Oracle® Fusion Middleware

Using Oracle Forms for Oracle Cloud Infrastructure

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Oracle Fusion Middleware Using Oracle Forms for Oracle Cloud Infrastructure, 14.1.2.0.0

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Contents

Preface

Learn how to provision and use Oracle Forms for Oracle Cloud Infrastructure when deployed from Oracle Cloud Marketplace.

Audience

This document is intended for users of Oracle Forms for Oracle Cloud Infrastructure.

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 customer access to and use of Oracle support services will be pursuant to the terms and conditions specified in their Oracle order for the applicable services.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Related Documents

Refer to these resources for more information:

- For 14*c* Oracle Forms information, see Oracle Forms Documentation Library.
- For information about Oracle Reports, see 12.2.1.3.0 Documentation Library.
- For Oracle Fusion Middleware documentation, see Middleware Documentation.
- For Oracle Database documentation, see Oracle Database Documentation.
- For Oracle Autonomous Database documentation, see Oracle Autonomous Database.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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About Oracle Forms for Oracle Cloud Infrastructure

Use Oracle Forms for Oracle Cloud Infrastructure (OCI) to create a Forms environment in Oracle Cloud Infrastructure in a fraction of the time it would normally take to do so on premises.

Oracle Forms for OCI is available as an application in the Oracle Cloud Marketplace. It supports **Bring Your Own License** (BYOL) and **Universal Credits Model** (UCM) images.

If you use BYOL images, you will need a valid and current license that includes Oracle Forms entitlements. A Support agreement with Oracle is also recommended but not required. Cloud usage is obtained and billed separately.

Oracle Forms for OCI BYOL is available in Marketplace at: https://cloudmarketplace.oracle.com/marketplace/app/OracleForms.

If you use Oracle WebLogic Suite for OCI UCM Image with Forms, you are billed per OCPU per hour for the entitlement and support to use Oracle WebLogic Suite which includes Forms.

The Oracle WebLogic Suite for OCI UCM Image with Forms is available in Marketplace at https://cloudmarketplace.oracle.com/marketplace/app/wl_suite_ucm_image. Follow the steps to create a WebLogic Suite UCM Image, selecting from the **Version** list a version that includes "Forms" and the desired Linux version in the name. For example, `25.3.12-ol9.4-Forms-14.1.2.0_250312`. The Forms version names use this format:

`<release date to Cloud>-<OS>-<Forms-version>_<build date>`.

> **Note:**
>
> This periodic billing does not include the general use of Oracle Cloud Infrastructure and other Cloud services that may be required to host this environment.

After launching this application, you can connect to the instance for the first time using SSH. See Connecting to a Linux Instance in the *Oracle Cloud Infrastructure Documentation*.

Upon first connection, you will be presented with a series of questions that will be used to help configure the environment. Once the instance and the software on it have been provisioned, you can customize it to meet your needs.

The default settings for this VM image provides enough basic operational scope for most user cases. However, if you want to emulate something more typical of a true enterprise deployment (like hosting hundreds or thousands of concurrent users), you may need to adjust the VM shape, operating system, and/or your server software settings accordingly.

While this image can be used for production purposes, Oracle recommends that you perform a thorough testing and a security review before doing so.

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Before You Begin with Oracle Forms for Oracle Cloud Infrastructure

Before you use this Oracle Cloud Marketplace image, review these permission and database considerations carefully.

Required Permissions

Make sure you have the necessary permissions to:

- Create new Compute instances.
- Create new Virtual Cloud Networks or select an existing one.
- Create a Database Cloud Service instance or connect to an existing instance as the SYS user (only required if planning to use DBCS with this Forms instance).
- Create an Autonomous Database instance or connect to an existing instance as the admin user (only required if planning to use ADB with this Forms instance).
- Create an Identity Dynamic Group and Policy or modify existing ones (only required if planning to use ADB with this Forms instance)

Database Options

The database you choose at provisioning is configured for both the Oracle Fusion Middleware repository and application data.

You can easily change your configuration to use a different database for application data, but attempting to change the database used for the FMW Repository is not recommended.

- **Local database**: If you chose to configure this instance using the locally installed database, it will be configured and running upon completion of the provisioning.
- **Database Cloud Service**: If you chose to configure this instance using DB Cloud Service, you must ensure it has been configured, is running, and you have SYS credentials to access it. You will also need the Easy Connect String and the Long Connect String in order to complete the provisioning. This information can be found on the DB Cloud Service dashboard for that instance.
- **Autonomous Database**: If you chose to configure this instance using Autonomous Database, in addition to having the instance created and accessible, you will also need the admin user password and complete the following pre-setup steps:

Set Up Oracle Forms to Use Autonomous Database

> **Note:**
>
> The steps in this section may differ depending on which Cloud version you are using. Regardless, the basic steps and concepts covered here apply for most versions.

1. Create an Identity Dynamic Group:

a. From the Cloud navigation pane, click **Identity** and then **Dynamic Groups**.

b. Click **Create Dynamic Group**.

c. Type a name for your group, such as "Forms_ADB_Access".

d. Click the Rule Builder link to the right of the Rule 1 box.

e. Select **Compartment OCID** from the **Match instances with** list.

f. Enter your Compartment OCID in the **Value** field.

> **Note:**
>
> You can match by Compute Instance OCID if the instance has not yet been accessed the first time.

g. Click **Add Rule** and then **Create**.

2. Create an Identity Policy:

a. From the Cloud navigation pane, click **Identity** and then **Policies**.

b. Click **Create Policy**.

c. Enter a name for your policy, such as "Forms_ADB_Policy".

d. Click **Policy Builder Show manual editor**.

e. Enter the policy as shown below. Use the Policy and Compartment name used for Step 1c above.

```
allow dynamic-group <YOUR DYNAMIC GROUP NAME> to use autonomous-
database-family
in compartment <YOUR COMPARTMENT NAME>
```

The above policy should be enter on a single line.

f. Click **Create**.

3. Access the new Compute instance using SSH to begin the provisioning process.

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Installed Software and Patches

This chapter provides software titles and versions installed, as well as information about required patches. Because some of these software titles include other software as part of their installation, additional software may be available in the instance although not listed here.

Software

For a list of licensable software titles and product versions, refer to the *ReadMe* file provided with the environment. A copy of this document can be found on the desktop of the instance and in the Marketplace listing's *Related Documents* section.

> **Note:**
>
> Make sure that you have obtained the appropriate licensing to use the software installed in this virtual machine. If you are not sure of your entitlements, contact your Oracle Account Manager or an Oracle Sales Representative.

Patches

For a list of installed patches, refer to the included *ReadMe* document.

Only the patches noted in the `ReadMe` file included in the installation have been pre-installed. This document can be found in the "oracle" user's Desktop directory here: `/home/oracle/Desktop`.

> **WARNING:**
>
> Only the patches listed in the provided *ReadMe* file have been pre-installed. It is strongly recommended that you install the latest critical patch updates for the operating system, database (if installed), and all installed Fusion Middleware software before using this environment.

For BYOL users with the appropriate Oracle Support account, additional patches can be downloaded from My Oracle Support. For UCM users, use the Patching Utility Tool included in the instance to download and apply patches. Refer to Patch Management Using Patching Utility in *Using Oracle WebLogic Server for OCI*.

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Oracle Reports

Although Oracle Reports has been installed in the Middleware home, it has not been configured in the WLS domain, nor have the required Tools and Reports Server components been created.

For more information about setting up Oracle Reports, see Installing and Configuring Oracle Forms and Reports.

Oracle Reports 14.1.2.0 is not currently supported for use in the Cloud because of a limitation in the initial production release. A solution to this limitation is being investigated and, if possible, will be provided in the future.

If you prefer not to wait for a solution, Oracle recommends you migrate your Oracle Reports users to Oracle BI-Publisher or Analytics Publisher (also available in Analytics Cloud Service) for their reporting needs.

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Using this Environment

Refer to this chapter for information about accessing the OCI instance, locating installed software, and using the Oracle Linux desktop.

Connecting to the Instance and Provisioning the Software

You can access the Oracle Forms for OCI images as follows:

- Ensure that you specify an SSH key when you create an instance using the image. You need this SSH key to access the instance and launch the instance.
- Connect to an instance as the **opc** user using the SSH command:
  `ssh -i <private_key_file> opc@<public-ip-address>`

  Where, *private_key_file* is the corresponding private key for the public key used during provisioning.

On first login, the user/admin is presented with a variety of questions where their answers are used to provision the software. After the software has been provisioned, the servers are automatically started and ready to use.

The Oracle Fusion Middleware and Database software is installed and owned by "oracle". Be sure to administer the Fusion Middleware and Database (if installed) as the "oracle" user. If you are currently logged in as the "opc" user, use the `su` command to access the "oracle" user login:

```
sudo su - oracle
```

A unique SSH certificate can also be configured in order to allow authorized users to connect directly as the oracle user and control their access to opc. Refer to the Cloud documentation for information about such a configuration.

> **Note:**
>
> Do not attempt to create a new “oracle” user as this user already exists. The configuration step necessary is to provide a unique certificate to the SSH authorized keys list.

See Connecting to a Linux Instance and Adding Users to an Instance in the Oracle Cloud Infrastructure documentation.

Software Locations

Once provisioning has completed, all the software will be installed and owned by the oracle user. The Oracle Middleware and Database software can be found here:

> **Note:**
>
> Database software is installed only if you choose to have a local database during provisioning.

- Database `ORACLE_HOME`: `/u01/oracle/database/base/Oracle_Home`
  Database connect string: `orcl`
- Middleware `ORACLE_HOME`: `/u01/oracle/middleware/Oracle_Home`
- Middleware `DOMAIN_HOME`: `/u01/oracle/middleware/user_projects/domains/base_domain`
  - WebLogic Server repository (RCU) schema prefix: `FRM`
  - WebLogic Server Administrator user name: `weblogic`
- `JDK HOME`: `/u01/oracle/jdk`
- `FORMS_PATH` in `frmbld.sh` and `default.env` includes: `/home/oracle/oracle/formsmodules`

Linux Desktop

For information on how to connect to the Linux desktop using VNC, refer to Connecting to the VNC Console in the Oracle Cloud Infrastructure documentation.

The Oracle Linux desktop created with this instance includes a variety of useful desktop application launchers (shortcuts). Upon first attempt to use these launchers, a warning is displayed that suggests the launcher is "`Untrusted`". This warning is expected. Choose **Trust and Launch** to continue. This will permanently trust the launcher and display the appropriate desktop icon associated with the launcher.

Launchers added by this provisioning include the following:

> **Note:**
>
> The exact set of shortcuts may vary depending on the image version selected.

- Firefox
- Forms Builder
- Instance Controller
- Terminal
- ReadMe

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Server Information

Refer to this chapter for information about server ports, the Oracle HTTP Server, and provisioned Oracle Fusion Middleware server configuration.

Server Ports

Server	Port	Notes
Database Listener Port	1521	Only if using a local database
WLS Administration Server	7001	Non-SSL port
WLS_FORMS	9001	Non-SSL port

Server	Port	Notes
Oracle HTTP Server (OHS)	7777 & 4443 (7777 & 4443 opened in Linux firewall)	Use the `firewall-cmd` Linux command to list all open ports or change the current operating system firewall settings. Refer to the `firewall-cmd` "man" page for more information on this command.

Note:

To use SSL/TLS, you must obtain the appropriate certificate and configure it in this environment as mentioned above. The demo certificate provided in the inst

Server	Port	Notes
		allation is intended only to illustrate how to use SSL/TLS.

Oracle HTTP Server

OHS has been configured to forward requests for `/forms/` and `/fadsui`. If this is not desirable, remove the associated entries from `forms.conf` through Oracle Fusion Middleware Control. The OHS `KeepAliveTimeout` setting has been changed from its default of 5 to 10, which you can verify in `httpd.conf`.

All Servers

The Oracle Fusion Middleware servers have been configured with a "boot.properties" for each Managed Server (including the Admin Server). This allows the Managed Servers to start without being prompted to log in. These can be removed/deleted if interactive login is desired. All servers configured during the provisioning are configured to autostart with the machine. This means that if the machine is rebooted, these servers should start automatically unless you have disabled that functionality. Refer to this documentation for details on starting servers and working with "boot.properties": https://docs.oracle.com/en/middleware/fusion-middleware.

If using the locally installed database, it is also configured to autostart on reboot.

Refer to the Oracle Forms Installation and Working with Oracle Forms guides for additional configuration and usage instructions.

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Extend the OCI Instance Disk Space

When you create your instance, you have the opportunity to choose the disk/storage size. If you do not see the correct amount of disk space after the provisioning has completed, reboot the machine and check again. If it is still not what you expect, try running the `oci-growfs` utility.

To run the utility:

1. Execute the following command as "root":

   ```
   /usr/libexec/oci-growfs
   ```

2. Reboot your machine.

If you do not see the expected results after executing this command, it is likely you did not correctly change the default disk size at provisioning time. Refer to the Cloud or Linux documentation for information on how to extend or add additional space.

Alternatively, recreate the instance and ensure that you properly choose the desired disk size when prompted.

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Security Information

This chapter includes important information regarding some security aspects of this environment and its configuration. Although various security considerations were taken into account when this environment was created, it is important that a thorough security review be completed before using this environment in production.

Default Settings

All installations/configurations include default settings unless noted otherwise. Any dependencies required by the included software for installation have also been installed. Be sure to check the various component configuration settings to ensure they are using the most secure values.

Securing the Software

Although some patches may be pre-installed, other software updates may be available since this image was created. It is very important that all the installed software be updated with the latest security patches available. It is recommended that the latest Database, Fusion Middleware, and operating system updates be applied before exposing this system to production users and/or sensitive data. Not taking this precaution could put your environment in risk of a security breach.

For information on the latest security updates available for Oracle software, refer to the Oracle Critical Patch Updates, Security Alerts and Bulletins web page.

SSL/TLS

When installed, the local Oracle Database and Fusion Middleware installations include a "demo" SSL/TLS certificate. This certificate should be replaced with an appropriate and current certificate. The provided demo certificate is *not* intended or supported for any other purpose beyond demonstrating how to configure and use SSL/TLS.

For more information about Oracle Fusion Middleware security, refer to the documentation available from the Secure the Environment page of the Oracle Fusion Middleware site.

Listener Ports

Most inbound ports are blocked by the Linux firewall. However, several ports have been opened in order to make the Fusion Middleware software easier to use. If having these ports accessible by other nodes is not desirable, the firewall settings can be changed in order to block them. The `firewall-cmd` command can be used to make the needed changes. Refer to the Oracle Linux Security Guide for more information.

For a list of TCP ports opened as part of the Fusion Middleware software installed in this instance, refer to Server Information.

VNC

Tiger VNC has been installed and configured to start automatically and to provide access to the Desktop as the "oracle" user.

Tunneling through an SSH connection is recommended to access using VNC. Opening the VNC ports to the public Internet is not recommended.

Refer to Troubleshooting Instances Using Instance Console Connections in the *Oracle Cloud Infrastructure Documentation*.