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Preface

This preface describes the audience, organization, and conventions of the Cisco Smart+Connected Meeting Spaces™ & Cisco Smart+Connected Digital Signage™ Installation Guide, and provides information on the related documentation.

- Audience, page vii
- Organization, page viii
- Document Conventions, page viii
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Audience

This guide is intended for system administrators who install, configure, and maintain the Cisco Smart+Connected Meeting Spaces™ & Cisco Smart+Connected Digital Signage™ (Smart+Connected MS & DS) application.

Organization

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1, “Getting Started.”</td>
<td>Describes information on the architecture, prerequisites, and deployment models of the Smart+Connected MS &amp; DS application.</td>
</tr>
<tr>
<td>Chapter 2, “Installing the Smart+Connected MS &amp; DS on WebLogic.”</td>
<td>Describes how to install and deploy the Smart+Connected MS &amp; DS application by using the Oracle database and WebLogic application server.</td>
</tr>
<tr>
<td>Chapter 3, “Configuring the Smart+Connected MS &amp; DS Application.”</td>
<td>Describes how to configure the Smart+Connected MS &amp; DS application after installation.</td>
</tr>
</tbody>
</table>
Document Conventions

<table>
<thead>
<tr>
<th>Convention</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boldface</strong></td>
<td>Commands, command options, and keywords are in boldface.</td>
</tr>
<tr>
<td><strong>Italics</strong></td>
<td>Arguments for which you supply values are in italics.</td>
</tr>
<tr>
<td><strong>Option &gt; Option</strong></td>
<td>Used to describe a series of menu options.</td>
</tr>
<tr>
<td><strong>courier font</strong></td>
<td>Terminal sessions and information the system displays appear in courier font.</td>
</tr>
</tbody>
</table>

**Note**
Means reader take note. Notes contain helpful suggestions or references to material not covered in this guide.

Related Documentation

- Cisco Smart+Connected Meeting Spaces User Guide
- Release Notes for Cisco Smart+Connected Meeting Spaces™
- Cisco Smart+Connected Digital Signage User Guide
- Release Notes for Cisco Smart+Connected Digital Signage™
- Cisco Smart+Connected Digital Signage Administrator Guide
- Cisco Smart+Connected Meeting Spaces Administrator Guide
- Cisco Service Delivery Platform Overview Guide
- Cisco Service Delivery Platform User Guide
- Cisco Service Delivery Platform Installation Guide

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see What’s New in Cisco Product Documentation at: http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html.

Subscribe to What’s New in Cisco Product Documentation, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.
Getting Started

This chapter provides information on the architecture, prerequisites, and deployment models of the Cisco Smart+Connected Meeting Spaces & Cisco Smart+Connected Digital Signage (Smart+Connected MS & DS) application.

- Overview, page 1-1
- System Architecture, page 1-2
- List of Acronyms and Abbreviations, page 1-3
- System Requirements, page 1-5
- Deployment Flowchart, page 1-11

Overview

The Smart+Connected MS & DS application allows you to easily access information by using digital signages, IP phones, and the web portal. For example, you can easily view information, such as meeting details, news, energy consumption data, energy saving tips, and so on. The application also allows you to book meetings instantly using touchscreen digital signage and IP phones, manage conference room resources, and report the issues, if any, in the conference rooms. The automatic energy saving settings lead to reduced power consumption and contribute to the eco-friendly policies of the organization. In case of any mishaps, emergency notifications are sent out to the users through IP phone and digital signage.

The Cisco Smart+Connected MS is a solution that leverages the Cisco Service Delivery Platform (SDP). It provides features for conference room management and signage-based messaging using Cisco IP phones. The Smart+Connected MS leads to enhanced enterprise communication as the updated meeting room information is widely available and easily accessible to employees. It also leads to better resource management and energy savings which translate to reduced energy bills and more environment-friendly corporate practices.

The Smart+Connected MS solution allows the end user to do the following:

- Using Digital Signage
  - Book meeting spaces and TelePresence rooms
  - Book conference rooms.
  - View detailed floor plans with locations of conference rooms.
  - View news content associated with the location.

- Using Web Portal and IP Phones
- Book conference rooms.
- Manage meeting room devices and equipment.
- Configure multiple devices to suit your meeting and presentation needs using a single menu selection.
- Create a case to resolve a fault in a conference room, and convey the same to the others in the organization by sending messages to the digital signage.

In addition, the solution can help in energy savings by automatically switching devices to a standby mode when the meeting room is unoccupied and based on the configuration, turn them back on before the actual occupancy.

As an administrator, you have to manage the overall configuration, maintenance, and content creation for the Smart+Connected MS solution through a web portal. You have to add locations and devices, create users, and associate devices to locations for the solution in the SDP. For more information on performing these tasks, see the Cisco Service Delivery Platform User Guide and Cisco Service Delivery Platform Installation Guide. After the locations are added, and the devices are associated to them in the SDP, they are available in the Smart+Connected MS portal. You can select a location and associate a configuration to it. The features such as fault messages, device control options, signage menu messaging, and room booking that are added to the configuration can be accessed by the end user from the Cisco IP phones at the location.

**System Architecture**

The Smart+Connected MS & DS application communicates with the following:

- **Microsoft Exchange**—To book meetings and retrieve meeting details.
- **Building Management System (BMS)**—To control and monitor devices, such as lights, blinds, and air conditioners.
- **Content Management System (CMS)**—To store the application data.
- **Crestron Controller**—To control projectors and projector screens.
- **Digital Media Player (DMP) and Cisco Interactive Experience Client (IEC)**—To display meeting details, notifications, general information, news, energy consumption data, energy saving tips, and so on, on the digital signages.
- **Remedy**—To raise trouble tickets for the conference room issues.

The Smart+Connected MS & DS application leverages the SDP. For more information on the SDP, see the Cisco Service Delivery Platform User Guide.
# List of Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>Meeting Spaces</td>
</tr>
<tr>
<td>DS</td>
<td>Digital Signage</td>
</tr>
<tr>
<td>APR</td>
<td>Acoustic Pulse Recognition</td>
</tr>
<tr>
<td>CMS</td>
<td>Content Management System</td>
</tr>
<tr>
<td>CPU</td>
<td>Central Processing Unit</td>
</tr>
<tr>
<td>CTI</td>
<td>Computer Telephony Integration</td>
</tr>
<tr>
<td>CUCM</td>
<td>Cisco Unified Communications Manager</td>
</tr>
<tr>
<td>DB</td>
<td>Database</td>
</tr>
<tr>
<td>DMP</td>
<td>Digital Media Player</td>
</tr>
<tr>
<td>DMM</td>
<td>Digital Media Manager</td>
</tr>
<tr>
<td>DBMS</td>
<td>Database Management System</td>
</tr>
</tbody>
</table>

Figure 1-1  System Architecture
### Table 1-1  List of Acronyms and Abbreviations (continued)

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>EWS</td>
<td>Exchange Web Services</td>
</tr>
<tr>
<td>HDD</td>
<td>Hard Disk Drive</td>
</tr>
<tr>
<td>HTTP</td>
<td>Hypertext Transfer Protocol</td>
</tr>
<tr>
<td>IEC</td>
<td>Cisco Interactive Experience Client</td>
</tr>
<tr>
<td>JDBC</td>
<td>Java Database Connectivity</td>
</tr>
<tr>
<td>JDK</td>
<td>Java Development Kit</td>
</tr>
<tr>
<td>JMS</td>
<td>Java Message Service</td>
</tr>
<tr>
<td>JNDI</td>
<td>Java Naming and Directory Interface</td>
</tr>
<tr>
<td>JTAPI</td>
<td>Java Telephony Application Programming Interface</td>
</tr>
<tr>
<td>LAN</td>
<td>Local Area Network</td>
</tr>
<tr>
<td>LDAP</td>
<td>Light Weight Directory Access Protocol</td>
</tr>
<tr>
<td>MAC</td>
<td>Media Access Control</td>
</tr>
<tr>
<td>NIC</td>
<td>Network Interface Card</td>
</tr>
<tr>
<td>NTP</td>
<td>Network Time Protocol</td>
</tr>
<tr>
<td>OS</td>
<td>Operating System</td>
</tr>
<tr>
<td>RAM</td>
<td>Random-access Memory</td>
</tr>
<tr>
<td>RAC</td>
<td>Real Application Cluster</td>
</tr>
<tr>
<td>RDBMS</td>
<td>Relational Database Management Systems</td>
</tr>
<tr>
<td>RHEL</td>
<td>Red Hat Enterprise Linux</td>
</tr>
<tr>
<td>S+CC</td>
<td>Smart+Connected Communities</td>
</tr>
<tr>
<td>SDP</td>
<td>Service Delivery Platform</td>
</tr>
<tr>
<td>SNMP</td>
<td>Simple Network Management Protocol</td>
</tr>
<tr>
<td>SP</td>
<td>Service Pack</td>
</tr>
<tr>
<td>SQL</td>
<td>Structured Query Language</td>
</tr>
<tr>
<td>UCS</td>
<td>Unified Computing System</td>
</tr>
<tr>
<td>UI</td>
<td>User Interface</td>
</tr>
<tr>
<td>VM</td>
<td>Virtual Machine</td>
</tr>
</tbody>
</table>
Before installing the Smart+Connected MS & DS applications, ensure that all the system requirements are met.

### Table 1-2 System Requirements

<table>
<thead>
<tr>
<th>Software/Hardware</th>
<th>Smart+Connected MS &amp; DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Red Hat Enterprise Linux (RHEL) 5.5 (64-bit) and 6.3 (64-bit)</td>
</tr>
<tr>
<td><strong>Hardware - For Application Server and Database</strong></td>
<td>Minimum requirements are:</td>
</tr>
<tr>
<td>Note:</td>
<td>• Hard Disc Space—200 GB</td>
</tr>
<tr>
<td></td>
<td>• RAM—Minimum configuration of 4 GB or above</td>
</tr>
<tr>
<td></td>
<td>• Processor</td>
</tr>
<tr>
<td></td>
<td>• 2 vCPU dual core for Virtual Machine (VM)</td>
</tr>
<tr>
<td></td>
<td>• Intel x86/II386 Architecture for physical machines</td>
</tr>
<tr>
<td></td>
<td>• Certified on Cisco UCS B-Series and C-Series with Intel CPUs</td>
</tr>
<tr>
<td>Crestron A/V integration (if applicable)</td>
<td>• Separate host or VM with Windows 2008 R2 Standard SP1 or Windows 7</td>
</tr>
<tr>
<td></td>
<td>• IIS 7.5 with .NET framework 3.5 or higher</td>
</tr>
<tr>
<td>Browser</td>
<td>• Mozilla Firefox Versions 6.0 and 15.0</td>
</tr>
<tr>
<td></td>
<td>• Microsoft Internet Explorer Versions 8.0 and 9.0</td>
</tr>
<tr>
<td></td>
<td>• Google Chrome Version 24.0 and 26.0</td>
</tr>
<tr>
<td>Database</td>
<td>Oracle Enterprise Edition 11g R2 (11.2.0.2) with character set configured to UTF8</td>
</tr>
<tr>
<td></td>
<td>For more information on how to install the Oracle database, see the Oracle documentation.</td>
</tr>
<tr>
<td>Application Server</td>
<td>WebLogic Server 11g</td>
</tr>
<tr>
<td>Java Development Kit (JDK)</td>
<td>Oracle JDK 1.6.0_24</td>
</tr>
</tbody>
</table>
**Table 1-2 System Requirements (continued)**

<table>
<thead>
<tr>
<th>Software/Hardware</th>
<th>Smart+Connected MS &amp; DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange Server</td>
<td>• Microsoft Exchange Server 2007 SP3</td>
</tr>
<tr>
<td></td>
<td>• Microsoft Exchange Server 2010 SP1, SP2</td>
</tr>
<tr>
<td></td>
<td>Exchange Web Services (EWS) integration is supported using only the BasicAuth authentication scheme. This needs to be configured in the Microsoft Exchange.</td>
</tr>
<tr>
<td></td>
<td>• For mailboxes, ‘AutomateProcessing’ property must be set to ‘AutoAccept’ so that recurring meeting updates are sent correctly to the solution through notifications.</td>
</tr>
<tr>
<td></td>
<td>• For mailboxes, ‘AddOrganizerToSubject’ and ‘DeleteSubject’ must be set to $false. If this is not done, then the meeting organizer name appears in the in the Subject field instead of meeting subject.</td>
</tr>
<tr>
<td></td>
<td>Impersonation rights are required on the conference room mailbox for the service account. This allows the service account to connect to the Exchange server and retrieve meeting details from the conference room mailbox.</td>
</tr>
<tr>
<td></td>
<td>For more information on Exchange impersonation, see:</td>
</tr>
<tr>
<td></td>
<td>• Exchange 2007:</td>
</tr>
<tr>
<td></td>
<td>• Exchange 2010:</td>
</tr>
<tr>
<td>Trouble Ticketing</td>
<td>BMC Remedy Version 7.5</td>
</tr>
<tr>
<td>Audio/Visual</td>
<td>The certified Crestron controllers that have been tested with the .NET SDK are:</td>
</tr>
<tr>
<td></td>
<td>• MC2E (one controller for one projector)</td>
</tr>
<tr>
<td></td>
<td>• PRO2 (one controller for two projectors)</td>
</tr>
<tr>
<td></td>
<td>However, the Crestron Control System with Ethernet port supports the Crestron .NET SDK, and therefore can be integrated with the solution.</td>
</tr>
<tr>
<td>Mediation Gateway</td>
<td>Tridium with Obix Versions 3.5.34, 3.7.x</td>
</tr>
<tr>
<td>Digital Media Player (DMP)</td>
<td>DMP 4400:</td>
</tr>
<tr>
<td></td>
<td>• Firmware 5.1 for http</td>
</tr>
<tr>
<td></td>
<td>• Firmware 5.2 for https</td>
</tr>
<tr>
<td></td>
<td>• Firmware 5.3 for https</td>
</tr>
<tr>
<td>Cisco Interactive Experience Client (IEC)</td>
<td>IEP-4632-HW-K9:</td>
</tr>
<tr>
<td></td>
<td>• Firmware 4.155.393</td>
</tr>
<tr>
<td>Digital Media Manager (DMM)</td>
<td>Version 5.2.1</td>
</tr>
</tbody>
</table>
### Deployment Models

You can install and deploy the Smart+Connected MS & DS application using one of the following deployment models:

- **Colocated Server Setup**—The database and the S+CC application are installed on a single server.
- **Non-Cluster Server Setup**—The database and the application server are installed on two different instances, either on a physical or a virtual machine.
- **Cluster Server Setup**—The database and the application server are installed on separate dedicated servers or on a cluster of servers. This setup provides high availability.

### Table 1-2 System Requirements (continued)

<table>
<thead>
<tr>
<th>Software/Hardware</th>
<th>Smart+Connected MS &amp; DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco Digital Signage</td>
<td>• 42 inch</td>
</tr>
<tr>
<td></td>
<td>• 47 inch</td>
</tr>
<tr>
<td></td>
<td>• 55 inch</td>
</tr>
<tr>
<td>Touchscreen</td>
<td>The Smart+Connected MS &amp; DS application is certified on the eLO Touchscreen APR technology model. However, DMP 4400G also supports other touchscreen overlays. For more information on other touchscreen overlays of DMP 4400G, see: <a href="http://www.cisco.com/en/US/docs/video/digital_media_systems/dmscompat3.html#wp1100911">http://www.cisco.com/en/US/docs/video/digital_media_systems/dmscompat3.html#wp1100911</a></td>
</tr>
<tr>
<td>IP Phone Model</td>
<td>• Touchscreen: 7975 and 9971</td>
</tr>
<tr>
<td></td>
<td>• Non-Touchscreen: 7962 and 9951</td>
</tr>
<tr>
<td>Call Manager</td>
<td>• Cisco Call Manager Version 7.1</td>
</tr>
<tr>
<td></td>
<td>• Cisco Call Manager Version 8.x</td>
</tr>
<tr>
<td></td>
<td>• Cisco Call Manager Version 9.x</td>
</tr>
<tr>
<td></td>
<td>The audio notification feature does not work with Cisco Call Manager 7.1.</td>
</tr>
<tr>
<td>Emergency Notification System</td>
<td>• Cisco JTAPI</td>
</tr>
<tr>
<td></td>
<td>• Singlewire InformaCast</td>
</tr>
<tr>
<td>LDAP</td>
<td>• Active Directory</td>
</tr>
<tr>
<td></td>
<td>- Windows 2008 Version 6.0</td>
</tr>
<tr>
<td></td>
<td>- Windows 2003 Version 5.2 R2</td>
</tr>
<tr>
<td></td>
<td>- RHEL 5.5 OpenLDAP - 2.3.43.12</td>
</tr>
<tr>
<td>Service Delivery Platform (SDP)</td>
<td>Cisco SDP 2.0.2</td>
</tr>
<tr>
<td>Language</td>
<td>U.S. English</td>
</tr>
</tbody>
</table>

The Smart+Connected MS & DS application provides multi-language support. Although U.S. English is the language that is supported out-of-the-box, other languages can be supported by doing necessary configurations.
Deployment Models

Note

This document describes the installation process in the colocated/non-cluster and cluster server setups.

- Colocated Server Setup, page 1-8
- Non-cluster Server Setup, page 1-9
- Cluster Server Setup, page 1-10

Colocated Server Setup

In a colocated deployment, all the functionalities and layers of the application reside on a single server. This is the simplest form of the deployment, where the database and the application are installed on the same instance and the setup is self-contained. This is suitable for small enterprises.

Figure 1-2 Colocated Server Setup
Non-cluster Server Setup

In this setup, the database and the application server are installed on two different instances—either on a physical or a virtual machine. This is a common server setup method for the enterprise installations. The database is setup on one instance and the application server, SDP, and the S+CC application are installed and set up on a second instance.

Figure 1-3  Non-Cluster Server Setup
Cluster Server Setup

A cluster setup consists of multiple nodes that run an application simultaneously and work together to provide increased scalability, reliability, and high availability. In a distributed cluster setup, the solution is deployed on the multiple nodes of a cluster.

**Figure 1-4  Cluster Server Setup**
The deployment flowchart describes the procedure to deploy the solution and ensure a successful installation.

Figure 1-5 displays the deployment flowchart for a Colocated/Non-cluster Server Setup.

Figure 1-5  Deployment Flowchart - Colocated/Non-cluster Server Setup
Figure 1-6 displays the deployment flowchart for a Cluster Server Setup.

**Figure 1-6  Deployment Flowchart - Cluster Server Setup**

1. Start
2. Execute the installer
3. Configure the database
4. Create and configure the domain
5. Set up JMS
6. Set up the application properties file
7. Deploy the Apache Jackrabbit Server
8. Deploy the Cisco Smart Connected Meeting Spaces & Digital Signage
9. Set up Data Collection
10. Stop
Installing the Smart+Connected MS & DS on WebLogic

This chapter describes how to install the Cisco Smart+Connected Meeting Spaces & Cisco Smart+Connected Digital Signage (Smart+Connected MS & DS) application by using the Oracle database and WebLogic application server.

- Prerequisites, page 2-1
- Installing on a Colocated or Non-Cluster Server Setup, page 2-2
- Installing on a Cluster Server Setup, page 2-17

After successfully installing the Smart+Connected MS & DS application, you can configure the application by performing tasks that are listed in Chapter 3, “Configuring the Smart+Connected MS & DS Application.”

Prerequisites

- Gathering Required Information, page 2-1
- Verifying Network Configurations, page 2-2

Gathering Required Information

Prior to beginning the installation, you must gather the following information:

- Database details:
  - Database SID
  - Database IP address or the DNS hostname
  - Database port number
  - Database schema username
  - Database schema password
  - SSH credentials
    These credentials are required to access the machine. This account needs to be able to run SQLPlus.
- Application Server details:
Installing the Application

The Smart+Connected MS & DS installation package consists of a single executable file (install.bin) that is located on the product DVD.

Before you begin the installation, do the following:

- Copy the WebLogic installer file (install.bin) from the WebLogic folder to a local directory.
- Ensure that the <JAVA_HOME> environment variable is set to the location at which the JDK is installed and the PATH environment variable includes the <JAVA_HOME>/bin folder.

To install the application, perform the following steps:
Chapter 2 Installing the Smart+Connected MS & DS on WebLogic

Installing on a Colocated or Non-Cluster Server Setup

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Step 1 From the product DVD, run the installer:
   a. In a terminal session, navigate to the directory that contains the installer and give execute permission to the install.bin file.
   b. Enter the following command:
      chmod u+x install.bin
   c. Enter the following command:
      ./install.bin

Alternatively, use the installer that is available in the e-delivery package.
The Smart Plus Connected Communities - Introduction screen appears.

Step 2 Click Next.
The License Agreement screen appears.

Step 3 Choose I accept the terms of the License Agreement, and click Next.
The Choose Install Folder screen appears.

Step 4 Click Choose to select the directory where you want the applications to be installed. Alternatively, you can enter the path manually.

Note The location where you install the Smart+Connected MS & DS application is referred as <MS_INSTALL_DIRECTORY> in this guide.

Step 5 (Optional) Click Restore Default Folder if you want to revert to the default directory.

Step 6 Click Next.
The Pre-Installation Summary screen appears.

Step 7 Click Install.
After the installation is complete, the Install Complete screen appears.

Step 8 Click Done to complete the installation process.

Step 9 Navigate to the directory that you had selected during installation, and verify that the following directories have been created:
   - pkg-apps
   - pkg-clientsamples
   - pkg-jackrabbit
   - pkg-properties
   - pkg-scripts
   - pkg-templates

Configuring the Database

You must configure a database for the Smart+Connected MS & DS environment.
   - Requirements, page 2-4
   - About the Database Scripts, page 2-4
Requirements

Before configuring the database, ensure that the following requirements are met:

- The Oracle Database 11g Release 2 (11.2.0.2) is installed on your database server, and is ready for use.
  This document does not include information on how to set up the Oracle database. For more information, see the Oracle documentation.
- A database user is created with the following grants:
  - connect
  - create table
  - create procedure
  - create sequence
  - create trigger
  - create view
  - create job
  For more information on how to create users and provide grants, see the Oracle documentation.
- The following SDP database SQL scripts have been executed:
  - setup-sdp-base.sql
  - setup-sdp-types.sql
  The SDP database scripts are available in the following directory on the server where you have installed the SDP application:
  `<SDP_INSTALL_DIRECTORY>/sdp/
  For more information on how to execute the SDP database scripts, see the Cisco Service Delivery Platform Installation Guide.

About the Database Scripts

- SDP Database Scripts, page 2-5
- Application Database Scripts, page 2-5
Chapter 2 Installing the Smart+Connected MS & DS on WebLogic

Installing on a Colocated or Non-Cluster Server Setup

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SDP Database Scripts

Table 2-1 SDP Database Script - Details

<table>
<thead>
<tr>
<th>Script</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clean-sdp-objects.sql</td>
<td>Cleans all SDP related objects from the user schema if an instance of SDP was running earlier. Executing this script is not necessary if you are installing the SDP for the first time.</td>
</tr>
<tr>
<td>setup-sdp-base.sql</td>
<td>• Creates the tables, constraints, sequences, and indexes.</td>
</tr>
<tr>
<td></td>
<td>• Loads only the basic data that is required to bootstrap the application.</td>
</tr>
<tr>
<td></td>
<td>• Enables local database authentication.</td>
</tr>
<tr>
<td></td>
<td>• Creates a user with the default username/password as superadmin/superadmin.</td>
</tr>
<tr>
<td></td>
<td>• Adds the locations that are defined in the seed data.</td>
</tr>
<tr>
<td></td>
<td>• Grants access rights for the locations to the SuperAdmin (super administrator).</td>
</tr>
<tr>
<td>setup-sdp-types.sql</td>
<td>Loads the device types and device properties data.</td>
</tr>
</tbody>
</table>

Application Database Scripts

Table 2-2 Smart+Connected MS & DS Database Script - Details

<table>
<thead>
<tr>
<th>Script</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clean-Smart_Connected_Meeting_Spaces_and_Digital_Signage-objects.sql</td>
<td>Cleans all Smart+Connected MS &amp; DS related objects from the user schema. Executing this script is not necessary if you are installing the application for the first time.</td>
</tr>
<tr>
<td>setup-Smart_Connected_Meeting_Spaces_and_Digital_Signage-base.sql</td>
<td>• Creates tables, constraints, sequences, and indexes.</td>
</tr>
<tr>
<td></td>
<td>• Loads the basic data that is required to bootstrap the application.</td>
</tr>
<tr>
<td>setup-Smart_Connected_Meeting_Spaces_and_Digital_Signage-base_ko.sql</td>
<td>• Creates tables, constraints, sequences, and indexes.</td>
</tr>
<tr>
<td></td>
<td>• Loads the basic data that is required to bootstrap the application in Korean.</td>
</tr>
</tbody>
</table>
## Executing Database Scripts

In order to execute the SQL scripts locally, you need to have all the scripts and the script related files stored on your local system.

Ensure that you have the ‘read’ permission to run the scripts. You can execute the SQL scripts by using SQL *Plus or SQL Developer. After the database scripts have been executed, the necessary objects are created in the database schema.

To execute the database scripts by using the SQL *Plus, perform the following steps:

### Step 1
From the application install directory, copy the pkg-scripts folder to a location on the database machine.

You can access the pkg-scripts folder from the following location:

`<MS_INSTALL_DIRECTORY>/pkg-scripts`, where `<MS_INSTALL_DIRECTORY>` is the location at which the Smart+Connected MS & DS application is installed.

### Step 2
Navigate to the `<MS_INSTALL_DIRECTORY>/pkg-scripts` folder on the database machine.

### Step 3
Connect to SQL*Plus:

a. In a terminal session, enter `sqlplus`.

b. Press Enter.

### Step 4
Enter the database username and password.

### Step 5
For an English setup, enter

```
@<MS_INSTALL_DIRECTORY>/pkg-scripts/setup-Smart_Connected_Meeting_Spaces_and_Digital_Signage-base.SQL
```

For a Korean setup, enter

```
@<MS_INSTALL_DIRECTORY>/pkg-scripts/setup-Smart_Connected_Meeting_Spaces_and_Digital_Signage-base_ko.SQL
```

### Step 6
Press Enter.

The database objects are created in your schema for the Smart+Connected MS & DS application.

---

**Note**

When you run the database scripts, a log file is automatically generated and saved in the Scripts folder. You must check this log file to ensure that there are no errors logged. If the log file displays errors, these errors must be corrected before you proceed with the installation.

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## Configuring the Non-Touch IP Phones

By default, the Smart+Connected MS & DS application supports touchscreen IP phones. To enable text-based menu display on non-touchscreen IP phones, you must configure the non-touchscreen IP phones.

To configure the non-touch IP phones, enter the following details in the SSP_MOBILE table, which is available in the database schema you created earlier:

- **HEADER_NAME**—x-CiscoIPPhoneModelName
- **HEADER_VALUE**—Model Name
- **SCREEN_MODE**—Menu
Creating a WebLogic 11g Domain

You must create a WebLogic domain where the Smart+Connected MS & DS application will be deployed. To create a WebLogic domain, perform the following steps:

Step 1
Launch the WebLogic Configuration wizard:

- Navigate to `<BEA_HOME>/wlserver_10.3/common/bin` directory, where `<BEA_HOME>` is the location at which WebLogic is installed.
- Run the `config.sh` file.

The Configuration wizard appears.

Step 2
Choose Create a new WebLogic domain and click Next.

The Select Domain Source screen appears.

Step 3
Choose Generate a domain configured automatically to support the following products, and click Next.

The Specify Domain Name and Location screen appears. Specify the domain and location for the domain.

Step 4
Enter a domain name in the Domain Name field. For example, MSDS.

Step 5
Browse for or enter the path where you want to save the domain and then click Next.

Note: It is recommended that you create the domain at the default location.

The Configure Administrator User Name and Password screen appears.

Step 6
Enter the administrator username, password, confirm password, and description in the corresponding fields and click Next.

The Configure Start Mode and JDK screen appears.

Step 7
In the Select JDK and Start Mode screen, do the following:

- Under WebLogic Domain Startup Mode, choose Production Mode.
- Under Available JDKs, choose Sun SDK 1.6.0_24.
- Click Next.

The Optional Configuration Screen appears.

Step 8
Select the Administration Server check box and then click Next.

The Configure the Administration Server screen appears.

Step 9
Enter the details and click Next.

Step 10
If you want to use the default port 7001, click Next. If you want to change the port from 7001, enter the new port number, and click Next.
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The Configuration Summary screen appears.

**Step 11** Review the details and click Create.

A new WebLogic domain is created.

Note After creating the WebLogic domain, you can navigate to <BEA_HOME>/user_projects/domains and verify that the domain is successfully created. If you have specified a different location for the domain, navigate to that location to verify that the domain is successfully created.

### Extending the WebLogic 11g Domain

After creating the WebLogic 11g domain, you must extend it by using the domain template that is provided with the MS & DS application. Ensure that you have prepared the database for the application.

To extend the Oracle WebLogic server domain using the domain template, perform the following steps:

**Step 1** Navigate to <BEA_HOME>/wlserver_10.3/common/bin, where <BEA_HOME> is the location at which WebLogic is installed and run the `config.sh` command in the command mode. For example, `./config.sh -mode=console`.

The console mode that displays options to either create or extend the WebLogic domain appears.

**Step 2** Select the option to extend the WebLogic domain and press Enter.

**Step 3** From the list of domain directories, choose the domain directory and press Enter.

**Step 4** Select the option to choose the custom template and press Enter.

**Step 5** Enter the path to the domain template and press Enter.

The path of the domain template is `<MS_INSTALL_DIRECTORY>/pkg-templates/scmsdomain.jar`, where `<MS_INSTALL_DIRECTORY>` is the location at which you have installed the Smart+Connected MS & DS application.

**Step 6** Select the option to modify the Data Sources and press Enter.

**Step 7** Select the option to modify the DBMS name, enter the database SID, and press Enter.

**Step 8** Select the option to modify the DBMS host name, enter the database host IP address or the DNS hostname, and press Enter.

**Step 9** Select the option to modify the DBMS port number, enter the database port number (default port for Oracle is 1521), and press Enter.

**Step 10** Select the option to modify the username, enter the schema username, and press Enter.

**Step 11** Select the option to modify the password, enter the schema password, and press Enter.

**Step 12** Select the option to confirm the password, enter the schema password, and press Enter.

**Step 13** Press Accept.

**Step 14** A confirmation message requesting you to proceed appears. Press Yes.

The WebLogic domain is successfully extended.
Configuring the Property Files

- Updating the Properties Files, page 2-9
- Setting up Data Collection, page 2-10

Updating the Properties Files

To update the application.properties, dc.properties, and logging.properties files, perform the following steps:

**Step 1** Navigate to the `<BEA_HOME>/user_projects/domains/<DOMAIN NAME>/properties` folder.

**Step 2** Update the application.properties file:

- a. Modify the properties as follows:
  
  - `IB_JMSPROVIDER_URL`  
    
    `t3://<MS Appserver IP Address or hostname>:<MS Appserver port number>`  
    
    For example, `IB_JMSPROVIDER_URL=t3://10.65.111.54:8001`
  
  - `IB_userName`  
    
    `<MS weblogic domain admin userid>`  
    
    For example, `IB_userName=weblogic`
  
  - `IB_password`  
    
    `<MS weblogic domain admin password>`  
    
    For example, `IB_password=weblogic`
  
  - `SDP_JMSPROVIDER_URL`  
    
    `t3://<SDP App server IP Address or hostname>:<SDP Appserver port number>`  
    
    For example, `SDP_JMSPROVIDER_URL=t3://10.65.111.54:7001`
  
  - `SDP_userName`  
    
    `<SDP weblogic console user name>`  
    
    For example, `SDP_userName=weblogic`
  
  - `SDP_password`  
    
    `<SDP weblogic console password>`  
    
    For example, `SDP_password=weblogic`
  
- b. Save and close the file.

**Step 3** Update the dc.properties file:

- a. Modify the properties as follows:
  
  - `datacollection.jms.providerUrl`  
    
    `t3://<MS Appserver IP Address or hostname>:<MS Appserver port number>`  
    
    For example, `datacollection.jms.providerUrl=t3://10.65.111.54:8001`
  
  - `datacollection.jms.securityPrincipal`  
    
    `<MS weblogic console user name>`  
    
    For example, `datacollection.jms.securityPrincipal=weblogic`
Installing on a Colocated or Non-Cluster Server Setup

Step 4

Modify the logging.properties file to update the directory in which the MS & DS Application log file needs to be generated:

a. Create the ‘ms_log’ folder under <MS_INSTALL_DIRECTORY> directory, and provide the read and write access.

b. Search for the line starting with java.util.logging.FileHandler.pattern and replace it as follows:

```
java.util.logging.FileHandler.pattern=<MS_INSTALL_DIRECTORY>/ms_log/MS-%u.log
```

Note

By default, the logging level is set to SEVERE for the modules and can be customized as per your requirements.

c. Save and close the file.

Setting up Data Collection

To collect data from a Building Management System (BMS), you need to provide information on data points and the corresponding metadata in the SSP_DEVICE_PROPERTY_METADATA table. The device components are controlled by metadata and the metadata units are derived from units.xml file.

Every device added in the SDP has a unique property ID. For historic trending, reporting and policies for system generated alarms, the solution uses data collection tables and metadata table of Data Collection Schema. The collected data is mapped to the associated location and device instance.

<table>
<thead>
<tr>
<th>Property</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>METADATA_ID</td>
<td>Primary key field of the table.</td>
</tr>
<tr>
<td>PROPERTY_VALUE_ID</td>
<td>Used to derive the id from the SSP_DEVICEPROPERTY table which is unique across all the devices. It should be added in the SSP_DEVICEPROPERTY_METADATA table.</td>
</tr>
<tr>
<td>TRENDABLE</td>
<td>If the trendable property is set to one, the data collector collects data for the property at the specified trend frequency.</td>
</tr>
<tr>
<td>TREND_FREQUENCY</td>
<td>Used to set the rate of data collection. Unit of measurement is minutes. The minimum value that can be provided is one minute.</td>
</tr>
</tbody>
</table>
Installing on a Colocated or Non-Cluster Server Setup

Starting the WebLogic Server

You need to start the WebLogic server after completing all the above tasks, such as installing the Smart+Connected MS & DS application, configuring the database, setting up the WebLogic domain, and so on.

To start the WebLogic server, perform the following steps:

**Step 1**
In a terminal session, navigate to the following location:

```
<BEA_HOME>/user_projects/domains/<your domain>/bin
```

where `<BEA_HOME>` is the location at which WebLogic is installed.

**Step 2**
Use the following command to start the WebLogic server:

```
./startWebLogic.sh
```

When prompted, enter the username and password that you provided while creating the domain. For example, `weblogic/weblogic`.

---

**Table 2-3 Metadata Properties (continued)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIT_CONFIG</td>
<td>Unit of the data stored in the collection table in the database.</td>
</tr>
<tr>
<td>UNIT_MEASURED</td>
<td>Used to set the value of the unit of the data measured in BMS gateway. For example, water is measured in cubic meters.</td>
</tr>
<tr>
<td>MONITORABLE</td>
<td>Not applicable for the Smart+Connected MS &amp; DS application. Therefore, the value must be set to zero.</td>
</tr>
<tr>
<td>CUMULATIVE</td>
<td>Not applicable for the Smart+Connected MS &amp; DS application. Therefore, the value must be set to zero.</td>
</tr>
<tr>
<td>SCHEDULABLE</td>
<td>Not applicable for the Smart+Connected MS &amp; DS application. Therefore, the value must be set to zero.</td>
</tr>
<tr>
<td>CONTROLLABLE</td>
<td>Not applicable for the Smart+Connected MS &amp; DS application. Therefore, the value must be set to zero.</td>
</tr>
<tr>
<td>REPORTABLE</td>
<td>Not applicable for the Smart+Connected MS &amp; DS application. Therefore, the value must be set to zero.</td>
</tr>
<tr>
<td>ALARMABLE</td>
<td>Not applicable for the Smart+Connected MS &amp; DS application. Therefore, the value must be set to zero.</td>
</tr>
<tr>
<td>IS_NUMERIC</td>
<td>For a string property, the value is zero and the data gets collected in SSP_DATA_COLL_VAR table. For a numeric property, the value is one and the data gets collected in SSP_DATA_COLL table.</td>
</tr>
<tr>
<td>THRESHOLD</td>
<td>The threshold value is set only when it is cumulative and is based on UNIT_CONFIG value. After the threshold value is reached, the energy meter reading is reset.</td>
</tr>
</tbody>
</table>
Deploying the Apache Jackrabbit and the Smart+Connected MS & DS Application

To deploy the Apache Jackrabbit and the Smart+Connected MS & DS application, perform the following steps:

1. Copy the jackrabbit-jca-2.2.8.rar from `<MS_INSTALL_DIRECTORY>/pkg-jackrabbit` to solutions domain library (`<BEA_HOME>/scms/bin/apps`).
2. Copy the Smart_Connected_Meeting_Spaces_and_Digital_Signage.ear file from `<MS_INSTALL_DIRECTORY>/pkg-apps` folder to solutions domain library (`<BEA_HOME>/scms/bin/apps`).

   **Note** `<BEA_HOME>` is the location at which WebLogic is installed, and `<MS_INSTALL_DIRECTORY>` is the location at which the Smart+Connected MS & DS application is installed.

3. Restart the WebLogic server.

   For information, see the “Restarting the WebLogic Server” section on page 2-34.

---

## Importing SSL Certificates

You must import the SSL certificates for the Cisco Unified Communications Manager (CUCM) and the Exchange Server. You may require to import the SSL certificates for the Cisco Digital Media Player (DMP), Cisco Interactive Experience Client (IEC), and Light Weight Directory Access Protocol (LDAP).

Before you begin importing the SSL certificates, ensure that you obtain the certificates from CUCM, Exchange, DMP, IEC, and LDAP, and store them in a directory on the application server.

To import the SSL certificates, perform the following steps:

1. In a terminal session, navigate to the directory `<JAVA_HOME>/bin`, where `<JAVA_HOME>` is the location at which JDK is installed.
2. Execute the following command:

   ```bash
   ./keytool -import -alias <Alias Name> -file <Certificate File name with complete path> -keystore `<JAVA_HOME>/jre/lib/security/cacerts` -storepass changeit
   
   Where `<Certificate File name with complete path>` is the certificate file name with a complete directory path where you store your certificates, and `<Alias Name>` is the unique alias name.

   For example:
   
   ```
Installing on a Colocated or Non-Cluster Server Setup

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**Note** If you have installed JDK 1.6 update 24 using an RPM binary bundle, you need SUDO access to add the certificate to the keystore.

A message is displayed that prompts you to trust this certificate.

**Step 3** Choose **Yes**, and press **Enter**.

The certificates are imported.

**Step 4** In the setDomainEnv.sh file in the WebLogic domain directory, append the JAVA_PROPERTIES line with the following line:

-Dweblogic.net.proxyAuthenticatorClassName=java.net.Authenticator
-Djavax.net.ssl.trustStore=./JAVA_HOME/jre/lib/security/cacerts
-Djavax.net.ssl.trustStorePassword=changeit

For example:

-Dweblogic.net.proxyAuthenticatorClassName=java.net.Authenticator
-Djavax.net.ssl.trustStore=/usr/java/default/jre/lib/security/cacerts
-Djavax.net.ssl.trustStorePassword=changeit

**Step 5** Restart the WebLogic server.

## Restarting the WebLogic Server

You must restart the WebLogic server if you have made any changes through the WebLogic console or any configuration changes that require a restart of the server.

To restart the WebLogic server, perform the following steps:

**Step 1** In a terminal session, navigate to the following location:

```bash
<BEA_HOME>/user_projects/domains/<your_domain>/bin
```

where `<BEA_HOME>` is the location at which WebLogic is installed.

**Step 2** Stop the WebLogic server using the following command:

```bash
./stopWebLogic.sh
```

**Step 3** When the WebLogic server is stopped and the prompt returns, start the WebLogic server using the following command:

```bash
./startWebLogic.sh
```

When prompted, enter the username and password that you provided while creating the domain. For example, weblogic/weblogic.
Assigning Roles and Locations to IBUser

To access the Smart+Connected MS & DS application, you need to assign roles and locations to the ‘IBUser’. ‘IBUser’ is the default user that is created with the seed data.

You can assign roles and locations by performing the following tasks in the SDP:

- Assigning the InfoBundle Manager role to ‘IBUser’.
- Assigning specific locations to the InfoBundle Manager role.

To assign roles and locations to ‘IBUser’ in the SDP, perform the following steps:

---

**Step 1**

Log in into the SDP application.

For more information on how to log in to the SDP application, see the *Cisco Service Delivery Platform User Guide*.

**Step 2**

To assign the InfoBundle Manager role to ‘IBUser’, do the following:

a. Click the **Users & Roles** tab.
   
   The List of Users area displays the ‘IBUser’.
   
   b. In the User Name column, click ‘IBUser’, and in the View User page, click **Edit**.
      
      The Edit User page appears.
      
   c. In the Assign Roles and Locations area, click **Assign New Role**.
      
      The Select Roles for the Users dialog box appears. The Available Roles box lists the InfoBundle Manager role.
      
   d. In the Available Roles column, select the InfoBundle Manager role, and click **Add**.
      
   e. Click **Assign and Close**.
      
      The InfoBundle Manager role is assigned to ‘IBUser’ along with the associated permissions.
      
   f. Click **Save**.

**Step 3**

To assign specific locations to the InfoBundle Manager role, do the following:

a. Ensure that the locations that you want to assign to the InfoBundle Manager role is already added in SDP.

b. In the Assigned Locations column of the Assign Roles and Locations area, click **Assign Locations** next to the InfoBundle Manager role.
   
   The Assign Locations dialog box appears with a location hierarchy. The location hierarchy lists the locations for which you have been assigned permissions.
   
   c. In the location hierarchy, select a location that you want to associate to the InfoBundle Manager.
      
      You can use shortcut tools to search and select a location in the location hierarchy.
      
   d. Click **Assign**.
      
      The selected location is assigned to the InfoBundle Manager.
      
   e. Click **Save**.
Creating and Assigning Webcalendar Roles

To create users and assign Webcalendar User roles, perform the following steps:

**Step 1** Log in into the SDP application.
For more information on how to log in to the SDP application, see the *Cisco Service Delivery Platform User Guide*.

**Step 2** Choose Users and Roles > Create a User.
The Create User page appears.

**Step 3** Enter the user details and click Save.
For more information on how to create users, see the *Cisco Service Delivery Platform User Guide*.

**Step 4** To assign the Webcalendar User role, do the following:

a. Click the Users & Roles tab.
The List of Users area displays all the users.

b. In the User Name column, click the specific user, and in the View User page, click Edit.
The Edit User page appears.

c. In the Assign Roles and Locations area, click Assign New Role.
The Select Roles for the Users dialog box appears. The Available Roles box lists the Webcalendar User role.

d. In the Available Roles column, select the Webcalendar User role, and click Add.

e. Click Assign and Close.
The Webcalendar User role is assigned along with the associated permissions.

f. Click Save.

Accessing the Smart+Connected MS & DS Application

To access the Smart+Connected MS & DS application, perform the following steps:

**Step 1** In a Web browser, type the URL http://<host>:<port>/solutions/, where <host> is the host IP address or DNS hostname and <port> is the port number of the Weblogic application server.

**Step 2** Press Enter.
The Smart+Connected MS & DS Login page appears.

**Step 3** Enter the username and password for the Smart+Connected MS & DS application, and click Login.
Your default login credentials are:
- Username—superadmin
- Password—superadmin

You can change your password by logging in to the SDP application. You can also create additional users by using the SDP application. For more information on how to assign roles and permissions to users in the SDP application, see the *Cisco Service Delivery Platform User Guide*. 

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For more information on how to use the Smart+Connected MS & DS features, see the *Cisco Smart+Connected Meeting Spaces User Guide* and *Cisco Smart+Connected Digital Signage User Guide*.

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**Accessing the Web Calendar**

After performing all installation tasks, you can access the Smart+Connected MS & DS web calendar. To access the Smart+Connected MS & DS web calendar, perform the following steps:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>In a Web browser, type the URL http://&lt;host&gt;:@&lt;port&gt;/calendar/, where &lt;host&gt; is the host IP address or DNS hostname and &lt;port&gt; is the port number of the WebLogic application server.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Press Enter. The Smart+Connected MS &amp; DS Login page appears.</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Enter the username and password for the Smart+Connected MS &amp; DS web calendar, and click Login. You can change your password by logging in to the SDP application. You can also create additional users by using the SDP application. For more information on how to assign roles and permissions to users in the SDP application, see the <em>Cisco Service Delivery Platform User Guide</em>. For more information on how to use the Smart+Connected MS &amp; DS features, see the <em>Cisco Smart+Connected Meeting Spaces User Guide</em> and <em>Cisco Smart+Connected Digital Signage User Guide</em>.</td>
</tr>
</tbody>
</table>
Installing on a Cluster Server Setup

To install the Smart+Connected MS & DS application on a cluster server setup, perform the following steps in order:

1. Installing the Application, page 2-18
2. Configuring the Smart+Connected MS & DS Database, page 2-18
3. Configuring the JAVA File, page 2-19
4. Setting up Managed Servers, page 2-19
5. Creating WebLogic Domain for Admin/Proxy Server, page 2-26
6. Extending WebLogic Domain for Admin/Proxy Server, page 2-28
7. Starting the Administrative Server, page 2-29
8. Configuring the Cluster, page 2-29
9. Deploying Apache Jackrabbit, page 2-34
10. Deploying the Smart+Connected MS & DS Application, page 2-35
11. Starting Managed Server and Proxy Server, page 2-35
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13. Configuring the Apache Jackrabbit Repository, page 2-36
14. Importing SSL Certificates, page 2-39
15. Assigning Roles and Locations to IBUser, page 2-39
16. Accessing the Application, page 2-39
17. Accessing the Web Calendar, page 2-39

About Clustering

A WebLogic server cluster consists of multiple WebLogic server instances running simultaneously and working together to provide increased scalability, reliability, and high availability. A cluster appears to clients as a single WebLogic server instance. The server instances that constitute a cluster run on the same machine or are usually located on different machines. You can increase a cluster’s capacity by adding additional server instances to the cluster on an existing machine or on different machines. Each server instance in a cluster must run on the same WebLogic version.

An example of clustered deployment in a distributed environment is explained below. It has the following constituents:

- Database is non-clustered.
- Application servers are clustered.
- Three virtual machines host the application servers.
- One of the virtual machines hosts the administrative server and a proxy server. This proxy server acts as a software load balancer.
- Application is deployed on two machines—Machine 1 and Machine 2—that has two managed servers.

You can modify this setup based on your requirements, such as number of managed servers, port numbers, and so on.
Installing a Cluster Server Setup

An example of cluster setup is as follows:

- Machine 1: WebLogic Managed Server 1 (WebLogic 11g)
- Machine 2: WebLogic Managed Server 2 (WebLogic 11g)
- Machine 3: WebLogic Admin Server and HTTP Proxy Server (WebLogic 11g)
- Machine 4: Database Server (Oracle Database 11g)

Figure 2-1  Clustering in a Distributed Setup

Installing the Application

For information on how to install the Smart+Connected MS & DS application, see the “Installing the Application” section on page 2-2.

Configuring the Smart+Connected MS & DS Database

For information on how to configure the Smart+Connected MS & DS database, see the “Configuring the Database” section on page 2-3.
Configuring the JAVA File

To configure the JAVA file, perform the following steps:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Navigate to the location $JAVA_HOME/jre/lib/security directory and open the java.security file for editing.</td>
</tr>
</tbody>
</table>
| Step 2 | Search for the below text:  
```sql
securerandom.source=file:/dev/urandom
```
Replace with:
```sql
securerandom.source=file:/dev/.urandom
```

Setting up Managed Servers

The following section explains the configuration required to set up the managed server on one host. In order to complete the setup, the same configuration must be performed on all the other managed servers.

- Creating a New WebLogic Domain for a Managed Server, page 2-19
- Extending the WebLogic Domain for a Managed Server, page 2-21
- Configuring the Property Files, page 2-22
- Configuring Jackrabbit in Managed Server, page 2-26

Creating a New WebLogic Domain for a Managed Server

To create a WebLogic domain for managed servers on the machines that are described in Figure 2-1, perform the following steps:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Log in to the machine where you want to create a WebLogic domain. Navigate to <code>&lt;BEA_HOME&gt;/wlserver_10.3/common/bin</code> and run the <code>config.sh</code> file, where <code>&lt;BEA_HOME&gt;</code> is the location at which WebLogic is installed. The Configuration Wizard appears.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Choose Create a new WebLogic domain, and click Next. The Select Domain Source screen appears.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Select Generate a domain configured automatically to support the following products, and click Next. The Specify Domain Name and Location screen appears. Specify the domain and location for the domain.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Enter the domain name in the Domain Name field.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Browse for or enter the path where you want to save the domain and click Next. It is recommended that you create the domain at the default location. The Configuration Administrator Username and Password screen appears.</td>
</tr>
<tr>
<td>Step 6</td>
<td>Enter the administrator username, password, confirm password, and description in the corresponding fields and click Next. The Configure Server Start Mode and JDK screen appears.</td>
</tr>
</tbody>
</table>
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### Step 7
In the Select JDK and Start Mode screen, do the following:

a. Under WebLogic Domain Startup Mode, choose Production Mode.

b. Under Available JDKs, choose Sun SDK 1.6.0_24.

c. Click Next.

The Select Optional Configuration Screen appears.

### Step 8
Select the Administration Server, Manager Servers, Clusters and Machines, RDBMS Security Stores check boxes, and click Next.

The Configure the Administration Server screen appears.

### Step 9
Enter the following details, and click Next:

- In the Listen Port field for Machine1, enter 7020.
- In the Listen address field, enter IP address of the managed server.

**Note**
Use Listen Port 7030 for Machine 2.

The Configure Managed Server screen appears.

### Step 10
To add the managed server, perform the following steps:

a. In the Configure Managed Servers screen, click Add.

A row for the new managed server appears.

b. In the Name field, enter the name of the managed server, for example, MS1.

**Note**
When you configure the managed server names for Machine 1 and Machine 2, you must ensure that the managed server names are unique. For example, MS1 is for Machine 1, while MS2 is for Machine 2.

c. In the Listen address field, enter the host IP address of the managed server 1.

d. In the Listen port field, enter the port number as 8020. The port 8020 is the listen port of the managed server 1.

**Note**
Use Listen Port 9020 for Machine 2.

e. Click Next.

The Configure Clusters screen appears.

### Step 11
Click Next.

The Configure Machines screen appears.

### Step 12
Click Next.

The Configure RDBMS Security Store Database screen appears.

### Step 13
Click Next.

The Configuration Summary screen appears.

### Step 14
Review the details, and click Create.

A new WebLogic domain is created.
Extending the WebLogic Domain for a Managed Server

To extend the Oracle WebLogic server domain using the domain template, perform the following steps:

**Step 1** Navigate to `<BEA_HOME>/wlserver_10.3/common/bin`, where `<BEA_HOME>` is the location at which WebLogic is installed and run the `config.sh` command in the command mode. For example, `./config.sh -mode=console`.

The console mode that displays options to either create or extend the WebLogic domain appears.

**Step 2** Select the option to extend the WebLogic domain and press **Enter**.

**Step 3** From the list of domain directories, choose the domain directory and press **Enter**.

**Step 4** Select the option to choose the custom template and press **Enter**.

**Step 5** Enter the path to the domain template and press **Enter**.

The domain template for SDP is located at: `<SDP_HOME>/sdp/templates/domains/10g/sdp10gdomain.jar`, where `<SDP_HOME>` is the location at which you have installed the SDP.

**Step 6** Select the option to modify the Data Sources and press **Enter**.

**Step 7** Select the option to modify the DBMS name, enter the database SID, and press **Enter**.

**Step 8** Select the option to modify the DBMS host name, enter the database host IP address or the DNS hostname, and press **Enter**.

**Step 9** Select the option to modify the DBMS port number, enter the database port number (default port for Oracle is 1521), and press **Enter**.

**Step 10** Select the option to modify the username, enter the schema username, and press **Enter**.

**Step 11** Select the option to modify the password, enter the schema password, and press **Enter**.

**Step 12** Select the option to confirm the password, enter the schema password, and press **Enter**.

**Step 13** Press **Accept**.

**Step 14** A confirmation message requesting you to proceed appears. Press **Yes**.

The WebLogic domain is successfully extended.
Configuring the Property Files

- Updating the Property Files, page 2-22
- Setting up Data Collection, page 2-25
- Adding Configurations to the WebLogic Server, page 2-25

Updating the Property Files

To update the application.properties, dc.properties, logging.properties, and ehcacheconfig.xml files, perform the following steps:

Step 1  Copy the properties files from `<MS_INSTALL_DIRECTORY>` to a local directory.

- a. Create a folder with a name ‘ms_config’ under the directory in which the Smart+Connected MS & DS application is set up, and assign the read and write permissions.
- b. Open a terminal and navigate to `<MS_INSTALL_DIRECTORY>/pkg-properties`, where `<MS_INSTALL_DIRECTORY>` is the location at which the Smart+Connected MS & DS application is installed.
- c. Copy the application.properties.sample file to the `<MS_INSTALL_DIRECTORY>/ms_config` directory with the target file name as application.properties.
  
  For example: `cp application.properties.sample <MS_INSTALL_DIRECTORY>/ms_config/application.properties`
- d. Copy the LDAP.properties.sample file to the `<MS_INSTALL_DIRECTORY>/ms_config` location with the target file name as LDAP.properties.
  
  For example: `cp LDAP.properties.sample <MS_INSTALL_DIRECTORY>/ms_config/LDAP.properties`
- e. Navigate to `<MS_INSTALL_DIRECTORY>/pkg-properties/logging` and copy the logging.properties.sample file to the location `<MS_INSTALL_DIRECTORY>/ms_config` with the target file name as logging.properties.
  
  For example: `cp logging.properties.sample <MS_INSTALL_DIRECTORY>/ms_config/logging.properties`
- f. Navigate to `<MS_INSTALL_DIRECTORY>/pkg-properties/datacollection` and copy the directory datacollection to the `<MS_INSTALL_DIRECTORY>/ms_config` location.
  
  For example: `cp -r datacollection <MS_INSTALL_DIRECTORY>/ms_config`
- g. Navigate to `<MS_INSTALL_DIRECTORY>/pkg-properties` and copy the ehcacheconfig.xml
Step 2  Update the application.properties file:
  
  a. Modify the properties as follows:

  **IB_JMSPROVIDER_URL**  
  
  t3://<MS managed server IP Address or hostname>:<MS managed server port number>
  
  For example,
  
  - For managed server 1:
    IB_JMSPROVIDER_URL=t3://10.65.111.54:8020
  
  - For managed server 2:
    IB_JMSPROVIDER_URL=t3://10.65.111.55:9020

  **IB_userName**<MS weblogic domain admin userid>
  
  For example, IB_userName=weblogic

  **IB_password**<MS weblogic domain admin password>
  
  For example, IB_password=weblogic

  **SDP_JMSPROVIDER_URL**  
  
  t3://<SDP APP server IP Address or hostname>:<SDP Appserver port number>
  
  For example, SDP_JMSPROVIDER_URL=t3://10.65.111.56:7001

  **SDP_userName**<SDP weblogic console user name>
  
  For example, SDP_userName=weblogic

  **SDP_password**<SDP weblogic console password>
  
  For example, SDP_password=weblogic

  b. Save and close the file.

Step 3  Update the dc.properties file:
  
  a. Modify the properties as follows:

  **datacollection.jms.providerUrl**  
  
  t3://<MS managed server IP Address or hostname>:<MS managed server port number>
  
  For example,
  
  - For Managed Server 1:
    datacollection.jms.providerUrl=t3://10.65.111.54:8020
  
  - For Managed Server 2:
    datacollection.jms.providerUrl=t3://10.65.111.55:9020

  **datacollection.jms.securityPrincipal**<MS weblogic console user name>
  
  For example, datacollection.jms.securityPrincipal=weblogic
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b. Save and close the file.

Step 4 Modify the logging.properties file to update the directory in which the MS & DS application log file needs to be generated:

a. Create the ‘ms_log’ folder under <MS_INSTALL_DIRECTORY> directory, and provide the read and write access.

b. Search for the line starting with java.util.logging.FileHandler.pattern and replace it as follows:

   java.util.logging.FileHandler.pattern=<MS_INSTALL_DIRECTORY>/ms_log/MS-%u.log

Note  By default, the logging level is set to SEVERE for the modules and can be customized as per your requirements.

c. Save and close the file.

Step 5 Modify the ehcacheconfig.xml file to identify the cache configurations:

a. Search for the following text:

   <cacheManagerPeerProviderFactory
class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"
properties="peerDiscovery=manual,

b. Replace with:

   <cacheManagerPeerProviderFactory
class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"
properties="peerDiscovery=manual,
rmiUrls=//<MS managed server IP address or hostname>:40001/iphone.cache|//<MS managed server IP address or hostname>:40001/submission.cache|//<MS managed server IP address or hostname>:40001/locationproperty.cache|//<MS managed server IP address or hostname>:40001/timezone.cache|//<MS managed server IP address or hostname>:40001/equipment.cache|//<MS managed server IP address or hostname>:40001/iec.cache"/>

For example:

- For Managed Server1:
  MS managed server IP address or hostname=Managed Server2 IP Address or hostname

- For Managed Server2:
  MS managed server IP address or hostname=Managed Server1 IP Address or hostname
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Setting up Data Collection

You must set up data collection to gather the data which the Green Advisor module in Smart+Connected DS uses to display reports. For information on how to set up data collection, see the “Setting up Data Collection” section on page 2-10.

Adding Configurations to the WebLogic Server

You must configure the WebLogic server for data collection.

To add the configurations to the WebLogic server, perform the following steps:

**Step 1**
Open the setDomainEnv.sh file using an editor. The setDomainEnv.sh file is available at: 

```
<BEA_HOME>/user_projects/domains/<your domain>,
```

where `<BEA_HOME>` is the location at which WebLogic is installed.

**Step 2**
Search for the following text:

```
JAVA_PROPERTIES="$(JAVA_PROPERTIES) -da:com.sun.xml.ws...
-Dsdp.cache.config=${DOMAIN_HOME}/sdp/config/platform/cache/sdpcacheconfig.xml
-Dshared.dir=${DOMAIN_HOME}/sdp/shared -Dsdp.mt.mode=1 -Dsdp.event.config.mode=global"
```

**Step 3**
Append the following statement at the end of the above text:

```
-Dcom.cisco.sdp.ldap.configfilepath=<MS_INSTALL_DIRECTORY>/ms_config/LDAP.properties
-DUseSunHttpHandler=true
-Dapplication.properties.filepath=<MS_INSTALL_DIRECTORY>/ms_config/application.properties
-Dipphone.usagemetrics=true
-DataCollectionPropertyFilePath=<MS_INSTALL_DIRECTORY>/ms_config/datacollection/dc.properties
-Dweblogic.management.clearTextCredentialAccessEnabled=true
-Dorg.quartz.properties= <MS_INSTALL_DIRECTORY>/ms_config/datacollection/quartz.properties
-Dib.cache.config=<MS_INSTALL_DIRECTORY>/ms_config/ehcacheconfig.xml
-DWebexPropertyFilePath=<MS_INSTALL_DIRECTORY>/ms_config/cleWebexAdapterConfig-MC.properties"
```

For example:

```
JAVA_PROPERTIES="$(JAVA_PROPERTIES) -da:com.sun.xml.ws...
-Dsdp.cache.config=${DOMAIN_HOME}/sdp/config/platform/cache/sdpcacheconfig.xml
-Dshared.dir=${DOMAIN_HOME}/sdp/shared -Dsdp.mt.mode=1 -Dsdp.event.config.mode=global
-Dcom.cisco.sdp.ldap.configfilepath=/home/scc-qa/ms_config/LDAP.properties
-DUseSunHttpHandler=true
-Dapplication.properties.filepath=/home/scc-qa/ms_config/application.properties
-Dipphone.usagemetrics=true
-DataCollectionPropertyFilePath=/home/scc-qa/ms_config/datacollection/dc.properties
-Dweblogic.management.clearTextCredentialAccessEnabled=true
-Dorg.quartz.properties= /home/scc-qa/ms_config/datacollection/quartz.properties
-Dib.cache.config=/home/scc-qa/ms_config/ehcacheconfig.xml
-DWebexPropertyFilePath=/home/scc-qa/ms_config/cleWebexAdapterConfig-MC.properties"
```

**Step 4**
Save and close the setDomainEnv.sh file.

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Configuring Jackrabbit in Managed Server

To configure Jackrabbit in a managed server, perform the following steps:

**Step 1** Navigate to the following location:
<MS_INSTALL_DIRECTORY>/pkg-jackrabbit

**Step 2** Copy jcr-2.0.jar to the directory <BEA_HOME>/user_projects/domains/<Your domain>/lib, where <BEA_HOME> is the location at which WebLogic is installed.

Jackrabbit is successfully configured in a managed server.

Creating WebLogic Domain for Admin/Proxy Server

You must create a WebLogic domain for the admin/proxy server so that the application can be deployed from administrative console. After the application is deployed, it can be accessed from other machines through the proxy server.

To create a WebLogic domain for admin/proxy server, perform the following steps:

**Step 1** Log in to Machine 3 where you want to create the admin or proxy server.
In the file browser, navigate to <BEA_HOME>/wlserver_10.3/common/bin and run the config.sh file.
Where <BEA_HOME> is the location at which WebLogic is installed.
The Configuration Wizard appears.

**Step 2** Choose Create a new WebLogic domain, and click Next.
The Select Domain Source screen appears.

**Step 3** Select Generate a domain configured automatically to support the following products, and click Next.
The Specify Domain Name and Location screen appears. Specify the domain and location for the domain.

**Step 4** Enter the domain name in the Domain Name field.

**Step 5** Browse for or enter the path where you want to save the domain and click Next.
It is recommended that you create the domain at the default location.
The Configuration Administrator Username and Password screen appears.

**Step 6** Enter the administrator username, password, confirm password, and description in the corresponding fields and click Next.

**Step 7** In the Select JDK and Start Mode screen, do the following:
   a. Under WebLogic Domain Startup Mode, choose Production Mode.
   b. Under Available JDKs, choose Sun SDK 1.6.0_24.
   c. Click Next.
The Select Optional Configuration Screen appears.

**Step 8** Select the Administration Server, Manager Servers, Clusters and Machines, RDBMS Security Stores check boxes, and click Next.
Step 9 Enter the following details, and click Next:
- In the Listen Port field, enter 7025.
- In the Listen address field, enter IP address of the admin server.

The Configure Managed Server screen appears.

Step 10 To add the managed server, perform the following steps:

a. In the Configure Managed Servers screen, click Add.
   A row for the new managed server appears.

b. In the Name field, enter the name of the managed server, for example, MS1.

c. In the Listen address field, enter the host IP address of the managed server 1.

d. In the Listen port field, enter the port number as 8020. The port 8020 is the listen port of the managed server 1.

e. On the Configure Managed Servers page, click Add.
   A row for the new managed server appears.

f. In the Name field, enter the name of the managed server. For example, MS2.

g. In the Listen address field, enter the host IP address of the managed server 2.

h. In the Listen port field, enter the port number as 9020. The port 9020 is the listen port of the managed server 2.

i. In the Configure Managed Servers screen, click the Add.
   A row for the new managed server appears to add the proxy server.

j. In the Name field, enter the name of the managed server. For example, MS3.

k. In the Listen address field, enter the host IP address of the admin/proxy server.

l. In the Listen port field, enter the port number as 10020. The port 10020 is the listen port of the proxy server.

Step 11 Click Next.

The Configure Clusters screen appears.

Step 12 Click Add and do the following:
- Enter a name for the cluster, for example MSCLUSTER.
- Change the multicast port to 11020.

Step 13 Click Next.

The Assign Servers to the Clusters screen appears.

Step 14 Move all the managed servers from the Servers pane to the Cluster pane but do not move the proxy server (MS3).

Step 15 Click Next.

The Create HTTP Proxy Applications screen appears.

Select the Create HTTP proxy for cluster <cluster_name> check box. Ensure that MS3 is selected in the proxy server combo box.

Step 16 Click Next.

The Configure machines screen appears.
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Step 17 Click Next.
The Configure RDBMS Security Store Database screen appears.

Step 18 Select **I don’t want to change anything here**, and click Next.
The Review WebLogic Domain screen appears.

Step 19 Review the domain and then click Create.
A new WebLogic domain is created.

**Note** After creating the WebLogic domain, you can navigate to `<BEA_HOME>/user_projects/domains` and verify that the domain is successfully created. If you have specified a different location for the domain, navigate to that location to verify that the domain is successfully created.

Extending WebLogic Domain for Admin/Proxy Server

To extend the WebLogic domain for admin/proxy server, perform the following steps:

Step 1 Navigate to `<BEA_HOME>/wlserver_10.3/common/bin`, where `<BEA_HOME>` is the location at which WebLogic is installed and run the `config.sh -mode=console` file.
The console mode that displays options to either create or extend the WebLogic domain appears.

Step 2 Select the option to extend the WebLogic domain and press Enter.

Step 3 From the list of domain directories, choose the domain directory and press Enter.

Step 4 Enter the path or browse to the domain template. The domain template for SDP is located at: `<SDP_HOME>/sdp/templates/domains/10g/sdp10gdomain.jar`, where `<SDP_HOME>` is the location at which you have installed the SDP.

Step 5 Select the option to modify the Data Sources and press Enter.

Step 6 Select the option to modify the DBMS name, enter the database SID, and press Enter.

Step 7 Select the option to modify the DBMS host name, enter the database host IP address or the DNS hostname, and press Enter.

Step 8 Select the option to modify the DBMS port number, enter the database port number (default port for Oracle is 1521), and press Enter.

Step 9 Select the option to modify the username, enter the schema username, and press Enter.

Step 10 Select the option to modify the password, enter the schema password, and press Enter.

Step 11 Select the option to confirm the password, enter the schema password, and press Enter.

Step 12 Press Accept.

Step 13 A confirmation message requesting you to proceed with the update appears. Press Yes.

Step 14 The WebLogic domain is successfully updated.
Starting the Administrative Server

To start the admin server, see the “Starting the WebLogic Server” section on page 2-11.

Configuring the Cluster

- Configuring a Replication Group, page 2-29
- Setting Up the Message Types, page 2-30
- Enabling the WebLogic Plug-in, page 2-30
- Configuring Distributed JMS, page 2-31
- Restarting the WebLogic Server, page 2-34

Configuring a Replication Group

To configure a replication group, perform the following steps:

**Step 1** Ensure that the administration server is up and running.

**Step 2** Log in to the WebLogic Server Administration Console.

The WebLogic Server Administration Login page appears.

**Step 3** Enter the user details that you had specified while creating the WebLogic domain, and click Login.

The WebLogic Server home page appears.

**Step 4** Click Lock & Edit.

**Step 5** In the Domain Structure pane, expand the ‘Environment’ node, and click Servers.

The Summary of Servers page appears. Ensure that all the servers are listed with the appropriate port numbers.

**Step 6** In the Name column, select MS 1.

The Settings for Managed Server 1 page appears.

**Step 7** Click Cluster, and enter the replication group name in the Replication Group field. For example, rep1

**Step 8** Click Save.

**Step 9** In the Name column, select MS 2.

The Settings for Managed Server 2 page appears.

**Step 10** Click Cluster, and enter the replication group name in the Replication Group field. For example, rep1.

**Note** You must enter the same replication group name in both, MS 1 and MS 2. If you change the name, the clustering setup will not work.

**Step 11** Click Save.

**Step 12** Click Activate Changes.
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Setting Up the Message Types

For a cluster setup, you must change the message settings from multicast to unicast.

To change the message settings, perform the following steps:

---

**Step 1**
Log in to the WebLogic Server Administration Console.
The WebLogic Server Administration Login page appears.

**Step 2**
Enter the user details that you have specified during the WebLogic domain creation, and click **Login**.
The WebLogic Server home page appears.

**Step 3**
In the Domain Structure pane, expand the ‘Environment’ node and click **Clusters**.
The Summary of Clusters page appears.

**Step 4**
Under the **Name** column, select **Cluster**.
The Settings for Cluster page appears.

**Step 5**
Under the **Configuration** tab, click the **Messaging** tab.

**Step 6**
Click **Lock and Edit**.

**Step 7**
From the **Messaging Mode** drop-down list, choose **Unicast**, and then click **Save**.

**Step 8**
Click **Activate Changes**.
The message settings are now changed to unicast successfully.

---

Enabling the WebLogic Plug-in

To enable the WebLogic plug-in for a cluster setup, perform the following steps:

---

**Step 1**
Log in to the WebLogic Server Administration Console.
The WebLogic Server Administration Login page appears.

**Step 2**
Enter the user details that you had specified while creating the WebLogic domain, and click **Login**.
The WebLogic Server home page appears.

**Step 3**
In the Domain Structure pane, expand the Environment node, and click **Clusters**.
The Summary of Clusters page appears.

**Step 4**
In the **Name** column, select **Cluster**.
The Settings for Cluster page appears.

**Step 5**
Click **Advanced**, and click **Lock & Edit**.

**Step 6**
Select the **WebLogic Plug-In Enabled** check box, and click **Save**.

**Step 7**
In the Domain Structure pane, click a domain name.
The settings for domain page appears.

**Step 8**
Click the **Web Applications** tab.

**Step 9**
Select the **Client Cert Proxy Enabled** and **WebLogic Plug-In Enabled** check boxes, and click **Save**.

**Step 10**
Click **Activate Changes**.
Configuring Distributed JMS

To configure the distributed JMS configuration, perform the following steps:

Step 1 Log in to the WebLogic console using the administrator credentials that you provided while creating the domain.
Step 2 Click Lock & Edit.
Step 3 Choose Domain Structure > Services > Messaging > JMS Servers, and choose New.
Step 4 Enter the Name as sspJMSServer1, and click Next.
Step 5 Choose the target server as MS1 from the Target drop-down list and click Finish.
Step 6 Choose Domain Structure > Services > Messaging > JMS Servers, and choose New.
Step 7 Enter the name as sspJMSServer2 and click Next.
Step 8 Choose the target servers as MS2 from the Target drop-down list, and click Finish.
Step 9 Choose Domain Structure > Services > Messaging > JMS Servers, and choose New.
Step 10 Enter the Name as sspJMSServer3, and click Next.
Step 11 Choose the target servers as MS3 from the Target drop-down list, and click Finish.
Step 12 Choose Domain Structure > Services > Messaging > JMS Modules, and choose New.
Step 13 Enter the Name as sspJMSModule1 and click Next.
Step 14 Choose the cluster under Targets. Click Next and then click Finish.
Step 15 Choose Domain Structure > Services > Messaging > JMS Modules, and choose New.
Step 16 Enter the Name as sspJMSModule2, and click Next.
Step 17 Choose the target as Proxy (MS3), click Next, and click Finish.
Step 18 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1, and click New.
Step 19 Choose Connection Factory, and click Next.
Step 20 Enter the Name as sspConnectionFactory1 and JNDI Name as jms/sspConnectionFactory, click Next, and click Finish.
Step 21 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1, and choose New.
Step 22 Choose Distributed Queue, and click Next.
Step 23 Enter the Name as insertUsageQueue1 and JNDI Name as jms/insertUsageQueue. Click Next and then click Finish.
Step 24 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1, and choose New.
Step 25 Choose Distributed Queue and click Next.
Step 26 Enter the Name as callbackExchangeQueue1 and JNDI Name as jms/callbackExchangeQueue. Click Next and then click Finish.
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Step 27 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1, and choose New.
Step 28 Choose Distributed Queue and click Next.
Step 29 Enter the Name as emailCaseManagementQueue1 and JNDI Name as jms/emailCaseManagementQueue. Click Next and click Finish.
Step 30 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1, and choose New.
Step 31 Choose Distributed Queue and click Next.
Step 32 Enter the Name as emailPoisonQueue1 and JNDI Name as jms/emailPoisonQueue. Click Next and then click Finish.
Step 33 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1, and choose New.
Step 34 Choose Connection Factory and click Next.
Step 35 Enter the Name as dataCollectionConnectionFactory1 and JNDI Name as jms/dataCollectionConnectionFactory. Click Next and then click Finish.
Step 36 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1, and choose New.
Step 37 Choose Distributed Queue and click Next.
Step 38 Enter the Name as dataCollectionQueue1, JNDI Name as jms/dataCollectionQueue. Click Next and then click Finish.
Step 39 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2, and choose New.
Step 40 Choose Connection Factory and click Next.
Step 41 Enter the Name as sspConnectionFactory2 and JNDI Name as jms/sspConnectionFactory. Click Next and click Finish.
Step 42 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2, and choose New.
Step 43 Choose Queue and click Next.
Step 44 Enter the Name as insertUsageQueue2 and JNDI Name as jms/insertUsageQueue. Click Next.
Step 45 Click Create a New Subdeployment. Enter the Subdeployment Name as insertUsageQueueSubDeployment, and click OK.
Step 46 Choose sspJMSServer3 under Targets, and click Finish.
Step 47 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2, and choose New.
Step 48 Choose Queue, and click Next.
Step 49 Enter the Name as callbackExchangeQueue2 and JNDI Name as jms/callbackExchangeQueue. Click Next.
Step 50 Click Create a New Subdeployment and enter the Subdeployment Name as callbackExchangeQueueSubDeployment. Click OK.
Step 51 Choose sspJMSServer3 under Targets, and click Finish.
Step 52 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2, and choose New.
Step 53 Choose Queue, and click Next.

Step 54 Enter the Name as emailCaseManagementQueue2 and JNDI Name as jms/emailCaseManagementQueue. Click Next.

Step 55 Click Create a New Subdeployment and enter the Subdeployment Name as emailCaseManagementQueueSubdeployment. Click OK.

Step 56 Choose sspJMSServer3 under Targets and click Finish.

Step 57 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2, and choose New.

Step 58 Choose Queue and click Next.

Step 59 Enter the Name as emailPoisonQueue2 and JNDI Name as jms/emailPoisonQueue. Click Next.

Step 60 Click Create a New Subdeployment. Enter the Subdeployment Name as emailPoisonQueueSubdeployment and click OK.

Step 61 Choose sspJMSServer3 under Targets, and click Finish.

Step 62 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2, and choose New.

Step 63 Choose Connection Factory, and click Next.

Step 64 Enter the Name as dataCollectionConnectionFactory2 and JNDI Name as jms/dataCollectionConnectionFactory. Click Next and then click Finish.

Step 65 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2, and choose New.

Step 66 Choose Queue, and click Next.

Step 67 Enter the Name as dataCollectionQueue2 and JNDI Name as jms/dataCollectionQueue. Click Next.

Step 68 Click Create a New Subdeployment and enter the Subdeployment Name as dataCollectionQueueSubdeployment. Click OK.

Step 69 Choose sspJMSServer3 under Targets, and click Finish.

Step 70 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1.

Step 71 Click emailCaseManagementQueue1.

Step 72 Click the Delivery Failure tab.

Step 73 Enter the delay time between the redelivery tries in the Redelivery Delay Override field. Redelivery Delay is the interval after which another attempt to deliver the message will be made after a failed attempt.

Step 74 Enter the redelivery limit value in the Redelivery Limit field.

Step 75 Choose Redirect from the Expiration Policy drop-down list.

Step 76 Choose emailPoisonQueue1 from the Error Destination drop-down list.

Step 77 Choose Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2.

Step 78 Click emailCaseManagementQueue2.

Step 79 Click the Delivery Failure tab.

Step 80 In the Redelivery Delay Override field, enter the delay time between the redelivery tries. Redelivery Delay is the interval after which another attempt to deliver the message will be made after a failed attempt.

Step 81 In the Redelivery Limit field, enter the redelivery limit value.
Chapter 2 Installing the Smart+Connected MS & DS on WebLogic

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Step 82 From the Expiration Policy drop-down list, choose **Redirect**.
Step 83 From the Error Destination drop-down list, choose **emailPoisonQueue2**.
Step 84 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule 1 > Summary of Resources > sspConnectionFactory1**.
Step 85 In the Settings for sspConnectionFactory1 page, click the **Transactions** tab.
Step 86 Select the **XA Connection Factory Enabled** check box, and click **Save**.
Step 87 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule 2 > Summary of Resources > sspConnectionFactory2**.
Step 88 In the Settings for sspConnectionFactory2 page, click the **Transactions** tab.
Step 89 Select the **XA Connection Factory Enabled** check box, and click **Save**.
Step 90 Click **Activate Changes**.

Restarting the WebLogic Server

For information on how to restart the WebLogic server, see the “Restarting the WebLogic Server” section on page 2-13.

Deploying Apache Jackrabbit

To deploy the Apache Jackrabbit, perform the following steps on the administrative server:

**Step 1** Log in to the WebLogic Server Administration Console.
   The WebLogic home page appears.

**Step 2** In the WebLogic home page, under the **Domain Structure**, click **Deployments**.
   The Summary of Deployments page appears.

**Step 3** Click **Lock & Edit**.

**Step 4** Delete the sdpApp and the sdpreport created when you use the SDP domain extension template.

**Step 5** Click **Install**.
   Navigate to `<MS_INSTALL_DIRECTORY>/pkg-jackrabbit` by either selecting the current location option or by entering path in the path field, and select the jackrabbit-jca-2.2.8.rar file.

**Step 6** Click **Next**.

**Step 7** Install this deployment as an application, and click **Next**.

**Step 8** Select the configured cluster as a target, and click **Next**.

**Step 9** Click **Yes, take me to the deployment’s configuration screen**, and click **Finish**.
   The Configuration screen appears.

**Step 10** Change the Deployment Order to 50, and click **Save**.

**Step 11** Click **Activate Changes**.
Deploying the Smart+Connected MS & DS Application

To deploy the Smart+Connected MS & DS application for the cluster, perform the following steps on the administrative server:

**Step 1** Log in to the WebLogic Administration Console.
The WebLogic home page appears.

**Step 2** Click **Lock & Edit**.

**Step 3** Click **Deployments**, and choose **Install**.

**Step 4** Browse for the `Smart_Connected_Meeting_Spaces_and_Digital_Signage.ear` file that is available in the `<MS_INSTALL_DIRECTORY>/pkg-apps` folder, and click **Next**.

**Step 5** Choose **Install this deployment as an application**, and click **Next**.

**Step 6** Select the configured cluster as a target from the Select deployment targets area, click **Next**, and then click **Finish**.

**Step 7** Click **Save**.

**Step 8** Click **Activate Changes**.

Starting Managed Server and Proxy Server

You must start the managed server and proxy server before you begin accessing the application. To start the managed server and the proxy server, perform the following steps:

**Step 1** Login to the server that hosts the WebLogic managed server/proxy.
In a terminal, navigate to the `<BEA_HOME>/user_projects/domains/<Your domain>/bin` directory, where `<BEA_HOME>` is the location at which WebLogic is installed.

**Step 2** Run the following command to start a managed server:

```
./startManagedWebLogic.sh <name of Managed Server1> t3://<IP address/DNS hostname of admin server>:<listen port of admin server>
```

For example,

```
./startManagedWebLogic.sh MS1 t3://10.65.111.54:7025 (For managed server 1, on Machine 1)
./startManagedWebLogic.sh MS2 t3://10.65.111.54:7025 (For managed server 2, on Machine 2)
./startManagedWebLogic.sh MS3 t3://10.65.111.54:7025 (For proxy, on Machine 3)
```

**Step 3** When prompted, enter the domain username and password. For example, `weblogic/weblogic`.
The application is deployed after the managed server is started.
Starting Application/Cluster Services

The application must be started and running in all the managed servers in the cluster to the service requests. Ensure that all the managed servers are up and running before starting the application/cluster services.

To start the application/cluster services, perform the following steps:

**Step 1** Log in to the WebLogic Server Administration Console using the WebLogic domain username and password. The WebLogic home page appears.

**Step 2** In the WebLogic home page, under the Domain Structure, click **Deployments**. The Summary of Deployments page appears.

**Step 3** Click **Lock & Edit**.

**Step 4** Choose all the deployments by selecting the respective check boxes.

**Step 5** From the Start drop-down list, choose **Start Servicing all requests**.

**Step 6** Click **Activate Changes**.

Configuring the Apache Jackrabbit Repository

Configure the Apache Jackrabbit repository by performing the following tasks:

1. Create a sample content in the Smart+Connected MS & DS application—After creating a sample content in the Smart+Connected MS & DS application, a repository structure is automatically created. You must delete the sample content later.

2. Modify the repository.xml file—After modifying the repository.xml file and restarting the managed server, the database tables that are required for Jackrabbit cluster are automatically created.

To configure the Apache Jackrabbit repository, perform the following steps:

**Step 1** Ensure that only one managed server is running and all other managed servers are stopped.

**Step 2** To create a sample green content, do the following:

   a. Log in to the Smart+Connected MS & DS application.

      For more information on how to log in to the Smart+Connected MS & DS application, see the “Accessing the Application” section on page 2-39.

      The Smart+Connected MS & DS home page appears.

   b. Click the **Smart+Connected MS & DS Green Advisor** tab.

      The Green Fact tab appears.

   c. In the Green Content area, click **Add**, and enter the following details:

      - File name
      - Content for the file

   d. In the left pane, select a location from the location hierarchy tree to which you want to associate the content.
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Installing on a Cluster Server Setup

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e. Click Save.

The repository structure is created in Apache Jackrabbit.

**Step 3**

Log in to the managed server that is up and running, navigate to the `<BEA_HOME>/user_projects/domains/<Your domain>` directory, and verify that the jackrabbit directory is created.

**Step 4**

To delete the sample green content that you had created in Step 2, do the following:

a. In the Smart+Connected MS & DS application, under the Green Content area, select the content that you had created.

b. Click Delete.

**Step 5**

In the managed server, navigate to `<BEA_HOME>/user_projects/domains/<Your domain>` directory and open the repository.xml file for editing.

| Note | Get the DB host IP address, DB port number (default 1521 unless changed), DB SID, schema username, and schema password. |

**Step 6**

Search for the following text:

```xml
<FileSystem class="org.apache.jackrabbit.core.fs.local.LocalFileSystem">
  <param name="path" value="${rep.home}/repository"/>
</FileSystem>
```

Replace with:

```xml
<FileSystem class="org.apache.jackrabbit.core.fs.db.OracleFileSystem">
  <param name="driver" value="oracle.jdbc.driver.OracleDriver"/>
  <param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of the db>"/>
  <param name="user" value="<schema username>"/>
  <param name="password" value="<schema password>"/>
  <param name="schemaObjectPrefix" value="F_1_"/>
</FileSystem>
```

**Step 7**

Search for the following text:

```xml
<DataStore class="org.apache.jackrabbit.core.data.FileDataStore"/>
```

Replace with:

```xml
<DataStore class="org.apache.jackrabbit.core.data.db.DbDataStore">
  <param name="driver" value="oracle.jdbc.driver.OracleDriver"/>
  <param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of the db>"/>
  <param name="user" value="<schema username>"/>
  <param name="password" value="<schema password>"/>
  <param name="schemaObjectPrefix" value="D_1_"/>
</DataStore>
```

**Step 8**

Search for the following text:

```xml
<PersistenceManager
  class="org.apache.jackrabbit.core.persistence.pool.DerbyPersistenceManager">
  <param name="url" value="jdbc:derby:${wsp.home}/db;create=true"/>
  <param name="schemaObjectPrefix" value="${wsp.name}_"/>
</PersistenceManager>
```

Replace with:
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<<PersistenceManager
   class="org.apache.jackrabbit.core.persistence.pool.OraclePersistenceManager">
   <param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of the db>">
   <param name="user" value="<schema username/>
   <param name="password" value="<schema password>">
   <param name="schemaObjectPrefix" value="W_1_"/>
</PersistenceManager>

Step 9  Search for the following text:

<<PersistenceManager
   class="org.apache.jackrabbit.core.persistence.pool.DerbyPersistenceManager">
   <param name="url" value="jdbc:derby:${rep.home}/version/db;create=true"/>
   <param name="schemaObjectPrefix" value="version_"/>
</PersistenceManager>

Replace with:

<<PersistenceManager
   class="org.apache.jackrabbit.core.persistence.pool.OraclePersistenceManager">
   <param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of the db>">
   <param name="user" value="<schema username/>
   <param name="password" value="<schema password>">
   <param name="schemaObjectPrefix" value="V_1_"/>
</PersistenceManager>

Add the following text at the end of the file just above the text </Repository>:

<Cluster id ="node1" syncDelay = "1000">
   <Journal class="org.apache.jackrabbit.core.journal.OracleDatabaseJournal">
      <param name="driver" value="oracle.jdbc.driver.OracleDriver"/>
      <param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of the db>">
      <param name="user" value="<schema username/>
      <param name="password" value="<schema password>">
      <param name="schemaObjectPrefix" value="C_1_"/>
   </Journal>
</Cluster>

Note  In the above text, you must change value of the <cluster id> attribute for each managed server. For example: node1 for MS1, node2 for MS2 and so on.

Step 10  In the Step 6 through Step 9, replace the following strings with their actual values:

Replace <db host IP address> with the database server IP address
Replace <db port number> with the database port number
Replace <SID of the db> with the SID of the database
Replace <schema username> with the database username
Replace <schema password> with the database user password

Step 11  Delete the jackrabbit directory available under <BEA_HOME>/user_projects/domains/<Your domain>

Step 12  Restart the managed server.

Step 13  Repeat Step 1 through Step 12 on all the managed servers in the cluster.
Step 14 Start all the managed servers and verify that tables have been created in the database. These tables have names starting with c_1_, d_1_, f_1_, v_1_, w_1_.

**Importing SSL Certificates**

You need to import the SSL certificates for all the managed servers. For more information on how to import the SSL certificates, see the “Importing SSL Certificates” section on page 2-12.

**Assigning Roles and Locations to IBUser**

To access the Smart+Connected MS & DS application, you need to assign roles and locations to the ‘IBUser’. ‘IBUser’ is the default user that is created with the seed data.

For more information on how to assign roles and locations to ‘IBUser’, see the “Assigning Roles and Locations to IBUser” section on page 2-14.

**Accessing the Application**

To access the Smart+Connected MS & DS application, perform the following steps:

1. In the address field of a web browser, type the URL http://<proxy ip address>:<proxy port>/solutions, and press Enter.
   The port refers to the port number that you have defined for the proxy server of the Smart+Connected MS & DS domain. The Smart+Connected MS & DS Login page appears.

2. Enter the username and password for the Smart+Connected MS & DS application, and click Login.
   Your default login credentials are:
   - Username—superadmin
   - Password—superadmin
   You can change your password by logging in to the SDP application. You can also create additional users by using the SDP application. For more information on how to assign roles and permissions to users in the SDP application, see the Cisco Service Delivery Platform Administrator Guide.
   The Smart+Connected MS & DS home page appears.
   For more information on how to use the Smart+Connected MS & DS features, see the Cisco Smart+Connected Meeting Spaces User Guide and Cisco Smart+Connected Digital Signage User Guide.

**Accessing the Web Calendar**

After performing all installation tasks, you can access the Smart+Connected MS & DS web calendar.

To access the Smart+Connected MS & DS web calendar, perform the following steps:
Step 1  In a Web browser, type the http://<proxy ip address>:<proxy port> /calendar, where <proxy ip address> is the host IP address or DNS hostname of proxy server and port refers to the port number that you have defined for the proxy server of the Smart+Connected MS & DS domain.

Step 2  Press Enter.

The Smart+Connected MS & DS Login page appears.

Step 3  Enter the username and password for the Smart+Connected MS & DS web calendar, and click Login.

You can change your password by logging in to the SDP application. You can also create additional users by using the SDP application.

For more information on how to assign roles and permissions to users in the SDP application, see the Cisco Service Delivery Platform User Guide. For more information on how to use the Smart+Connected MS & DS features, see the Cisco Smart+Connected Meeting Spaces User Guide and Cisco Smart+Connected Digital Signage User Guide.
CHAPTER 3

Configuring the Smart+Connected MS & DS Application

This chapter describes the configuration tasks that you need to perform after installing the Cisco Smart+Connected Meeting Spaces & Cisco Smart+Connected Digital Signage (Smart+Connected MS & DS) application.

- Configuring Services in CUCM, page 3-1
- Assigning Roles (Groups) to the Application User, page 3-2
- Configuring Audio Notification to IP Phone, page 3-3
- Configuring Locations, page 3-4
- Configuring Devices, page 3-7
- Configuring Adapters, page 3-16
- Integrating CUCM and InformaCast, page 3-22
- Customizing the Branding Images, page 3-22

Configuring Services in CUCM

The Cisco Unified Communications Manager (CUCM) administrator must configure the service URL in CUCM to make the service appear on the IP phone.

To configure the services in CUCM, perform the following steps:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>In the browser, type the CUCM URL.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Click <strong>Cisco Unified Communications Manager</strong>.</td>
</tr>
<tr>
<td></td>
<td>The Cisco Unified CM Administration home page appears.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Enter the CUCM administrator’s username and password, and click <strong>Login</strong>.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Click <strong>Device &gt; Device Settings &gt; Phone Services</strong>.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Click <strong>Add New</strong>.</td>
</tr>
</tbody>
</table>

To add a new service, perform the following steps:

- Enter the service name in the Service Name field. For example, S+CC service.
- Enter the service description in the Service Description field.
- Enter the service URL in the format given below:
Assigning Roles (Groups) to the Application User

The Smart+Connected MS & DS application requires an application user to be created in CUCM for pushing the audio broadcast and text messages to the Cisco IP phone.

The application user needs the following privileges minimally to allow the Smart+Connected MS & DS application to work properly:

- Standard CTI Enabled—This user group, which is required for all CTI applications, allows an application to connect to Cisco CallManager to access CTI functionality.
- Standard CTI Allow Control of All Devices—This user group allows an application to control or monitor any CTI-controllable device in the system.
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- Standard CCM Admin Users—This grants log-in rights to Cisco Unified Communications Manager Administration. A user with only the Standard CCM Admin Users role can access Cisco Unified Communications Manager Administration but cannot make any changes.
- Standard CCMADMIN Read only—This allows an administrator to view the configuration information in Cisco Unified Communications Manager Administration page.
- Copy of Standard CCM Phone Administration which includes Service URL Page, User Web Page and Phone Services Subscribe.
- Copy of Standard Serviceability named as roles for Web Services which has only SOAP related services as read and write access.

To create and assign a role to an application user, perform the following steps:

Step 1 In the browser, enter the URL to access the Call Manager application.
Step 2 Click Cisco Unified Communications Manager.
The Cisco Unified CM Administration home page appears.
Step 3 Enter the username and password and click Login.
Step 4 Click User Management > Application User to create application users and assign roles to the application users that provide them the above mentioned privileges.

Configuring Audio Notification to IP Phone

The CUCM administrator needs to configure the audio notification feature to allow the Emergency Notification (EN) messages to be pushed to the IP phone.

To configure audio notification to IP Phone, perform the following steps:

Step 1 Create an application user in Call Manager so that the solution can push the Emergency Notification (EN) content to IP Phone.

To create an application user in the Call Manager, perform the following steps:

a. In a browser, type the CUCM URL.
b. Click Cisco Unified Communications Manager.
The Cisco Unified CM Administration home page appears.
c. Enter the CUCM administrator’s username and password for the Call Manager, and click Login.
d. Navigate to User Management > Application User.
e. Click Add New.
The Application User Configuration page appears.
f. Enter the user ID in User ID field.
g. Enter the password in the Password field.
h. Enter the confirmed password in the Confirm Password field.
i. From the Presence Group drop-down list, choose Standard Presence group.

In Device Information, move the desired devices from Available Devices to Controlled Devices.
k. Move the desired Available Profiles to CTI Controlled Device Profiles.

l. Under Permissions Information, click Add to User Group.

m. Select Standard CTI Enabled user group, and click Add Selected.

n. Click Save.

The roles and permission for the new user appear.

Step 2

For pushing audio to IP phone as part of EN, you have to make a change in the server on which the Smart+Connected MS & DS application is deployed. Change the /etc/hosts file by moving the assigned IP address of the machine before the local loopback address.

For example,

```
10.78.10.143 SCC-BGL04-DV-123
127.0.0.1 SCC-BGL04-DV-123 localhost.localdomain localhost
::1 localhost6.localdomain6 localhost6
```

Note

The IP phones, application server, and CUCM must be on a multicast network. To verify if the application server is multi-cast run `/sbin/ifconfig` in the application server. The MULTICAST keyword appears in the output.

---

Configuring Locations

A location is a physical space that helps you define a spacial structure in a city, organization, complex, industry, and so on. For example, the various locations for an organization can be country, city, building, campus, wing, floor, room, and so on.

- Adding Locations, page 3-4
- Editing Locations, page 3-6
- Deleting Locations, page 3-6

Adding Locations

You can add multiple locations to the SDP application and create a location hierarchy for a city, an enterprise and so on. You can create location hierarchies beginning with the default root location that is defined during installation of the SDP application. You can also modify the name of the default root location, if required.

To add a new location to the location hierarchy, perform the following steps:

Step 1

Log in to the SDP application.

Step 2

Click the Locations tab.

The Locations page appears. The left pane displays the location hierarchy, and the right pane displays the main content area.
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Step 3 Select a location for which you want to add the child location in one of the following ways:

a. Searching for a location:
   1. Click in the shortcut tools.
   2. In the Search field, enter a location keyword, and click .
      The Search Results page appears with the location details. You can select the location for which you want to add the child location.

b. Expanding location hierarchy:
   1. Click before a parent location.
      If the is not displayed before a parent location, the location does not have any child location.
   2. Click a location for which you want to add the child location.
      Alternatively, click (Expand Immediate Child Nodes of Selection tool), and click a location for which you want to add the child location.

The following details are displayed for the selected location in the Location Details area:

- **Location Type**—Type of location under which the selected location has been categorized.
- **Location Name**—Name of the selected location.
- **Parent Location**—Parent of the selected location.
- Any custom property that has been setup for the location type.

Step 4 In the main content area, click .

The Add Location page appears. The Parent Location field displays the selected parent location for which you want to add the child location.

Step 5 Enter the following details:

- **Location Type**—From the Location Type drop-down list, choose the type of the location under which the selected location has to be categorized.
- **Location Name**—Enter the name of the location. The location name can be alpha-numeric, and you can use a maximum of 500 characters.

For certain location types, additional properties should be added.

<table>
<thead>
<tr>
<th>Location Type</th>
<th>Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country, State, City</td>
<td>Timezone</td>
<td>Timezone of the location.</td>
<td>Location1</td>
</tr>
<tr>
<td>Building, Floor</td>
<td>multicastipaddress</td>
<td>The IP address used to send the multicast message.</td>
<td>224.0.1.43</td>
</tr>
<tr>
<td></td>
<td>multicastport</td>
<td>The port used to send the multicast message.</td>
<td>31250</td>
</tr>
<tr>
<td>Conference Room</td>
<td>confRoomId</td>
<td>The alias of the conference room ID in exchange.</td>
<td>Room1</td>
</tr>
<tr>
<td>Private Subject</td>
<td></td>
<td>If you enable this property, the subject displays ‘Booked By &lt;organizer name&gt;’ on the IP phone and signage instead of displaying the actual subject.</td>
<td>Yes</td>
</tr>
<tr>
<td>Private Attendees</td>
<td></td>
<td>If you enable this property, the attendee list is not displayed on the signage.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Step 6 Click Save to save the location details.
Configuring Locations

Editing Locations

After adding a location to the location hierarchy, you can modify the location name and location properties.

To modify the existing location details, perform the following steps:

Step 1
On the Locations page, select a location for which you want to modify the location details in one of the following ways:

The following details are displayed for the selected location in the Location Details area:

- **Location Type**—Type of location under which the selected location has been categorized.
- **Location Name**—Name of the selected location.
- **Parent Location**—Parent of the selected location.

For more information on how to select a location, perform Step 1 through Step 3 in Adding Locations, page 3-4.

Step 2
In the right pane, click 🔎.

The Edit Location page appears. The Parent Location field displays the selected parent location. The Location Type drop-down list displays the type of the selected location.

Step 3
Modify the following fields as necessary:

- **Location Name**—Name of the selected location. The location name can be alpha-numeric, and you can use a maximum of 500 characters.
- **Edit Location Properties**—Property definitions that you defined for the location type during installation of the SDP application.

Step 4
Click Save to save the location details.

The modified details are updated and displayed in the location hierarchy.

Deleting Locations

To delete a location, perform the following steps:

Step 1
On the Locations page, select a location that you want to delete.

The following details are displayed for the selected location in the Location Details area:

- **Location Type**—Type of location under which the selected location has been categorized.
- **Location Name**—Name of the selected location.
- **Parent Location**—Parent of the selected location.

For more information on how to select a location, perform Step 1 through Step 3 in Adding Locations, page 3-4.
Configuring Devices

You need to configure devices to avail the building system services for the location, such as, light settings, blinds, dimmer, and audio video controller through the Smart+Connected MS & DS application. You need to use the SDP interface to access the Devices module.

The devices type definitions, such as, lights, blinds, dimmer, and audio video controller are available as part of SDP seed data that is added when SQL scripts are executed.

- Adding Devices, page 3-7
- Deleting Devices, page 3-15
- Setting up Crestron Controller for the Projector, page 3-16

Adding Devices

The following devices are supported by the Smart+Connected MS & DS application:

- IP Phones
- Blinds
- Light
- Audio Video Controller
- Dimmer
- Light Occupancy Sensor
- ThermoFuser
- VRV
- VAV
- Energy Meter
- Gas Meter
- Water Meter
- Digital Media Player (DMP)
- Cisco Interactive Experience Client (IEC)

You can add any of these devices to the selected location in the location hierarchy if they are available at the location.

Step 2

In the right pane, click .

After a location is deleted, all the child locations, defined property definitions, and the role and device associations for the location are automatically removed from the SDP application.
### Table 3-2 Device Properties and Values

<table>
<thead>
<tr>
<th>Device</th>
<th>Model</th>
<th>Device Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Phone</td>
<td>CP-7975G</td>
<td>MAC Address</td>
<td>MAC Address of the IP phone.</td>
<td>0019305D73EF</td>
</tr>
<tr>
<td></td>
<td>CP-9971</td>
<td>MAC Address</td>
<td>MAC Address of the IP phone.</td>
<td>0019406D74EF</td>
</tr>
<tr>
<td></td>
<td>Non-Touch</td>
<td>MAC Address</td>
<td>MAC Address of the IP phone.</td>
<td>0019507D75EF</td>
</tr>
<tr>
<td>Blinds</td>
<td>Generic</td>
<td>Open Value</td>
<td>Value to be set on open path to open the blinds.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Close Value</td>
<td>Value to be set on close path to close the blinds.</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stop Value</td>
<td>Value to be set on stop path to stop the blinds.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Open Path</td>
<td>Node path in the BMS gateway for opening the blinds.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Blinds/BO/Blind_Open_Close/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stop Path</td>
<td>Node path in the BMS gateway for stopping the blinds when the blinds are opening or closing.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Blinds/BO/Blind_Stop/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Close Path</td>
<td>Node path in the BMS gateway for closing the blinds.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Blinds/BO/Blind_Open_Close/</td>
</tr>
<tr>
<td></td>
<td>Blinds</td>
<td>Blinds URL</td>
<td>Node path in the BMS gateway for setting the blinds scenes. The scene may correspond to opening or closing the blinds.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Blinds/BO/Blind_Scene/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blinds Value</td>
<td>Value to be set on blinds URL to open or close the blinds.</td>
<td>0</td>
</tr>
<tr>
<td>Lights</td>
<td>Generic</td>
<td>On Value</td>
<td>Value to be set on On/Off URL to switch on the lights.</td>
<td>true</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off Value</td>
<td>Value to be set on On/Off URL to switch off the lights.</td>
<td>false</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On/Off URL</td>
<td>Node path in the BMS gateway for switching On/Off the lights.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_HA/HallMark/BGL10/Floor_01/Conference_Room/Light_Switch/BO/Lights_ON_OFF/</td>
</tr>
</tbody>
</table>
## Configuring Devices

### Audio Video Controller

<table>
<thead>
<tr>
<th>Device Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projector Screen Open Join</td>
<td>Join value to be sent to the Crestron Controller to bring down the projector screen.</td>
<td>35</td>
</tr>
<tr>
<td>Projector Screen Stop Join</td>
<td>Join value to be sent to the Crestron Controller to stop the projector screen while bringing down or moving up.</td>
<td>36</td>
</tr>
<tr>
<td>Projector Screen Close Join</td>
<td>Join value to be sent to the Crestron Controller to move up the projector screen.</td>
<td>37</td>
</tr>
<tr>
<td>Projector On Join</td>
<td>Join value to be sent to the Crestron Controller to switch on the projector.</td>
<td>25</td>
</tr>
<tr>
<td>Projector Off Join</td>
<td>Join value to be sent to the Crestron Controller to switch off the projector.</td>
<td>26</td>
</tr>
<tr>
<td>Signal Type</td>
<td>Crestron Controller signal type. Currently only digital is supported.</td>
<td>digital</td>
</tr>
<tr>
<td>Slot</td>
<td>Crestron Controller slot.</td>
<td>1</td>
</tr>
<tr>
<td>IP Address</td>
<td>IP address of the Crestron Controller.</td>
<td>72.163.202.35</td>
</tr>
<tr>
<td>Port</td>
<td>Port of the Crestron Controller. Default port is 41794.</td>
<td>41794</td>
</tr>
<tr>
<td>IP ID</td>
<td>IP ID of the Crestron Controller.</td>
<td>3</td>
</tr>
</tbody>
</table>

### Dimmer

<table>
<thead>
<tr>
<th>Device Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min Value</td>
<td>Minimum luminosity value.</td>
<td>0</td>
</tr>
<tr>
<td>Max Value</td>
<td>Maximum luminosity value.</td>
<td>100</td>
</tr>
<tr>
<td>Dim URL</td>
<td>Node path in the BMS gateway for setting the dimmer luminosity.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_HA/HallMark/BGL10/Floor_01/Conference_Room/Light_Dimmer/AO/Light_Dimmer_Control/</td>
</tr>
</tbody>
</table>

### Wattstopper Light Dimmer

<table>
<thead>
<tr>
<th>Device Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dim URL</td>
<td>Node path in the BMS gateway for setting the light scene.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_HA/HallMark/BGL10/Floor_01/Conference_Room/WattstopperLight_Dimmer/AO/Light_Dimmer_Control/</td>
</tr>
<tr>
<td>Dimmer Values</td>
<td>Scene value to be set on the BMS gateway.</td>
<td>2</td>
</tr>
</tbody>
</table>
## Configuring Devices

**Send documentation comments to scc-docfeedback@cisco.com**

Table 3-2  
**Device Properties and Values (continued)**

<table>
<thead>
<tr>
<th>Device</th>
<th>Model</th>
<th>Device Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Occupancy Sensor</td>
<td>Generic</td>
<td>Sensor URL</td>
<td>Node path in the BMS gateway to enable or disable the sensor.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Light_Occ_Sensor/BV/OnOff_Status_Override/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On Value</td>
<td>Value to be set on Sensor URL to switch on the sensor.</td>
<td>true</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off Value</td>
<td>Value to be set on Sensor URL to switch off the sensor.</td>
<td>false</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sensor Occupancy URL</td>
<td>Node path in the BMS gateway to sense the occupancy of the location.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Light_Occ_Sensor/BV/Occupancy_Status/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupied Value</td>
<td>Value on the sensor whenever occupancy is detected.</td>
<td>true</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unoccupied Value</td>
<td>Value on the sensor whenever occupancy is idle for more than specified time.</td>
<td>false</td>
</tr>
<tr>
<td>ThermoFuser</td>
<td>Generic</td>
<td>Current Temperature URL</td>
<td>Node path in the BMS gateway for reading back the current temperature.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nvoSpaceTemp/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Booking Status URL</td>
<td>Node path in the BMS gateway to set the current booking status of the conference room. If booking status is set to booked value, occupancy status is automatically set to occupied mode.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nviOccCmd/</td>
</tr>
</tbody>
</table>
### Table 3-2  Device Properties and Values (continued)

<table>
<thead>
<tr>
<th>Device</th>
<th>Model</th>
<th>Device Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Temperature URL</td>
<td></td>
<td>Node path in the BMS gateway for reading back the current room temperature.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nciSetPts_UnOccCool/</td>
<td></td>
</tr>
<tr>
<td>Temperature Offset URL</td>
<td></td>
<td>Node path in the BMS gateway for setting the offset temperature. When the offset URL is provided, the value provided by the end user, is treated as a difference from the default setpoint value. For example, when the default setpoint is set as 21 degrees and the user expectation is 20 degrees, the offset value of -1 is applied with the appropriate selection in the UI. The value set as Temperature Offset URL impacts the control setpoint, to be either increased or decreased from the preset setpoint, equal to the value set as the offset. The effective setpoint is used as the reference requirement to control the temperature needs.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nviSetPtOffset/</td>
<td></td>
</tr>
<tr>
<td>Temperature Setpoint URL</td>
<td></td>
<td>Node path in the BMS gateway for configuring and reading back the current setpoint temperature.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nvoEffSetPt/</td>
<td></td>
</tr>
</tbody>
</table>
### Table 3-2  Device Properties and Values (continued)

<table>
<thead>
<tr>
<th>Device Model</th>
<th>Device Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRV</td>
<td>Occupied Value</td>
<td>Value to be set on occupancy status URL to move the device to occupied mode.</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Unoccupied Value</td>
<td>Value to be set on occupancy status URL to move the device to un occupied mode.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Standby Value</td>
<td>Value to be set on occupancy status URL to move the device to standby mode.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Min Temperature Value</td>
<td>Minimum temperature to which the room temperature can be set.</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Max Temperature Value</td>
<td>Maximum value of the room temperature that can be set.</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Temperature Unit</td>
<td>Unit of temperature.</td>
<td>C or F</td>
</tr>
<tr>
<td></td>
<td>Reserved Value</td>
<td>Value to be set on booking status URL for occupancy.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Unreserved Value</td>
<td>Value to be set on booking status URL for un occupancy.</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Occupancy Status URL</td>
<td>Node path in the BMS gateway for reading back the status for occupancy.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/Thermofuser/OccUnocc_Sts/</td>
</tr>
<tr>
<td></td>
<td>Occupied Temperature URL</td>
<td>Node path in the BMS gateway for reading back the occupied setpoint values.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/Thermofuser/OccTemp_OccSetpt/</td>
</tr>
<tr>
<td></td>
<td>VRV Current Temperature URL</td>
<td>Node path in the BMS gateway for reading back the current temperature.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAV/AV/RoomTemp_OccSetpt/</td>
</tr>
<tr>
<td></td>
<td>Temperature Setpoint URL</td>
<td>Node path in the BMS gateway for configuring and reading back the current setpoint temperature.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VRV/AV/SpaceTemp_Setpt/</td>
</tr>
<tr>
<td></td>
<td>Min Temperature Value</td>
<td>Minimum temperature to which the room temperature can be set.</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Max Temperature Value</td>
<td>Maximum temperature of the room temperature that can be set.</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Temperature Unit</td>
<td>Unit of temperature.</td>
<td>C or F</td>
</tr>
</tbody>
</table>
### Table 3-2 Device Properties and Values (continued)

<table>
<thead>
<tr>
<th>Device</th>
<th>Model</th>
<th>Device Property</th>
<th>Value Description</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAV</td>
<td>Generic</td>
<td>Current Temperature URL</td>
<td>Node path in the BMS gateway for reading back the current temperature.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAVAV/SpaceTemp_Setpt/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupancy Status URL</td>
<td>The node path in the BMS gateway for reading back the status for occupancy.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAV/VI/OccUnocc_Sts/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupied Temperature URL</td>
<td>Node path in the BMS gateway for reading back the occupied setpoint value.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAVAV/RoomTemp_OccSetpt/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MinTemperature Value</td>
<td>Minimum temperature to which the room temperature can be set.</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max Temperature Value</td>
<td>Maximum value of the room temperature that can be set.</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temperature Unit</td>
<td>Unit of temperature.</td>
<td>C or F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupied Value</td>
<td>Value to be set on occupancy status URL to move the device to occupied mode.</td>
<td>true</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unoccupied Value</td>
<td>Value to be set on occupancy status URL to move the device to un occupied mode.</td>
<td>false</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temperature Setpoint URL</td>
<td>Node path in the BMS gateway for configuring and reading back the current setpoint temperature.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAVAV/SpaceTemp_Setpt/</td>
</tr>
<tr>
<td>Energy Meter</td>
<td>Generic</td>
<td>EnergyinKWH</td>
<td>Node path in the BMS gateway which provides the energy reading in KWH.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAVAV/KWH</td>
</tr>
<tr>
<td>Gas Meter</td>
<td>Generic</td>
<td>gasConsumed</td>
<td>Node path in the BMS gateway which provides the gas consumption.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_API/HallMark/BGL10/Basement/Metering/Al/Gas_Consumed</td>
</tr>
<tr>
<td>Water Meter</td>
<td>Generic</td>
<td>waterConsumed</td>
<td>Node path in the BMS gateway which provides the water consumption.</td>
<td>/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_API/HallMark/BGL10/Basement/Metering/Al/Water_Consumed</td>
</tr>
</tbody>
</table>
To add devices to the SDP application, perform the following steps:

**Step 1**
Log in to the SDP application.
For more information on how to log in to the SDP application, see the Cisco Service Delivery Platform Administrator Guide.

**Step 2**
Click the Devices tab.
The Devices page appears. The left pane displays the location hierarchy, and the right pane displays the List of Devices area.

**Step 3**
Select a location for which you want to add the child location in one of the following ways:

a. Searching for a location:
   3. Click 📺 in the shortcut tools.
   4. In the Search field, enter a location keyword, and click 📺.
The Search Results page appears with the location details. You can select the location for which you want to add the child location.

b. Expanding the location hierarchy:
   1. Click ➕ next to a parent location.
      If the ➕ is not displayed next to a parent location, the location does not have any child location.
   2. Click a location for which you want to add the child location.

**Step 4**
In the right pane, click **Add a Device**.
The Add Device page appears. The Parent Location field displays the selected parent location with which you want to associate the device.

**Step 5**
Enter the following details:
- Device Category—Category under which you want to organize the device.
- Manufacturer—Manufacturer name of the device.
- Model—Model details of the device.
- Device Name—Name of the device.

**Step 6**
Click **Save**.
The newly added device is associated to the selected location.

---

## Deleting Devices

To delete an device from the SDP application, perform the following steps:

**Step 1**
In the Devices page, select a location for which you want to modify the device details.
For more information on how to select a location, perform Step 3 in the “Adding Devices” section on page 3-7.
All devices that have been associated with the selected location are displayed.

**Step 2**
Do one of the following:
- To delete a single device, choose a device that you want to delete, and click ✖.
- To delete multiple devices, select the specific check boxes of the devices that you want to delete, and click **Delete**.
The device is removed from the SDP application.
Setting up Crestron Controller for the Projector

To set up Crestron Controller for the projector, you must have Windows 2008 R2 server machine or Windows 7 that has IIS 7.5 with .NET Framework 3.5 or above.

To set up the Crestron Controller, perform the following steps:

Step 1  From the Linux machine, copy the Crestron Controller ZIP file located in <MS_HOME>/pkg-properties/crestron to a Windows machine.

Step 2  Unzip the crestroncontroller.zip files using any archive utility.

Step 3  Run the inetmgr command. The IIS manager server console appears.

Step 4  Right-click the default web site and choose create a new virtual directory.

Step 5  Enter the alias as crestron. In the physical path, choose the Crestron Controller folder that is unzipped.

Step 6  Right-click the crestron folder under Default Web Site, choose Convert to Application, and click OK. The application is created.

Step 7  Enter the URL in a browser in the following format:


- deviceIP—The IP ID of the Crestron Controller.
- port—Port of the Crestron Controller.
- slot—Slot of the Crestron Controller.
- join—Value depends on the action performed on the Crestron Controller.

For example:


A message appears indicating that the Crestron Controller is successfully set up.

Configuring Adapters

- Adapter Description, page 3-17
- Configuring Adapter Properties, page 3-18
- Configuring Adapters to a Location, page 3-21
Adapter Description

Table 3-3 lists the adapters you must configure and the purpose these adapters serve for the functioning of the Smart+Connected MS & DS application.

<table>
<thead>
<tr>
<th>Adapter Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ObixBean Configure this adapter to interface with the Tridium BMS.</td>
<td></td>
</tr>
<tr>
<td>AudioVideoBean Configure this adapter to interface with Crestron Controller for projector and projector screen control.</td>
<td></td>
</tr>
<tr>
<td>ExchangeBean Configure this adapter to interface with Microsoft Exchange.</td>
<td></td>
</tr>
<tr>
<td>RemedyBean Configure this adapter to interface with the Remedy case management system.</td>
<td></td>
</tr>
<tr>
<td>EmailBean Configure this adapter to use e-mail based case notifications, in the absence of a case management system.</td>
<td></td>
</tr>
<tr>
<td>IPhoneOperationBean Configure this adapter to interface with Cisco JTAPI for sending emergency notifications.</td>
<td></td>
</tr>
<tr>
<td>DMMBean Configure this adapter to interface with Digital Media Manager.</td>
<td></td>
</tr>
<tr>
<td>DMPBean Configure this adapter to interface with the digital media players.</td>
<td></td>
</tr>
<tr>
<td>InformaCastBean Configure this adapter to interface with Singewire InformaCast for sending emergency notifications.</td>
<td></td>
</tr>
</tbody>
</table>

Note: You must configure either the IPhoneOperationBean or the InformaCastBean adapter depending on whether you want to use Cisco JTAPI or Singlewire InformaCast for sending emergency notifications.
Configuring Adapter Properties

You need to configure adapter properties for the available adapters. Adapter configuration needs to be performed in the database by inserting data into the SDP_ADAPTER_PROPERTIES table.

**Table 3-4** provides information on the properties of the adapters, which can be used to come up with the SQL scripts that are then to be run against the database.

<table>
<thead>
<tr>
<th>Adapter (SDP_ADAPTER_DEFN)</th>
<th>Defined Adapter Property (SDP_ADAPTER_PROP_DEFN)</th>
<th>Adapter Property (SDP_ADAPTER_PROPERTIES)</th>
<th>Sample Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.cisco.cre.ssp.adapter.obix.ObixBean</td>
<td>username</td>
<td>The Obix username</td>
<td>admin</td>
</tr>
<tr>
<td></td>
<td>password</td>
<td>The Obix password</td>
<td>pAsswOrd</td>
</tr>
<tr>
<td></td>
<td>url</td>
<td>The Obix URL</td>
<td><a href="http://10.76.99.4/obix">http://10.76.99.4/obix</a></td>
</tr>
<tr>
<td></td>
<td>obixUrl</td>
<td>The Obix URL</td>
<td><a href="http://10.76.99.4/obix">http://10.76.99.4/obix</a></td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.audiovideo.AudioVideoBean</td>
<td>appPath</td>
<td>The path of the crestron application.</td>
<td>/crestron/Home.aspx</td>
</tr>
<tr>
<td></td>
<td>hostname</td>
<td>The IP address of the host on which the Smart+Connected MS &amp; DS Crestron .NET component is setup on IIS.</td>
<td>10.106.12.13</td>
</tr>
<tr>
<td></td>
<td>portNumber</td>
<td>The IIS port of the host on which the Smart+Connected MS &amp; DS Crestron .NET component is setup.</td>
<td>80</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.exch.bean.ExchangeBean</td>
<td>exch_udpserverip</td>
<td>The MS application server IP address/ DNS hostname</td>
<td>10.106.13.15</td>
</tr>
<tr>
<td></td>
<td>exch_filepath</td>
<td>The path of the file in Exchange Server.</td>
<td>/apps/exchange-xml/</td>
</tr>
<tr>
<td></td>
<td>exch_defaulttimezone</td>
<td>The timezone of the Exchange Server.</td>
<td>Asia/Shanghai</td>
</tr>
<tr>
<td></td>
<td>exch_domain</td>
<td>The domain name of the Exchange Server.</td>
<td>EXCH2K10</td>
</tr>
<tr>
<td></td>
<td>exch_host</td>
<td>The IP address/DNS hostname Exchange Server.</td>
<td>10.106.13.143</td>
</tr>
<tr>
<td></td>
<td>mail.smtp.host</td>
<td>This property is not used currently.</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>exch_username</td>
<td>The Exchange server username.</td>
<td>scc-qa</td>
</tr>
<tr>
<td></td>
<td>exch_password</td>
<td>The Exchange server password.</td>
<td>Cisco_123</td>
</tr>
<tr>
<td></td>
<td>mail.smtp.port</td>
<td>This property is not used currently.</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>exch_udpserverport</td>
<td>The MS Application server listen port.</td>
<td>7001</td>
</tr>
</tbody>
</table>
### Table 3-4 Adapter Properties - Details (continued)

<table>
<thead>
<tr>
<th>Adapter (SDP_ADAPTER_DEFN)</th>
<th>Defined Adapter Property (SDP_ADAPTER_PROP_DEFN)</th>
<th>Adapter Property (SDP_ADAPTER_PROPERTIES)</th>
<th>Sample Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.cisco.cre.ssp.adapter.remedy.RemedyBean</td>
<td>password</td>
<td>The Remedy user’s password</td>
<td>WPRcreIT4</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.remedy.RemedyBean</td>
<td>userName</td>
<td>The Remedy user’s username</td>
<td>RA_WPRIT.gen</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.remedy.RemedyBean</td>
<td>scheme</td>
<td>The protocol to invoke the remedy HTTP/HTTPS.</td>
<td>http</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.remedy.RemedyBean</td>
<td>appPath</td>
<td>The path of the remedy application.</td>
<td>/arsys/servlet/RemedyIncidentWrapper</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.email.bean.EmailBean</td>
<td>hostName</td>
<td>The Remedy server IP Address/DNS hostname.</td>
<td>alli-stg-01.cisco.com</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.email.bean.EmailBean</td>
<td>portNumber</td>
<td>The Remedy Server port</td>
<td>80</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.email.bean.EmailBean</td>
<td>toAddress</td>
<td>The address to which the e-mail needs to be sent for the case management. This is usually the facilities team helpdesk mail alias.</td>
<td><a href="mailto:support@cisco.com">support@cisco.com</a></td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.email.bean.EmailBean</td>
<td>fromAddress</td>
<td>The address from which the e-mail needs to be sent for the case management. Usually, this mailbox is set up as a no-reply mailbox.</td>
<td><a href="mailto:noreply-sdp@cisco.com">noreply-sdp@cisco.com</a></td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.email.bean.EmailBean</td>
<td>mail.smtp.port</td>
<td>The SMTP Server Port</td>
<td>25</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.email.bean.EmailBean</td>
<td>mail.smtp.host</td>
<td>The IP Address/ hostname of the SMTP server.</td>
<td>mailman.cisco.com</td>
</tr>
</tbody>
</table>
### Table 3-4  Adapter Properties - Details (continued)

<table>
<thead>
<tr>
<th>Adapter (SDP_ADAPTER_DEFN)</th>
<th>Defined Adapter Property (SDP_ADAPTER_PROP_DEFN)</th>
<th>Adapter Property (SDP_ADAPTER_PROPERTIES)</th>
<th>Sample Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.cisco.cre.ssp.adapter.ipphone.bean.IPPhoneOperationBean</td>
<td>password</td>
<td>The application user’s password created in CUCM. For more information on the application password, see the “Assigning Roles (Groups) to the Application User” section on page 3-2.</td>
<td>ccmadmin</td>
</tr>
<tr>
<td></td>
<td>username</td>
<td>The application username created in CUCM. For more information on the application username, see the “Assigning Roles (Groups) to the Application User” section on page 3-2.</td>
<td>Cisco @ 123</td>
</tr>
<tr>
<td></td>
<td>serviceuri</td>
<td>The uri of the call manager configured.</td>
<td><a href="https://10.106.111/realtimeservice/services/RisPort70">https://10.106.111/realtimeservice/services/RisPort70</a></td>
</tr>
<tr>
<td></td>
<td>appusername</td>
<td>The application username created in CUCM. For more information on the application username, see the “Assigning Roles (Groups) to the Application User” section on page 3-2.</td>
<td>cisco</td>
</tr>
<tr>
<td></td>
<td>apppassword</td>
<td>The application user’s password created in CUCM. For more information on the application password, see the “Assigning Roles (Groups) to the Application User” section on page 3-2.</td>
<td>cisco</td>
</tr>
<tr>
<td>com.cisco.cre.ssp.adapter.dmm.DMMBean</td>
<td>dmm_url</td>
<td>The DMM URL.</td>
<td><a href="https://scc-qa-dmm-1.cisco.com:8443">https://scc-qa-dmm-1.cisco.com:8443</a></td>
</tr>
<tr>
<td></td>
<td>dmm_username</td>
<td>The DMM username.</td>
<td>superuser</td>
</tr>
<tr>
<td></td>
<td>dmm_domain</td>
<td>The domain of DMM.</td>
<td>scc-qa-dmm-1.cisco.com</td>
</tr>
<tr>
<td></td>
<td>dmm_password</td>
<td>The DMM password.</td>
<td>Cisco_123</td>
</tr>
<tr>
<td></td>
<td>username</td>
<td>Infomacast username</td>
<td>admin</td>
</tr>
<tr>
<td></td>
<td>password</td>
<td>Infomacast password</td>
<td>admin</td>
</tr>
</tbody>
</table>
Configuring Adapters to a Location

The adapters are configured to the specific location by mapping an adapter instance ID with the corresponding location in the SDP_ADAPTER_LOCATION_LINK table. When an adapter instance is associated to a location, the adapter instances are automatically applied to all the child locations for that location.

For a sample configuration for the ObixBean mapped to the location ID 10011, see the “Sample Adapter Configurations” section on page 3-21.

Sample Adapter Configurations

**SDP_ADAPTER_DEFN table**

This configuration is part of the seed data.

<table>
<thead>
<tr>
<th>ADAPTER_DEFN_ID</th>
<th>ADAPTER</th>
<th>ADAPTER_JAR_LOCATION</th>
<th>VERSION</th>
<th>CREATED_BY</th>
<th>CREATED_DT</th>
<th>UPDATED_BY</th>
<th>UPDATED_DT</th>
<th>TENANT_ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>com.cisco.cre.ssp.adapter.obix.ObixBean</td>
<td>–</td>
<td>version1</td>
<td>superadmin</td>
<td>27-JUN-12</td>
<td>superadmin</td>
<td>27-JUN-12</td>
<td>0</td>
</tr>
</tbody>
</table>

**SDP_ADAPTER_INSTANCE**

<table>
<thead>
<tr>
<th>ADAPTER_INSTANCE_ID</th>
<th>ADAPTER_DEFN_ID</th>
<th>VERSION</th>
<th>CREATED_BY</th>
<th>CREATED_DT</th>
<th>UPDATED_BY</th>
<th>UPDATED_DT</th>
<th>TENANT_ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10</td>
<td>version1</td>
<td>superadmin</td>
<td>27-JUN-12</td>
<td>superadmin</td>
<td>27-JUN-12</td>
<td>0</td>
</tr>
</tbody>
</table>

**SDP_ADAPTER_LOCATION_LINK table**

This table allows you to link the adapter instances with one or more locations. When an adapter is associated to a location, the adapter instances are automatically applied to all the child locations for that location.

<table>
<thead>
<tr>
<th>ADAPTER_INSTANCE_ID</th>
<th>LOCATION_ID</th>
<th>CREATED_BY</th>
<th>CREATED_DT</th>
<th>UPDATED_BY</th>
<th>UPDATED_DT</th>
<th>TENANT_ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10011</td>
<td>versions</td>
<td>18-NOV-11</td>
<td>versions</td>
<td>18-NOV-11</td>
<td>0</td>
</tr>
</tbody>
</table>

For more information on how to configure adapters, see the *Cisco Service Delivery Platform Installation Guide*.

If you change the values in these tables, you must restart the application to enable the changes.

**Note**

The IPPhoneOperationBean and the InformaCastBean adapters cannot point to the same location or the child location of either of these adapters in the sdp_adapter_location_link table.
Integrating CUCM and InformaCast

InformaCast is an emergency notification solution by Singlewire, that can broadcast audio stream, text messages, and notifications to multiple Cisco IP phones simultaneously as a group. InformaCast can broadcast either a live, recorded, or a scheduled message on your IP network with a single click from your computer or through API calls.

To use InformaCast in a telephony environment, you have to integrate Cisco Unified Communications Manager (CUCM) and InformaCast. Also ensure that you:

- Integrate Cisco Unified Communications Manager (CUCM) and InformaCast.
- Set up a multicast network as the InformaCast broadcast works on multicast network.

Note

You must verify that the InformaCast version and the CUCM version are compatible before you begin to integrate them.

For more information on how to configure and integrate the Cisco Unified Communications Manager (CUCM) and InformaCast, refer to the InformaCast help documentation and Singlewire online knowledge base.

Customizing the Branding Images

Certain images in the solution can be changed or branded as per customer needs. You can customize the user interface by changing one or more of these images.

The images that you replace must have the same name and resolution as the per the specifications that are provided in the Table 3-8.

To customize the branding images, perform the following steps:

1. Open the Smart_Connected_Meeting_Spaces_and_Digital_Signage.ear file by using any archive utility.
2. Navigate to the folders as mentioned in Table 3-8 to replace the Login page image and the logo images.

<table>
<thead>
<tr>
<th>Image Type</th>
<th>File Name</th>
<th>Height</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login Screen and Header page Logo</td>
<td>\solutions\img\cisco_logo.png</td>
<td>57 pixels</td>
<td>30 pixels</td>
</tr>
<tr>
<td>Conference Room logo</td>
<td>\solutions\jsp_noauth\orm\ds\images\icons\Cisco_logo_white.png</td>
<td>122 pixels</td>
<td>59 pixels</td>
</tr>
<tr>
<td>Floor Plan Logo</td>
<td>\solutions\jsp_noauth\orm\ds\images\icons\logo_cisco.gif</td>
<td>110 pixels</td>
<td>59 pixels</td>
</tr>
<tr>
<td>Building View Logo</td>
<td>\solutions\jsp_noauth\orm\ds\images\cisco_logo.png</td>
<td>74 pixels</td>
<td>40 pixels</td>
</tr>
<tr>
<td>Login Screen background image</td>
<td>\solutions\img\login_page_img.png</td>
<td>777 pixels</td>
<td>689 pixels</td>
</tr>
</tbody>
</table>
Send documentation comments to scc-docfeedback@cisco.com

Note

It is recommended to have transparent background images. You must re-deploy the Smart_Connected_Meeting_Spaces_and_Digital_Signage.ear file to enable changes to the branding images.
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