applications user. The profile options for the Oracle Mobile Field Service - Wireless user are set up once per user.

### Prerequisites

- ☐ The user must be created in the database before you can assign the Oracle Mobile Field Service - Wireless responsibility.

#### Steps:

1. Log in to the Oracle Enterprise applications with the System Administrator responsibility.
2. Navigate to Users window (Security > User > Define).
3. Query for a valid User Name, which is already in the database.

4. On the Direct Responsibilities tab, enter the *Field Service Wireless* responsibility.
5. Save your work.

## Setting Up the Profile Options for the Mobile Field Service Wireless User

Use this procedure to assign profile options to the Mobile Field Service wireless applications user.

### Prerequisites

- ☐ The user must be created in the database, and must have the Field Service Wireless responsibility.

### Steps:

1. Log in to the Oracle Enterprise applications with the Functional Administrator responsibility.
2. Navigate to the Oracle Applications Administration: Core Services - Profiles page (Core Services > Profiles).
3. Enter the profile **Name**, in the search area. For wild card searches, use '%'. Provide the access level details and click Go.
4. Enter values for the profile options shown in this section. You can set these options in any sequence.

### Options

Option	Description
JTFW_PROFILE_DEFAULT_WIRELESS_RESPONSIBILITY	<p>Set at the User level. The default wireless responsibility is the wireless responsibility with which the user is logged in.</p> <p>By default, this profile is set to 22730, the wireless responsibility.</p> <p>This profile is used in the case where a user has more than one Field Service Wireless custom responsibilities created using CSFW_WIRELESS_TOP menu.</p>

Option	Description
CSFW: Use Icons for buttons	<p>Image icons or buttons appear, based on the value of this profile option. If this profile is set to Yes, icons are present in the application. If this profile is set to No, buttons are present in the application.</p> <p>This profile can be set at User level but is not mandatory. The profile option level precedence rule will take place here.</p>
CSF: Default Task Report Template	<p>The profile defines the default layout that is used to generate the task report. You can customize the default template from the XML Publisher Administrator responsibility.</p> <p>All templates defined will be present in the LOV and can be updated at the Site, Application, Responsibility and User levels.</p> <p>The default value for the profile option is Field Service Task Summary Report.</p>
CSF: Enable Destination Inventory Organization for Parts Transfer	<p>This profile option is used to display the valid destination inventory organizations during transfer of parts. If the profile is set to Yes, all valid organizations are displayed. If the profile is set to No, the destination organization will be the same as the source organization assigned to the technicians.</p>
CSF: Validate Part Replacement in Debrief	<p>This profile is used to validate if the installed item and the recovered item are the same. If the profile is set to Yes, the recovered item and the installed item are validated and the debrief line is saved, if they are found to be the same, else the system displays an error without posting the debrief line. If the profile is set to No, then validation is disabled and the line is posted to debrief.</p>
CSP: Initial Status of Internal Order	<p>This profile is used to determine the initial status of the parts order when the order is created in the Scheduler process.</p>
CSP: Initial Status of Internal Order for Scheduler	<p>This profile is used to determine the initial status of the parts order when the order is created in the Scheduler process.</p>

Option	Description
CSP: Parts Requirement Default Ship To Address	This profile option is used to set the default value of the Ship to Address Type.  LOV values include Customer Address, Do not default, Task Address, and Technician Address.

## Setting Up Default Organization and Subinventory

You must set up the default organization and subinventory for the resources that will be using the Oracle Mobile Field Service - Wireless application.

For complete information on creating resources, see Setting Up Field Service Technicians and Dispatchers in the *Oracle Field Service Implementation Guide*.

## Setting Profile Options for Task Summary Display, Date Format

The profile options for the Task Summary Display screen and Date Format are set up at the system level but they can be overridden at the user level.

Use this procedure to optionally set up the profile options for the task summary display screen, date format.

### Prerequisites

- ☐ The user must be created in the database, and must have the Oracle Mobile Field Service - Wireless responsibility.

#### Steps:

1. Log in to the Oracle Enterprise applications with System Administrator responsibility.
2. Navigate to System Profile Values window (Profile > System).  
The Find System Profile Values window appears.
3. In the Profile field, enter: CSFW% and click Find.  
The System Profile Values window appears displaying all the profile options that match the criteria entered.
4. Enter values for the profile options shown in this section. You can set these options in any sequence.

### ***Options***

<b>Option</b>	<b>Description</b>
CSF: Default Distance Unit	<p>This is the distance unit for measurement purposes in Oracle Mobile Field Service - Wireless. Available values are:</p> <ul style="list-style-type: none"><li>• Mile</li><li>• Kilometer</li></ul>
CSFW: TASK DISPLAY1	<p>This profile is used together with CSFW: TASK DISPLAY2 and CSFW: TASK DISPLAY3 to display any three values on the Task Summary screen. The options selected here determine what the field service technicians will view when they start the Oracle Mobile Field Service - Wireless application. The values to select from are:</p> <ul style="list-style-type: none"><li>• TASK NUMBER</li><li>• SCHEDULE START TIME</li><li>• CUSTOMER ADDRESS</li><li>• STATUS</li><li>• TASK TYPE</li></ul>
CSFW: TASK DISPLAY2	<p>This profile is used together with CSFW: TASK DISPLAY1 and CSFW: TASK DISPLAY3 to display any three values on the Task Summary screen. The options selected here determine what the field service technicians will view when they start the Oracle Mobile Field Service - Wireless application. The values to select from are:</p> <ul style="list-style-type: none"><li>• TASK NUMBER</li><li>• SCHEDULE START TIME</li><li>• CUSTOMER ADDRESS</li><li>• STATUS</li><li>• TASK TYPE</li></ul>

Option	Description
CSFW: TASK DISPLAY3	<p>This profile is used together with CSFW: TASK DISPLAY1 and CSFW: TASK DISPLAY2 to display any three values on the Task Summary screen. The options selected here determine what the field service technicians will view when they start the Oracle Mobile Field Service - Wireless application. The values to select from are:</p> <ul style="list-style-type: none"> <li>• TASK NUMBER</li> <li>• SCHEDULE START TIME</li> <li>• CUSTOMER ADDRESS</li> <li>• STATUS</li> <li>• TASK TYPE</li> </ul>
CSFW: Home Page	<p>This profile option applies to the PDA application. For the WML application the home page always remains as the Main Menu. However, for the PDA application, the user does have an option to pick from Main Menu, Today's Task, or Open Tasks as the default Home page.</p>
CSFW: Task Max	<p>This is a numeric value that determines the maximum number of tasks to display on a screen.</p>
CSFW: Planned Task Window	<p>Follow-Up task functionality requires the entry of a Planned Start Date and Planned End Date. The Planned Start Date defaults to the system date and time. This profile determines the Planned End Date. When the profile is not set, the Planned End Date does not default. The profile can be set in number of days. For example, if current date and time are 11-27-2004 (MM-DD-YYYY) and 10:00, and the profile is set to 2.25, the Planned End Date and Time will default to 11-29-2004, 16:00.</p>
CSFW: Service History Days	<p>This profile determines how far back the Service History of an item belonging to a service request should be shown.</p>
ICX: Date format mask	<p>Stores the date format.</p>

## Setting Up the Spares Management Order Parts Profile Option

If you plan to use the Spares Management order parts functionality you must set the following profile option: CSP: Order Type.

Use this procedure to set up the profile option:

### Steps:

1. Log in to the Oracle Enterprise applications with the System Administrator responsibility.
2. Navigate to the System Profile Values window (Profile > System).  
The Find System Profile Values window appears.
3. In the Profile field, enter: CSP% and click Find.  
The System Profile Values window appears displaying all the profile options that match the criteria entered.
4. Enter values for the profile option shown in this section.

### Option

Option	Description
CSP: Order Type	This profile option is used to provide a default value for order type when creating internal orders. Select from any valid order type in the list of values.

5. Save your work.

## Setting Up Task Scheduling and Assignment Profile Options

Technicians can self-schedule and self-assign new tasks and new follow-up tasks, created from their wireless PDA devices. You can also select a plan option from the Windows to Promise options for scheduling the new tasks and new follow-up tasks, created from wireless PDA devices. You can choose to work right away on an additional new task created on the same service request, or on a new task on a new service request. You can choose the *Self Schedule* or *Windows to Promise* options to schedule the new task for a later time, due to constraints, such as calendar availability or if you don't have the required skills or parts to perform the job right away.

Navigate to the Profiles page to set the necessary profile options (Functional administrator > Core Services > Profiles). The table below lists the necessary profile options to set for this functionality. Below the table, these same profile options are detailed.

**Important:** Oracle Field Service and Oracle Advanced Scheduler must be implemented for this functionality.

**Key Profile Options for Task Scheduling and Assignment**

Profile Option	User	System Admin: USER	System Admin: RESP	System Admin: APP	System Admin: SITE	Required?	Default
CSF: Default Working Task Status	View Update	View Update	View Update	View Update	View Update	Y	Working
CSFW: Task Max	View Update	View Update	View Update	View Update	View Update	Y	-
CSF: Default Planned task status for planned task	View Update	View Update	View Update	View Update	View Update	Y	Planned
CSFW: Technicians Schedulable Options	View Update	View Update	View Update	View Update	View Update	Y	Window to Promise
CSF: Default commit task status	View Update	View Update	View Update	View Update	View Update	Y	Assigned



## Profile Options Description

Option	Description
CSF: Default commit task status	Technicians can self-schedule and self-assign new tasks and new follow-up tasks from their wireless PDA devices. When the task is scheduled, the task assignment status depends on the value of this profile. The default value for this profile is <i>Assigned</i> .
CSF: Default Planned task status for planned task	Technicians can schedule new tasks and new follow-up tasks, using the window options available when utilizing the Windows to Promise mode, from their wireless PDA devices. When the task is scheduled, the task assignment status depends on the value of this profile. The default value for this profile is <i>In Planning</i> .
CSF: Default Working Task Status	<p>If you choose to work right away on the additional task created on the same service request or on a new task on a new service request, the task assignment status depends on the value of this profile. The default value for this profile is <i>Working</i>.</p> <p><b>Note:</b> Advanced Scheduler is not required for this option.</p>
CSFW: Task Max	Technicians can self schedule and self assign tasks and follow-up tasks, using the <i>Self Schedule</i> option or schedule the tasks and follow-up tasks using <i>Windows to Promise</i> options, from their wireless PDA devices. You can select a slot from the plan options that are displayed. The Plan options appear, based on the value of this profile. The plan options appear in an ascending order, from lowest to highest cost.

Option	Description
CSFW: Technicians Schedulable Options	<p>Technicians can self schedule and self assign tasks and follow-up tasks, work on the tasks and follow-up tasks right away, or schedule the task and follow-up task using the <i>Windows to Promise</i> option, from their wireless PDA devices. Your access level in the wireless device depends on the value of this profile.</p> <ul style="list-style-type: none"> <li>• <i>No scheduling Permission:</i> When the profile is set with this value, the technician does not have any scheduling and assignment options.</li> <li>• <i>Work on it:</i> When the profile is set with this value, the technician can assign the task to themselves and work on it. No scheduling is required.</li> <li>• <i>Self Schedule:</i> When the profile is set with this value, the technician has the following options: <ol style="list-style-type: none"> <li>1. Self assign the task and work on it.</li> <li>2. Schedule the task by selecting a suitable plan option from the list of various plan options, and assign the task to them self.</li> </ol> <p><b>Note:</b> Advanced Scheduler must be implemented for this selection.</p> </li> <li>• <i>Intelligent:</i> This allows technicians to perform other options including WTP and schedule a task for other resources. It is similar to the Intelligent mode for the Dispatch Center Scheduler. <p><b>Note:</b> Advanced Scheduler must be implemented for this selection.</p> </li> <li>• <i>Window to Promise:</i> This is the default</li> </ul>

Option	Description
	<p>value. When the profile is set with this value, a technician has the following options:</p> <ol style="list-style-type: none"> <li>1. Self assign the task and work on it.</li> <li>2. Schedule the task by selecting a suitable plan option from the list of various plan options, and assign the task to them self.</li> <li>3. Use the Windows To Promise mode to schedule and assign the task to the best possible resource.</li> </ol> <p><b>Note:</b> Advanced Scheduler must be implemented for this selection.</p>

## Related Topics

Self-Assign or Self-Schedule Tasks, *Oracle Mobile Field Service User Guide*

## Setting Up the Email Server Profile Option

The Email server is set up only once for the system.

Use this procedure to set up the profile option for the Email server.

### Steps:

1. Log in to the Oracle Enterprise applications with the System Administrator responsibility.

2. Navigate to System Profile Values window (Profile > System).

The Find System Profile Values window appears.

3. In the Profile field, enter: JTFW% and click Find.

The System Profile Values window appears displaying all the profile options that match the criteria entered.

4. Enter values for the profile option shown in this section.

### ***Option***

Option	Description
JTFW: SMTP SERVER	Set this profile option to your SMTP server.

5. Save your work.

## **Setting Up Signature Control**

To use the Oracle Mobile Field Service - Wireless signature control functionality, you must use one of the following two wireless devices along with the appropriate system requirements:

Device	System Requirements	Plug-in Required
Built-In Signature Capable devices	Symbol Spectrum 24R WebClient for Palm Computing Platform	No
Pocket PC-based devices	Pocket PC, Pocket PC2000, Pocket PC 2002, Pocket PC 2003 and 4.0 .Net based devices	Yes

On devices with built-in signature capabilities (Symbol Spectrum24R WebClient for Palm Computing Platform), the Mobile Field Service - Wireless application automatically generates the appropriate markup language.

In the case of PocketPC devices running WinCE .0 or later (Pocket PC, Pocket PC2000, Pocket PC 2002, Pocket PC 2003 and 4.0 .Net based devices), a signature capture plug-in is available for download.

If you are using signature capture with either of the devices supported by Oracle, you must set the CSFW: Enable Signature Control profile option to "yes."

## **Using Functional Security for Personalization**

You can personalize Oracle Mobile Field Service - Wireless using functional security. The application implements two levels of functional security:

- Main menu functions restriction - First level

- Major subfunctions restriction within a function - Second level

## Restricting Main Menu Functions

You can remove any function from the wireless main menu by adding it to the Menu exclusion list in the Responsibility Form. In addition, functional security prevents even manual access to a function if it is added in the Menu exclusion list in the Responsibility Form or if the Grant flag is cleared in the Menu Detail UI. If an attempt is made to access a function from the menu that is added in the Menu exclusion or whose Grant flag is cleared in the Menu definition, then the error message "Insufficient privileges to access this function." is displayed. The following table lists the available functions in Oracle Mobile Field Service - Wireless.

### *Functions for Wireless*

Function	Function Name
CSFW_DAY	Today's Task
CSFW_TASKENTRY	Task Search - WAP
CSFW_REQENTRY	Service Request Search - WAP
CSFW_DATEENTRY	Date Search - WAP
CSFW_ALLPARTS	Parts Search - WAP
CSFW_CACHE	Offline Schedule
CSFW_ADV_TASK_SEARCH	Advance Task Search
CSFW_CREATE_SR	Create Service Request
CSFW_KM	Knowledge Base
CSFW_PARTS_SRCH	Parts Search
CSFW_PARTS_RETURN	Parts Return
CSFWTRANHIST	Transaction History
CSFW_MOBILE_QUERY	Mobile Queries

Function	Function Name
CSFWPREFERENCES	Preferences
CSFWCHANGEPASS	Change Password
CSFW_DIRECTIONS	Get Directions
CSFW_ABOUT	About Field Service

### To restrict a function from appearing in the Wireless main menu:

1. Navigate to System Administrator > Security > Responsibility.
2. Search for Field Service Wireless responsibility.
3. In the Menu Exclusions tab, add the functions to be excluded.

or

1. Navigate to Functional Administrator > Core Services > Menus.
2. Search for the Wireless menu Field Service Wireless.
3. Clear the Grant checkbox for the function to be excluded from the menu.

### Restricting Subfunctions Within a Function

The second layer of functional security uses permissions and subfunctions. With these permissions and subfunctions, you can restrict display of a subfunction or the action in a function. That is, you can personalize the Mobile Field Service - Wireless UIs.

The following second-level functions (permissions) are available in the Task Detail UI:

1. CSFW\_TINF\_TASK\_DFF\_V - Task DFF View
2. CSFW\_TINF\_TASK\_DFF\_U - Task DFF Update
3. CSFW\_TINF\_SR\_ATCHT\_V - SR Attachment View/Download
4. CSFW\_TINF\_SR\_ATCHT\_U - SR Attachment Upload
5. CSFW\_TINF\_TASK\_NOTE\_V - Task Note View
6. CSFW\_TINF\_TASK\_NOTE\_C - Task Note Create

7. CSFW\_TINF\_SR\_NOTE\_V - Service Request Note View
8. CSFW\_TINF\_SR\_NOTE\_C - Service Request Note Create
9. CSFW\_TINF\_SR\_DFF\_V - Service Request DFF View
10. CSFW\_TINF\_SR\_DFF\_U - Service Request DFF Update

The following second- level functions (permissions) are available in the Debrief UI:

1. CSFW\_DBF\_PROB\_U - Problem Code Update
2. CSFW\_DBF\_HDR\_DFF\_V - Debrief Header DFF View
3. CSFW\_DBF\_HDR\_DFF\_U - Debrief Header DFF Update
4. CSFW\_DBF\_MAT\_V - Material Debrief View
5. CSFW\_DBF\_MAT\_U - Material Debrief Update
6. CSFW\_DBF\_EXP\_V - Expense Debrief View
7. CSFW\_DBF\_EXP\_U - Expense Debrief Update
8. CSFW\_DBF\_LAB\_V - Labor Debrief View
9. CSFW\_DBF\_LAB\_U - Labor Debrief Update
10. CSFW\_DBF\_SIG\_U - Signature Capture
11. CSFW\_DBF\_RES\_U - Resolution Code Update
12. 12. CSFW\_DBF\_NOTE\_V - Debrief Notes View
13. CSFW\_DBF\_NOTE\_U - Debrief Notes Update

To set access or restrict a particular functionality in the Task Details UI or the Debrief UI, you use the listed permissions in the Wireless main menu Field Service Wireless through the permission set Field Service Wireless - Default Permission Set. To restrict access to any functionality of these UIs, such as Signature Capture or Service Request Note View, you remove the specific permission from the permission set. Alternatively, you can create a new permission set with the set of permissions required by a particular user or user-group, or similar entity, and create a grant for such entity.

#### **To restrict a subfunction with a function:**

1. Navigate to Functional Administrator > Security > Permission Sets.
2. Search for set Field Service Wireless - Default Permission Set.

3. Remove the subfunction to be excluded or hidden from the default permission set.

or

1. Navigate to Functional Administrator > Core Services > Menus.

2. Search for the Field Service Wireless menu.

3. Navigate to the submenu/permission set added to the menu.

4. Click the submenu link.

The permissions/sub-functions attached to the submenu appears.

5. Clear "Grant" from the permissions to be excluded.

or

1. Navigate to Functional Administrator > Security > Permission Sets.

2. Create a permission set based on the specific requirement.

3. Remove the default permission set from the Wireless main menu.

4. Attach the new permission set.

5. For the user level, create a grant for the new permission set and assign the grant to the user or user group.

## Verifying the Implementation

To verify a successful implementation of the Oracle Mobile Field Service - Wireless application you should perform several tasks. Tasks covered in this section include:

- Verify User Login.
- Verify Task Detail Information.
- Verify Directions.

### Verify User Login

After you have implemented the Oracle Mobile Field Service - Wireless application, you can verify the user login as follows:

1. Type in the URL for the Portal to Go Server (Oracle AS Wireless Server) and click on the Field Service URL Adapter Service.



2. Type in the applications login and password and verify that you can view the menu.

## **Verify Task Detail Information Card**

To verify the task detail information, perform these steps:

1. Create a service request using the Oracle Field Service core application and assign a task to a Field Service wireless user for today.
2. Log in to the Oracle Mobile Field Service - Wireless application and verify whether the task is properly assigned to the wireless user.
3. Click on Today's Task and verify the display of the summary screen is in accordance with the profile setting for CSFW: TASK DISPLAY1, CSFW: TASK DISPLAY2, and CSFW: TASK DISPLAY3.
4. Click Customer Information and verify that you can send an e-mail, assuming that an SMTP server is available.

## **Verify Directions**

If Directions are implemented, you can verify that the function works correctly as follows:

1. Log in to the Oracle Mobile Field Service - Wireless application and click Direction.
2. Click Other and type in a starting and ending address that you know are correct.
3. Verify the Directions text.



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## Administration and Troubleshooting

This chapter covers the following topics:

- Mobile Field Service Wireless and Voice Debug Page
- Oracle AS Wireless Server Log
- HTTP Header Log
- Issues and Solutions

### Mobile Field Service Wireless and Voice Debug Page

Administrators can verify Mobile Field Service - Wireless user setup and other system level settings by using the Mobile Field Service Wireless and Voice Debug page.

#### What is the Debug Page?

The Debug page is:

- A simple HTML page.
- A quick tool for System Administrators to provide required information while logging a TAR.
- Various debugging information displayed in a well formatted manner.

#### What Information Does the Debug Page Contain?

The Debug page contains the following:

- User and profile information.
  - Basic user information.

Basic user information such as, user name, resource ID, wireless responsibility

ID and name, and default subinventory.

- Profile values for the user.

Profile values used in the Mobile Field Service - Wireless and Voice applications for the logged in user.

- Task and service request information.
  - Service request data related to the task.  
Useful information for the service request related to a given task number.
  - Task details.  
Brief details of the given task number.
  - Contact, Task Assignment, and Task Status details.  
Related information for the task number.
- Environmental information.
  - Middle tier and database information.  
Technical information about the middle tier and database such as, JRE, OJSP compiler, JDBC driver, and database versions.
  - Java classpath entries.  
All the classpath entries.
  - JDBC connections pool and invalid database objects.
    - JDBC connection pool status in terms of total available connections, used and free connections.
    - List of any CSF invalid database objects.
- File versions.
  - JSP and Java file versions.  
File versions of Field Service Wireless JSP and Java files.

## How to Access the Debug Page?

To access the Debug page use this procedure:

1. Enter the following URL in any web browser:  
`http://{host}:{port}/OA_HTML/csfwDebugValues.jsp`

2. Login in with user for which you want to view the user and profile information.
3. Provide task number for which you want to view the task and service request information.
4. Provide the profile name apart from profiles displayed under "User & Profile Information", to view the profile values for the logged in user.

## Oracle AS Wireless Server Log

In the case where the user receives "Service Error", the administrator can check for the error details in the Oracle AS Wireless Server log file.

The log file is located at: \$WIRELESS\_OH/wireless/logs/log.xml

**Important:** Make sure you truncate this log file periodically to avoid any performance issues.

## HTTP Header Log

The Oracle AS Wireless server acts as a virtual browser between the Oracle E-Business Suite and the end user device. To log the entire HTTP traffic between Oracle AS Wireless and the back-end application you have to modify the \$WIRELESS\_OH/opmn/conf/opmn.xml file and add the following in the start section for OC4J\_Wireless:

```
-DHTTPClient.log.mask=-1
-DHTTPClient.log.file=$ORACLE_HOME/wireless/logs/http.log
```

For example, after the change, that section will look something like this:

```
<category id="start-parameters">
<data id="java-options" value="-server

-Djava.security.policy=$ORACLE_HOME/j2ee/OC4J_Wireless/config/java2.policy
-Djava.awt.headless=true -Xmx256m -Djava.awt.headless=true
-Doracle.wireless.oraclehome=$ORACLE_HOME
-Doracle.wireless.home=$ORACLE_HOME -DHTTPClient.log.mask=-1
-DHTTPClient.log.file=$ORACLE_HOME/wireless/logs/http.log"/>
<data id="oc4j-options" value="-properties
-userThreads"/>
</category>
```

**Important:** Do not modify the opmn.xml directly. You need to use the EM web GUI.

After the change you have to restart the OC4J\_Wireless process. If you have configured it correctly you should see a new file \$WIRELESS\_OH/wireless/logs/http.log

immediately after OCJ4\_Wireless comes up.

**Note:** You should remove/comment these lines from opmn.xml file and restart OCJ4\_Wireless process after you complete the debugging process.

## Issues and Solutions

This table lists some of the issues that may occur when implementing Oracle Mobile Field Service - Wireless and the recommended solution:

Issue	Solution
Not getting Signature Capture control for Microsoft Windows Mobile 6.0.	<p>In the device, make sure that you have installed the Signature Capture plugin for the right CPU type.</p> <p>Also make sure that you have added a valid User-Agent name for the Device Metadata.</p>

# Part 4

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## High Availability





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## Implementing High Availability

This chapter covers the following topics:

- About High Availability
- About Mapping Responsibilities
- Concurrent Requests Supported in Mobile Field Service in High Availability
- User Actions Supported in Mobile Field Service in High Availability

### About High Availability

Organizations providing round the clock support to their customers require computer systems to also be available 24x7. Hence, any planned or unplanned outages may bring down employee productivity, reduce customer satisfaction and affect business until all systems are back up and running. Service companies that have shorter turnaround times can adversely be affected by such downtimes. Oracle TeleService provides high availability (HA) of critical features. This feature is especially useful where a single instance is run and entire operations are affected by these downtimes.

High availability refers to enabling operational continuity of the business critical functions of application or system during a scheduled production outage. Planned production downtime may be due to patch applications or other system configurations that require that the production instance is taken offline or restarted.

### Related Topics

High Availability Solution, *Oracle TeleService Implementation and Administration Guide*

Critical Business Functions Available in High Availability, *Oracle TeleService Implementation and Administration Guide*

Setting Up High Availability, *Oracle TeleService Implementation and Administration Guide*

## About Mapping Responsibilities

Responsibilities enable users to access different user interfaces on the high availability instance. During the HA Record phase, users are given access only to the HA equivalents of their standard production responsibilities. The HA responsibilities give access to a limited set of UIs and functions that are available on the HA instance. When the production instance is restored, users will resume with their regular responsibilities.

The Service High Availability Administrator must set up the responsibilities on the production instance. Since the high availability instance is a clone of the production instance, the responsibility mapping performed on the production instance is available on the high availability instance when the production instance is brought offline. The fields on the High Availability Responsibility Mapping page display the list of active responsibilities in Service, Field Service, and Mobile Field service.

Before the HA instance is made available,

1. Only the System Administrator responsibility is available.
2. All responsibilities that are marked as HA responsibilities are available. Responsibilities on the production instance are mapped to responsibilities on the HA instance.
3. No other responsibilities are available on the HA instance.
4. These HA responsibilities are then assigned to users with corresponding normal responsibilities.
5. Barring few required programs for Service all other concurrent programs, workflows, and business events cannot be run on the HA instance. See Concurrent Requests Supported in Mobile Field Service in High Availability., page 17-3
6. Users will have access to the regular responsibilities when they move back to the production environment.

## Mapping Responsibilities

Use this procedure to map responsibilities on the production instance.

To map responsibilities:

1. On the High Availability Responsibility Mapping page, select the responsibility name from the Responsibility Name list. All responsibility mappings related to the selected responsibility are displayed in the Application Name, HA Application Name, and HA Responsibility Name fields.
2. Click Delete to delete a responsibility mapping. To delete multiple responsibility mappings select the check box next to the mapping and click Delete.

3. Click the Add icon to add a responsibility mapping.
4. Click Apply.
5. Click OK. The values in this setup are saved to the CSM\_HA-RESP\_MAPPINGS table that is used during the HA Record start phase.

## Concurrent Requests Supported in Mobile Field Service in High Availability

The following concurrent requests are supported in the HA mode in Mobile Field Service:

- Process Uploaded Mobile Data
- JTM Master Concurrent Program (only Category: INVENTORY and TRANSACTION are supported)

## User Actions Supported in Mobile Field Service in High Availability

The following table lists the user actions/functionality that is supported in HA. Features that have the Capture Transaction in HA Mode column set to Y (Yes) are supported in HA mode. These functions/transactions will be captured and replayed in the production instance. Features that are set to N (No) in the Capture Transaction in HA Mode column must either be hidden, disabled or enabled in read-only mode so that the users cannot make updates that will not be captured. In OA HTML pages, you can do this through personalization.

Features that have the Enabled in UI in HA Mode column set to Y are displayed on the UI and can be accessed in the HA mode. For features that are marked as N, users cannot access them and the feature can either be disabled or is not shown on the UI.

Module	Flow/Location	User Action	Capture Transaction in HA Mode	Show/Enable in UI in HA Mode
Technician/Adm inistrator Portal & MFS Wireless	Tasks	Task list on dashboard	N	Y
		Search task	N	Y
		Update task	Y	Y

Module	Flow/Location	User Action	Capture Transaction in HA Mode	Show/Enable in UI in HA Mode
		Create follow up task	Y	Y
		Create personal task	Y	Y
		Schedule task	Y	Y
		Update IB (Actions LOV)	N	N
	Service Request	Search service request	N	Y
		Update service request	Y	Y
		Create service request	Y	Y
		View service history	N	Y
		Update counter readings	Y	Y
	Parts	Search parts	N	Y
		Transfer parts	N	N
		Order parts	N	N
		Receive parts	N	N
		Return parts	N	N
	Debrief	Capture debrief-labor, material, expense	Y	Y

Module	Flow/Location	User Action	Capture Transaction in HA Mode	Show/Enable in UI in HA Mode
		Process debrief to charges	Y	N/A
		Travel debrief	Y	Y
		Debrief error correction	Y	Y
		Debrief E-record Approval	N	N
		Default travel and labor debrief based on task status updates	Y	Y
		Capture signature	Y	Y
	Contract	View contracts	N	Y
	Customer	View customer and contact info	N	Y
	Notes	View/create notes	Y	Y
	Install Base	View install base configuration	N	Y
		Update install base configuration	N	N
	Knowledge Management (KM)	View KM	N	Y
		Create/update KM	N	N

Module	Flow/Location	User Action	Capture Transaction in HA Mode	Show/Enable in UI in HA Mode
MFS (Laptop & Pocket PC)	Miscellaneous	Upload/download attachment	Y	Y
		Access maps and driving directions	N	Y
	Tasks	Task list on dashboard	N	Y
		Search task	N	Y
		Update task	Y	Y
		Create follow up task	Y	Y
		Create personal task	Y	Y
		Self assign tasks	Y	Y
		Self schedule task	Y	Y
	Service Request	Search service request	N	Y
		Update service request	Y	Y
		Create service request	Y	Y
		View service history	N	Y
		Update counter readings	Y	Y

Module	Flow/Location	User Action	Capture Transaction in HA Mode	Show/Enable in UI in HA Mode
	Parts	Search parts	N	Y
		Transfer parts	N	N
		Order parts	N	N
		Receive parts	N	N
		Parts radius search	N	Y
		Return parts	N	N
	Debrief	Capture debrief-labor, material, expense	Y	Y
		Process debrief to charges	Y	Y
		Travel debrief	Y	Y
		Debrief error correction	Y	Y
		Default travel and labor debrief based on task status updates	Y	Y
		Capture signature	Y	Y
	Contract	View contracts	N	Y
	Customer	View customer and contact info	N	Y
	Notes	View/create notes	Y	Y

Module	Flow/Location	User Action	Capture Transaction in HA Mode	Show/Enable in UI in HA Mode
	Install Base	View install base configuration	N	Y
	Miscellaneous	Upload/download attachment	Y	Y
		Access maps and driving directions	N	Y
		Synchronization	Y	Y



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## Item Handling for the Mobile Field Service Store and Forward Applications

This appendix covers the following topics:

- Limiting System Item Download
- Setting Up System Items for Install Base Transactions
- Setting Up Install Base Profile Options
- Removing and Installing Parts in Oracle Mobile Field Service Store and Forward
- Ordering and Transferring Parts

### Limiting System Item Download

This section describes the profiles used to filter system items by category. The Item Category Filter and Item Category Set Filter profiles enable the reduction of system items downloaded to the mobile computer device.

The following system items are replicated to the mobile computer device:

- Items used in a service request assigned to or created by the mobile user
- Item instance items used in a service request assigned to or created by the mobile user
- Items used in debrief lines
- Items used in item orders
- Items present in a good subinventory assigned to the mobile user
- Items present in the inventory organization specified by the Service: Inventory Validation Organization profile

For Oracle Mobile Field Service Store and Forward - Laptop, set the following profiles

to filter the system by category:

- CSL: Item Category Filter
- CSL: Item Category Set Filter

See "Setting Up Profile Options for Oracle Mobile Field Service Store and Forward Applications", page 4-7 for a complete description of these profiles.

For Oracle Mobile Field Service Store and Forward - Pocket PC, set the following profiles to filter the system by category:

- CSM: Item Category Filter
- CSM: Item Category Set Filter

See "Setting Up Profile Options for Oracle Mobile Field Service Store and Forward Applications", page 4-12 for a complete description of these profiles.

The two category profiles for the Oracle Mobile Field Service Store and Forward applications enable you to setup category sets (profile 1) and relate categories to this (profile 2). The category set and category profile make the unique key for replication. The values that can be selected for the category set profile are all categories sets of the master organization and the inventory organizations.

**Note:** You can set the category profiles for the Oracle Mobile Field Service applications at all levels.

The following are the rules governing the use of category profiles.

- If the category profile is not set (no category is entered), then all items related to the default inventory organization are replicated to the mobile clients
- If the category profile is set (category is entered), then the system items replicated are filtered based in inventory organization and category.
- Items used in a service request created on the backend will not be impacted by this profile. But for service requests that the field service technician wants to create on a mobile computer device the category profile will limit the list of items available.
- The category profile does not affect the OnHandQty (stock in subinventory).

If profiles `CSL_ITEM_CATEGORY_SET_FILTER` and `CSL_ITEM_CATEGORY_FILTER` are also both set, an additional filter on the item category/category set combination applies.

Items used in a field service report debrief are replicated as normal. This is independent of the category profile.

## Setting Up System Items for Install Base Transactions

### Steps

Complete the following steps to set up system items for install base transactions:

1. Log in to the Forms application using the responsibility Inventory.
2. Create a miscellaneous transaction, putting the item in a Subinventory.
3. Navigate to `Setup > Organizations > Subinventories`.
4. Create at least one subinventory in the Service Master Organization.  
The subinventory should be a Quantity Tracked, AssetSubinventory.
5. Set the Locator Control value to `None`.
6. Create a subinventory in the inventory organization, which will be used as the good subinventory.
7. In the same organization as the subinventory of the mobile resource, create system items that are one of the following:
  - Transactable (Inventory tab page)
  - Trackable (Inventory tab page)
  - Serviceable (Service tab page)
  - Of type Material (Service tab page)
8. Put the trackable item you defined above in your good Subinventory (using Miscellaneous Transactions). Also put a non-trackable item there. The trackable item should be created as an install base product instance in the back end.
9. Under the responsibility Field Service Manager, navigate to `Spares Management > Setup > Resource Addresses and Subinventories`.
10. Create a new record for your mobile resource by entering its name. Assign a Primary Address and the two Subinventories you created to it.
11. The condition of the Subinventory in the Master Organization should be set to `Defective` and the condition of your Transaction Organization Subinventory should be set to `Usable`.

## Setting Up Install Base Profile Options

Set up profiles as indicated in the following table:

Profile Name	Value	Comments
CSE: Miscellaneous Issue to Project Transaction Type	Issue to	none
CSE: Miscellaneous Receipt From Project Transaction Type	Receipt from	none
CSE: PA Expenditure Type	Material	none
CSE: Bypass Event Queue	Y	This profile is used to bypass some queues, so when miscellaneous transactions are created they will be directly inserted into Install Base.

Adjusting transaction types so they can be used for install base updates can be done under the responsibility Install Base Admin and navigating to **Setups > Transaction Types and Sub Types**. Transaction types can be used for removing install base products by setting the **Change Owner To** field in the **Source Info** section of the form to **Internal**. By setting this field to **External**, the transaction type can be used for installing new install base products.

## Removing and Installing Parts in Oracle Mobile Field Service Store and Forward

Whether an install base update is done when removing a part in Oracle Mobile Field Service Store and Forward depends on the selected transaction type when doing a material transaction.

If the **Change Owner To** value of the selected transaction type is set to **Internal**, then the install base product to be removed can be indicated in Oracle Mobile Field Service Store and Forward.

If the **Change Owner To** value is set to **External**, than a trackable product can be indicated from a usable subinventory. An install base product will be created upon debriefing the material transaction in Field Service Debrief with the **Update Installed Base** check box selected.

## Ordering and Transferring Parts

To create an item order in an Oracle Mobile Field Service Store and Forward application, at least one usable (good) subinventory has to be defined and assigned to the field service technician. Two usable subinventories have to be defined and assigned to the field service technician to perform transfers.

Subinventories are set up using the Field Service Administrator responsibility and the Resource Addresses and Subinventories window. See the *Oracle Field Service Implementation Guide* for more details.



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## Signature Control for the Mobile Field Service Store and Forward Applications

This appendix covers the following topics:

- Overview

### Overview

A field service technician can capture the signature of a customer after performing the debrief on the Pocket PC or on the laptop computer using an appropriate external Topaz signature tablet. The signature is then synchronized with the enterprise system.

You can view a captured signature in the appropriate debrief window of the Enterprise application. Viewing a signature in the Debrief window is exactly the same as viewing any other attachment.

On the toolbar, there is a paper clip icon. When you select an attachment linked to the debrief, the icon changes to a paper clip attached to a yellow document.

If the attachment viewer in the Enterprise application is not working, then check that the entries in `wdbsver.app` (found in the Forms tier setup) are similar to the following:

- `connect_string = mobxbld1`
- `password = apps`
- `username = apps`
- `default_page = APPS.fnd_web.ping`
- `document_table = APPS.fnd_lobs_document`
- `document_path = docs`
- `document_proc = (null)`

- name\_prefix = (null)
- always\_describe = (null)
- after\_proc = (null)
- before\_proc = (null)
- reuse = YES
- connmax = 30
- upload\_as\_long\_raw = (null)
- upload\_as\_blob = \*
- pathalias = fndgfm
- pathaliasproc = fnd\_gfm.dispatch



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# National Language Support for the Oracle Mobile Field Service Store and Forward Applications

This appendix covers the following topics:

- Overview

## Overview

This appendix describes how to use National Language Support (NLS) to change the default language of the Oracle Mobile Field Service Store and Forward applications, English, to the desired language of the user.

The profile option ICX: Language determines the language in which field service technicians receive data, messages, and labels for Oracle Mobile Field Service Store and Forward - Laptop or Oracle Mobile Field Service Store and Forward - Pocket PC.

As a prerequisite, install the NLS language for the Oracle E-Business Suite and then apply all patches in the NLS language when applicable.

From the enterprise application, complete the following steps to change the default language of Oracle Mobile Field Service Store and Forward applications:

1. Change the profile ICX: Language to the desired language.
  1. Login with System Administrator responsibility.
  2. Navigate to Profile > System.
  3. Select the User check box and then enter the username.
  4. Enter the profile option name, ICX: Language, and then click **Find**.
  5. Change the language of the user level.

2. Run the Manage Mobile Users concurrent program (if it is not scheduled).
  1. Login with Mobile Administrator responsibility.
  2. Navigate to Concurrent > Requests.
  3. Click **OK** to submit a single concurrent request.
  4. Select the Manage Mobile Users concurrent program from the list of values.
  5. Click **OK**.

The Manage Mobile Users concurrent program detects the language change and then removes all records in the old language and inserts them in the new language. This in turn, causes a full synchronization. After this synchronization, the user sees the application and data in the new language.

Oracle10g Lite can only use one language code set at a time. Oracle10g Lite has five sets of client libraries, one for each language (encoding). English/Western European, Japanese, Korean, Traditional Chinese, and Chinese are supported. When the Oracle9i Lite mobile server is installed, it will only install one set of client libraries. Therefore, an additional mobile server installation is required for every language if it uses a different code set. The administrator has to set up different URLs for each language. For example, the URL for English is the following: `server/webtogo/setup_eng.htm`, `server/webtogo/setup_jp.htm`. Users have to be informed of which URL they should use, based on the language they want.

As long as the languages use the same code set (such as English and Spanish), only one mobile server is required, as explained earlier.

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# Mobile Synchronization Scalability and Performance for the Oracle Mobile Field Service Store and Forward Applications

This appendix covers the following topics:

- Overview
- Test Environment
- Test Results
- Performance Tuning of Mobile Application Foundation

## Overview

The Oracle Mobile Application Foundation (MAF) provides data synchronization for Oracle Mobile Field Service Store and Forward - Laptop and Oracle Mobile Field Service Store and Forward Pocket PC of the Oracle E-Business Suite. This appendix provides benchmark results that demonstrate the scalability of the MAF architecture to large numbers of mobile users on low-cost server hardware running Linux. You can use these results to determine hardware requirements for implementing the Oracle Mobile Field Service Store and Forward applications.

Mobile users periodically synchronize their mobile computer devices with the enterprise system to download new Oracle Mobile Field Service data and upload changes that they have made in their applications.

Synchronizing a mobile client with the server consists of three basic steps:

1. Preparing data and connecting to the network.
2. Communicating with the Oracle10g Lite mobile server.
3. Disconnecting from the network, processing and displaying the new data.

While all three steps are important factors in determining the total synchronization time experienced by mobile users, only the time spent communicating with the mobile server affects the ability of the system to scale to large numbers of mobile users.

**Note:** When modems are used with circuit-switched networks, the connection time may be a large portion (up to 30 to 40 seconds) of the total synchronization time.

In this benchmark, the server load is characterized by the number of connections per minute. Simulated connections are started at a constant rate and the behavior of the server is measured under this steady load. Eventually, as the connection rate is increased, the server is no longer able to complete the requests at the rate that they are being started.

When the incoming load exceeds the maximum steady-state performance of the system, connections are queued until the load decreases and the server is able to catch up. This enables the server to handle sudden bursts of activity without a failure. However, in this case connection times will be longer due to the queuing.

To prevent arbitrarily long connection times, the server can be configured to refuse new connections if the queue exceeds a specified size. Mobile users will instead receive a message stating that the server is unavailable and to try again later.

## Test Environment

The test system consists of a load generator running on a set of PCs, a single Oracle10g Lite mobile server, plus a separate Oracle10g database server. The load generator simulates mobile client connections and can be programmed to initiate connections at a specified rate. The load generator is connected to the mobile server through a LAN connection.



The load generator simulates the actual Mobile Field Service client application. The Oracle10g Lite database and Mobile Field Service Store and Forward application are pre-installed and an initial full synchronization is performed prior to the test.

The connections are made over a high-speed LAN rather than a dial-up network, but the total load on the mobile server for a given synchronization rate does not depend strongly on the speed of the connections.

## System Configuration

The following is the hardware and software configuration for the test system:

### Load Generator

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Server Type:	4 PCs
Number of CPUs per PC:	1 Intel Pentium III CPU
CPU Speed:	531-598 MHz
Main Memory per PC:	512 MB
Network Interface:	100 Mbps Fast Ethernet NIC
Operating System:	Microsoft Windows NT 4.0 SP6

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### Mobile Server and Database Server

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Server Type:	Dell PowerEdge 2650
Number of CPUs:	2 Intel Xeon CPUs
CPU Speed:	2.8 GHz
Main Memory:	6 GB
Network Interface:	Two Integrated Gigabit NICs
Operating System:	Red Hat Enterprise Linux AS 2.1

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### Software

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Oracle E-Business Suite:	Release 11i.8 Rapid Install
Oracle Mobile Field Service:	Patch set 8.3.5
Oracle9i Lite:	Release 5.0.2.3d
Oracle9i Database:	Release 9.2.0.2

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**Note:** For the mobile and database servers, Red Hat Enterprise

Linux AS 2.1 supports the Hyper-Threading feature of the Intel Xeon processors in the Dell PowerEdge 2650. The total cost of these systems is less than \$10,000 USD each.

The Oracle E-Business Suite was installed using Rapid Install. Oracle10g Lite was installed as described in "Installing and Configuring Oracle10g Lite", page 3-1 . No special database or application tuning was performed.

## **Test Data**

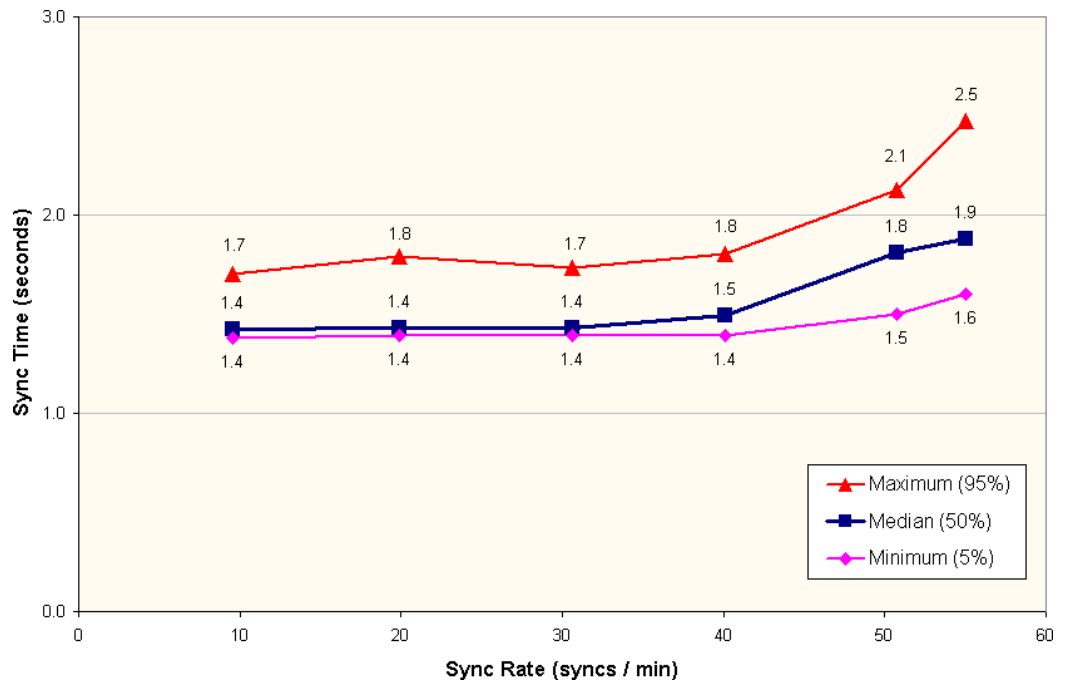
Each test run simulates connections from 100 distinct mobile users. Prior to starting the test, transactions are performed on the enterprise system to queue up data for each mobile user. To simulate a typical load for a field service technician, each mobile user is assigned three service requests, three tasks, and three notes, plus additional supporting records. A total of 21 rows from 10 tables are downloaded to each mobile user. The total compressed size of the downloaded data is 2.6 KB. No data is uploaded to the mobile server from the mobile clients during this test.

## **Test Results**

This section describes the test applied to Oracle Mobile Field Service Store and Forward and the resulting performance specifications.

## **Synchronization Time**

During the test, the time taken by each mobile user to communicate with the mobile server is recorded. The top and bottom 5% of the synchronization times are discarded before computing the minimum and maximum synchronization times.



The median synchronization time rises quite slowly as the synchronization rate is increased. Up to a synchronization rate of 40 synchronizations/minute, the synchronization time is essentially constant at just under 1.5 seconds. The median synchronization time increases from 1.4 seconds to 1.9 seconds (32%) as the synchronization rate increases from 10 to 55 connections per minute.

## CPU Load

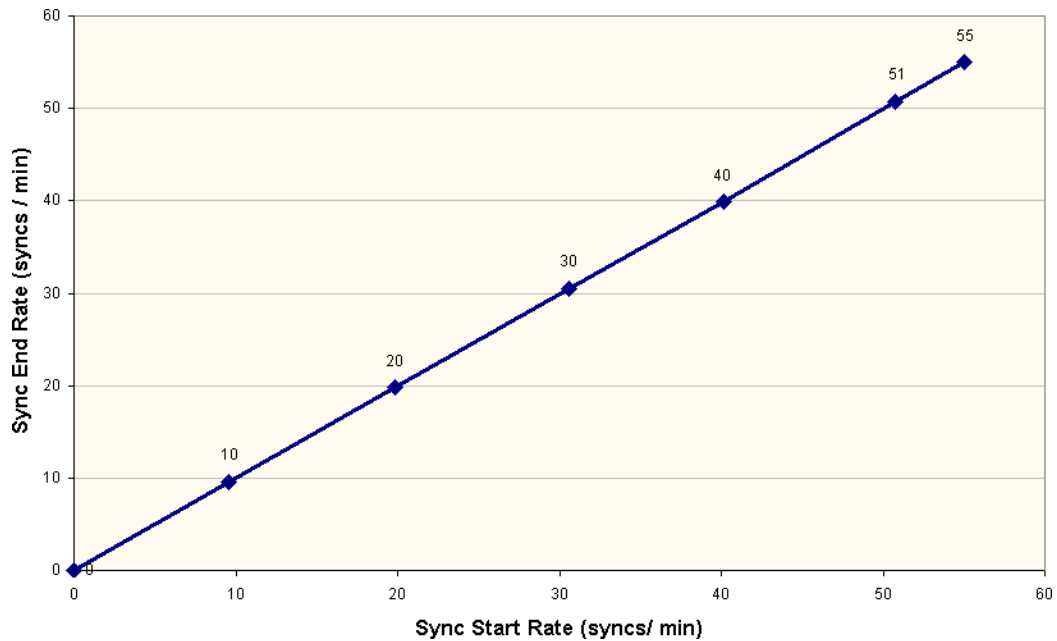
The average CPU load on the database computer and middle tier computer rises nearly linearly as the synchronization rate is increased. At 55 synchronizations per minute, the average database load is 13% while the average mobile server load is 20%. For a graphics representation of the CPU load, see the graph in "CPU Usage Tuning."

**Note: Note:** The Xeon Hyper-Threading is enabled during the test, so the average CPU usage is calculated over the four logical processors rather than the two physical processors.

## Maximum Steady-state Performance

At a synchronization rate of 55 connections per minute, the average synchronization time remains very low and the peak CPU load on the database computer and middle tier computer is reasonable. However, beginning at a synchronization rate of 60 connections per minute, the server can no longer process the requests as fast as they arrive, so the excess requests are queued up. When the incoming load stops at the end

of the test, the mobile server completes the remaining requests. All of the requests completed without errors.



## Laptop End-End Synchronization Test

In addition to the server capacity, the end-user is interested in what is the end-end synchronization time. For Oracle Mobile Field Service Store and Forward - Laptop, this is the time that elapses from the point the user initiates synchronization in the application to the point the application returns to the calendar screen. This time includes the following:

- Time to contact the mobile server and authenticate the user and process data for the user.

Server side scalability is only impacted by this and has been discussed in depth in the preceding sections.

- Time taken to check if there is an application upgrade.

Apart from data transfer, the synchronization operation also checks if there is a new version of the software. If there is a new version of the software it downloads the same. This being a search against the server file system does not impact scalability

- Time taken for the application to restart the calendar screen.

This does not depend on the number of users and is only a function of the device the user uses.

The following table describes the synchronization data amount and synchronization times for end-end synchronizations for Oracle Mobile Field Service Store and Forward.



Scenario	Amount of Data Transferred	Fixed Overhead (Logon, Authentication and Application Upgrade)	Time Taken on LAN	Time Taken on Wireless Network (50 kbps)
Null End-End synchronization with no updates either on client or server	1K	5.6K	16s	29s
Synchronization with user updating one task with two notes, six debrief lines	4K	5.6K	17s	31s
Synchronization with three new service requests, three new tasks and three new customers and three new install base items	4K	5.6K	17s	33s

## Bulk Record Update Test

In addition to normal daily transactions, organizations periodically make changes to large numbers of records in the enterprise system, such as a quarterly update to the System Items table in a field service organization. After such a bulk update of records, the modified records are downloaded to each mobile user during their next synchronization.

To test the scalability of the Mobile Application Foundation for bulk updates, the synchronization time was measured for a single mobile user after modifying 96,000 system item records. The test was performed with the mobile client connecting over a high-speed local area network. The following table summarizes the results:

Test Case	Total Time
Initial Download	4:14
All application data, including 96,000 system items	
Incremental Update	4:04
After 96,000 system items were updated	
Incremental Delete	2:54
After 96,000 system items were deleted	

The test results show that synchronization times for bulk updates are essentially limited by the transfer size of the modified records rather than scalability of the mobile server. On a wireless network, transferring 12MB of data will take at least 40 minutes (even at an ideal connection rate of 40kbps), which is an order of magnitude greater than the processing time. The mobile server compresses all data transfers for optimum performance. In this case, the system items average 125 bytes each.

The key to limiting the worst-case synchronization time is to intelligently limit the maximum amount of data that is downloaded to the mobile users. For example, Oracle Mobile Field Service Store and Forward applications provide a category mechanism to specify which system items are needed for mobile users. Only those system items will be downloaded.

## System Sizing

To determine the appropriate hardware for the mobile server and database, develop a model of the anticipated system load during the workday. For example, the graph in this section shows a load model for an organization with 3,000 mobile users working in four U.S. time zones.

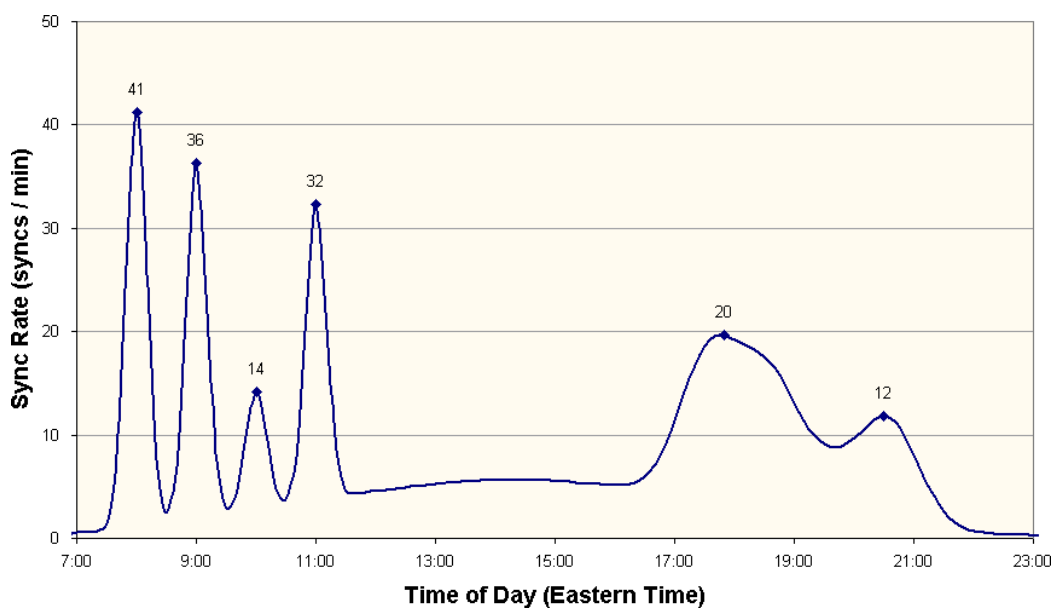
The workforce is assumed to be divided among the time zones as described in the following table:

Time Zone	Usage	Amount of Users
Eastern	35%	1,050
Central	30%	900

Time Zone	Usage	Amount of Users
Mountain	10%	300
Pacific	25%	750
Total	100%	3,000

As described in the following table, it is assumed that users synchronize three times per day, according to the normal distributions:

Synchronization	Mean Time	Standard Deviations
Start of workday	7:55	10 min
Middle of workday	13:00	3 hrs
End of workday	17:30	30 min



For this model, the peak load is 41 synchronizations per minute at 7:55 Eastern Time. This load is well within the capabilities of the reference configuration used for the benchmarks in this appendix. At the time of the peak load, the estimated synchronization time is 1.6 seconds and the average CPU load is 9% for the database and 13% for the mobile server.

## Conclusion

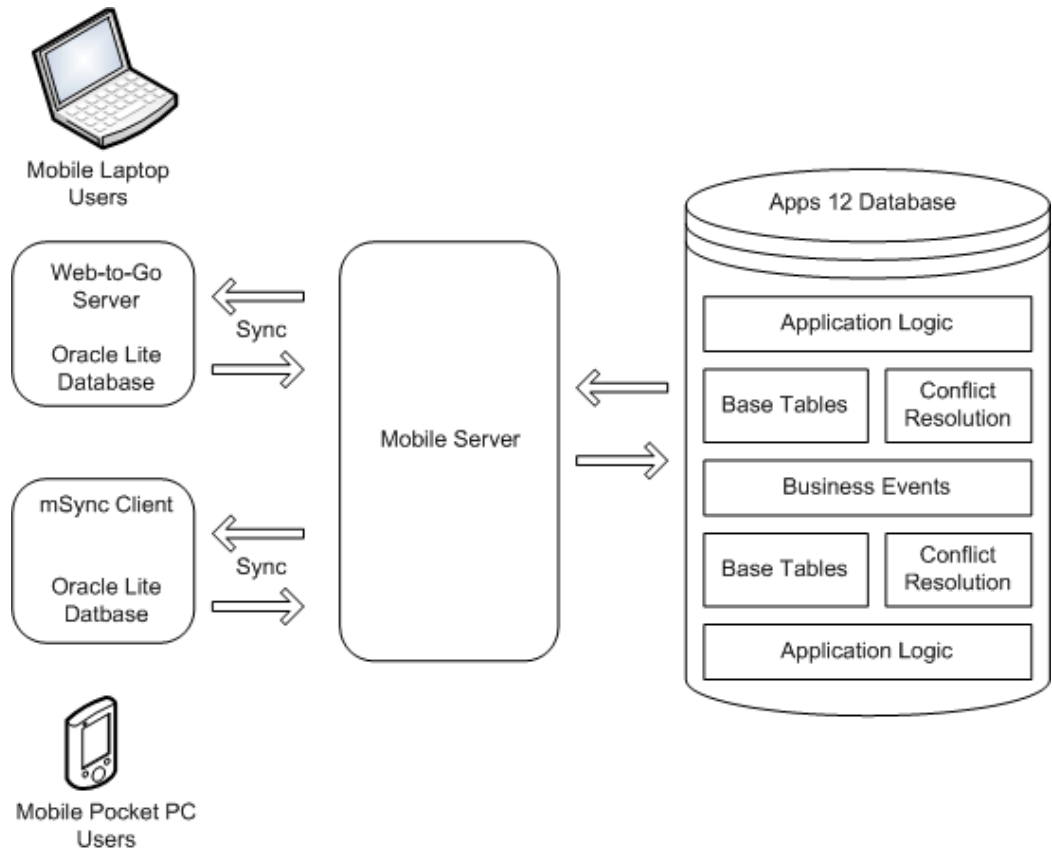
This benchmark demonstrates the high scalability of the Oracle Mobile Application Foundation running on low-cost hardware using Linux. Synchronization times for typical Mobile Field Service Store and Forward connections are very short (one to two seconds), and they remain low as the incoming request rate is increased. The CPU usage scales nearly linearly with the incoming request rate.

For the reference test configuration, the maximum steady-state synchronization rate is shown to be at least 55 connections per minute. At this rate, approximately 500 mobile users can synchronization in a 10-minute period. Depending on how concentrated the synchronization activity is at the peak times during the workday, this rate can support a field organization of several thousand mobile users. To determine system requirements, develop a model of the anticipated number of synchronizations per minute throughout the day, taking into account time zones and business processes.

The Oracle Mobile Application Foundation also robustly handles surges in load. When the incoming request rate exceeds the maximum steady-state performance of the system, the mobile server queues the excess connections and completes all of the requests without error, once the load drops below the maximum rate.

## Performance Tuning of Mobile Application Foundation

To achieve the test results described in this appendix, tune the Mobile Application Foundation as described in this section. Here, performance tuning issues specific to Oracle Mobile Field Service Store and Forward are addressed. The following figure illustrates the Oracle Mobile Field Service Store and Forward architecture.



The Oracle10g Lite mobile server functions as a conduit between the mobile computer device and the enterprise database, transferring data and the Oracle Mobile Field Service Store and Forward application between the two. The first or initial synchronization, from the mobile computer device installs the entire Oracle Mobile Field Service Store and Forward application as well as the data targeted for that mobile user. Subsequent synchronizations (also called incremental or fast synchronizations) only download application upgrades and incremental data. This incremental dataset consists of data updated on the mobile computer device since last synchronization and data ready on the server since the last synchronization. It can be expected that in a live or production instance, application upgrades are minimal and therefore incremental synchronizations mainly transfer new data. Synchronizations that do not involve either application upgrades or data transfer are called null synchronizations. Null synchronizations are useful for performance benchmarking since they provide the lowest possible synchronization time.

First-time synchronizations should be done on either a LAN or network with a high bandwidth so that the synchronization completes in a timely manner. First-time synchronizations over low-bandwidth (GPRS) networks can terminate due to low network time-out settings. In this case, the latency for preparing a first-time synchronization dataset could require minutes as opposed to seconds for subsequent synchronizations. If the first-time synchronization fails, the process must restart from

the beginning.

You are not expected to tune the Oracle Mobile Field Service Store and Forward application on the mobile computer device, except to ensure that the minimum system requirements are met.

Administrators should use the following to assess system performance:

- Synchronization time.  
Synchronization reports are provided to track synchronization times. Reports can be generated with various search criteria. See "Viewing User Synchronization Statistics", page 8-7.
- Mobile server CPU and memory usage.  
This can be done in UNIX using the SAR command and in Windows using the Performance Monitor.
- Concurrent program run times.  
Each mobile concurrent program should be monitored for excessive run times.
- Workflow background process run times.

## Mobile Server Tuning

For best performance, install the Oracle10g Lite mobile server and Apps 12 database on separate servers. When Oracle10g Lite mobile server shares system resources with another server, ensure that the memory and CPU usage of the Oracle10g Lite mobile server is tuned to handle synchronization requests without overloading.

### Tuning Memory Usage

For optimum mobile server performance, ensure that the server has ample memory. The rule of thumb is to allocate a minimum of 512MB to the mobile server and then increment this amount by 512MB for every 1000 users. Therefore, for an installation with 1500 users, a memory allocation of 512MB (base allocation) plus another 512MB for a total of 1GB is best.

Start the mobile server as a java process to ensure that the server utilizes any extra memory. The command syntax to do this is given below:

```
java -Xms1024M -Xmx1024M -XX:+DisableExplicitGC ?XX:NewSize=128m  
-XX:MaxNewSize=128m -XX:SurvivorRatio=2 oracle.lite.web.JupServer  
mode=server config-file=/u01/olite/mobile/server/bin/webtogo.ora
```

- where -

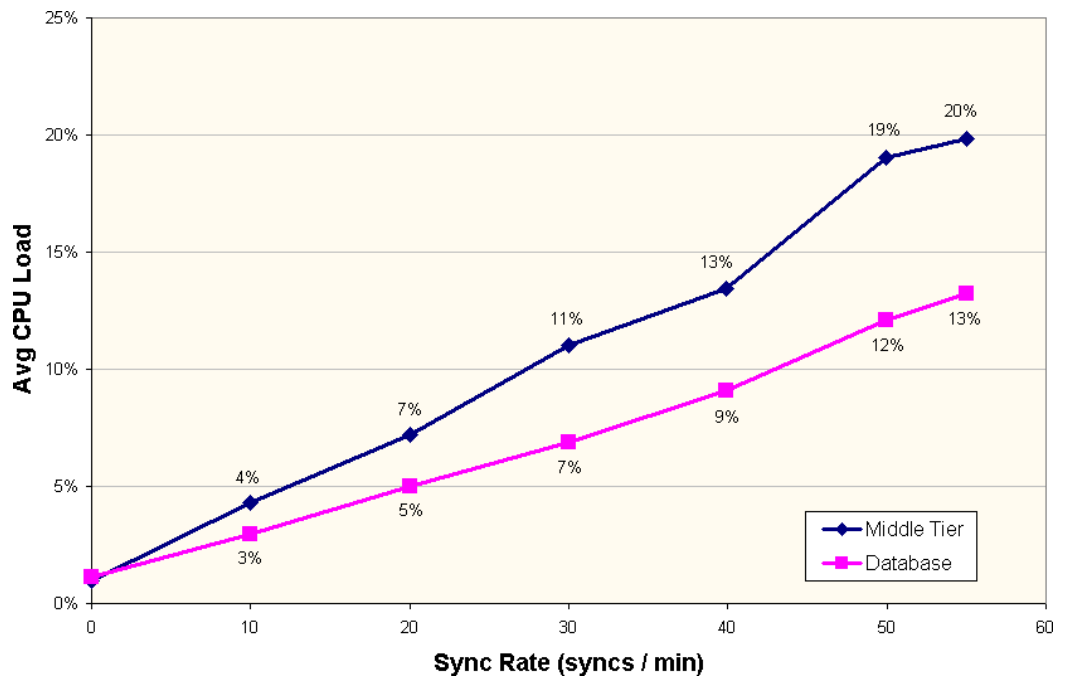
?Xms1024M and ?Xmx1024M specify an initial and maximum heap size of 1024MB.

The rest of the java parameters optimize garbage collection.

### CPU Usage Tuning

CPU usage is directly related to the number of concurrent users. Concurrent users are mobile users who are actively synchronizing with the enterprise system at a given point of time. Typically, the maximum number of concurrent users is about 10% of the total user base. For example, if 250 mobile users are created, then you can expect a maximum of 25 concurrent users.

The following graph shows the CPU load with increasing concurrency from a benchmarking study. It shows a linear rate of increase in CPU load as the synchronization rate is increased. (See "CPU Load", page D-5 .) *Synchronization* rate is the number of synchronizations that are initiated every minute. In this benchmark, the synchronization time was between one and two seconds.



In order to limit the CPU load on the mobile server, it is possible to limit the number of concurrent users. The webtogo.ora parameter MAX\_CONCURRENT can be used for this purpose.

## Database Tuning

Mobile Field Service Store and Forward captures online business activities such as service request creation and task assignments and then downloads this data to the mobile users. Mobile Field Service Store and Forward uses both concurrent programs as well as workflow processes to find and prepare this data. Data that is prepared for synchronization is stored in the out queue. The out queue comprises two tables: ASG\_SYSTEM\_DIRTY\_QUEUE and ASG\_DELETE\_QUEUE.

### Tuning Out Queue

Better synchronization times can be achieved by tuning the out-queue. The out-queue

performance is constantly being improved by tuning the queries executed on the out-queue tables. Since the tables are insert/delete intensive, one of the important storage parameters is PCTUSED. For best performance, set this parameter to a high value like 70%. The size of the out-queue is related to amount of business activity relevant to mobile. Data prepared in the out-queue is automatically removed after the mobile computer device receives it.

There are several indexes defined in the ASG\_SYSTEM\_DIRTY\_QUEUE table that eliminate the need for full table scans and optimize access. However, it is recommended that these indexes be managed carefully. Due to the insert/delete intensive nature of data management languages (DMLs) on this table, index-stagnation could become an issue. This will result in longer synchronization times even though the size of ASG\_SYSTEM\_DIRTY\_QUEUE table remains about the same. In this case, index-rebuilds have proven to be helpful.

It is possible to purge the out-queue for dormant users by scheduling the JTM Master Concurrent Program with category type "purge." This will purge records for dormant users. *Dormant users* are those who have not synchronized for the past N days, where N is the value of profile option, ASG: Dormancy Period. The JTM Master Concurrent Program will also remove any duplicate records in the out-queue. For best performance, schedule this program once every week.

### **Tuning Concurrent Programs**

For mobile operations, mobile concurrent programs place a big demand on the database, even more so than synchronization. The JTM Master Concurrent Program is a good example of this. For this program, you must run three category types: Transaction, Lookup and Inventory. You should regularly monitor the times taken for each category type. You can use the following table to do this.

Category Type	Scheduled Interval	Average Run Time
Transaction	5 min	
Lookup	1 hour	
Inventory	1 day	

The actual scheduled interval for these programs depend on your business requirements. However, the average run time should be compared with the scheduled interval to make sure that it is a very small fraction of the scheduled interval (less than 5% for Lookup and Inventory, and 20% for Transaction). If the concurrent programs take a longer time, then increase the scheduled interval so that the system is not overloaded.

### **Workflow Background Process**

The workflow background process is used only by Oracle Mobile Field Service Store



and Forward - Pocket PC. You should submit this process with the Process Stuck parameter set to "No."

Finally, you should periodically analyze the database tables/indexes so that the optimizer can choose the best execution plan. The Oracle Mobile Field Service Store and Forward schemas are ASG, JTM, CSL and CSM. Tables in this schema should be analyzed together with tables from Field Service and other modules used by Oracle Mobile Field Service Store and Forward.



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# Customization Support for the Oracle Mobile Field Service Store and Forward Applications

This appendix covers the following topics:

- Overview
- Flexfield Support
- Label Modification
- Generic Attachment Support
- New Custom Screen Creation

## Overview

This appendix describes the customization support for the Oracle Mobile Field Service Store and Forward applications. This appendix is intended for system integrators and implementation consultants who want to develop custom extensions for these applications.

The Oracle Mobile Field Service Store and Forward applications provide rich functionality built into the standard product. In addition, you can customize the application to suit your business process.

The following are the means by which you can customize the Oracle Mobile Field Service Store and Forward applications:

- Flexfield support for additional data fields.
- Label modification.
- Attachment support.
- New custom screen creation in the Oracle Mobile Field Service Store and Forward

applications to enable new features or extend additional features.

Depending on your business needs, you may need to use one or more of the above means of customization.

What is not supported is modification to existing screens (adding/removing/hiding fields) or changing the navigation between the standard screens.

## Flexfield Support

Flexfield support is available in both Oracle Mobile Field Service Store and Forward - Laptop and Oracle Mobile Field Service Store and Forward - Pocket PC. Descriptive flexfields can be used to display and capture additional information. Users can also use context-sensitive flexfields when the information stored by the application depends on other values users enter in other parts of the screen. Table-validated flexfields are not supported by the Oracle Mobile Field Service Store and Forward applications.

The following table describes the types of flexfields you can find in the Oracle Mobile Field Service Store and Forward applications:

Flexfield	Laptop	Pocket PC
Service request	read/write	read/write
Task	read/write	read/write
Debrief header	read/write	read/write
Debrief line	read/write	read/write
Parts requirement	NA	read/write
Item	read	read
Product	read	read
Customer	read	read

## Steps for Setting Up Flexfields

Complete the following steps to set up the descriptive flexfields in Oracle Applications that are specific to an Oracle Mobile Field Service Store and Forward application:

1. Log in to Oracle Applications as a system administrator and select the System

Administrator responsibility.

2. Navigate to `Application > Flexfield > Descriptive > Segments`
3. Click the Application field and search for Oracle Service.
4. Click the Title field and search for the component for which the flexfield(s) should be created.
5. The Freeze Flexfield Definition check box indicates whether or not flexfields can be defined or updated. Make sure it is deselected so new flexfields can be defined.
6. Click **Segments** to display the Segments Summary form.
7. Click **New** to create a new flexfield definition or click **Open** to open an existing flexfield definition.
8. Enter the segment name in the Name field.
9. Click the button next to the Column field and select an attribute column from the Column list of values.
10. Enter a description in the Description field and a number in the Number field.
11. Click the search button in the Value Sets field and select a value set (this is the data type of the flexfield) from the list of values. The Description field will be automatically populated.

You can also select a default type from the Default Type list of values to indicate a default value in the Default Value field. Select or deselect the Required check box to specify whether a value is required or not.
12. Specify the flexfield size information in the Sizes section of the form.
13. Optionally, specify prompt information in the Prompts section of the form.

For example, prompts could be used when displaying a window that requests data input for the flexfield.
14. Optionally, click **ValueSet** to open the form where you can define new value sets or update existing value sets.
15. Click **Save** to save the new flexfield definition and close the Segments form.
16. Review the Segments Summary form shown and then close it.
17. If no more updates are needed, select the Freeze Flexfield Definition check box.
18. Click **Compile**.

## Viewing the Flexfields

The flexfields are downloaded and displayed in the Oracle Mobile Field Service Store and Forward application after synchronization.

Oracle Mobile Field Service Store and Forward - Laptop displays the flexfields for an entity on the same page that describes the entity. For example, task flexfields are accessed from the Task Details page.

Oracle Mobile Field Service Store and Forward - Pocket PC has a separate icon, that opens a new screen with the flexfields.

## Label Modification

Both Oracle Mobile Field Service Store and Forward - Laptop and Oracle Mobile Field Service Store and Forward - Pocket PC support label changes. Newly defined labels are visible to the end user.

For Oracle Mobile Field Service Store and Forward - Pocket PC, all labels are stored in the FND\_NEW\_MESSAGES table. Use the application developer responsibility to change labels.

### Steps

Complete the following steps to customize the labels and messages seeded in FND\_NEW\_MESSAGES:

1. Log on to the enterprise system.
2. Select the Application Developer responsibility
3. Select `Application > Messages Function`.
4. Search for messages starting with the CSMW prefix.
5. Message text can then be replaced for corresponding message.

For Oracle Mobile Field Service Store and Forward - Laptop, all labels are stored in AK Data. Use the application developer responsibility to change labels.

## Generic Attachment Support

Attachments can be used for a variety of purposes, such as maps, driving directions, and product reference images.

## Attachment Support

The Oracle Mobile Field Service Store and Forward applications support the download

and display of attachments at a particular entity level.

The following entities have attachment-download. Multiple attachments are allowed on each entity.

- Service Request
- Task

The CSM: Maximum Attachment Size profile controls the maximum amount of attachment data to be downloaded.

The maximum attachment size in mega bytes is specified by the profile value.

If a single file exceeds the profile value, it will not be downloaded. For multiple files, the first n files, which are altogether less than the profile value, will be downloaded.

### **Steps**

Complete the following steps to download the attachment:

1. In the enterprise system, create an attachment on a service request or task.
2. Run JTM Concurrent Program: Lookup.
3. Synchronize.

Run the lookup program each time an attachment is added or changed. The new attachment will come down if attached after the last run of the lookup program.

## **Attachment Display For Oracle Mobile Field Service Store and Forward - Laptop**

There is an attachment button on the service request and task screens for attachments.

Each attachment link points to a JSP page in order to return the data read from the attachments table.

Since the application is running in Internet Explorer, this browser renders the contents of the file.

## **Attachment Display for Oracle Mobile Field Service Store and Forward - Pocket PC**

There is a button on the service request and task screens that opens a list of attachments.

Click the attachment link to retrieve the data from the attachments table and to save it on the file system with the appropriate file name and extension. Clicking this link will also open the file in Internet Explorer.

## **New Custom Screen Creation**

This section summarizes how to customize the application.

You can develop new screens based on new and existing features. You can also download additional data in some cases. You can also download additional attachments.

You can implement such features in custom screens:

- Maps and driving directions.
- Custom invoicing support.
- Knowledge base through attachments.

To write custom screens for an Oracle Mobile Field Service Store and Forward application, you first need to do the following:

1. Identify what you want to build and from which screen on the laptop computer or the Pocket PC from which you want the custom screen to flow.
2. Data replication support:
  - Identify additional data to be downloaded.
  - Design the data model for a custom module and then identify the Oracle dummy application table(s) that should be replicated.
  - Place all additional data into the seven custom dummy tables, which are packaged into apps\_custom.odb.
  - Synchronize data to the mobile computer device.
3. Identify additional screens to be designed and then develop the custom module of the mobile application.
  - For the laptop computer, this is this is User Interface XML (UIX).
  - For the Pocket PC, this is a C++ executable.
  - All additional screens are packaged into <custom>.app.
4. Create the wrappers on the server side to process upward sync data.
5. Test the application package and then deploy it.

The custom data and application are packaged separately from the Oracle Mobile Field Service Store and Forward application. This arrangement enables the Oracle Mobile Field Service Store and Forward application to be transparent to upgrades.



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