

# Oracle® Fusion Middleware

## Using Oracle WebLogic Server on Microsoft Azure IaaS (Oracle Linux x86-64)



12c (12.2.1.3.0)

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The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

ORACLE®

Oracle Fusion Middleware Using Oracle WebLogic Server on Microsoft Azure IaaS (Oracle Linux x86-64), 12c (12.2.1.3.0)

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# Preface

This preface describes the document accessibility features and conventions used in this guide—*Oracle Fusion Middleware Using WebLogic Server on Windows Azure (Oracle Linux x86-64)*.

## 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.

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	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.

## Related Documentation

For related documentation, access the following URLs:

- Microsoft Azure IaaS documentation:  
<http://docs.microsoft.com/en-us/azure/virtual-machines/>
- Oracle WebLogic Server 12.2.1.3.0 online documentation library:  
<http://docs.oracle.com/middleware/12213/wls/index.html>

# 1

## Get Started with Oracle WebLogic Server on Microsoft Azure IaaS

Learn about the Oracle WebLogic Server on Microsoft Azure IaaS offers and the process of selecting an offer.

### Topics

- [About Deploying Oracle WebLogic Server on Microsoft Azure IaaS](#)
- [About WebLogic Server Virtual Machine Directory Structure](#)

## About Deploying Oracle WebLogic Server on Microsoft Azure IaaS

Oracle is committed to enabling you to embrace cloud computing by providing greater choice and flexibility in how you deploy Oracle software. In support of that commitment, Oracle has created several ready-to-deploy Azure applications in the Azure Marketplace that include pre-installed Oracle software. You can use these applications to create virtual machines in your Azure environment and run your applications on Oracle software.

This document describes how to use Oracle WebLogic Server 12c image hosted on Microsoft Azure IaaS. You can find these offers in the [Azure Marketplace](#) by searching for Oracle WebLogic Server.

The Azure applications include the following pre-installed products:

- Oracle WebLogic Server 12c (12.2.1.3.0)
- Oracle JDK 8u131
- Oracle Linux 7.4

When you create an Azure application based on the WebLogic Server 12c image, you use it just as you would use it on an on-premise virtual or physical machine. All of the configuration and management tooling is available.

These applications are Bring Your Own License (BYOL). You must have an appropriate license to run Oracle software. See the following links for more information:

- *Oracle Fusion Middleware Licensing Information User Manual:*  
<https://docs.oracle.com/en/middleware/fusion-middleware/12.2.1.3/fmwlic/>
- End User License Agreement for Oracle Products on Azure:  
<http://www.oracle.com/technetwork/licenses/oracle-license-2016066.html>

In addition, refer to your agreement with Oracle for details on software that you are licensed to use.

## About WebLogic Server Virtual Machine Directory Structure

The following table shows the Oracle-specific directory structure for each virtual machine that is created using the Oracle WebLogic Server 12.2.1.3.0 image.

When referring to Oracle WebLogic Server documentation, substitute these paths for the directory variables in the documentation.

**Table 1-1 WebLogic Server Virtual Machine Directories**

Directory Variable	Purpose	Directory Path
ORACLE_HOME	Oracle home directory	/u01/app/wls/install/Oracle/Middleware/Oracle_Home
WL_HOME	WebLogic Server home directory	/u01/app/wls/install/Oracle/Middleware/Oracle_Home/wlserver
JAVA_HOME	Java home directory	/u01/app/jdk/jdk1.8.0_131
DOMAIN_HOME	Directory where the domains you configure are created	/u01/domains/

# 2

## Select the Required Oracle WebLogic Server Offer in Azure Marketplace

Review the available Oracle WebLogic Server 12c (12.2.1.3.0) offers in Azure Marketplace and select the required offer.

### Topics

- [About Available Oracle WebLogic Server Offers](#)
- [Get the Required Oracle WebLogic Server Offer](#)

## About Available Oracle WebLogic Server Offers

Oracle publishes several Oracle WebLogic Server 12c (12.2.1.3.0) offers in Azure Marketplace which allow you to install and run Oracle WebLogic Server on Microsoft Azure IaaS. These offers include single node and multi-node cluster deployments.

### Oracle WebLogic Server Single Node Offers

The following single node deployment offers are available for Oracle WebLogic Server 12.2.1.3.0 in Azure Marketplace:

- **Oracle WebLogic Server without Administration Server**  
Use this offer to create a virtual machine with pre-installed JDK and Oracle WebLogic Server 12.2.1.3.0 without an Administration Server. See [Deploy Oracle WebLogic Server Without Administration Server on a Single Node](#).
- **Oracle WebLogic Server with Administration Server**  
Use this offer to create a virtual machine with pre-installed JDK and Oracle WebLogic Server 12.2.1.3.0 with an Administration Server. See [Deploy Oracle WebLogic Server With Administration Server on a Single Node](#).

### Oracle WebLogic Server Cluster Offers

The following cluster deployment offers are available for Oracle WebLogic Server 12.2.1.3.0 in Azure Marketplace:

- **Oracle WebLogic Server N-Node cluster**  
Use this offer to create multiple virtual machines with highly available WebLogic Server cluster configuration. See [Deploy Oracle WebLogic Server N-Node Cluster](#).
- **Oracle WebLogic Server N-Node dynamic cluster**  
Use this offer to create multiple virtual machines with highly available WebLogic Server dynamic cluster configuration. See [Deploy Oracle WebLogic Server N-Node Dynamic Cluster](#).



**Note:**

To search for and choose the required offer in Azure Marketplace, follow the instructions described in [Get the Required Oracle WebLogic Server Offer](#).

## Get the Required Oracle WebLogic Server Offer

Review the available Oracle WebLogic Server 12c (12.2.1.3.0) single node and cluster offers and obtain them from the Azure Marketplace.

To search for and choose an Oracle WebLogic Server 12.2.1.3.0 offer in Azure Marketplace:

1. Go to the Azure Marketplace using the following URL and log in using your Azure credentials:

<https://azuremarketplace.microsoft.com/en-us>

If you don't have an Azure account, sign up at:

<https://azure.microsoft.com/>

2. In the search field at the top of the page, enter `Oracle WebLogic Server 12.1.2.3`, and click the search icon.
3. From the search results, select the correct version of Oracle WebLogic Server per your requirement. This takes you to a page with links, screenshots, and videos demonstrating the capabilities of the chosen offer. Review the information available on this page.
4. When you are ready to proceed with the installation, click **Get it now**.
5. Provide the required profile information, such as **Name**, **Work email**, **Job title**, **Company**, **Country/region**, and **Phone number**.
6. Click **Continue**.
7. Perform any additional authentication actions if required, and then click **Create**. This takes you to the Azure portal.
8. Follow the deployment instructions specific to the offer that you have chosen:
  - [Deploy Oracle WebLogic Server Without Administration Server on a Single Node](#)
  - [Deploy Oracle WebLogic Server With Administration Server on a Single Node](#)
  - [Deploy Oracle WebLogic Server N-Node Cluster](#)
  - [Deploy Oracle WebLogic Server N-Node Dynamic Cluster](#)

# 3

## Deploy Oracle WebLogic Server on a Single Node on Microsoft Azure IaaS

The offers described in this section provision a single Azure Oracle Linux 7.4 virtual machine and install Oracle WebLogic Server 12.2.1.3.0 and its dependencies on it. You can choose to deploy Oracle WebLogic Server 12.2.1.3.0 with or without Administration Server.

### Topics

- [Deploy Oracle WebLogic Server Without Administration Server on a Single Node](#)
- [Deploy Oracle WebLogic Server With Administration Server on a Single Node](#)

## Deploy Oracle WebLogic Server Without Administration Server on a Single Node

This offer provisions a single virtual machine and installs Oracle WebLogic Server 12c 12.1.2.3.0 on it. It does not create a domain or start the Administration Server.

### Note:

Before you proceed with the deployment process, ensure that you have obtained this offer from Azure Marketplace as described in [Get the Required Oracle WebLogic Server Offer](#).

The Azure portal uses a UI concept called a Resource Blades. These are similar to tab panels, but can cascade across the page flow. Complete the following steps on Azure portal:

1. In the **Basics** blade, enter the following details:
  - **DNS Label Prefix:** Enter a value that must be prepended to the Azure generated DNS name for the provisioned virtual machine. This value is combined with the **Resource group** name, the region of the resource group, and an Azure specific value. For example, if you specify `wlsmycompany` as the DNS Label Prefix, the DNS hostname will be `wlsmycompany-myrg.eastus.cloudapp.azure.com`. Note that this value must start with a letter.
  - **Subscription:** Select the subscription to use for the charges accrued by this offer. You must have a valid active subscription associated with the Azure account that is currently logged in. If you don't have it already, follow the steps described in [Associate or add an Azure subscription to your Azure Active Directory tenant](#).

- **Resource group:** A resource group is a container that holds related resources for an Azure solution. The resource group includes those resources that you want to manage as a group. You decide which resources belong in a resource group based on what makes the most sense for your organization. If you have an existing resource group into which you want to deploy this solution, you can enter its name here, however the resource group must have no pre-existing resources in it. Alternatively, you can click the **Create new**, and enter the name so that Azure creates a new resource group before provisioning the resources. For more information about resource groups, see [Azure document](#).
- **Location:** Choose a location to deploy the resources. For more information about locations (also known as regions), visit the [Azure reference on regions](#).

After you enter the details, click **OK**.

2. In the **Virtual Machine Settings** blade, select the Virtual machine size. Click **Change Size**, select the size (for example, `A3 Standard`), and click **Select**. For more information about sizing the virtual machine, see [Azure documentation on Sizes](#).

Once you select the size, click **OK**.

3. In the **Credentials for Server Creation** blade, enter the following details:
  - **OTN Account Username:** Enter the OTN (Oracle Technology Network) account user name. This is required as the template dynamically downloads and installs software. If you don't have an Oracle account already, create one at <https://profile.oracle.com/myprofile/account/create-account.jspx>.
  - **Password for OTN Account:** Enter the password of the OTN account mentioned in the above field.
  - **Accept OTN License Agreement:** Accept the [OTN License Agreement](#) by entering `Y`, in order to continue.
  - **Username for admin account of VMs:** Enter a user name for the administrator account for the virtual machine. Note this value, as you may need it when you access virtual machine via SSH.
  - **Password for admin account of VMs:** Enter a password for the administrator account for the virtual machine. Note this value, as you may need it when you access virtual machine via SSH.

After you enter the details, click **OK**.

4. In the **Summary** blade, review the details entered, and verify that the validation checks are passed. To save the template, click **Download template and parameters**. This takes you to a page where you can inspect the configuration file called an ARM template, which causes the WebLogic Server to be provisioned into Azure. For more information about ARM template features on the Azure portal, see the [Azure documentation](#). To get back to the Summary blade, click **Summary** in the breadcrumbs widget at the top of the page.

Click **OK** to proceed.

5. In the **Buy** blade, click **Create** to create the offer. This process may take 30 to 60 minutes. For more information about IaaS offers, refer to the [Azure documentation on IaaS](#).

After the deployment is complete, to access the virtual machine, refer to [Access a Virtual Machine via SSH](#).

To create a WebLogic Server domain, see [Creating WebLogic Domains Using WLST Offline](#) in *Understanding the WebLogic Scripting Tool*.

## Deploy Oracle WebLogic Server With Administration Server on a Single Node

This offer provisions a single virtual machine and installs Oracle WebLogic Server 12c 12.1.2.3.0 on it. It creates a domain and starts up the Administration Server.

### Note:

Before you proceed with the deployment process, ensure that you have obtained this offer from Azure Marketplace as described in [Get the Required Oracle WebLogic Server Offer](#).

The Azure portal uses a UI concept called a Resource Blades. These are similar to tab panels, but can cascade across the page flow. Complete the following steps on Azure portal:

1. In the **Basics** blade, enter the following details:
  - **WebLogic Domain Name:** Enter the name of the domain that will be created by the offer.
  - **DNS Label Prefix:** Enter a value that must be prepended to the Azure generated DNS name for the provisioned virtual machine. This value is combined with the **Resource group** name, the region of the resource group, and an Azure specific value. For example, if you specify `wlsmycompany` as the DNS Label Prefix, the DNS hostname will be `wlsmycompany-myrg.eastus.cloudapp.azure.com`. Note that this value must start with a letter.
  - **Subscription:** Select the subscription to use for the charges accrued by this offer. You must have a valid active subscription associated with the Azure account that is currently logged in. If you don't have it already, follow the steps described in [Associate or add an Azure subscription to your Azure Active Directory tenant](#).
  - **Resource group:** A resource group is a container that holds related resources for an Azure solution. The resource group includes those resources that you want to manage as a group. You decide which resources belong in a resource group based on what makes the most sense for your organization. If you have an existing resource group into which you want to deploy this solution, you can enter its name here, however the resource group must have no pre-existing resources in it. Alternatively, you can click the **Create new**, and enter the name so that Azure creates a new resource group before provisioning the resources. For more information about resource groups, see [Azure document](#).
  - **Location:** Choose a location to deploy the resources. For more information about locations (also known as regions), visit the [Azure reference on regions](#).

After you enter the details, click **OK**.

2. In the **Virtual Machine Settings** blade, select the Virtual machine size. Click **Change Size**, select the size (for example, A3 Standard), and click **Select**. For more information about sizing the virtual machine, see [Azure documentation on Sizes](#).

Once you select the size, click **OK**.

3. In the **Credentials for Offer Creation** blade, enter the following details:
  - **OTN Account Username:** Enter the OTN (Oracle Technology Network) account user name. This is required as the template dynamically downloads and installs software. If you don't have an Oracle account already, create one at <https://profile.oracle.com/myprofile/account/create-account.jspx>.
  - **Password for OTN Account:** Enter the password of the OTN account mentioned in the above field.
  - **Accept OTN License Agreement:** Accept the [OTN License Agreement](#) by entering , in order to continue.
  - **Username for admin account of VMs:** Enter a user name for the administrator account for the virtual machine. Note this value, as you may need it when you access the virtual machine via SSH.
  - **Password for admin account of VMs:** Enter a password for the administrator account for the virtual machine. Note this value, as you may need it when you access the virtual machine via SSH.
  - **Username for WebLogic Administrator:** Enter a user name to access the WebLogic Administration Console which is started automatically after the provisioning. For more information about the WebLogic Administration Console, see [Overview of Administration Consoles in Oracle Fusion Middleware Understanding Oracle WebLogic Server](#).
  - **Password for WebLogic Administrator:** Enter a password to access the WebLogic Administration Console

After you enter the details, click **OK**.

4. In the **Summary** blade, review the details entered, and verify that the validation checks are passed. To save the template, click **Download template and parameters**. This takes you to a page where you can inspect the configuration file called an ARM template, which causes the WebLogic Server to be provisioned into Azure. For more information about ARM template features on the Azure portal, see the [Azure documentation](#). To get back to the Summary blade, click **Summary** in the breadcrumbs widget at the top of the page.

Click **OK** to proceed.

5. In the **Buy** blade, click **Create** to create the offer. This process may take 30 to 60 minutes. For more information about IaaS offers, refer to the [Azure documentation on IaaS](#).

The Administration Server starts automatically when the virtual machine starts. After provisioning is complete, the Administration Server is available at HTTP port and path :7001/console and HTTPS port and path:7002/console. The HTTPS SSL certificate management is not handled by the offer and must be configured after installation. For more information about configuring certificates and keystores, see [Configuring Keystores in Oracle Fusion Middleware Administering Security for Oracle WebLogic Server](#).

# 4

## Deploy Oracle WebLogic Server Cluster on Microsoft Azure IaaS

The offers described in this section provision several Azure Oracle Linux 7.4 virtual machines and install Oracle WebLogic Server 12.2.1.3.0 and its required dependencies on them. These virtual machines are configured to automatically form a WebLogic Server cluster and are set to start automatically when the virtual machines start or restart.

### Topics

- [Deploy Oracle WebLogic Server N-Node Cluster](#)
- [Deploy Oracle WebLogic Server N-Node Dynamic Cluster](#)

## Deploy Oracle WebLogic Server N-Node Cluster

This offer creates a highly available cluster of Oracle WebLogic Server 12.2.1.3.0 virtual machines.

For more information about Oracle WebLogic Server clustering, see [WebLogic Server Clustering](#) in *Oracle Fusion Middleware Understanding Oracle WebLogic Server*.

### Note:

Before you proceed with the deployment process, ensure that you have obtained this offer from Azure Marketplace as described in [Get the Required Oracle WebLogic Server Offer](#).

The Azure portal uses a UI concept called a Resource Blades. These are similar to tab panels, but can cascade across the page flow. Complete the following steps on Azure portal:

1. In the **Basics** blade, enter the following details:
  - **WebLogic Domain Name:** Enter the name of the domain that will be created by the offer.
  - **DNS Label Prefix:** Enter a value that must be prepended to the Azure generated DNS name for the provisioned virtual machine. This value is combined with the **Resource group** name, the region of the resource group, and an Azure specific value. For example, if you specify `wlsmycompany` as the DNS Label Prefix, the DNS hostname will be `wlsmycompany-myrg.eastus.cloudapp.azure.com`. Note that this value must start with a letter.
  - **Managed Server Prefix:** Enter the value to be prepended to the virtual machine names of each of the nodes in the cluster.

- **Number of VMs:** Enter the number of virtual machines to be created to form a cluster. The number of VMs decide the size of the static cluster. Among the virtual machines, one of them is used for setting up the Administration Server, while the rest of the VMs are used for managed servers.
- **Subscription:** Select the subscription to use for the charges accrued by this offer. You must have a valid active subscription associated with the Azure account that is currently logged in. If you don't have it already, follow the steps described in [Associate or add an Azure subscription to your Azure Active Directory tenant](#).
- **Resource group:** A resource group is a container that holds related resources for an Azure solution. The resource group includes those resources that you want to manage as a group. You decide which resources belong in a resource group based on what makes the most sense for your organization. If you have an existing resource group into which you want to deploy this solution, you can enter its name here, however the resource group must have no pre-existing resources in it. Alternatively, you can click the **Create new**, and enter the name so that Azure creates a new resource group before provisioning the resources. For more information about resource groups, see [Azure document](#).
- **Location:** Choose a location to deploy the resources. For more information about locations (also known as regions), visit the [Azure reference on regions](#).

After you enter the details, click **OK**.

2. In the **Virtual Machine Settings** blade, select the Virtual machine size. Click **Change Size**, select the size (for example, A3 Standard), and click **Select**. For more information about sizing the virtual machine, see [Azure documentation on Sizes](#).

Once you select the size, click **OK**.

3. In the **Credentials for Cluster Creation** blade, enter the following details:
  - **OTN Account Username:** Enter the OTN (Oracle Technology Network) account user name. This is required as the template dynamically downloads and installs software. If you don't have an Oracle account already, create one at <https://profile.oracle.com/myprofile/account/create-account.jspx>.
  - **Password for OTN Account:** Enter the password of the OTN account mentioned in the above field.
  - **Accept OTN License Agreement:** Accept the [OTN License Agreement](#) by entering , in order to continue.
  - **Username for admin account of VMs:** Enter a user name for the administrator account for the virtual machines. Note this value, as you may need it when you access virtual machine via SSH.
  - **Password for admin account of VMs:** Enter a password for the administrator account for the virtual machines. Note this value, as you may need it when you access virtual machine via SSH.
  - **Username for WebLogic Administrator:** Enter a user name to access the WebLogic Administration Console which is started automatically after the provisioning. For more information about the WebLogic Administration Console, see [Overview of Administration Consoles](#) in *Oracle Fusion Middleware Understanding Oracle WebLogic Server*.
  - **Password for WebLogic Administrator:** Enter a password to access the WebLogic Administration Console

After you enter the details, click **OK**.

4. In the **Summary** blade, review the details entered, and verify that the validation checks are passed. To save the template, click **Download template and parameters**. This takes you to a page where you can inspect the configuration file called an ARM template, which causes the WebLogic Server to be provisioned into Azure. For more information about ARM template features on the Azure portal, see the [Azure documentation](#). To get back to the Summary blade, click **Summary** in the breadcrumbs widget at the top of the page.

Click **OK** to proceed.

5. In the **Buy** blade, click **Create** to create the offer. This process may take 30 to 60 minutes. For more information about IaaS offers, refer to the [Azure documentation on IaaS](#).
6. After the deployment is complete, connect your database to the cluster. See [Connect Oracle Database to a Cluster](#).

## Deploy Oracle WebLogic Server N-Node Dynamic Cluster

This offer creates a highly available and scalable dynamic cluster of Oracle WebLogic Server 12.2.1.3.0 virtual machines.

For more information about Oracle WebLogic Server dynamic clustering, see [Overview](#) in *Oracle Fusion Middleware Configuring Elasticity in Dynamic Clusters for Oracle WebLogic Server*.

### Note:

Before you proceed with the deployment process, ensure that you have obtained this offer from Azure Marketplace as described in [Get the Required Oracle WebLogic Server Offer](#).

The Azure portal uses a UI concept called a Resource Blades. These are similar to tab panels, but can cascade across the page flow. Complete the following steps on Azure portal:

1. In the **Basics** blade, enter the following details:
  - **WebLogic Domain Name:** Enter the name of the domain that will be created by the offer.
  - **DNS Label Prefix:** Enter a value that must be prepended to the Azure generated DNS name for the provisioned virtual machine. This value is combined with the **Resource group** name, the region of the resource group, and an Azure specific value. For example, if you specify `wlsmycompany` as the DNS Label Prefix, the DNS hostname will be `wlsmycompany-myrg.eastus.cloudapp.azure.com`. Note that this value must start with a letter.
  - **Managed Server Prefix:** Enter the value to be prepended to the virtual machine names of each of the nodes in the cluster.
  - **Maximum Dynamic Cluster Size:** Enter the maximum number of WebLogic Server nodes that you want to be available for running applications. This

number of virtual machines will be provisioned and started, but their use as server nodes depends on the dynamic clustering feature.

- **Initial Dynamic Cluster Size:** Enter the initial number of managed servers required when the offer is provisioned.
- **Subscription:** Select the subscription to use for the charges accrued by this offer. You must have a valid active subscription associated with the Azure account that is currently logged in. If you don't have it already, follow the steps described in [Associate or add an Azure subscription to your Azure Active Directory tenant](#).
- **Resource group:** A resource group is a container that holds related resources for an Azure solution. The resource group includes those resources that you want to manage as a group. You decide which resources belong in a resource group based on what makes the most sense for your organization. If you have an existing resource group into which you want to deploy this solution, you can enter its name here, however the resource group must have no pre-existing resources in it. Alternatively, you can click the **Create new**, and enter the name so that Azure creates a new resource group before provisioning the resources. For more information about resource groups, see [Azure document](#).
- **Location:** Choose a location to deploy the resources. For more information about locations (also known as regions), visit the [Azure reference on regions](#).

After you enter the details, click **OK**.

2. In the **Virtual Machine Settings** blade, select the Virtual machine size. Click **Change Size**, select the size (for example, *A3 Standard*), and click **Select**. For more information about sizing the virtual machine, see [Azure documentation on Sizes](#).

Once you select the size, click **OK**.

3. In the **Credentials for Cluster Creation** blade, enter the following details:
  - **OTN Account Username:** Enter the OTN (Oracle Technology Network) account user name. This is required as the template dynamically downloads and installs software. If you don't have an Oracle account already, create one at <https://profile.oracle.com/myprofile/account/create-account.jspx>.
  - **Password for OTN Account:** Enter the password of the OTN account mentioned in the above field.
  - **Accept OTN License Agreement:** Accept the [OTN License Agreement](#) by entering *Y*, in order to continue.
  - **Username for admin account of VMs:** Enter a user name for the administrator account for the virtual machines. Note this value, as you may need it when you access virtual machine via SSH.
  - **Password for admin account of VMs:** Enter a password for the administrator account for the virtual machines. Note this value, as you may need it when you access virtual machine via SSH.
  - **Username for WebLogic Administrator:** Enter a user name to access the WebLogic Administration Console which is started automatically after the provisioning. For more information about the WebLogic Administration Console, see [Overview of Administration Consoles](#) in *Oracle Fusion Middleware Understanding Oracle WebLogic Server*.

- **Password for WebLogic Administrator:** Enter a password to access the WebLogic Administration Console

After you enter the details, click **OK**.

4. In the **Summary** blade, review the details entered, and verify that the validation checks are passed. To save the template, click **Download template and parameters**. This takes you to a page where you can inspect the configuration file called an ARM template, which causes the WebLogic Server to be provisioned into Azure. For more information about ARM template features on the Azure portal, see the [Azure documentation](#). To get back to the Summary blade, click **Summary** in the breadcrumbs widget at the top of the page.

Click **OK** to proceed.

5. In the **Buy** blade, click **Create** to create the offer. This process may take 30 to 60 minutes. For more information about IaaS offers, refer to the [Azure documentation on IaaS](#).
6. After the deployment is complete, connect your database to the cluster. See [Connect Oracle Database to a Cluster](#).

## Connect Oracle Database to a Cluster

After an offer is provisioned, you can connect one or more databases to Oracle WebLogic Server.

For more information about connecting database to Oracle WebLogic Server, see [WebLogic Server Data Sources](#) in *Oracle Fusion Middleware Understanding Oracle WebLogic Server*.

Microsoft Azure supports Oracle Database. See <https://azure.microsoft.com/en-us/solutions/oracle/>. Azure also supports other databases such as PostgreSQL and Azure SQL Server.

In this release of the offers, following scripts are provided to take a provisioned offer and configure a JDBC Data Source on it which references a previously created database virtual machine (VM):

- Oracle Database: [datasourceConfig-oracle.sh](#)
- PostgreSQL: [datasourceConfig-postgresql.sh](#)
- AzureSQL: [datasourceConfig-azuresql.sh](#)

For any other database, refer to the respective documentation.

Complete the following steps to connect database to Oracle WebLogic Server:

1. [Prerequisites](#)
2. [Obtain the JDBC Connection Strings](#)
3. [Configure the Datasource](#)
4. [Test the Datasource](#)

### Prerequisites

Complete the following prerequisites before invoking the script:

- The script needs access to the `ORACLE_HOME` of Oracle WebLogic Server installation. Choose one of the following approaches to run the script:
  - Run the script from the admin VM by putting the script on the admin VM host and then accessing the VM via SSH as described in [Access a Virtual Machine via SSH](#). This is a recommended approach.
  - Install Oracle WebLogic Server locally as described [Installing WebLogic Server for Developers](#) in *Oracle Fusion Middleware Installing and Configuring Oracle WebLogic Server and Coherence*.
- Gather values for the following arguments:

**Table 4-1 Arguments for Datasource Configuration Script**

Argument	Description	Example Value
<code>&lt;ORACLE_HOME&gt;</code>	Absolute path to the Oracle Home directory	<code>/u01/app/wls/install/Oracle/Middleware/Oracle_Home</code>
<code>&lt;wlsAdminHost&gt;</code>	Fully qualified hostname or IP address of the running Administration Server	<code>wls1022030-102203rqoheafet-pyhfgreqbnva.eastus.cloudapp.azure.com</code>
<code>&lt;wlsAdminPort&gt;</code>	Admin port for T3 connection	<code>7001</code>
<code>&lt;wlsUserName&gt;</code>	User name of WebLogic Administrator or as specified in the credentials blade	<code>weblogic</code>
<code>&lt;wlsPassword&gt;</code>	Password for WebLogic Administrator	<code>samplepassword</code>
<code>&lt;jdbcDataSourceName&gt;</code>	JDBC Datasource name	<code>testJDBC</code>
<code>&lt;dsConnectionURL&gt;</code>	JDBC connection string for database	<code>jdbc:oracle:thin:@benqoiz.southeastasia.cloudapp.azure.com:1521/cqo1</code>
<code>&lt;dsUser&gt;</code>	User name of the database	<code>weblogic</code>

**Table 4-1 (Cont.) Arguments for Datasource Configuration Script**

Argument	Description	Example Value
<code>&lt;dsPassword&gt;</code>	Password for the database user	samplepassword

- Ensure that the database is running and accessible via the arguments in the preceding point.

### Obtain the JDBC Connection Strings

The argument `<dsConnectionURL>` stands for JDBC connection string. To obtain the JDBC connection string for your database:

- Oracle Database:

The following is the format of the JDBC connection string for Oracle Database:

```
jdbc:oracle:thin:@HOSTNAME:1521/DATABASENAME
```

For example:

```
jdbc:oracle:thin:@benqoiz.southeastasia.cloudapp.azure.com:1521/pdb1
```

- Azure Database for PostgreSQL:
  1. Deploy an Azure Database PostgreSQL as described in [Quickstart: Create an Azure Database for PostgreSQL server in the Azure portal](#).
  2. Access the Azure portal at <https://portal.azure.com>, and go to the service instance.
  3. Click **Connection Strings** under **Settings**.
  4. Locate the **JDBC** section and click the copy icon on the right to copy the JDBC connection string to the clipboard. The JDBC connection string will be similar to the following:

```
jdbc:postgresql://20191015cbfgterfdy.postgres.database.azure.com:5432/{your_database}?user=jroybtvp@20191015cbfgterfdy&password={your_password}&sslmode=require
```

When passing this value to the `datasourceConfig-postgres.sh` command, remove the database user and password values, and place them as arguments to the script (`<dsUser>` and `<dsPassword>`). In the above JDBC connection string sample, the value for `dsConnectionURL` argument after removing the database user and password, will be:

```
jdbc:postgresql://20191015cbfgterfdy.postgres.database.azure.com:5432/{your_database}?sslmode=require
```

- Azure SQL Server:

1. Deploy Azure SQL Server as described in [Quickstart: Create a single database in Azure SQL Database using the Azure portal, PowerShell, and Azure CLI](#).
2. Access the Azure portal at <https://portal.azure.com>, and go to the service instance.
3. Click **Connection Strings** under **Settings**.
4. Locate the **JDBC** section and click the copy icon on the right to copy the JDBC connection string to the clipboard. The JDBC connection string will be similar to the following:

```
jdbc:sqlserver://rwo102804.database.windows.net:1433;database=rwo102804;user=jroybtvp@rwo102804;password={your_password_here};encrypt=true;trustServerCertificate=false;hostNameInCertificate=*.database.windows.net;loginTimeout=30;
```

When passing this value to the `datasourceConfig-azuresql.sh` command, remove the database user and password values, and place them as arguments to the script (`<dsUser>` and `<dsPassword>`). In the above JDBC connection string sample, the value for `dsConnectionURL` argument after removing the database user and password, will be:

```
jdbc:sqlserver://rwo102804.database.windows.net:1433;database={your_database};encrypt=true;trustServerCertificate=false;hostNameInCertificate=*.database.windows.net;loginTimeout=30;
```

### Configure the Datasource

To configure the database:

1. Access the VM via SSH as described in [Access a Virtual Machine via SSH](#).
2. Change to the root user using the command:

```
sudo su
```

3. Set the value for the variable `ORACLE_HOME` using the command:

```
export ORACLE_HOME=/u01/app/wls/install/Oracle/Middleware/Oracle_Home
```

4. Download the script using one of the following commands depending on your database:
  - For Oracle Database: `wget https://raw.githubusercontent.com/wls-eng/arm-oraclelinux-wls/master/src/main/scripts/datasourceConfig-oracle.sh`
  - For PostgreSQL: `wget https://raw.githubusercontent.com/wls-eng/arm-oraclelinux-wls/master/src/main/scripts/datasourceConfig-postgresql.sh`
  - For AzureSQL: `wget https://raw.githubusercontent.com/wls-eng/arm-oraclelinux-wls/master/src/main/scripts/datasourceConfig-azuresql.sh`

5. Add execute permissions for the scripts using the command:

```
chmod ugo+x ./datasourceConfig*.sh
```

6. Run the following command to configure datasource:

```
./datasourceConfig-<chosen_database>.sh ${ORACLE_HOME} <wlsAdminHost>  
<wlsAdminPort> <wlsUserName> <wlsPassword> <jdbcDataSourceName>  
<dsConnectionURL> <dsUser> <dsPassword>
```

For example:

```
./datasourceConfig_oracle.sh ORACLE_HOME wls1022030-102203rqoheafet-  
pyhfgreqbnva.eastus.cloudapp.azure.com 7001 weblogic samplepassword  
testJDBC jdbc:oracle:thin:@benqoiz.southeastasia.cloudapp.azure.com:  
1521/cqol weblogic samplepassword
```

### Test the Datasource

To validate the database connection:

1. Access the WebLogic Administration console. See [Access the WebLogic Server Administration Console](#).
2. Expand **Services** under **Domain Structure** on the left pane.
3. Click **Data Sources**, and then click on data source name in the table.
4. Go to the **Monitoring** tab and then click **Testing**.
5. Select one of the cluster nodes and click **Test Data Source**. The status area shows whether the database connection was successful. If the connection was successful, the status shows *Test of <datasource name> on server <server name> was successful*.

If the datasource doesn't return a successful test status, troubleshoot the issue before continuing. See [WebLogic Server Data Sources](#) in *Oracle Fusion Middleware Understanding Oracle WebLogic Server*.

6. Repeat the steps for all the nodes.

# 5

## Access Virtual Machines and Administration Console

After an offer is provisioned, that is, after you have deployed virtual machines with Oracle WebLogic Server 12.2.1.3.0, you can access them via SSH. If you have configured WebLogic Administration Server, you can access the WebLogic Administration console and manage the applications.

### Topics

- [Access a Virtual Machine via SSH](#)
- [Access the WebLogic Server Administration Console](#)

## Access a Virtual Machine via SSH

After an offer is provisioned, you can access a virtual machine via SSH using the credentials that you had defined in the **Credentials** blade during offer creation.

### Note:

Depending on the security rules in your Azure subscription, you may need to expose port 22, or whitelist the IP from which you are initiating the SSH connection. For more information, refer to the [Azure documentation](#).

To access a virtual machine via SSH:

1. Log in to the Azure portal using the following URL:  
<https://portal.azure.com/>
2. Click the hamburger button at the top left corner of the portal.
3. Click **Resource groups**.
4. In the **Filter by name** field, enter the resource group name that you specified in **Basics** blade during deployment. Find and click on the desired resource group. Depending on the offer, you will see different quantities and varieties of resources in the resource group.
5. Click on the desired resource with type Virtual machine. To easily locate the resource, sort the rows by type by clicking the **Type** column header.

When you select the resource, the details pane for that virtual machine is displayed. It contains useful metrics of the health and status of the virtual machine.

6. On the Virtual machine details pane, click on the clipboard icon next to the value of the **DNS name** field. This copies the hostname to the clipboard.

- SSH into the virtual machine host using an SSH client of your choice and the credentials you specified for the admin account of the virtual machine. For example:

```
ssh weblogic@wls101401.eastus.cloudapp.azure.com
[weblogic@WebLogicServerVM ~]$ pwd
/home/weblogic
[weblogic@WebLogicServerVM ~]$
```

Some of the directories are accessible only to the `root` user. To switch to the `root` user, use the `sudo` command as shown in the following example:

```
[weblogic@WebLogicServerVM wls]$ sudo su -
```

```
We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:
```

- ```
#1) Respect the privacy of others.
#2) Think before you type.
#3) With great power comes great responsibility.
```

```
[sudo] password for weblogic:
[root@WebLogicServerVM ~]#
```

## Access the WebLogic Server Administration Console

The offers that include WebLogic Administration Server configuration, starts the server by the end of the deployment process. Once the deployment is complete, you can access the Administration console.

To access the WebLogic Server Administration console:

- Log in to the Azure portal using the following URL:  
<https://portal.azure.com/>
- Click the hamburger button at the top left corner of the portal.
- Click **Resource groups**.
- In the **Filter by name** field, enter the resource group name that you specified in **Basics** blade during deployment. Find and click on the desired resource group. Depending on the offer, you will see different quantities and varieties of resources in the resource group.
- Click on the desired resource with type Virtual machine. To easily locate the resource, sort the rows by type by clicking the **Type** column header.

When you select the resource, the details pane for that virtual machine is displayed. It contains useful metrics of the health and status of the virtual machine.

- On the Virtual machine details pane, click on the clipboard icon next to the value of the **DNS name** field. This copies the hostname to the clipboard.
- Access the following URL from a browser:

```
http://dnsname:7001/console
```

Log in using the WebLogic Administrator username and password that you provided in the **Credentials** blade during offer provisioning.