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Preface

Oracle Enterprise Manager Cloud Control Getting Started Guide enables you to set up and get started with Enterprise Manager Cloud Control 13c Release 1 (13.1.0.1).

This preface covers the following topics:

- Audience
- Documentation Accessibility
- Related Documents
- Conventions

Audience

Oracle Enterprise Manager Cloud Control Getting Started Guide is meant for first-time users and other administrators who want to set up Enterprise Manager quickly and start using it for basic operations such as discovery and monitoring.

Documentation Accessibility

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

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Documents

For more information, see the following books in the Enterprise Manager Cloud Control documentation library:

- Oracle Enterprise Manager Cloud Control Basic Installation Guide
- Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide
- Oracle Enterprise Manager Cloud Control Upgrade Guide
- Oracle Enterprise Manager Cloud Control Administrator’s Guide
For the latest releases of these and other Oracle documentation, check the Oracle Technology Network at the following URL:


Enterprise Manager also provides extensive online Help. Click Help at the top-right corner of any Cloud Control page to display the online help window.

Conventions

The following text conventions are used in this document:

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

#### Super Administrator Operations
As a super administrator or designer, perform the following steps to get started with the product.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Install Browser Certificates</td>
</tr>
<tr>
<td>2</td>
<td>Verify and Backup Encryption Key</td>
</tr>
<tr>
<td>3</td>
<td>Log In to Enterprise Manager Console</td>
</tr>
<tr>
<td>4</td>
<td>Explore the User Interface</td>
</tr>
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<td>5</td>
<td>Set Up Your Home Page</td>
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<tr>
<td>6</td>
<td>Create Roles and Administrators</td>
</tr>
<tr>
<td>7</td>
<td>Configure Audit Framework</td>
</tr>
<tr>
<td>8</td>
<td>Configure My Oracle Support</td>
</tr>
<tr>
<td>9</td>
<td>Configure Software Library</td>
</tr>
</tbody>
</table>

#### Administrator Operations
As a normal administrator or operator, perform the following steps to get started with the product.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Install Browser Certificates</td>
</tr>
<tr>
<td>2</td>
<td>Log In to Enterprise Manager Console</td>
</tr>
<tr>
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<td>Explore the User Interface</td>
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<td>4</td>
<td>Set Up Your Home Page</td>
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<tr>
<td>5</td>
<td>Discover Targets</td>
</tr>
<tr>
<td>6</td>
<td>Monitor Targets</td>
</tr>
<tr>
<td>7</td>
<td>Configure My Oracle Support</td>
</tr>
<tr>
<td>8</td>
<td>Configure Software Library</td>
</tr>
</tbody>
</table>

- **Step 1**: Install Browser Certificates
- **Step 2**: Verify and Backup Encryption Key
- **Step 3**: Log In to Enterprise Manager Console
- **Step 4**: Explore the User Interface
- **Step 5**: Set Up Your Home Page
- **Step 6**: Create Roles and Administrators
- **Step 7**: Configure Audit Framework
- **Step 8**: Configure My Oracle Support
- **Step 9**: Configure Software Library
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<thead>
<tr>
<th>Step 10</th>
<th>Step 11</th>
<th>Step 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Configure Self Update</strong></td>
<td><strong>Download Agent Software</strong></td>
<td><strong>Deploy Plug-Ins</strong></td>
</tr>
<tr>
<td>Configure Self Update for automatically downloading software, software updates, plug-ins, and so on from My Oracle Support.</td>
<td>Download the Management Agent software for platforms other than the one on which OMS is running.</td>
<td>Download plug-ins and deploy them on the OMS so that you can discover and monitor targets in your network.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 13</th>
<th>Step 14</th>
<th>Step 15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Discover Targets</strong></td>
<td><strong>Monitor Targets</strong></td>
<td><strong>Create Monitoring Templates</strong></td>
</tr>
<tr>
<td>Scan your network and discover hosts and targets running on those hosts.</td>
<td>Promote and monitor the discovered targets.</td>
<td>Specify monitoring settings once and apply them to all monitored targets.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 16</th>
<th>Step 17</th>
<th>Step 18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set Up Administration Group Hierarchy</strong></td>
<td><strong>Set Up Notifications</strong></td>
<td><strong>Set Up and Subscribe to Incident Rule Sets</strong></td>
</tr>
<tr>
<td>Create an administration group hierarchy so that the monitored targets can be logically grouped, and the monitoring templates can be applied globally.</td>
<td>Set up e-mail servers, e-mail addresses, and notification schedule for e-mail notifications.</td>
<td>Set up incident rule sets and subscribe to them for e-mail notifications.</td>
</tr>
</tbody>
</table>

| Step 19 | |
|---------| |
| **Set Up Reporting Framework** | |
| Set up Business Intelligence (BI) Publisher to create custom report based on the monitored targets. | |
When you connect to Enterprise Manager via HTTPS, the OMS presents your browser with a certificate to verify the identity of the OMS. This certificate has been verified by a third party that your computer trusts. When a Web browser encounters an untrusted certificate, it generates security alert messages. The security alert dialog boxes appear because Enterprise Manager Framework Security is enabled, but you have not secured your Web tier properly. Oracle requires that you import these browser certificates to the browser’s list of trusted root certificates to eliminate the certificate security alerts in future browser sessions.
### Import to Microsoft Internet Explorer Version 11

1. On the error page, click the certificate error icon (a red-colored shield with a cross mark on it) that appears in the address bar.
2. In the pop-up, click **View certificates**.
3. In the Certificate dialog, click the **Certification Path** tab.
4. Select the first entry in the list of certification paths.
5. Click **View Certificate**.
6. In the second Certificate dialog, click the **Details** tab.
7. Click **Copy to File**.
8. In the Certificate Export Wizard, accept the default settings, enter a meaningful certificate name to export it to your local system, and click **Finish**. Now the certificate is exported successfully.
9. In the Certificate Export Wizard success message, click **OK**.
10. In the second Certificate dialog, click **OK**.
11. In the first Certificate dialog, click **OK**.
12. From the browser’s menu, select **Settings**, then select **Internet Options**.
13. In the Internet Options dialog, click the **Content** tab.
14. In the Certificates section, click **Certificates**.
15. In the Certificates dialog, click the **Trusted Root Certification Authorities** tab.
16. Click **Import**.
17. In the Certificate Import Wizard, accept the default settings, select the certificate you exported in Step (8), and click **Finish**.
18. In the Security Warning message, click **Yes**.
19. In the Certificate Import Wizard success message, click **OK**.
20. In the Certificates dialog, click **Close**.
21. In the Internet Options dialog, click **OK**.
22. Restart the browser.

### Import to Mozilla Firefox Version 28.0

1. On the Untrusted Connection page, click **I Understand the Risks**.
2. Click **Add Exception**.
3. In the Add Security Exception dialog, ensure that the **Permanently store this exception** option is selected.
4. Click **Confirm Security Exception**.
5. Click **View Certificate**.
6. In the second Certificate dialog, click the **Details** tab.
7. Click **Copy to File**.
8. In the Certificate Export Wizard, accept the default settings, enter a meaningful certificate name to export it to your local system, and click **Finish**. Now the certificate is exported successfully.
9. In the Certificate Export Wizard success message, click **OK**.
10. In the second Certificate dialog, click **OK**.
11. In the first Certificate dialog, click **OK**.
12. From the browser’s menu, select **Settings**.
13. On the Settings page, in the top-right **Search settings** field, enter **Certificates**.
14. In the HTTPS/SSL section, click **Manage certificates**.
15. In the Certificates dialog, click the **Trusted Root Certification Authorities** tab.
16. Click **Import**...
17. In the Certificate Import Wizard, click **Next**, then select the certificate you exported in Step (9), accept the default settings, and then click **Finish**.
18. In the Security Warning dialog, click **Yes**.
19. In the Certificate Import Wizard success message, click **OK**.
20. In the Certificates dialog, click **Close**.
21. In the Certificate Import Wizard success message, click **Finish**.
22. Restart the browser.
23. Now when you navigate to the Enterprise Manager Cloud Control Login page, you should see a green lock icon next to https in the address bar.

### Importing to Google Chrome Version 44+

1. On the Privacy error page, click **Advanced**. Then click **Proceed to <host_name> (unsafe)**. Screenshot?
2. In the address bar of the Enterprise Manager Cloud Control Login page, click the red cross mark on the lock icon next to https. Screenshot?
3. In the pop-up, in the Connection tab, click **Certificate Information**.
4. In the Certificate dialog, click the **Certification Path** tab.
5. Select the root node in the list of certificate paths. Screenshot?
6. Click **View Certificate**.
7. In the second Certificate dialog, click the **Details** tab.
8. Click **Copy to File**.
9. In the Certificate Export Wizard, accept the default settings, select the certificate you exported in Step (8), and click **Finish**. Now the certificate is exported successfully.
10. In the Certificate Export Wizard success message, click **OK**.
11. In the second Certificate dialog, click **OK**.
12. In the first Certificate dialog, click **OK**.
13. From the browser’s menu, select **Settings**. Screenshot?
14. In the HTTPS/SSL section, click **Manage certificates**.
15. In the Certificate dialog, click the **Trusted Root Certification Authorities** tab.
16. Click **Import**...
17. In the Certificate Import Wizard, click **Next**, then select the certificate you exported in Step (9), accept the default settings, and then click **Finish**. Screenshot?
18. In the Security Warning dialog, click **Yes**.
19. In the Certificate Import Wizard success message, click **OK**.
20. In the Certificates dialog, click **Close**.
21. In the Certificate Import Wizard success message, click **Finish**. Screenshot?
22. Restart the browser.
2.1 Screenshots for Importing Browser Certificates to Google Chrome 44+

The section provides the screenshots to support the steps listed for importing browser certificates to Google Chrome 44+. Note that the screenshots are provided only for complex steps or steps that are not very intuitive and that require a screenshot to help you understand better.

2.1.1 Screenshot for Step 1: On the Privacy error page, . . .
2.1.2 Screenshot for Step 2: In the address bar, . . .
2.1.3 Screenshot for Step 5: Select the root node in the ...
2.1.4 Screenshot for Step 13: From the browser's menu, ...
2.1.5 Screenshot for Step 14: On the Settings page, ...
Verifying and Backing Up the Encryption Key

Enterprise Manager uses an encryption key called emkey (or emkey.ora file) to encrypt and decrypt sensitive data, such as passwords and preferred credentials, which are stored in the Management Repository. The emkey is originally stored in the Management Repository, but is removed from there and copied to the Credential Store at the time of installation. Verify that the emkey is configured properly, and also back it up to a host different from the OMS host.

**Step 1: Verify the emkey Configuration**

Verify if the emkey is configured properly. To do so, run the following command:

```bash
$<OMS_HOME>/bin/emctl status emkey
```

- If it is configured properly, you will see the following message:

```
Oracle Enterprise Manager 12c Release 5 Cloud Control
Copyright (c) 1996, 2015 Oracle Corporation.
All rights reserved.
The EMKey is configured properly.
```

- If it is configured properly, but not secure, then secure it. To do so, run the following command:

```bash
$<OMS_HOME>/bin/emctl config emkey -remove_from_repos
```

**Step 2: Back Up the emkey Configuration**

1. Enterprise Manager automatically creates a backup of the emkey in the following location. Navigate to this location.

```bash
$<OMS_HOME>/sysman/config/emkey.ora
```

2. Copy the file to a host different from the OMS host.

---

**Learn More**

- What Are the Different Types of Security Threats?
- What Are the Basic Principles for Securing Your Environment?
- What Type of Security is Provided in Enterprise Manager?

**Perform Additional Tasks**

- How to Copy the emkey from the Repository to the Credential Store?
- How to Copy the emkey from the Credential Store to the Repository?
- How to Copy the emkey from a Specified File to the Credential Store?
- How to Copy the emkey from a Specified File to a Specified File?
- How to Remove the emkey from the Repository?
Logging In to Enterprise Manager Cloud Control Console

When you install Enterprise Manager Cloud Control, an administrator account with the user name `sysman` is created by default with the password you provided for it at the time of installation. Use this user name and password to log in to Enterprise Manager Cloud Control Console.

<table>
<thead>
<tr>
<th>Step 1: Identify the Console Port</th>
<th>Step 2: Log In to Enterprise Manager Cloud Control Console</th>
</tr>
</thead>
</table>
| By default, the Enterprise Manager Cloud Control Console is secure. Therefore, the default console port that is assigned automatically by the installer at the time of installation is the first available free port from the range 7799 - 7809. However, you might have entered a custom port at the time of installation to overwrite the default port. You need this console port to access the Enterprise Manager Cloud Control Console. To identify the console port assigned to the Enterprise Manager Cloud Control Console, run the following command: $<OMS_HOME>/bin/emctl status oms -details | 1. Open a browser, and access the Enterprise Manager Cloud Control Console using the following URL format: https://<oms_host_name>:<console_port>/em
   Ensure that the OMS host name is a fully qualified name, and the console port is the port you identified in the previous step. 2. On the Login screen, enter the user name `sysman`, and the password you provided for this user account at the time of installation, and click Login. 3. If you see an agreement page, click I Accept. |
Exploring the Interface
Setting Your Home Page

Home page is the first, landing page you see when you log in to the Enterprise Manager Cloud Control Console. When you log in the first time after installing the product, by default, the Select Enterprise Manager Home Page page appears. You can select another page and set that as your Home page based on your job profile or role. This helps as it displays a page with information of your choice and interest immediately after you log in, thus saving your effort and time in navigating to that page from the menu.

Setting Your Home Page

To set a page as your Home page, decide on a page that suits your requirement based on your job profile or role, and click Select As My Home.

Once selected, your personal Home page appears immediately after logging in or by clicking the product logo on the top-left corner of any page within the Enterprise Manager Cloud Control Console.

If none of the pages listed on this Select Enterprise Manager Home Page page match your requirements, then navigate to the desired page, and then from the user name menu that appears in the top-right corner of the desired page, select Set Current Page as My Home.
Creating Roles and Administrators

An administrator is an authorized user who logs in and uses Enterprise Manager. A role is a collection of Enterprise Manager resource privileges, or target privileges, or both, which are granted to administrators or to other roles. Roles can be based upon geographic location (for example, a role for Canadian administrators to manage Canadian systems), line of business (for example, a role for administrators of the human resource systems or the sales systems), or any other model. By default, when you install Enterprise Manager, the SYSMAN user account (super administrator) is created. Use this super administrator account to create roles and administrators for your organization.

Step 1: Create Roles

1. From the Setup menu, click Initial Setup Console.
2. On the Initial Setup Console page, in the left panel, click Create Roles.
3. On the Create Roles page, collapse the Top 5 Administrators with the Highest Number of Roles section and the Roles with the Highest Number of Nested Roles section to see the following text below the section. Click here. Enterprise Manager Roles can be managed from here
4. On the Roles page, click Create. Enterprise Manager Cloud Control displays the Create Role Wizard.
5. In the Create Role Wizard, on the Properties page, enter a unique name for the role, and click Next.
6. On the Roles page, from the Available Roles list, select the Oracle-defined roles you want to grant explicitly to the role you are creating, and click Next. Explicitly granting roles to an already existing role grants all privileges to grantee of current role.
7. On the Target Privileges page, select the privileges common to all targets and the privileges specific to certain targets, which you want to grant explicitly to the role you are creating, and click Next.
8. On the Resource Privileges page, select the resource privileges you want to grant explicitly to the role you are creating, and click Next.
9. On the Administrators page, select the administrator you want to grant this role to, click Next.

Step 2: Create Administrators

1. From the Setup menu, select Initial Setup Console.
2. On the Initial Setup Console page, click Create Users.
3. On the Create Users page, in the Enterprise Manager Super Administrators section, view a list of super administrators created so far in the Enterprise Manager system, and their last authenticated time.
4. Collapse the Enterprise Manager Super Administrators section to see the following text below the section. Click here. Enterprise Manager Administrators can be managed from here
5. On the Administrators page, click Create. Enterprise Manager Cloud Control displays the Create Administrator Wizard.
6. In the Create Administrator Wizard, on the Authentication page, select the authentication mechanism to be used for the user you are creating, and click Next.
7. On the Properties page, provide details of the user you are creating, and click Next.
8. On the Roles page, from the Available Roles list, select the roles you want to grant explicitly to the user you are creating, and click Next.
9. On the Target Privileges page, select the privileges you want to grant to the user you are creating, and click Next. These privileges give the user the right to perform particular management actions on a set of targets.
10. On the Resource Privileges page, select the resource privileges you want to grant explicitly to the user you are creating, and click Next.
<table>
<thead>
<tr>
<th>Learn More</th>
<th>Learn More</th>
<th>Learn More</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ What Are the Different Classes of Users in Enterprise Manager?</td>
<td>■ What Target Privileges Are Supported for All Types of Targets?</td>
<td>■ What Privileges Are Supported for Resources?</td>
</tr>
<tr>
<td>■ What Are Privileges and Roles?</td>
<td>■ What Target Privileges Are Supported for Specific Types of Targets?</td>
<td>■ What Out-of-the-Box Roles Are Provided?</td>
</tr>
<tr>
<td>■ What Roles Can You Create for Different Job Responsibilities?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Configuring Auditing Framework

All operations performed by Enterprise Manager users such as creating users, granting privileges, starting a remote job, must be recorded and audited to ensure compliance with the Sarbanes-Oxley Act of 2002 (SAS 70). This act defines standards an auditor must use to assess the contracted internal controls of a service organization. Enable the auditing framework in Enterprise Manager so that all operations performed on credentials are recorded.

### Step 1: Enable Auditing

Run the following command:

```
emcli enable_audit
```

For example,

```
emcli enable_audit
```

### Step 2: Update Audit Settings

Run the following command:

```
emcli update_audit_settings
-audit_switch="ENABLE"
-operations_to_enable="ALL"
-externalization_switch="ENABLE"
-directory="/directory_to_archive_audit_data_files"
-file_size="file_size_in_bytes"
-data_retention_period="data_retention_period_in_days"
```

For example,

```
emcli update_audit_settings
-audit_switch="ENABLE"
-operations_to_enable="ALL"
-externalization_switch="ENABLE"
-directory="/u01/Oracle/auditdata"
-file_size="10000"
-data_retention_period="60"
```

### Learn More

**Why Enable Auditing?**

- Perform Additional Tasks
  - How to Search the Audit Data?
  - How to View a List of Supported Audit Operations?

**Perform Additional Tasks**

- How to Access the Audit Data Page?
- How to Configure the Audit Data Export Service?
Setting My Oracle Support Credentials

My Oracle Support connectivity enables you to view service request information, obtain patch recommendations, and download plug-ins and other entities to the Software Library, all from within the Enterprise Manager Cloud Control Console. To automatically sign in to My Oracle Support from within the Enterprise Manager Cloud Control Console, you must register the My Oracle Support credentials with Enterprise Manager Cloud Control. If you have already registered the My Oracle Support credentials, then this setup task appears as if it is complete.

Configure My Oracle Support

1. From the Setup menu, click Initial Setup Console.
2. On the Initial Setup Console page, in the left panel, click Set MOS Credentials.
3. On the Set MOS Credentials page, click here.
5. Click Apply.

<table>
<thead>
<tr>
<th>Learn More</th>
<th>Perform Additional Tasks</th>
<th>Perform Additional Tasks</th>
</tr>
</thead>
</table>
Oracle Software Library (Software Library) is a feature within Enterprise Manager Cloud Control that acts as a repository to store software entities such as software patches, virtual appliance images, reference gold images, application software, and their associated directive scripts. In addition to storing the software entities, Software Library also maintains their versions, maturity levels, and states. Configure Software Library so that you can use it for operations such as provisioning, patching, and so on.

### Configure Software Library

1. From the Setup menu, select Initial Setup Console.
2. On the Initial Setup Console page, in the left panel, click OMS Agent Proxy Setting.
3. Follow Step (3) to Step (6) as outlined in Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide.

### Learn More
- What Is a Software Library and Why Do I Need It?
- Who Accesses the Software Library?
- What Privileges Are Required for Accessing the Software Library?
- What Storage Types Are Supported?
- What Are the Prerequisites for Setting Up the Software Library?
- What Are Entities?

### Perform Additional Tasks
- How Do You Configure an OMS Shared File System Location?
- How Do You Configure an OMS Agent Filesystem Location?
- How Do You Configure a Referenced File Location?
- How Do You Organize, Create, Customize, and Manage Entities?
- How Do You Maintain the Software Library?
- How Do You Remove (and Migrate) a Software Library Storage Location?
- How Do You Purge Deleted Entity Files?
Configuring Self Update

Self Update is a feature available via the Self Update Console, a common dashboard used to obtain information about new updates and a common workflow to review, download and apply the updates. The Self Update Console frees you from having to monitor multiple channels to get informed about new updates that are available from Oracle. The Self Update Console automatically informs you whenever new updates are made available by Oracle. Only those updates that are applicable to your site are shown, eliminating the need to wade through unrelated updates. For example, you can periodically check the availability of plug-ins and download them from the Enterprise Manager Store, via the Self Update Console. Configure Self Update so that you check the availability of new updates released by Oracle, and download and apply them as needed.

<table>
<thead>
<tr>
<th>Step 1: Enable Online Mode</th>
<th>Step 2: Register My Oracle Support Credentials</th>
<th>Step 3: Configure Software Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. From the Setup menu, select Extensibility, then select <strong>Self Update.</strong></td>
<td>See Setting My Oracle Support Credentials</td>
<td>See Configuring Software Library</td>
</tr>
<tr>
<td>2. In the Status section, click the value set for <strong>Connection Mode.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Select <strong>Online.</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Learn More**
- What Can Be Viewed, Downloaded, and Updated via the Self Update Console?
- What Privileges Are Required for Accessing the Self Update feature?

**Perform Additional Tasks**
- How Do I Assign Self Update Privileges to Administrators?
- How Do I Apply the Updates Offline?
- How Do I Access Informational Updates?
- How Do I Acquire or Update Management Agent Software via Self Update Console?
Oracle Management Agent (Management Agent) is one of the core components of Enterprise Manager Cloud Control that enables you to convert an unmanaged host to a managed host in the Enterprise Manager system. The Management Agent works in conjunction with the plug-ins to monitor the targets running on that managed host. By default, the OMS contains the Management Agent software for the operating system on which the OMS is running. However, for all other operating systems, you must manually download the Management Agent software via the Self Update Console.

---

### Step 1: Configure Self Update

See Configuring Self Update

1. From the Setup menu, select Extensibility, then select Self Update.
2. In the table, click the entity type Agent Software.
3. On the Agent Software Updates page, select an update, and click Download.
   
   All entries other than the one which matches the platform of the OMS host should show their status as Available.
   
   The Download button is enabled only in the following cases:
   
   - You must have the privilege to download and apply in Self Update Console.
   - You must have selected at least one Management Agent software row in the table, and the Management Agent software must be in Available or Download Failed status.
   - You must have configured the Software Library.
   - You must have configured the Self Update staging area.
   - You must have enabled the online mode for Self Update and set the My Oracle Support credentials.

4. In the Schedule Download dialog, schedule the download activity, and click Select.

### Step 2: Download Management Agent Software

1. From the Setup menu, select Extensibility, then select Self Update.
2. In the table, click the entity type Agent Software.
3. On the Agent Software Updates page, select the downloaded Management Agent software, and click Apply.

---

### Step 3: Stage Management Agent to Software Library

1. From the Setup menu, select Extensibility, then select Self Update.
2. In the table, click the entity type Agent Software.
3. On the Agent Software Updates page, select the downloaded Management Agent software, and click Apply.
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</table>
You can secure the communication between Oracle Management Service (OMS) and Oracle Management Agents (Management Agents) by configuring a proxy. A proxy is an application external to Enterprise Manager Cloud Control that acts as an intermediary for managing HTTP as well as HTTPS requests across network boundaries or firewalls. By using a proxy, you can expose only certain ports for communication, and thereby have a more secure and reliable communication between the OMS and the Management Agents.

You can configure one proxy for all Management Agents, one proxy for a set of Management Agents and none for the rest, or different proxies for different sets of Management Agents.

In addition, you can configure two or more proxies as redundant proxies to support high availability of the proxies configured for OMS and Management Agent communication. Under such circumstances, by default, the proxy that is up and running is selected for communication, regardless of the status of the other proxies. Before starting to communicate if a proxy is found to be inactive or down, then an alternate proxy configured for that Management Agent is selected. However, note that after the communication begins through a particular proxy, if that proxy turns inactive or shuts down, then no fallback mechanism is currently available to select an alternate proxy that is up and running.

**Note:**
- NTLM-based Microsoft proxies are not supported. To enable access through such proxies, add all the available agent hosts to the Unauthenticated Sites Properties of the NTLM-based Microsoft proxy.
- Local addresses of each OMS automatically bypass the proxy.

**Configure Proxy**

1. From the Setup menu, select Initial Setup Console.
2. On the Initial Setup Console page, in the left panel, click OMS Agent Proxy Setting.
3. Follow Step (3) to Step (6) as outlined in Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide.
Oracle Management Service (OMS) uses the Internet connectivity on its host to connect to My Oracle Support periodically to download patches, patch sets, patch recommendations, and Automated Release Updates (ARU) seed data. By default, Enterprise Manager Cloud Control assumes that there is no proxy configured between the OMS and My Oracle Support. However, to secure the communication, you can add a proxy between the two entities.

If you have already configured a proxy, then this setup task appears as if it is complete.

Set Up OMS My Oracle Support Proxy

1. From the Setup menu, select Initial Setup Console.
2. On the Initial Setup Console page, in the left panel, click My Oracle Support.
3. Follow Step (2) to Step (7) as outlined in Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide.
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Adding Additional Oracle Management Service

When you install Enterprise Manager Cloud Control, by default, the installer installs one Oracle Management Service along with one Oracle Management Agent. While this default configuration suits smaller environments, typically in larger production environments, you might require additional OMS instances to help reduce the load on a single Oracle Management Service, improve the efficiency of the data flow, and offer high availability of your Enterprise Manager system.

If you have already added an additional OMS, then this setup task appears as if it is complete.

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| Before you begin adding an additional Oracle Management Service, review the important facts as described in Oracle Enterprise Manager Cloud Control Basic Installation Guide. | Meet the prerequisites for an additional Oracle Management Service as described in Oracle Enterprise Manager Cloud Control Basic Installation Guide. | 1. From the Setup menu, click Initial Setup Console.  
2. On the Initial Setup Console page, in the left panel, click Add Oracle Management Service.  
3. On the Add Management Service Getting Started page, complete the preinstallation tasks listed there. Once you are done, select each of the tasks you have complete, and then, click Next.  
4. Follow Step (4) to Step (7) as outlined in Oracle Enterprise Manager Cloud Control Basic Installation Guide.  
5. After adding the additional Oracle Management Service, perform the postinstallation tasks as described in Oracle Enterprise Manager Cloud Control Basic Installation Guide. |
Configuring Outgoing Mail Servers (SMTP Servers)

Notifications keep you informed when specific incidents, events, or problems arise, and thereby enable you to take corrective or preventive actions to circumvent the reported issue. Enterprise Manager uses different mechanisms for sending these notifications, including email, SNMP traps, or running custom scripts, or all three. Before Enterprise Manager Cloud Control can send e-mail notifications, you must set up the outgoing mail servers (SMTP servers).

If you have already configured the SMTP servers, then this setup task appears as if it is complete.

Configure Outgoing Mail Servers

1. From the Setup menu, click Initial Setup Console.
2. On the Initial Setup Console page, in the left panel, click Configure Mail Servers.
3. On the Configure Mail Servers page, in the Sender Identify section, click Edit.
4. In the Sender Identify dialog, enter the name of the administrator or system that should send the email notifications, and the email address from which the notifications should be sent. Click OK.
5. In the Outgoing Mail (SMTP) Servers section, click Create.
6. In the Outgoing Mail (SMTP) Servers dialog, enter the mail server host name, the mail server credentials, and the encryption method to be used. Click OK.

If you configure multiple outgoing mail servers, automatic failover and load balancing is performed in round robin fashion.
Deploying Plug-Ins

Plug-Ins are modules that can be plugged to an existing Enterprise Manager system to provide target management or other vertical functionality. Plug-ins offer special solutions or new features, for example, connectivity to My Oracle Support, and extend monitoring and management capability to Enterprise Manager, which enable you to monitor a particular target on a host. Plug-ins work in conjunction with the OMS and the Management Agent to offer monitoring services, and therefore they are deployed to the OMS as well as the Management Agent.

**Step 1: Configure Self Update**

1. From the Setup menu, select Extensibility, then select **Plug-ins**.
2. On the Plug-ins page, in the Latest Available column of the table, check whether the plug-ins are available.
   - If they are not available, then click **Check Updates** to refresh the list of available plug-ins.

**Step 2: Check the Availability of Plug-Ins**

1. From the Setup menu, select Extensibility, then select **Self Update**.
2. On the Self Update page, in the table, click the entity type **Plug-in**.
3. In the Plug-in Updates table, select the plug-in available for download, and click **Download**.
4. In the Schedule Download dialog, schedule the download activity, and click **Select**.

**Step 3: Download Plug-Ins**

1. From the Setup menu, select Extensibility, then select **Plug-ins**.
2. On the Plug-ins page, select the plug-in you want to deploy.
3. From the Deploy On menu, select **Management Servers**.
4. In the Deploy Plug-in on Management Servers dialog, enter the Management Repository SYS password, and click **Continue**. Proceed through the steps in the dialog box, and then click **Deploy**.

**Learn More**

- What Is the Extensibility Paradigm?
- Are All Plug-Ins Deployed by Default?
- How Often Are Plug-Ins Released?
- What Is the Workflow of Plug-In Deployment?
- What is Plug-In Manager?

**Perform Additional Tasks**

- How to Access Plug-In Manager?
- How to Check the Availability of Plug-Ins?
- How to View Information about Plug-Ins?
- How to Identify the Targets and Operating Systems Certified for Deployed Plug-Ins?
- How to Download Plug-Ins in Online Mode?
- How to Download Plug-Ins in Offline Mode?

**Perform Additional Tasks**

- How to Deploy Plug-Ins to OMS?
- How to Upgrade Plug-Ins Deployed to OMS?
- How to Deploy Plug-Ins on Agents?
- How to Upgrade Plug-Ins Deployed to Agents?
- How to Undeploy Plug-Ins from Agents?
- How to Undeploy Plug-Ins from OMS?
- How to Troubleshoot Plug-In Deployment Issues?
Discovering Targets

Discovery refers to the process of identifying unmanaged hosts and targets in your environment. Once you discover these hosts and targets, you can promote them and add them to the Enterprise Manager system so that they can be monitored. Scan your network thoroughly, and identify the unmanaged targets you want to monitor.

### Step 1: Scan Your Network
1. From the Setup menu, select Add Target, then select Configure Auto Discovery.
2. In the Configure Auto Discovery section, in the Network Scan-based Auto Discovery table, in the Configure Network Scan Discovery column, click the Configure icon.
3. Click Create.
4. In the Network Scans section, click Add. Select a Management Agent that can scan the network.
5. Enter the IP ranges to scan. The range can contain absolute host names, IP addresses, a range of addresses, or/and Classless Inter-Domain Routing (CIDR) notations.
6. In the Schedule section, schedule the scan job to run immediately or on/at a particular date/time.
7. In the Credentials section, enter the credentials of the Management Agent that you have selected for scanning the network.
8. Click Save and Submit IP Scan.

### Step 2: Promote and Monitor Hosts
1. From the Setup menu, select Add Target, then select Auto Discovery Results.
2. Click the Host Targets tab.
3. In the table, select a host, then click Promote.
   The Add Host Targets wizard appears. Use this wizard to install a Management Agent on the discovered host.
4. Repeat Step (3) for other hosts you want to monitor.

### Step 3: Discover Targets
1. From the Setup menu, select Add Target, then select Configure Auto Discovery.
2. In the Configure Auto Discovery section, in the Auto Discovery table, against the All Discovery Modules row, in the Configure Auto Discovery column, click the Configure icon.
3. In the table, select the host whose targets you want to discover, and click Configure.
4. Set the frequency for the scan.
5. Select the discovery modules you want to discover on the host.
6. Click OK.
7. Repeat Step (3) to Step (6) for other hosts.
8. Click Run Discovery Now.
   The discovery job runs on the host immediately as well as at the set frequency.
Learn More
- What is Discovery?
- What is Promotion?
- What is Monitoring?
- Where Does Discovery Feature in the Lifecycle?
- What Is the High-Level Process of Workflow for Discovery and Monitoring?

Perform Additional Tasks
- How Do I Discover and Promote All Target Types?
- How Do I Discover and Promote Oracle Homes?

Perform Additional Tasks
- How Do I Discover, Promote, and Add Database Targets?
- How Do I Discover, Promote, and Add Middleware Targets?
Monitoring Targets

Monitoring refers to the process of gathering information and keeping track of activity, status, performance, and health of targets managed by Enterprise Manager Cloud Control on your host. A Management Agent deployed on the host in conjunction with plug-ins monitors every target in your environment. After discovering unmanaged hosts and targets in your network, promote them and add them to the Enterprise Manager system so that they can be monitored.

### Step 1: Secure Management Agents

1. From the Setup menu, click Agents.
2. Click the Management Agent that is monitoring the host where the targets you want to promote are running.
3. On the Management Agent Home page, verify if it is secure. If it is not secure, from the Agent menu, click Secure to secure it.

### Step 2: Promote and Monitor Targets

1. From the Setup menu, select Add Target, then select Auto Discovery Results.
2. Click the Non-Host Targets tab.
3. In the table, select one or more targets you want to promote, and click Promote.
4. Navigate to the target home pages and verify that they have been added to the console for monitoring.

### Learn More

- What is Discovery?
- What is Promotion?
- What is Monitoring?

### Perform Additional Tasks

- Where Does Monitoring Feature in the Lifecycle?
- What Is the High-Level Process of Workflow for Discovery and Monitoring?

### Perform Additional Tasks

- How Do I Discover and Promote Oracle Home?
- How Do I Discover, Promote, and Add Database Targets?
- How Do I Discover, Promote, and Add Middleware Targets?
Creating Monitoring Templates

Monitoring templates let you standardize monitoring settings across your enterprise by enabling you to specify the monitoring settings once and apply them to your monitored targets. You can save, edit, and apply these templates across one or more targets or groups. A monitoring template is specified for a particular target type and can only be applied to targets of the same type. For example, you can define one monitoring template for test databases and another monitoring template for production databases. After discovering and monitoring targets, create monitoring templates so that the monitoring settings can be applied uniformly to each target type.

Create a Monitoring Template

1. From the Enterprise menu, select Monitoring, then Monitoring Templates.
2. On the Monitoring Templates page, click Create.
3. Select a target or a target type whose monitoring settings you want to copy to the template.
4. Click Continue.
5. In the General tab, enter a name for the monitoring template you are creating.
6. In the Metric Thresholds tab, select one or more metrics you want to add to the template.
   If you want to add additional metrics, which are not listed on this page, click Add Metrics to Template. Then select a source from which you can copy metrics to the template.
7. Click OK.

Learn More
- What Is a Monitoring Template?
- What Does a Monitoring Template Define?
- How to View a List of Monitoring Templates?
- How to Edit a Monitoring Template?
- How to Apply a Monitoring Template to a Target?
- How to Compare Monitoring Templates with Targets?
- How to Compare Metric Settings Using Information Publisher?
- How to Export and Import Monitoring Templates?
- How to Change the Monitoring Template Apply History Retention Period?
Administration groups are a special type of group used to fully automate application of monitoring and other management settings targets upon joining the group. When a target is added to the group, Enterprise Manager applies these settings using a template collection consisting of monitoring templates, compliance standards, and cloud policies. This completely eliminates the need for administrator intervention. After discovering and monitoring targets, and after creating monitoring templates, create an administration group hierarchy so that the monitored targets can be logically grouped, and the monitoring templates can be applied globally.

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<th>Step 4: Associate Template Collections</th>
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<tr>
<td>1. Access the Home page of the monitored target.</td>
<td>1. From the Setup menu, select Add Target, then select Administration Groups.</td>
<td>1. From the Setup menu, select Add Target, then select Administration Groups.</td>
<td>1. From the Setup menu, select Add Target, then select Administration Groups.</td>
</tr>
<tr>
<td>2. From the target menu, select Target Setup, then select Properties.</td>
<td>2. On the Administration Groups and Template Collections page, click the Hierarchy tab.</td>
<td>2. On the Administration Groups and Template Collections page, click the Template Collections tab.</td>
<td>2. On the Administration Groups and Template Collections page, click the Associations tab.</td>
</tr>
<tr>
<td>3. On the Target Properties page, click Edit.</td>
<td>3. In the Hierarchy Levels table, click Add. Select one of the available target properties. Repeat this step until you have added all target properties of interest.</td>
<td>3. Click Create.</td>
<td>3. Select the administration group at the highest level in the hierarchy, and click Associate Template Collection.</td>
</tr>
<tr>
<td>4. Set or specify values for the properties of interest.</td>
<td>4. In the Hierarchy Levels table, click on one of the newly added property.</td>
<td>4. On the Create Template Collection page, provide a template collection name.</td>
<td>4. Choose the desired template collection and click Select. All sub-nodes in the hierarchy will automatically inherit the selected template collection.</td>
</tr>
<tr>
<td>5. Click OK.</td>
<td>5. In the Hierarchy Nodes table, if the property values to do appear by default, click Add.</td>
<td>5. In the Monitoring Template subtab, click Add and select a monitoring template you want to apply.</td>
<td>5. Click Synchronization Schedule.</td>
</tr>
<tr>
<td>Note: For large numbers of targets, it is best to use the EM CLI verb set_target_property_value to perform a mass update. For more information, see Oracle Enterprise Manager Command Line Interface Guide.</td>
<td>6. Click OK.</td>
<td>6. (Optional) In the Compliance Standard subtab, click Add and select a compliance standard you want to apply.</td>
<td>6. In the Synchronization Schedule dialog, click Edit.</td>
</tr>
<tr>
<td>7. Repeat Step (4) to Step (6) until all the newly added properties have been provided with a value.</td>
<td>7. (Optional) In the Cloud Policies subtab, click Add and select the cloud policy you want to apply.</td>
<td>7. Set a suitable schedule for the administration group changes to be applied to targets.</td>
<td>7. Click Edit.</td>
</tr>
<tr>
<td>8. Click on the group name, and set the time zone for the group.</td>
<td>8. Click Save.</td>
<td>8. Click Save.</td>
<td>8. Click Save.</td>
</tr>
<tr>
<td>9. Click Create.</td>
<td>9. Repeat Step (2) to Step (8) if you want to create additional template collections.</td>
<td>9. Repeat Step (2) to Step (8) if you want to create additional template collections.</td>
<td></td>
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Setting Up Administration Group Hierarchy
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<tr>
<td>■ What Privileges Are Required for Developing an Administration Group?</td>
<td>■ How to Remove Administration Groups?</td>
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</table>
Setting Up Notifications

The notification system notifies you when specific incidents, events, or problems arise. All Enterprise Manager administrators can set up e-mail notifications for themselves. Super Administrators also have the ability to set up notifications for other Enterprise Manager administrators. Set up the mail server, define e-mail addresses to be used, and set up a notification schedule so that you can be notified.

Step 1: Set Up a Mail Server
1. From the Setup menu, select Notifications, then select Notification Methods.
2. On the Notification Methods page, in the Mail Server section, enter one or more outgoing mail server names.
3. Enter the mail server authentication credentials.
4. Enter the name you want to see displayed as the sender of the notification messages.
5. Enter the e-mail address you want to use to send your e-mail notifications.
6. Click Test Mail Servers. Verify if an e-mail was sent to the e-mail account entered in the Sender's E-mail Address field.
7. Click Apply.

Step 2: Define E-mail Addresses
1. From the username menu, in the top-right corner of the console, select Enterprise Manager Password & E-mail.
2. On the Enterprise Manager Password & Email page, in the E-mail Addresses section, click Add Another Row.
3. Enter an e-mail address associated with your Enterprise Can contain up to 128 characters
4. Click Apply.
5. Repeat the steps to add additional e-mail addresses where notifications must be sent.

Step 3: Set Up a Notification Schedule
1. From the Setup menu, select Notifications, then select My Notification Schedule.
2. On the Notification Schedule page, click Edit Schedule Definition.
3. On the Time Period page, edit the rotation frequency, and click Continue.
4. On the E-Mail Addresses page, modify the e-mail addresses where the notifications must be sent at the set frequency.
5. Click Finish.
6. (Optional) On the Notification Schedule page, click the search icon (magnifying glass) and select another administrator. Click Change.
7. (Optional) Repeat Step (2) to Step (5).
8. (Optional) Repeat Step (6) and Step (7) for all other administrators.

Perform Additional Tasks
- How Do I Set Up E-mail Notifications for Other Administrators?
- How Do I Customize E-Mail Formats?
- How Do I Set Up Repeat Notifications?

Perform Additional Tasks
- How Do I Send SNMP Traps to Third Party Systems?
- How Do I Send Notifications Using OS Commands and Scripts?
- How Do I Send Notifications Using PL/SQL Procedures?

Perform Additional Tasks
- How Do I Troubleshoot Notifications?
Setting Up Incident Rule Sets and Subscribing to Receive E-Mail Notifications

An incident rule instructs Enterprise Manager to take specific actions when incidents, events, or problems occur, such as performing notifications. An incident rule set is a collection of rules that apply to a common set of objects such as targets (hosts, databases, groups), jobs, metric extensions, or self updates, and take appropriate actions when there are events and incidents. An event is a significant occurrence of interest on a target that has been detected by Enterprise Manager. An incident is a set of significant events or combination of related events that pertain to the same issue. Create your incident rule sets and subscribe to them so that you are notified every time there is an event or incident.

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<td>1. From the Setup menu, select Incidents, then select Incident Rules.</td>
<td>1. From the Setup menu, select Incidents, then select Incident Rules.</td>
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<tr>
<td>2. From the Actions menu, select Create Rule Set.</td>
<td>2. On the Incident Rules - All Rules page, in the table, select the rule set to which you want to subscribe.</td>
</tr>
<tr>
<td>3. Enter a name and description for the rule set.</td>
<td>3. From the Actions menu, select E-Mail, then select Subscribe Me.</td>
</tr>
<tr>
<td>4. In the Targets tab, select the targets to which the rules set should apply.</td>
<td></td>
</tr>
<tr>
<td>5. In the Rules tab, click Create.</td>
<td></td>
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<tr>
<td>6. Select Incoming events and updates to events, and click Continue.</td>
<td></td>
</tr>
<tr>
<td>7. On the Select Events page, set the criteria for events based on which the rule should act. Click Next.</td>
<td></td>
</tr>
<tr>
<td>8. On the Add Actions page, click Add and add actions to be taken by the rule. In the Notifications section, enter the e-mail addresses where the notifications must be send. Click Next.</td>
<td>Multiple conditional actions can be specified and evaluated sequentially (top down) in the order you add them.</td>
</tr>
<tr>
<td>9. On the Specify Name and Description page, enter a name and description for the rule. Click Next.</td>
<td></td>
</tr>
<tr>
<td>10. On the review page, review the details, and click Continue.</td>
<td></td>
</tr>
<tr>
<td>11. On the Create Rule Set page, click Save.</td>
<td></td>
</tr>
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Oracle Business Intelligence Publisher (BI Publisher) is Oracle's primary reporting tool for authoring, managing, and delivering all your highly formatted documents. Set up the reporting framework using BI Publisher so that you can generate high-quality reports and documents, with pagination and headers/footers, and in formats such as PDF, Excel, Powerpoint, Word, and HTML.

### Step 1: Download BI Publisher 11.1.1.6.0
Download the software from the Oracle Enterprise Manager Downloads page. (Search for the product title Oracle Business Intelligence Publisher 11.1.1.6.0)

### Step 2: Back Up the OMS and the Domain
1. Back up the OMS as described in Oracle Enterprise Manager Cloud Control Administrator's Guide.
2. Back up the domain: `cd <Instance-Home>/u ser_projects/domains zip -r GCDomain.zip GCDomain`

### Step 3: Install BI Publisher
1. Run the BI Publisher installer:
2. (Optional) Select an e-Mail address for updates, and click Next.
3. Select Software-only Install, and click Next.
4. After passing the prerequisite checks, click Next.
5. Select the Middleware home of your Enterprise Manager installation.
6. Retain the default name Oracle_BII as the BI Oracle home name, and click Next.
7. (Optional) Enter the My Oracle Support credentials to be notified of any security update, and click Next.

### Step 4: Integrate with Enterprise Manager
1. Run the configureBIP script:
   ```bash
   $<OMS_HOME>/bin/configureBIP
   ``
2. Enter the necessary credentials when prompted.
3. Enter the HTTP and HTTPS ports when prompted. The script identifies free ports and ask if you want to take them as a default. Once entered, Extend Domain then runs. The ports can be in the range 9701-49152.

### Step 5: Verify the Integration
1. From the Enterprise menu, select Reports, then select BI Publisher Enterprise Reports.
2. On the BI Publisher Enterprise Reports page, click the refresh icon at the top-right corner.
3. Expand EM Sample Reports, then click Targets of Specified Type.
4. Log in to BI Publisher using your Enterprise Manager credentials.
5. Verify if you are able to see the sample report.
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