

# Oracle® Field Service/Laptop

## Implementation Guide

Release 11*i*

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## 1 Introduction

### 1.1 Field Service/Laptop Overview

Today's service providers are becoming more and more aware of field service productivity and its contribution to the growth and profitability of the company. In line with the CRM philosophy, field service personnel need to know the customer well enough to provide tailored and consistent service. Oracle Mobile Field Service suite of products provide the field service personnel with the tools necessary to know the customer, to retain the customer and to increase profitability through service. Mobile products enable field service businesses to be competitive and to be cost effective. Mobile solutions enable organizations to take that extra step in providing customer satisfaction through consistent and quality service.

### 1.2 New in this Release

#### New Technology Versus Broadened Solution

Oracle Field Service/Laptop Release 11*i* leverages the latest technologies on the market today. With its new browser-based interface, this application now has greater usability and maintainability.

Oracle Field Service/Laptop Release 11*i* supports a combination of mobile applications to make your work easier. The 11.5.7 version of Oracle Field Service/Laptop enables you to do the following new functions:

- Create a service request
- View and update customer installed base product information
- Capture counter readings and counter property readings

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- Create a personal task
- Create a task associated with a service request
- Order an item and view order status

### **Combined Solution with Field Service / Wireless**

The combination of Field Service/Wireless and Field Service/Laptop is a powerful tool for managing field service processes.

Imagine that a field service representative uses Field Service/Wireless (for example, WAP-telephone) to give online real-time updates such as "I am traveling" or "I am at the customer site" to the Field Service Dispatcher. This is tremendously valuable information when applied in a time-critical business scenario. Besides informing the dispatcher, the representative needs to receive information about the customer, installed base, materials, and she also needs to be able to do reporting on time, material and expenses. For this, the Field Service/Laptop solution is ideal.

### **Integration with other CRM Modules**

In this release, the integration with other CRM modules has been broadened. The Field Service/Laptop application integrates with the following CRM modules:

- Field Service Dispatch Center
  - Exchange task statuses
  - Receive assigned tasks
  - Create new tasks on the mobile
- Scheduler
  - Receive assigned tasks
  - Update current status of the trip
- Spares management/inventory
  - Maintain the Field Service representative's truck stock
  - Order items on the mobile application
  - Search through subinventories
- Field Service Report
  - Time, material, and expense reporting
  - Update installed base

- Oracle Foundation components such as task manager, territories, resource manager
  - Perform general setup of the CRM environment

## 2 Technology, Requirements, and Performance

### 2.1 Architectural Overview

The mobile applications follow a three-tier architecture. The CRM Gateway for Mobile Devices acts as the interface between the CRM enterprise database and the client palm and laptop applications. It is the middle tier in this three-tier architecture:

- CRM Applications database
- CRM Gateway for Mobile Devices
- Mobile devices including: Oracle Field Service/Laptop, Oracle Field Service/Palm™ Devices, Oracle Field Sales/Laptop, and Oracle Field Sales/Palm™ Devices

This architecture allows for scalability and strategic deployment of the server for data load balancing. Gateway servers can be located in remote sales and service offices close to the mobile worker while the server communicates with the main enterprise database over a LAN or a WAN.

The CRM Gateway for Mobile Devices transfers changed information between your field device and Oracle Applications 11i.

### 2.2 Minimum Hardware Requirements

Hardware	Requirement
Computer	IBM-compatible, Pentium III
Disk Space	1 GB
Monitor	256 color display
RAM	128 MB
Miscellaneous	<ul style="list-style-type: none"><li>■ Serial Port, Internet connection</li><li>■ Mouse or pointer device</li></ul>

### 2.3 Minimum Software Requirements

Software	Requirement
Operating System	Windows NT 4.0 (Service Pack 5), Windows 98, or Windows 2000.

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<b>Software</b>	<b>Requirement</b>
Browser	MS Internet Explorer, version 5.5 or later. This is the recommended browser for all HTML-based applications.

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## 3 Dependency Requirements and Verification

### 3.1 Mandatory Dependencies

Before setting up the Field Service/Laptop, you must install and fully implement these Oracle applications or components:

- Oracle CRM Foundation
- Oracle CRM Service Core
- Oracle CRM Field Service
- Oracle CRM Gateway for Mobile Devices

For information regarding the installation and implementation of these applications and components, see the appropriate documentation for each product.

### 3.2 Conditional Dependencies

The Oracle Field Service/Laptop has no conditional dependencies.

### 3.3 Installation and Dependency Verification

Make sure that all applications listed in [Mandatory Dependencies](#) are installed and correctly functioning before you implement Field Service/Laptop.

Make sure to complete the installation tasks as described in the [Installation Tasks](#) section to be able to run the Field Service/Laptop application on the laptop device.

When migrating from a previous release, perform the steps as described in the [Migration Tasks](#) section.

## 4 Migration Tasks

When upgrading from an earlier release to the 11.5.7 release of the Field Service/Laptop application, perform the following steps:

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Step	Description
1.	Migrate the CRM Gateway for Mobile Devices as described in the <i>Oracle CRM Gateway for Mobile Devices Implementation Guide</i> .
2.	Uninstall the earlier release of the Field Service/Laptop application on the laptop device.
3.	Uninstall the earlier release of the Olite database.
4.	Install the Field Service/Laptop application as described in the following sections: <ul style="list-style-type: none"><li>■ <a href="#">Oracle CRM Mobile Foundation Installation</a></li><li>■ <a href="#">Debrief Material Reporting Setup</a></li><li>■ <a href="#">Oracle Field Service/Laptop Installation</a></li></ul>

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## 5 Installation Tasks

Perform the following installation tasks to be able to run the Field Service/Laptop application on the laptop device:

- [Oracle CRM Mobile Foundation Installation](#)
- [Oracle Field Service/Laptop Installation](#)

### 5.1 Oracle CRM Mobile Foundation Installation

This is a required installation for the mobile laptop applications. Oracle CRM Mobile Foundation is designed to serve as the mobile application framework. It enables reuse of metadata and code across mobile devices with proper CRM/ERP integration.

Use the following procedure to install Oracle CRM Mobile Foundation (JTM) prior to the installation of any of the mobile laptop applications:

- [Step 1. Setting System Profile Option Values for Oracle CRM Mobile Foundation](#)
- [Step 2. Updating the MDG Web-to-Go Repository](#)
- [Step 3. Installing Oracle CRM Mobile Foundation on your Laptop Device](#)

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#### Notes:

- Before starting this installation read the README.txt file of the Oracle Field Service/Laptop application to see what JTM patch needs to be installed.
  - For more details on how to set up and implement Oracle CRM Mobile Foundation, please check the readme.txt file in the JTM patch.
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#### 5.1.1 Step 1. Setting System Profile Option Values for Oracle CRM Mobile Foundation

Please refer to [Profile Options](#) on page 21 for setup details.

#### 5.1.2 Step 2. Updating the MDG Web-to-Go Repository

The file jtm.zip gets copied by adpatch to an Enterprise directory \$HTML\_TOP/html/download/jtm.

Perform this step on the CRM Gateway for Mobile Devices Tier.

1. Open your default browser, download the jtm.zip file into a temporary directory from the following URL:

http://<enterprise\_server>:<port\_number> /  
OA\_HTML/download/jtm/jtm.zip

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**Note:** Replace the <enterprise\_server> and <port\_number> variables with the correct values of the Applications 11i web server.

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2. Go to the temporary directory and extract the jtm.zip file.
3. Edit the file JTMPublish.bat file, check that the username/password and host string are correct for your Web-to-Go server.
4. Run the JTMPublish.bat file to update the Web-to-Go repository.

### 5.1.3 Step 3. Installing Oracle CRM Mobile Foundation on your Laptop Device

Oracle CRM Mobile Foundation is installed on your laptop when you install the Oracle Field Sales/Laptop or Oracle Field Service/Laptop application. See "[Oracle Field Service/Laptop Installation](#)" on page 14 for complete details.

## 5.2 Debrief Material Reporting Setup

To be able to report material used or recovered in Oracle Field Service/Laptop, you have to perform various setup procedures in the Forms application. The following are the various setup procedures:

- [Defining Transaction Billing Types](#)
- [Linking Transaction Billing Types to Field Service Business Processes](#)
- [Creating Installed Base Transaction Types](#)
- [Creating a Trackable Item](#)
- [Setting the Item Type and Billing Type](#)

### 5.2.1 Defining Transaction Billing Types

A transaction billing type is the billing type associated with a particular transaction type. There are three transaction billing types:

- Time
- Material

- Expense

From the Forms application, complete the following steps to define Transaction Billing Types:

1. In the Responsibilities window, select **Field Service Administrator** and then click **OK**.

The Navigator - Field Service Administrator window appears with the Functions tab active.

2. Select **Installed Base** and then click **Open**.

A list of items appear under the **Installed Base** item.

3. Select **Transaction Billing Types** and then click **Open**.

The Transaction Billing Types window appears.

4. From the Line Category Code field in the Transaction Types section, select either **ORDER** or **RETURN**.

This selection depends on whether the transaction type is going to be used for parts in or out transactions.

5. From the Name field in the Related Billing Types section, select **Material**.

It is not necessary to complete any other fields in the Functions tab of the Navigator - Field Service Administrator window.

The following billing types should already exist since this is seeded data:

- Expense
- Labor
- Material

## 5.2.2 Linking Transaction Billing Types to Field Service Business Processes

Once you define transaction billing types, you can then link them to field service business processes. A business process is a grouping level to define which transaction types can be used in an area. Examples of an area are Field Service and Depot Repair.

From the Forms application, complete the following steps to link transaction billing types to field service business processes:

1. In the Responsibilities window, select **Field Service Administrator** and then click **OK**.

The Navigator - Field Service Administrator window appears with the Functions tab active.

2. Select **Installed Base** and then click **Open**.

A list of items appear under the **Installed Base** item.

3. Select **Business Process** and then click **Open**.

The Business Process Transactions window appears.

4. In the Business Process section, complete the Name field.
5. Ensure that the Field Service checkbox is selected.
6. Optionally, complete the Effective Dates fields in the Business Process section and then ensure that the to and from dates are valid.
7. In the Transactions section, add transaction types to the Transaction Type fields.

- a. Click in a Transaction Type field and then click the ellipse button.

The Find Order Transaction Type pop up appears.

- b. Select the desired Type from the pop up and then click **OK**.

The transaction type appears in a Transaction Type field of the Transactions section. Oracle Field Service/Laptop automatically completes the Effective Dates From field, but the Effective Dates To field is left blank.

- c. Optionally, complete the Effective Dates To field.

### 5.2.3 Creating Installed Base Transaction Types

An installed base transaction type or transaction subtype is a transaction type that contains additional criteria about a transaction type. An installed base transaction type needs to be setup for an installed base. Creating an installed base transaction type is done based on an existing transaction billing type.

From the Forms application, complete the following steps to create an installed base transaction type:

1. In the Responsibilities window, select **Oracle Installed Base Admin** and then click **OK**.

The Navigator - Oracle Installed Base Admin window appears with the Functions tab active.

2. Select **Setups** and then click **Open**.

A list of items appear under the Setups item.

3. Select **Installed Base Transaction Types** and then click **Open**.  
The Transaction Sub Types window appears.
4. In the Transaction Sub Type section, select the Service Type checkbox.
5. Click in the Name field and then click the ellipse button.  
The IB Transaction Types pop up appears.
6. Select an IB transaction type.
7. In the Source Transaction Types section, click in an Application Name field and then click the ellipse button.  
The Application Name pop up appears.
8. Select **Field Service** and then click **OK**.
9. Click in a Transaction Name field and then click the ellipse button.  
The application automatically completes the Transaction Name field with Field Service Report. It also automatically completes the Transaction Type and Description fields.
10. To use the transaction sub type for installed base updates, select the Update IB checkbox  
If you select the Update IB checkbox, then you need to select various checkboxes in the Source Info section of the Transaction Sub Types window so that the application can support the installed base update.

#### **Setup 1:**

This setup applies when either of the following are true:

- Update IB checkbox is not selected.
- Update IB checkbox is selected and the Line Category Code field in the Transaction Types section of the Transaction Types page is set to **ORDER**

In this case, the following should be specified in the Source Info section of the Transaction Sub Types window:

- Reference Req'd checkbox is selected.
- Change Owner check box is selected.
- Change Owner To field is set to **External**.
- Return Req'd checkbox is not selected.

#### **Setup 2:**

This setup applies when the following is true:

- Update IB checkbox is selected and the Line Category Code field in the Transaction Types section of the Transaction Types page is set to **RETURN**

In this case, the following should be specified in the Source Info section of the Transaction Sub Types window:

- Change Owner checkbox is selected.
- Change Owner To field is set to **Internal**.
- Return Req'd checkbox is not selected.

Also in this case, the following should be specified in the Parent Info section of the Transaction Sub Types window:

- Reference Req'd checkbox is not selected.

#### 5.2.4 Creating a Trackable Item

In this section, the terms *trackable* indicates that you are able to search for an item in the Oracle Field Service/Laptop application while *non-trackable* indicates that you are not able. You specify an item as "trackable" in the Forms application.

In Inventory, you can define a system item, such as a keyboard. For this item, you can specify a trace life cycle. With this feature enabled, you are able to track the item to know if it has been installed or removed at a customer site. A trackable item is also maintained in the installed base.

From the Forms application, complete the following steps to create a trackable item:

1. In the Responsibility window, select **Inventory** and then click **OK**.  
The Navigator - Inventory window appears with the Functions tab active.
2. Select **Items** and then click **Open**.  
A list of items appear under the Items item.
3. Select **Master Items** and then click **Open**.  
The Organizations pop up appears.
4. Select an organization from the Organizations pop up.  
The Master Item window appears with the Main tab active.
5. Click the Inventory tab.
6. Select the Network Logistics Trackable checkbox in the Network Logistics section on the Inventory tab.

### 5.2.5 Setting the Item Type and Billing Type

From the Forms application, complete the following steps to set the item type and billing type:

1. In the Responsibility window, select **Inventory** and then click **OK**.  
The Navigator - Inventory window appears with the Functions tab active.
2. Select **Items** and then click **Open**.  
A list of items appear under the **Items** item.
3. Select **Master Items** and then click **Open**.
4. Select an organization from the Organizations pop up.  
The Master Item window appears with the Main tab active.
5. Click the Service tab.
6. Select the Serviceable Product checkbox.
7. Select the master item billing type from the Billing Type drop-down list.

## 5.3 Oracle Field Service/Laptop Installation

Perform the following steps to install the Oracle Field Service/Laptop application on the laptop device.

- [Step 1. Updating the MDG Web-to-Go Repository](#)
- [Step 2. Install the Application, Web-to-Go server, and Oracle8i Lite database on your Laptop Device](#)
- [Step 3. Starting the Oracle Field Service/Laptop Application](#)

### 5.3.1 Step 1. Updating the MDG Web-to-Go Repository

The laptop applications get copied by adpatch to an Enterprise directory \$HTML\_TOP. First the application need to be copied to the CRM Gateway for Mobile Devices Tier.

- Use the **cs1.zip** file for Oracle Field Service/Laptop

Perform this step on the CRM Gateway for Mobile Devices Tier.

1. Open your default browser.
2. Download the cs1.zip file into a temporary directory from the following URL:

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http://<enterprise_server>: <port_number> /  
OA_HTML/download/cs1/cs1.zip
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**Note:** Replace the <enterprise\_server> and <port\_number> variables with the correct values of the Applications 11i web server.

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3. Go to the temporary directory and extract the csl.zip file.
4. Edit the CSLPublish.bat file for Oracle Field Service/Laptop. Check that the username/password and host string are correct for your web-to-go server.
5. Run the CSLPublish.bat file, to update the Web-to-Go repository.

### 5.3.2 Step 2. Install the Application, Web-to-Go server, and Oracle8/ Lite database on your Laptop Device

Perform this step on the Laptop device:

1. Open your default browser.
2. Enter the following URL in your browser, where <mdg> is the name of the MDG server:

http://<mdg>/setup

3. At Mobile Client for Laptop click **here** to download the setup.exe file.
4. Run setup.exe to install the Web-to-Go server on your Laptop device.
5. After the browser has launched, log on using your user name and system password.
6. Click the **Sync** button (this will take a few minutes).

The Oracle Field Service/Laptop application, and the Oracle Lite database are installed on your Laptop device.

7. Click the **Cancel** button when the synchronization finishes with a success message.

### 5.3.3 Step 3. Starting the Oracle Field Service/Laptop Application

Perform this step on the Laptop device:

1. Start the Web to Go server from the taskbar:

Start > Programs > Oracle for Windows NT > Web to Go

OR

Right click over the Web to Go icon and select **Open URL**.

2. Your internet browser will open to the log in page. Enter your user name and system password.
3. Click **Field Service Laptop** to start the application.

## 6 Implementation Overview

The implementation tasks described here are tasks that are necessary to use the additional functionality included with Field Service/Laptop.

### 6.1 Process Description

Complete the following implementation steps in sequential order.

Step	Required	Step Title
1.	Yes	Confirm Setup of Field Service
2.	Yes	Confirm Setup of CRM Gateway for Mobile Devices
3.	Yes	Confirm Setup of Field Service Report
4.	Yes	Setup Field Service/Laptop on the CRM Enterprise Database

## 7 Implementation Tasks

Perform the following implementation steps in sequential order:

### 7.1 Step 1: Confirm Setup of Field Service

Make sure Field Service is fully implemented and set up as described in the *Oracle Field Service Implementation Guide*.

### 7.2 Step 2: Confirm Setup of CRM Gateway for Mobile Devices

The CRM Gateway for Mobile Devices consists of a mobile client and a central application. It provides data transport between the Oracle CRM enterprise database and the Oracle mobile client database.

Make sure you set up the CRM Gateway for Mobile Devices as described in *Oracle CRM Gateway for Mobile Devices Implementation Guide*. Make sure that all the steps have been reviewed and completed as necessary and create mobile users as described in the guide.

### 7.3 Step 3: Confirm Setup of Field Service Report

Field Service Report is part of the Field Service application and is used to report all material, expense, and labor transactions. From the Field Service Report screen you update Inventory, Installed Base, and Charges.

When material, expense, and labor transactions are recorded on one of the Field Service/Mobile applications, such as Field Service/Laptop, all transactions are shown and updated to Inventory, Installed Base, and Charges from the Field Service Report.

Make sure Field Service Report is fully implemented and set up as described in the *Oracle Field Service Implementation Guide*.

### 7.4 Step 4: Setup Field Service/Laptop on the CRM Enterprise Database

Make sure you have set up the profile options for the Field Service/Laptop on the CRM Enterprise database. For more information, see [Profile Options](#).

#### 7.4.1 Setting Up Schedules and Responsibilities

The administrator can organize the Field Service/Laptop application in several ways, depending on how much control the field service representatives are to have over their own schedules.

Given are several examples showing different levels of control for the field service representatives. For more information, see [Profile Options](#).

- [Conform to the schedule](#)
- [Work on the schedule in any order](#)
- [Work in any order and update planned and scheduled tasks](#)

### **Conform to the schedule**

The field service representative can only work on one job at a time. The field service representatives work on the tasks in the order that the dispatcher plans. They cannot reschedule their tasks, but they can initiate a follow-up task or reject a task.

This setup gives the dispatcher control over the daily schedule of the field service representatives. The dispatcher sets up the tasks, including what time and where the field service representative is to be at all times.

### **Work on the schedule in any order**

The field service representative can only work on one job at a time. They can work on the tasks scheduled for one day in any order. They cannot reschedule the tasks for another day.

This setup gives the field service representatives control over their own day. The dispatcher sends the tasks and locations to the field service representative, and the representatives decide when they want to perform each task. If a field service representative has a dental appointment, for example, he could arrange what time he wants to be at the customer site near his dentist. The field service representative is expected to complete all the tasks on the day they have been assigned. Tasks cannot be moved to another day.

### **Work in any order and update planned and scheduled tasks**

The field service representative can only work on one job at a time. The field service representatives can work on tasks in any order. They can also reschedule the tasks for another day if necessary.

This setup lets the field service representatives themselves schedule when they do their tasks. This works well in an environment where each task requires only one field service representative.

If you often send more than one field service representative to perform a task, make sure you schedule only one task assignment at a time, because multiple task assignments can lead to conflicts.

Suppose you have a task that requires three field service representatives. You set up the task, and you send it to the calendars for all three

representatives. It now appears on their calendars: BankAmerica, Monday morning, 9-11. However, one of your field service representatives could change the time for his task to 1-3. That would affect the calendar of the other two representatives. To avoid this, you must set up the task itself, and then set up three different task assignments, one for each representative.

## 8 Profile Options

Make sure to set the following profile options for Field Service/Laptop on the CRM Enterprise database.

### Prerequisites

None.

### Steps

1. Switch to the System Administrator responsibility.
2. Navigate to **Profile > System**. The Find System Profile screen is opened.
3. At Profile enter CSL%.
4. Click **Find**.

You can set the profile options described in the following table in any sequence:

Profile Option	Description
CSL: Conflict rule	Enables the Field Service/Laptop application to handle updates to the CRM database from the mobile devices. The options are: <ul style="list-style-type: none"><li>▪ <b>Client wins.</b> No timestamp checking is done, the mobile record always overwrites the record in the CRM database.</li><li>▪ <b>Timestamp.</b> When the last update date of the CRM record is greater than the last synchronization date (the date when the mobile device originally got the record), the mobile record is not applied to CRM. When the last update date of the CRM record is smaller or equal to the last synchronization date, the mobile record is applied to CRM.</li></ul>
CSL: Labor item in Laptop inventory	Not used.
CSL: Laptop inventory organization	All system items from the inventory organization are always replicated to the mobile client.
CSL: Notifications scope	Define where e-mail should be sent, using the following parameters: <ul style="list-style-type: none"><li>▪ <b>0</b> is All Oracle Mobile Field Service users</li><li>▪ <b>2</b> is All the engineers in the group</li></ul>

Profile Option	Description
CSL: Number of days before data is removed on the client	Define the number of days for data to remain on Field Service/Laptop without editing it. When the number of days has expired, it is removed from the Field Service/Laptop by the CRM Gateway for Mobile Devices.
CSL: Replicate installed base product children	For future release.
CSL: Replicate installed base product parents	Define what information from the Installed Base you want to send to Field Service/Laptop: <ul style="list-style-type: none"> <li>■ 1 for just the product related to the Service Request.</li> <li>■ 2 for the product related to the Service Request and the parent products.</li> <li>■ 3 for the product related to the Service Request, the children, and parent products.</li> </ul>
CSL: Show address in calendar daily	Not used.

5. **Save** and close.
6. Open **System** again. The Find System Profile window is opened.
7. At Profile enter **CSF%**.
8. Click **Find**.

You can set the profile options described in the following table in any sequence:

Profile Option	Description
CSF: Update planned/scheduled times allowed	To define whether a service representative is allowed to change the planned/scheduled times of the tasks he received on his laptop device.
CSF: Conform to schedule	To define whether the service representative must conform to the schedule or is allowed to do the tasks in any sequence on his or her Laptop or Palm device.

9. **Save** and close.
10. Open **System** again. The Find System Profile window is opened.
11. At Profile enter **JTM%**.
12. Click **Find**.

You can set the profile options described in the following table in any sequence:

<b>Profile Option</b>	<b>Description</b>
JTM: Debug Mode	Debug Mode On or Off for CRM Mobile Applications.
JTM: Default Logon Responsibility for CRM Mobile Application	Default Login Responsibility for CRM Mobile Application Logon.
JTM: Post Installation Tasks Java Class Full	Post Installation Tasks Java Class Full Name for CRM Mobile Application" USER_CHANGEABLE_FLAG = "N".
JTM: Time Picker Format (HH24/HH12)	Specifies format for Timepicker (HH24/HH12) for Oracle CRM Mobile Applications.

**13. Save and close.**

## 9 Verifying the Implementation

### 9.1 Field Service/Laptop Implementation Verification Tasks

You can perform the following tasks to verify that the implementation of the product was successful:

1. Go to the Field Service Dispatch Center and send a message to a field service representative who has Field Service/Laptop installed.
2. Synchronize the laptop after 10 minutes. Ten minutes is the default refresh time for the Oracle CRM Gateway for Mobile Devices.
3. The mail should be sent out and received on the mobile application.
4. Reply to the mail on the mobile to test the return route.

## 10 Diagnostics and Troubleshooting

If you have problems running the application on the Laptop, check that all the requirements have been satisfied. The following requirements must be met to be able to synchronize and work with the Field Service/Laptop:

- Labor items must be created and associated with the field service representative's inventory.
- The task state diagram must be set up in Field Service.
- Field Service representatives must have a location associated with them.
- A Request/Task must have a location before it can be scheduled.
- Mobile users must be created and associated with resources.

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