JD Edwards EnterpriseOne

Deploying JD Edwards EnterpriseOne on Oracle Cloud Infrastructure on Microsoft Windows Using Oracle Database Learning Path

1.0

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Preface

Welcome to the JD Edwards EnterpriseOne documentation.

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 Information

For additional information about JD Edwards EnterpriseOne applications, features, content, and training, visit the JD Edwards EnterpriseOne pages on the JD Edwards Resource Library located at:

http://learnjde.com

Conventions

The following text conventions are used in this document:

Convention	Meaning
Bold	Boldface type indicates graphical user interface elements associated with an action or terms defined in text or the glossary.
Italics	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 examples, text that appears on a screen, or text that you enter.
> Oracle by Example	Indicates a link to an Oracle by Example (OBE). OBEs provide hands-on, step- by-step instructions, including screen captures that guide you through a process using your own environment. Access to OBEs requires a valid Oracle account.

1 Introduction

Overview

This learning path describes how to deploy JD Edwards EnterpriseOne Release 9.2 using One-Click Provisioning to Oracle Cloud Infrastructure with Microsoft Windows using an Oracle database. It is important to note that this document is primarily concerned with the basic requirements for an installation of JD Edwards EnterpriseOne into the Oracle Cloud Infrastructure. It is not intended as a blueprint for operations in typical environments such as Development, Test, or Production.

Upon completion of this learning path, you will have a working deployment of JD Edwards EnterpriseOne on Microsoft Windows in Oracle Cloud Infrastructure with an Oracle Compute Database. This process includes post installation tasks and the administration of your deployment.

Oracle Support

You can accelerate your provisioning to Oracle Cloud Infrastructure and streamline your process with Oracle Support by entering a planning Service Request (SR) before you start the provisioning process on Oracle Cloud Infrastructure (OCI). Details on how to open the Service Request are on My Oracle Support, E1: OCI: How to Open A Service Request (SR) For An Oracle Cloud Infrastructure Planning Session (Doc ID *2348382.1*).

Oracle Cloud Infrastructure User Interface

The user interface for the Oracle Cloud Infrastructure is constantly evolving. As a result the screens depicted in this tutorial may not exactly coincide with the current release. This tutorial is routinely updated for functional changes to the JD Edwards EnterpriseOne implementation for the Oracle Cloud Infrastructure, at which time any differences in the user interface will be reconciled.

Before You Begin

This section provides information and resource requirements critical to understand prior to using One-Click Provisioning on Oracle Cloud Infrastructure.

Fundamentals

You can use the Oracle Cloud Infrastructure (also called "IaaS" - Infrastructure as a Service) to deploy JD Edwards EnterpriseOne using the JD Edwards EnterpriseOne One-Click Provisioning Server. This server features a web-based JD Edwards Provisioning Console interface that enables the provisioning of a fully functional suite of interconnected servers within Oracle Cloud Infrastructure. The required core servers are the Database Server (either as an Oracle Cloud Infrastructure Compute instance, as an Oracle Cloud Infrastructure database service, or as an Oracle Autonomous Database), the Enterprise Server, the HTML Web Server, and the Application Interface Service (AIS) Server. The One-Click Provisioning Server includes the JD Edwards Server Manager Console (SMC). One-Click Provisioning will also deploy the required Deployment Server into a Microsoft Windows environment.

All servers running in the Oracle Cloud Infrastructure are virtual machines (VMs) that are functionally equivalent to their non-VM physical on-premises machine counterparts.

For all servers you should use the highest version available that is specified in the Oracle Certifications for JD Edwards EnterpriseOne for One-Click Provisioning.

The following servers can be deployed by One-Click Provisioning:

- One or more Database Servers either in Compute or as an Oracle Cloud Infrastructure database service
- One or more Enterprise Servers
- One or more Standard JAS Servers (as standalone instances within WebLogic, not clustered)
- One or more Dedicated HTML Servers (as standalone instances within WebLogic, not clustered)
- One or more AIS Servers (as standalone instances within WebLogic, not clustered)

> **Note:** One-Click Provisioning for Oracle Cloud Infrastructure only supports the deployment of each JD Edwards EnterpriseOne server in a separate VM. You cannot combine all the servers into a single VM instance or server, nor can you combine multiple servers into a single VM instance.

Prior to deploying the web components using One-Click, users must separately install their own licensed version of WebLogic Server. This learning path includes the prerequisites for WebLogic setup for use with JD Edwards EnterpriseOne.

One-Click provisioning can only deploy this machine into a Microsoft Windows Server:

- A single Deployment Server

> **Note:** For Linux systems, to maintain optimal performance, the Microsoft Windows environment must reside in the same Availability Domain (AD) in an Oracle Cloud Infrastructure Region as the companion Linux-based servers. You must have a Deployment Server to apply ESUs (updates), perform Package Builds and commit to future upgrades.

> **Note:** For Cloud implementations, it is imperative that you reuse the SSH key created for your Oracle Compute Cloud Service account for all deployments of JD Edwards EnterpriseOne. Otherwise, any subsequent SSH key creation may cause any previously provisioned instances to be orphaned.

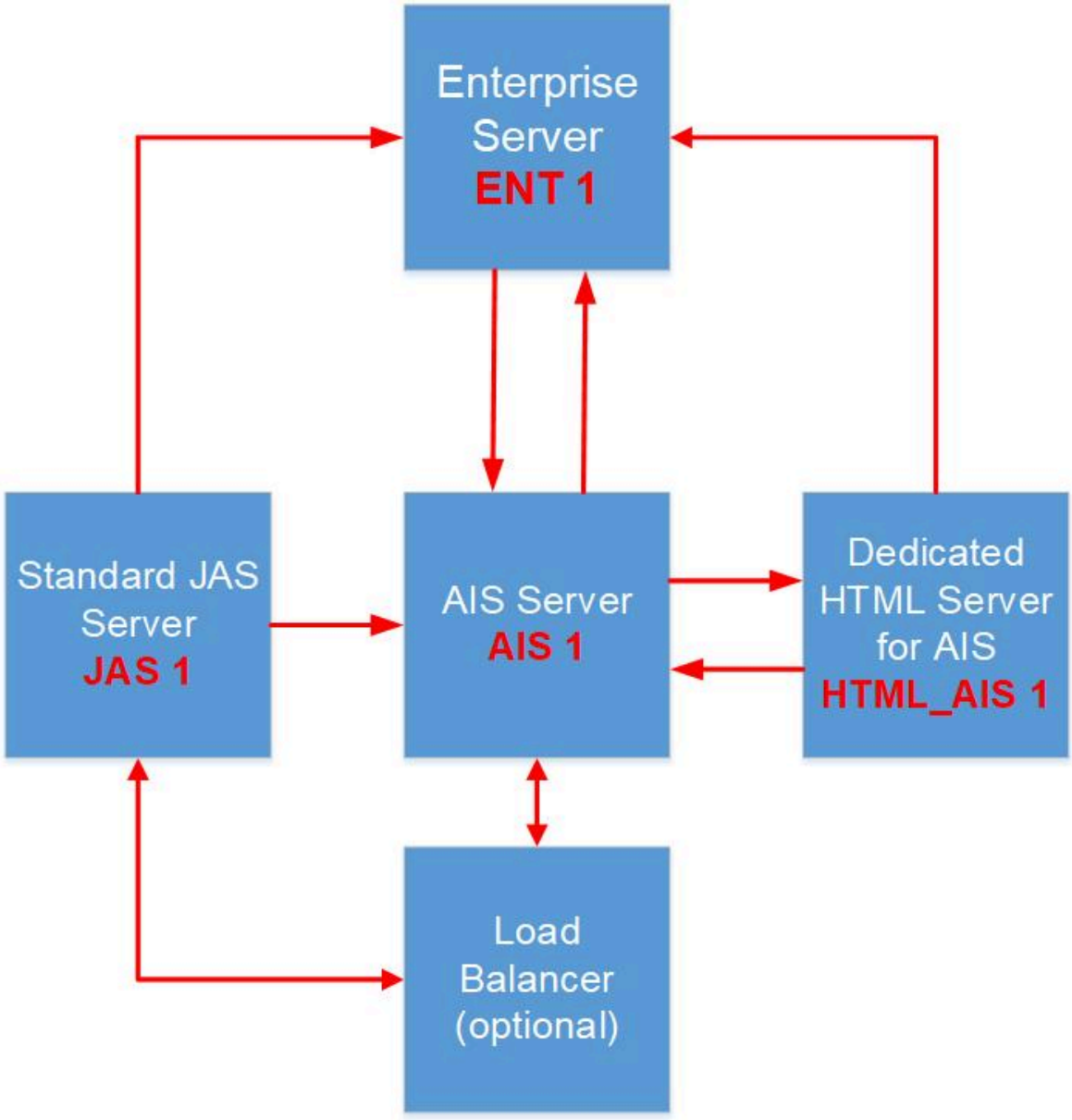
Standard JAS and Dedicated HTML for AIS Servers

Beginning with One-Click Provisioning based on JD Edwards Tools Release 9.2.5, the JD Edwards EnterpriseOne One-Click architecture for HTML and AIS Servers introduces the concept of Standard JAS and Dedicated HTML for AIS Servers.

Using Quick Start Mode, users are required to select a single HTML Server that is dedicated to a specific AIS Server.

Using Advanced Mode, in addition to configuring additional Dedicated HTML and AIS server pairs, users can add a Standard JAS Server that is not dedicated to an AIS Server. A Standard JAS Server functions as a traditional HTML Server handling all non-AIS requests. To scale by pathcode, multiple pairs of HTML and AIS servers can be configured. Likewise, multiple Standard JAS Servers can be configured for use with or without load balancers. Using one or more Standard JAS Servers is recommended for Production environments.

The following diagram depicts the architecture and following that is a description of the characteristics of each Standard JAS, Dedicated HTML, and AIS server.



- **Standard JAS Server**

  Note: The Standard JAS Server can only be deployed using the Advanced Mode.

  Referencing the architecture diagram, the Standard JAS Server is JAS 1 and has these characteristics:

  - Can be load balanced (using LBaaS or other)
  - Configured for one-way communication to a specific Enterprise Server (ENT 1)
  - Configured for one-way communication to an AIS Server (AIS 1)

    - Not paired with an AIS Server to perform AIS runtime
    - Not configured to communicate with the Dedicated HTML Server for AIS (HTML_AIS 1)

- **AIS Server**

  Referencing the the pod architecture diagram, the AIS Server is AIS 1 and has these characteristics:

    - Can be load balanced (using LBaaS or other)
    - Paired with a Dedicated HTML Server for AIS (HTML_AIS 1)
    - Configured for two-way communication with both an Enterprise Server (ENT 1) and, for AIS runtime, to the Dedicated HTML Server for AIS (HTML_AIS 1)

- **Dedicated HTML Server for AIS**

  > **Note:** The Quick Start mode can only deploy a single Dedicated HTML Server for AIS. You must use the Advanced Mode to deploy a Standard HTML Server.

  Referencing the the pod architecture diagram, the Dedicated HTML Server for AIS is HTML_AIS 1 and has these characteristics:

    - Cannot be load balanced (using LBaaS or other)
    - Paired to a specific AIS Server (AIS 1)
    - Configured for one-way communication with an Enterprise Server (ENT 1)
    - Configured for two-way communication with a specific AIS Server (AIS 1) for AIS runtime.

Standalone Deployment Server

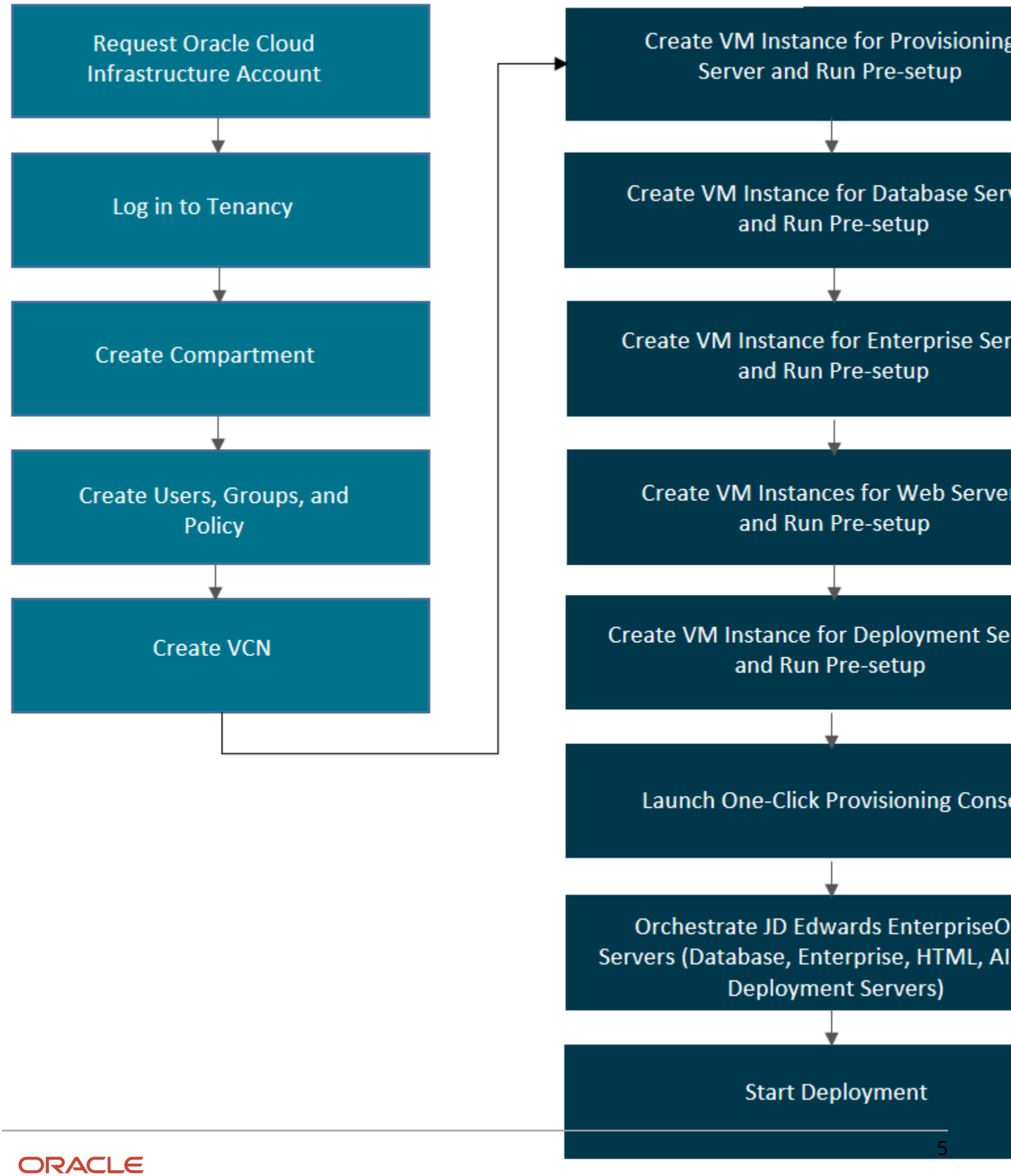
You can use Advanced Mode to install a Standalone Deployment Server, which is usually defined as part of the required workflow during Quick Start mode. Using this optional flow you can provision Deployment Server by itself without having to orchestrate any other server. However, you must ensure that you know the exact host name of the core JD Edwards EnterpriseOne servers that are, or will be, in the same environment as the Standalone Deployment Server. These core servers include the Database Server, Enterprise Server, HTML Server, and AIS Server. It is not necessary that of any of these core JD Edwards EnterpriseOne servers exists at the time of orchestrating the Standalone Deployment Server. At any time prior or subsequent to the deployment of a Standalone Deployment Server, you can orchestrate the core JD Edwards EnterpriseOne servers. After you have deployed a Standalone Deployment Server, you must ensure that you perform the procedures in the OBE of this Learning Path entitled: ***Performing Post Installation for the Standalone Deployment Server.***

Server Manager Console Centralized Configuration

As part of One-Click Provisioning, Centralized Configuration in the Server Manager Console is enabled automatically. One-Click adds the server group specific INI settings when provisioning individual servers. Post provisioning, the administrator is responsible for applying the group changes on the Centralized Configuration enabled environments.

Process Flow for One-Click Provisioning

The following is a process flow diagram for One-Click Provisioning on Oracle Cloud Infrastructure on Microsoft Windows.


Request Oracle Cloud Infrastructure Account
Log in to Tenancy
Create Compartment
Create Users, Groups, and Policy
Create VCN
Create VM Instance for Provisioning Server and Run Pre-setup
Create VM Instance for Database Ser and Run Pre-setup
Create VM Instance for Enterprise Ser and Run Pre-setup
Create VM Instances for Web Server and Run Pre-setup
Create VM Instance for Deployment Se and Run Pre-setup
Launch One-Click Provisioning Cons
Orchestrate JD Edwards EnterpriseO Servers (Database, Enterprise, HTML, AI Deployment Servers)
Start Deployment

Supported Software Versions

The following table lists the supported software versions for Oracle and Microsoft components running JD Edwards EnterpriseOne.

Supported Software Versions	
Operating System	
Provisioning Server	Microsoft Windows Server 2022
Oracle Database Server	
Microsoft SQL Server Database Server	
Enterprise Server	
Oracle WebLogic Server	
Deployment Server	
Oracle Database	Oracle 19C
Microsoft SQL Server Database	SQL Server 2022 For the Enterprise Server and the Deployment Server, you must have an ODBC driver 18 for SQL Server. You must have a version of the JDBC driver compatible with the supported versions of the SQL Server database.
Oracle WebLogic Server	14.1.1.0
Oracle WebLogic Server Patches for 14.1.1.0	p28186730, p38412913 **Tip:** You can verify your patch level running this command from the **<OH>/OPatch** location on your WebLogic Server: `./opatch lspatches`
Java Development Kit (JDK) (Required for Oracle WebLogic Server)	Version 1.8.0 up to Update 471
Ruby Version	3.4.4 64-bit
JD Edwards EnterpriseOne One-Click System	Tools Release 9.2.26.1 64-bit ESU up to JN21495 UDO up to UDO_9.2_10719 + UN26_UDO_Bundle Planner JN21409

	Data Pack is DP0289201

Note: JD Edwards EnterpriseOne One-Click Provisioning requires that the operating system for all Microsoft Windows machines be set to the English language.

Prerequisite Knowledge and Skills

You must have a fundamental understanding of the Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at the sites:

- *Oracle Cloud Infrastructure*

Minimum Resource Requirements

The table below specifies the minimum resource requirements to install and run JD Edwards on Oracle Cloud Infrastructure. Your environment may require additional resources based on transaction volumes, number of users, availability requirement, integrations, and business requirements.

Note: For implementation of JD Edwards EnterpriseOne on Oracle Cloud Infrastructure, users can choose any Shape Series that provides:

- x86-compatible processors (such as Intel and AMD). Support for RISC (reduced instruction set) processors (such as ARM) is specifically excluded.
- Minimum of 2 OCPUs
- Minimum of 30 GB memory per OCPU

Note: Within the **Specialty and previous generation** shape series, only these shapes are supported:

- VM.Standard2.2
- VM.Standard2.4
- VM.Standard2.8
- VM.Standard2.16
- VM.Standard2.24

JD Edwards EnterpriseOne Server Type	Minimum Recommended			Notes
	OCPU	Memory (GB)	Storage Volume (GB)	

Required JD Edwards Components				
One-Click Provisioning Server	2	30	100	Includes Server Manager
Deployment Server	2	30	210 GB* for all four (4) pathcodes	Using One-Click, customers must install all four (4) path codes. There is no automated way to add additional path codes post deployment. * Storage volume space is in addition to that required by the Windows OS itself, which can be up to 45 GB. Therefore, the minimum recommended storage volume size is 256 GB.
Database Server	2	30	50 GB for a single pathcode and shared data	20 GB is required for each additional pathcode. This storage volume represents demo data and should be adjusted for the required business data space.
Enterprise Server	2	30	75	
WebLogic Server	-	-	30	For the OS and WebLogic Server
• HTML Server for Web Client	2	30	20	Per Web Instance
• HTML Server for AIS Server	2	30	20	Per Web Instance
• AIS Server	2	30	20	Per Web Instance
Optional JD Edwards Components (Note: (1))				
Business Services Server (BSSV)	2	30	50	Per Web Instance
Transaction Server for Real Time Events (RTE)	2	30	50	Per Web Instance
Application Development Framework Server (ADF)	2	30	50	Per Web Instance
One View Reporting (OVR) Server / BI Publisher Server (BIP)	2	30	50 GB is required for a single pathcode	10 GB is required for each additional pathcode
Development Client	2	30	100	Per each Development Client installation

Note: (1) Optional components are not deployed by One-Click. However, web components can be manually added through the Server Manager, and the Development Client can be added in a new Microsoft Windows instance using the traditional on-premises methodology.

2 Upgrading from Prior Releases of EnterpriseOne

Upgrade Considerations

If you plan an Applications Upgrade to a One-Click installation of EnterpriseOne, you should be aware of important technical considerations.

These considerations are described in the Applications Upgrade Guide which describes an upgrade to the base Applications Release 9.2.

Refer to the section of this guide entitled:

Technical Considerations for Applications Upgrade to a 64-bit Version of 9.2

3 Planning Your Deployment

Understanding Port Restrictions

This section provides an overview of the restricted ports that cannot be defined or used while creating any web component or server, or both. You should be aware of the restricted ports that cannot be defined or used while creating any web component or server, or both.

The specific port restrictions for any One-Click Provisioning deployment of JD Edwards EnterpriseOne are grouped as follows:

- One-Click Provisioning Console for JD Edwards
- All Internet Browsers
- Google Chrome and Mozilla Firefox Browsers

One-Click Provisioning Console for JD Edwards

- Any port below 1024 is restricted.

All Internet Browsers

The following are restricted ports enforced by the rules of any internet browser:

- 2049
- 4045
- 6000

Google Chrome and Mozilla Firefox Browsers

In addition to the above mentioned restricted ports for any internet browser, the Google Chrome and Mozilla Firefox browsers block specific ports which they deem as unsafe to use on HTTP/HTTPS protocol. These restricted ports are:

- 3659, // apple-sasl / PasswordServer
- 6665, // Alternate IRC [Apple addition]
- 6666, // Alternate IRC [Apple addition]
- 6667, // Standard IRC [Apple addition]
- 6668, // Alternate IRC [Apple addition]
- 6669, // Alternate IRC [Apple addition]

Note: It may be possible to configure Chrome and/or Firefox to change these restrictions.

Creating a Pre-Installation Worksheet

Machine	IP Address

Provisioning Server and Server Manager (same machine)	https://__.__.__.__:3000 where **https** is the only supported browser protocol, and where **3000** is always the port, which you must include as part of the address
Machine	**Hostname**
Database Server in Compute or a DB System	
Autonomous Database (ADB)	ADB Admin User Password: _____ ADB WALLET: _____ Auth Token of User: _____ Tenancy: _____ Username: _____ Region: _____ Bucket: _____
HTML Server	
AIS Server	
Deployment Server	Hostname: _____ Location Name: _____

Note:
Do not use a fully qualified domain name for host names; you should only specify the first node of the domain name.

For the Database, Enterprise, and Deployment Servers, machine names are limited to a maximum of 15 **lower-case** alphanumeric characters as limited by the JD Edwards EnterpriseOne database table and application design.

For all servers, you cannot use special characters in the name, such as an underscore "_". The user interface will enforce this restriction.

User Account	**Password**
oracle	These users do not have a login password. Access is through SSH Keys only, logging in using the username **opc**. Enter SSH Key names here.
jde920	

em_manager_user	
sys, system	
weblogic	
JDE	
jde_admin	
Initial Windows Machine Administrator (temporary)	
Site Key Passphrase	
Server Manager Console	
SQL DB User (SA) **Note:** This is only applicable to Oracle Cloud Infrastructure with Microsoft Windows and On-Premises Microsoft Windows with SQL Server database.	

Note: The password for ***any*** Windows user on ***any*** Windows machine must not contain the $ or ! characters; using these characters violates the Oracle password policy and will result in denied access.

4 Performing Setup Tasks in Oracle Cloud Infrastructure

Logging into Oracle Cloud Infrastructure

Supported Browsers

Oracle Cloud Infrastructure supports the latest desktop versions of Google Chrome, Microsoft Edge, Internet Explorer 11, Safari, Firefox, and Firefox ESR. Note that private browsing mode is not supported for Firefox, Internet Explorer, or Edge. Mobile browsers are not supported.

To sign in to Oracle Cloud at *https://cloud.oracle.com*, you need:

- User name and password
- Your cloud account name

When your tenancy is provisioned, Oracle sends an email to the default administrator at your company with the sign-in credentials and URL. This administrator can then create a user account for each person who needs access to Oracle Cloud Infrastructure. Check your email or contact your administrator for your credentials and account name.

Signing In for the First Time

Links for signing in are also provided in your welcome email.

1. Open a supported browser and go to *https://cloud.oracle.com*.
2. Click **Sign In**.
3. Enter your **Cloud Account Name** and click **Next**.
4. Enter your user name and temporary password from your welcome email. You will be prompted to change your temporary password.

After you sign in, the Console Home page is displayed.

About the Console URL

Alternatively, you can sign in directly to Oracle Cloud Infrastructure using the Console URL. When you sign up to use Oracle Cloud Infrastructure, you receive a customized URL for your organization. For example:

https://console.us-ashburn-1.oraclecloud.com/?tenant=CompanyABC

If you instead use the base URL (https://console.us-ashburn-1.oraclecloud.com), you are prompted to specify your tenant (or cloud account name) on the sign-in page, along with your user name and password.

Creating a Compartment

This section shows you how to create a Compartment in Oracle Cloud Infrastructure. You must define a Compartment as part of core functionality in Oracle Cloud Infrastructure.

Prerequisite

- The user interface for the Oracle Cloud Infrastructure Console is constantly evolving. For the most up-to-date descriptions and navigation, refer to *Get to Know the Console*.
- You should have a fundamental understanding of Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription to Oracle Cloud Infrastructure and an Administrator account in the platform. For more information, refer to *Getting Started with Oracle Cloud*.
- To access the Oracle Cloud Infrastructure Console, you must use a supported browser. See **Supported Browsers** in *Troubleshooting Signing In to the Console*.

To create a Compartment for JD Edwards EnterpriseOne on Oracle Cloud Infrastructure, follow the steps in the *Creating a Compartment* section of the Oracle Cloud Infrastructure Documentation.

Creating a Virtual Cloud Network

This section shows you how to create a Virtual Cloud Network (VCN) in Oracle Cloud Infrastructure using the Start VCN Wizard.

Prerequisite

- The user interface for the Oracle Cloud Infrastructure Console is constantly evolving. For the most up-to-date descriptions and navigation, refer to *Get to Know the Console*.
- You should have a fundamental understanding of Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription to Oracle Cloud Infrastructure and an Administrator account in the platform. For more information, refer to *Getting Started with Oracle Cloud*.
- To access the Oracle Cloud Infrastructure Console, you must use a supported browser. See **Supported Browsers** in *Troubleshooting Signing In to the Console*.

Before you can launch an instance, you must have a Virtual Cloud Network (VCN) in Oracle Cloud Infrastructure. For more information refer to this topic: *Creating the VCN and Subnets to Use with Oracle Functions, if they don't exist already*.

Oracle JD Edwards recommends using the **Start VCN Wizard** to create a complete set of networking resources using the concept of regional networking, which includes route tables with private and public subnets across all Availability Domains (ADs) in your region.

On Virtual Cloud Networks in <your_compartment>, click the **Start VCN Wizard** button.

On Create a VCN with Internet Connectivity - Configuration, complete these fields in the **Basic Information** and **Configure VCN and Subnets** sections:

Basic Information

- VCN NAME
- COMPARTMENT

Configure VCN and Subnets

- VCN CIDR BLOCK (see below Note)
- PUBLIC SUBNET CIDR BLOCK (see below Note)
- PRIVATE SUBNET CIDR BLOCK (see below Note)

Note: For CIDR block values, you can either use the example values or obtain the values from your network engineer.

DNS RESOLUTION

In this section, ensure the following check box is selected:

- USE DNS HOSTNAMES IN THIS VCN

To create a VCN, see *Creating a VCN* in the Orcale Cloud Infrastructure Documentation.

Creating Rules for a VCN Security List

This section shows you how to create rules for virtual cloud network (VCN) security list in Oracle Cloud Infrastructure for use with JD Edwards EnterpriseOne One-Click Provisioning.

Prerequisite

- You must have created a Virtual Cloud Network as described in the preceding section of this Learning Path entitled: " ***Creating a Virtual Cloud Network*** ".
- The user interface for the Oracle Cloud Infrastructure Console is constantly evolving. For the most up-to-date descriptions and navigation, refer to *Get to Know the Console*.
- You should have a fundamental understanding of Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription to Oracle Cloud Infrastructure and an Administrator account in the platform. For more information, refer to *Getting Started with Oracle Cloud*.
- To access the Oracle Cloud Infrastructure Console, you must use a supported browser. See **Supported Browsers** in *Troubleshooting Signing In to the Console*.

You must create rules for the Public subnet that was automatically created by the workflow wizard when you created the VCN.

Note: If you have created a VCN using any other method, you must destroy that VCN and follow the documented procedure in this Learning Path.

Follow the below steps to create rules for a VCN security list:

1. Navigate to Networking > Virtual Cloud Networks
2. In the List Scope section, verify the correct COMPARTMENT is selected.
3. Click the link for the VCN you created and click on Subnet
4. On the list of subnets, click on the link to open the Public-subnet-<vcn_name> definition.
5. In Subnet Details, click on Security section and click on the link Default Security List for <vcn_name>.

6. On the Default Security List for <vcn_name> page click on security rules, where default rules are displayed, for the default rule for Port 22, it is recommended to edit the rule to specify a Source CIDR range of 123.123.123.123/32.
7. On the Add Ingress Rules dialog, add rules for ports that should be open to the Private subnet as shown in the following table.

Stateless Check box (always unchecked)	Source CIDR	IP Protocol (always TCP)	Source Port Range (Always All)	Destination Port Range	Comment
	Public subnet (see Note 1)			3000	One-Click Provisioning Console
				3389	Remote Desktop Protocol (RDP)
				8998	Server Manager Console https (SSL)
				8999	Server Manager Console http (non-SSL)
				User-specified SSL port for each HTML instance using Provisioning Console	HTML Server
				User-specified SSL port for each AIS instance using Provisioning Console	AIS Server
	Private subnet only (see Note 2)			1521	Oracle Database Server
				1433	SQL Server Database Server
				User-specified port at installation	WebLogic Admin Console - https (SSL)
				User-specified port at installation	WebLogic Admin Console - http (non-SSL)
				5150	Required for One-Click Provisioning to validate ports over the network.
				5985	Deployment Server Used for the winrm port for communication between Provisioning Server and Deployment Server
				6017-6026	Enterprise Server These ports depend on release level of EnterpriseOne and user specification.
				14501-14520	JMX Port (required for Server Manager Agent communication)

Note: Source CIDR. In this form, the IP address value represented by **Source CIDR** (where CIDR means Classless Inter-Domain Routing) is a function of the VCN. This is the source IP address from where connection is allowed on a particular port. The syntax x.x.x.x/x provides an IP address range. For example, 10.0.0.0/16 means 10.0.0.1 to 10.0.255.255 (where /16 is the bit length of the subnet mask), while 0.0.0.0/0 means all IP addresses.

Note: It is recommended to not open any port for all IP addresses. Instead you should only open ports to specific Public IP addresses by either setting your VCN or by using the OCI function allowlist (formerly whitelist) to specify a CIDR (range of IP addresses). For example, to open an IP port for a range of addresses such as 123.123.123.123, add 123.123.123.123/32 as source CIDR for the port.

Note: Private Network. These ports should not use CIDR values that are open to the Internet. They should be specified on a Private Network for machine-to-machine communications. For example, 10.0.0.0/16. Ensure that your Private subnet is configured so that the ports list in the above table are open.

For details, see *Creating a Security List* in Oracle Cloud Infrstructure Documentation.

Creating a Group

This section shows you how to create a Group in Oracle Cloud Infrastructure.

For additional information on using Groups in Oracle Cloud Infrastructure, refer to the section entitled: **Add a New Group in the Oracle Cloud Infrastructure Console** in *Adding Groups and Users for Tenancies Federated with Oracle Identity Cloud Service*.

Prerequisite

- The user interface for the Oracle Cloud Infrastructure Console is constantly evolving. For the most up-to-date descriptions and navigation, refer to *Get to Know the Console*.
- You should have a fundamental understanding of Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription to Oracle Cloud Infrastructure and an Administrator account in the platform. For more information, refer to *Getting Started with Oracle Cloud*.
- To access the Oracle Cloud Infrastructure Console, you must use a supported browser. See **Supported Browsers** in *Troubleshooting Signing In to the Console*.

To create a group using the Oracle Cloud Infrastructure Console, follow the steps in the *Creating a Group* section of the Oracle Cloud Infrastructure Documentation.

Creating a User

This section shows you how to create users in Oracle Cloud Infrastructure. For additional information on creating users in Oracle Cloud Infrastructure, refer to the topic **Create a User** in *Adding Users*.

Prerequisite

- The user interface for the Oracle Cloud Infrastructure Console is constantly evolving. For the most up-to-date descriptions and navigation, refer to *Get to Know the Console*.
- You should have a fundamental understanding of Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription to Oracle Cloud Infrastructure and an Administrator account in the platform. For more information, refer to *Getting Started with Oracle Cloud*.
- To access the Oracle Cloud Infrastructure Console, you must use a supported browser. See **Supported Browsers** in *Troubleshooting Signing In to the Console*.

Note: You must perform this task as an Oracle Cloud Infrastructure user who has sufficient permissions to create and update resources within Oracle Cloud Infrastructure. For more information, refer to *Adding Users* in *Oracle Cloud Infrastructure Documentation*.

Note: You must create a Domain before creating a User. Refer to *Creating an Identity Domain* in Oracle Cloud Infrastructure Documentation.

To create a User, see *Creating a User* in Oracle Cloud Infrastructure Documentation.

Adding Users to Groups

This section tutorial shows you how to add users to groups in Oracle Cloud Infrastructure.

For additional information on using Groups in the Oracle Cloud Infrastructure, refer to the section entitled: Managing *"Managing Oracle Identity Cloud Service Users and Groups in the Oracle Cloud Infrastructure Console"* in *Oracle Cloud Infrastructure Documentation*. For additional information on creating users in Oracle Cloud Infrastructure, refer to *Adding Users*.

Prerequisite

- You must have already created a user by following the process described in the preceding module "*Creating a User*" in this Learning Path.
- The user interface for the Oracle Cloud Infrastructure Console is constantly evolving. For the most up-to-date descriptions and navigation, refer to *Get to Know the Console*.
- You should have a fundamental understanding of Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription to Oracle Cloud Infrastructure and an Administrator account in the platform. For more information, refer to *Getting Started with Oracle Cloud*.
- To access the Oracle Cloud Infrastructure Console, you must use a supported browser. See **Supported Browsers** in *Troubleshooting Signing In to the Console*.

To add users to the respective groups, see *Adding a User to a Group* in Oracle Cloud Infrastructure Documentation.

Creating a Policy

This section describes the minimum setup IAM policies required to use JD Edwards EnterpriseOne Infrastructure Provisioning for Reference Architecture. The user who is running the Infrastructure Provisioning must have these policy settings for the group to which they belong. The tenancy administrator for Oracle Cloud Infrastructure is responsible for creating and assigning these requisite policies. If you are unsure of your policy settings you should check with the tenancy administrator.

Note: As described above, this procedure may only be necessary in certain regions or for certain classes of subscribers or users in Oracle Cloud Infrastructure.

For additional information on using policies in Oracle Cloud Infrastructure, refer to the documentation for Oracle Cloud Infrastructure in the *Managing Policies*.

Prerequisite

- The user interface for the Oracle Cloud Infrastructure Console is constantly evolving. For the most up-to-date descriptions and navigation, refer to *Get to Know the Console*.
- You should have a fundamental understanding of Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription to Oracle Cloud Infrastructure and an Administrator account in the platform. For more information, refer to *Getting Started with Oracle Cloud*.
- To access the Oracle Cloud Infrastructure Console, you must use a supported browser. See **Supported Browsers** in *Troubleshooting Signing In to the Console*.

To create a policy using the Oracle Cloud Infrastructure Console, refer to *Creating a Policy* in Oracle Cloud Infrastructure Documentation.

In the Policy Builder section, click the **Customize/Advanced** button.

In the Policy Builder dialog, enter the following statements:

```
Allow group <group_name> to read announcements in tenancy

Allow group <group_name> to manage virtual-network-family in tenancy

Allow group <group_name> to manage load-balancers in tenancy

Allow group <group_name> to manage instance-family in tenancy

Allow group <group_name> to read app-catalog-listing in tenancy

Allow group <group_name> to manage volume-family in tenancy

Allow group <group_name> to manage file-family in tenancy

Allow group <group_name> to manage database-family in tenancy

Allow group <group_name> to manage autonomous-database-family in tenancy

Allow group <group_name> to manage keys in tenancy

Allow group <group_name> to manage dns in tenancy

Allow group <group_name> to manage object-family in tenancy

Allow group <group_name> to manage compartments in tenancy

Allow group <group_name> to manage tag-namespaces in tenancy

Allow group <group_name> to manage vaults in tenancy

Allow group <group_name> to manage secret-family in tenancy
```

where ***<group_name>*** is the name of group that you specified as described in the section of this Learning Path entitled "Creating a Group".

5 Preparing the Microsoft Windows Servers

Creating Microsoft Windows Instances as VMs in Oracle Cloud Infrastructure

This section describes how to create a Microsoft Windows instance in Oracle Cloud Infrastructure.

Oracle Cloud Infrastructure Compute enables you to provision and manage compute hosts, known as instances.

> **Note:** While Oracle Cloud Infrastructure offers both Bare Metal and Virtual Machine instances, the current version of One-Click Provisioning for Oracle Cloud Infrastructure only supports Virtual Machine instances.

For additional information, refer to *Creating an Instance*.

In preparation for JD Edwards EnterpriseOne One-Click Provisioning, you must create a Microsoft Windows VM instance in Oracle Cloud Infrastructure Compute for these JD Edwards EnterpriseOne core servers:

- **Provisioning Server**

  > **Note:** This server includes the Server Manager. This server also includes the archive file (in compressed and extracted forms) that will be used to provision all other machines deployed by One-Click Provisioning.

- **Compute Database Server**
- **Enterprise Server**
- **WebLogic Server**
- **Deployment Server**

> **Note:** For best performance, Oracle strongly recommends creating VMs for all JD Edwards components within the same Availability Domain (AD).

Create Microsoft Windows VMs on the Oracle Cloud Infrastructure

Use this procedure to create a Microsoft Windows VM in Oracle Cloud Infrastructure.

1. From the navigation menu in the upper left-hand corner, select **Compute,** then select **Instances**, and click the **Create Instance** button.
2. In the left pane in the **List Scope** section, ensure that the currently selected Compartment, if any, is the Compartment in which you want to create the instance.
3. On the **Create Compute Instance** page, complete these fields:
   - ***Name***

     > **Note:** The system automatically populates this field. It is recommended that you change this name to a value that you might more easily recognize. You can change the name later. The name does not need to be unique because an Oracle Cloud Identifier (OCID) uniquely identifies the instance.

The name you enter here is the display name of the instance. This will be the host name of the JD Edwards EnterpriseOne JD Edwards EnterpriseOne One-Click Provisioning Server Image server. For example, the One-Click Provisioning Server might be called **jdeprov**.

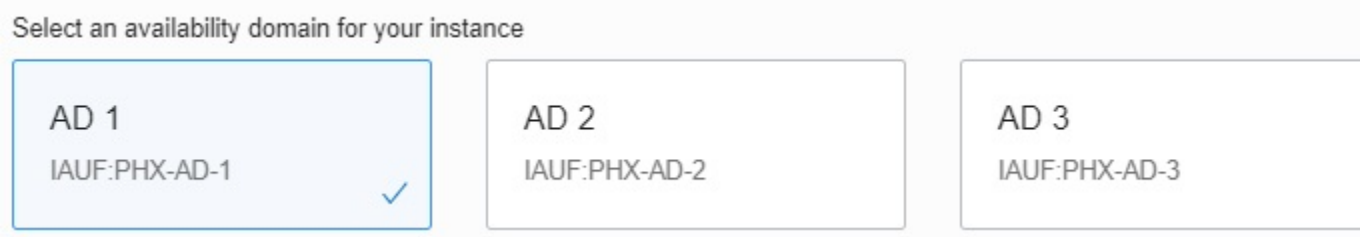
> **Note: Special Naming Restrictions.** Ensure that the host name of the JD Edwards EnterpriseOne JD Edwards EnterpriseOne One-Click Provisioning Server Image instance contains only alphanumeric values. You cannot use special characters such as the dollar sign ($), exclamation point (!), underscore (_), vertical pipe (|), at sign (@), and so on, in the host name. Machine names are limited to a maximum of 15 lower-case alphanumeric characters. This is the character count which is supported by the JD Edwards EnterpriseOne database table and application design. Do not use a fully qualified domain name for host names. You should only specify the first node of the domain name. If the existing hostname does not conform to these requirements, the runtime of JD Edwards EnterpriseOne will fail. If a host name does not conform to these requirements, you should permanently change the host name for your system.

- ***Create in Compartment***

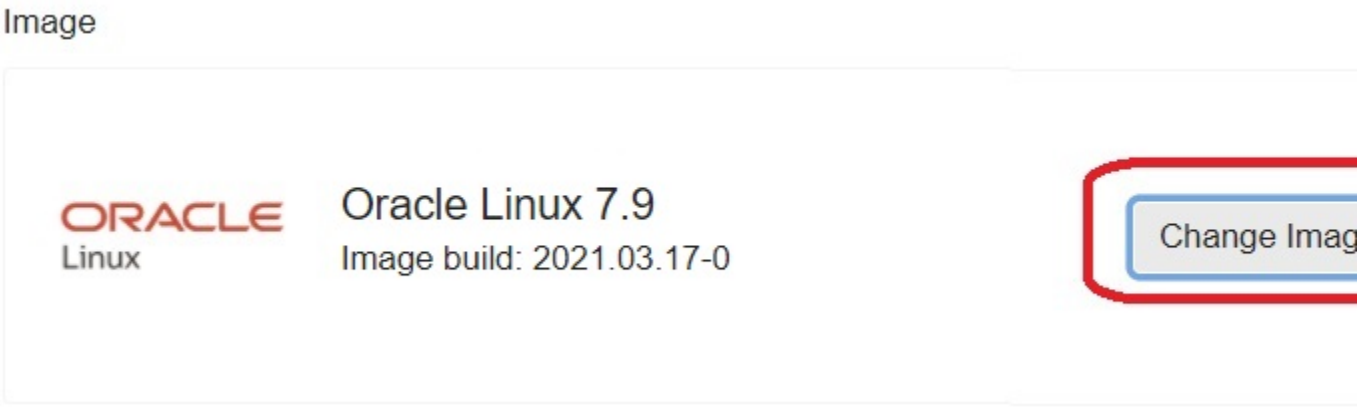
  Enter the name of the compartment in which you want to create the instance. By default, the currently selected Compartment is displayed.

- ***Configure placement and hardware***

  Click on an availability domain (AD) to select it. You can only specify a single AD.



- On Create Compute Instance, in the **Image** section, click the **Change Image** button.



- On Browse All Images:
  - In the **Image name** column, click the **Windows Server 2022 Standard** checkbox.
  - In the **Image build** column, use the pull-down to select the latest build. For example, **2023.10.10-0**.
  - Click the **Select Image** button.

Select an image

- [ ] Windows Server 2019 Datacenter
- [ ] Windows Server 2019 Standard
- [ ] Windows Server 2019 Standard Core
- [ ] Windows Server 2022 Datacenter
- [x] Windows Server 2022 Standard

View compatible shap

1 selected

- [ ] I have reviewed and accept the following documents: Oracle

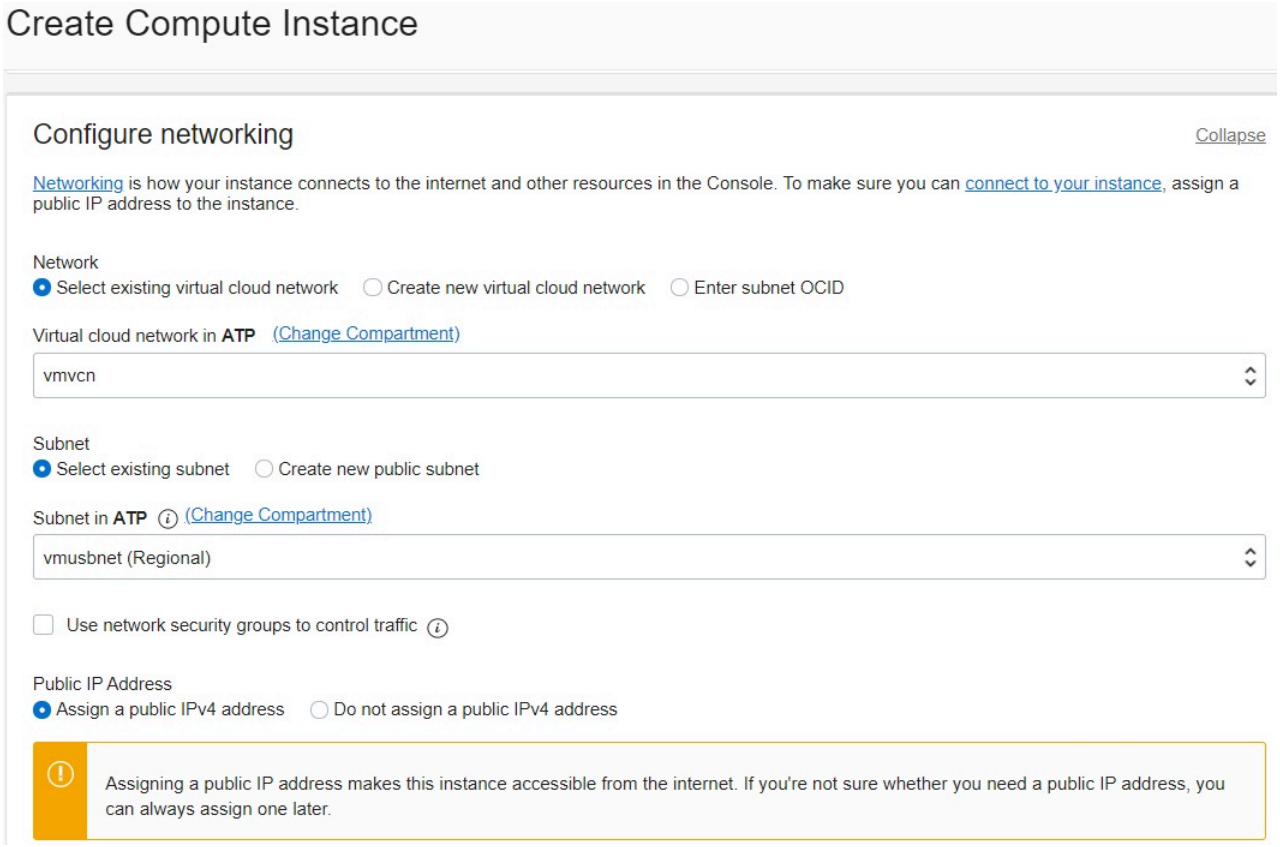
Select image | Cancel

- ***Configure networking***

  Verify, and if necessary, set your network settings for the instance of JD Edwards EnterpriseOne JD Edwards EnterpriseOne One-Click Provisioning Server Image. These settings include:

  - Network
  - Subnet
  - Subnet in <*Compartment*>

  > **Note:** Be sure to select this radio button: **Assign a public IPV4 Address**



- ***Add SSH Keys***

  You must add the SSH keys that you previously created for use with JD Edwards EnterpriseOne JD One-Click Provisioning Server Image.

  You can either click the **Choose SSH key** file option to select a file with your public (.pub) key from your computer, or choose the **Paste SSH keys** option to paste the key.

- ***Configure boot volume***

  To determine whether you want to implement block or boot volume storage, refer to the preceding module of this Learning Path entitled "Using Volume Storage". If you choose to use boot volume storage,

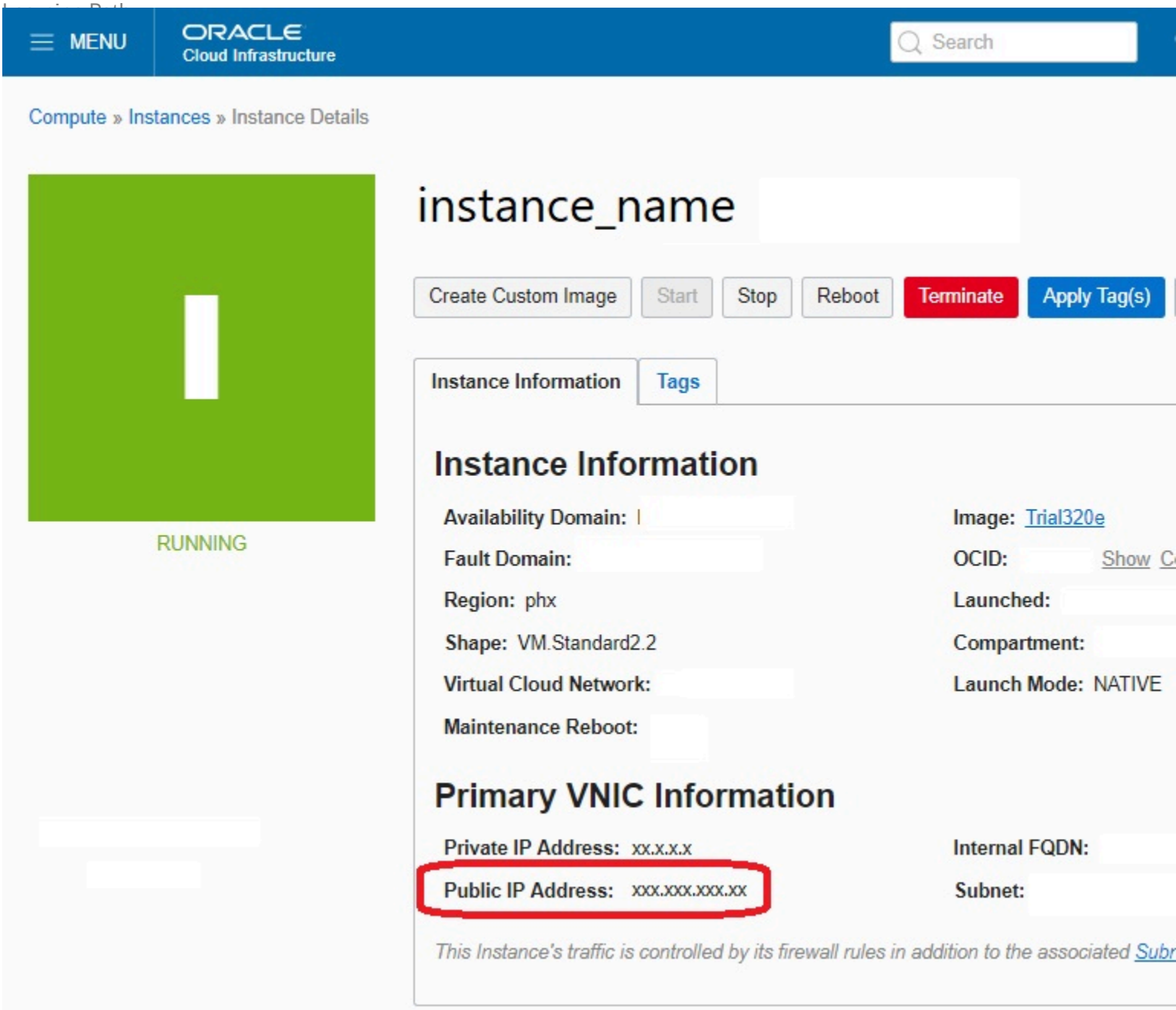
at this point you must specify a minimum value of 256 GB. Further, you must enable this extended boot volume size as described below in the task *Extending the System Partition on a Windows-Based Image.*

- ***Show Advanced Options***

  You do not need to set any Advanced Options.

4. Click the **Create** button to create the Oracle Cloud Infrastructure instance for JD Edwards EnterpriseOne JD Edwards EnterpriseOne One-Click Provisioning Server Image.

> **Note:** After the instance is created, the system assigns a **Public IP address**. Make a note of this address because you will need it to connect to the instance using the SSH keys in order to complete the first-time configuration of the One-Click Provisioning Server Image for JD Edwards EnterpriseOne as described in the following section.



The above process creates a VM instance with a Microsoft Windows instance that will be provisioned OR that will be deployed by JD Edwards EnterpriseOne One-Click Provisioning.

You must repeat this process for each JD Edwards EnterpriseOne server on which the One-Click Provisioning Server will be deployed. At a minimum, you will need a Microsoft Windows VM instance for each of these servers:

- Provisioning Server -This includes the Provisioning Server and the Server Manager (for JD Edwards EnterpriseOne)
- Compute Oracle Database Server (Oracle or SQL Server)
- Enterprise Server

- WebLogic Server - Hosts the JD Edwards EnterpriseOne web servers such as the HTML Servers and AIS Servers (there can be one or many of each web server type)
- Deployment Server

Logging in to the Windows VM

This section shows you how to log in to the Microsoft Windows virtual machine (VM) in Oracle Cloud Infrastructure.

Prerequisite

You must have previously created a Microsoft Windows VM in Oracle Cloud Infrastructure as described in the previous module of this Learning Path entitled: *Creating a Windows VM in Oracle Cloud Infrastructure*.

Log in to the Windows VM

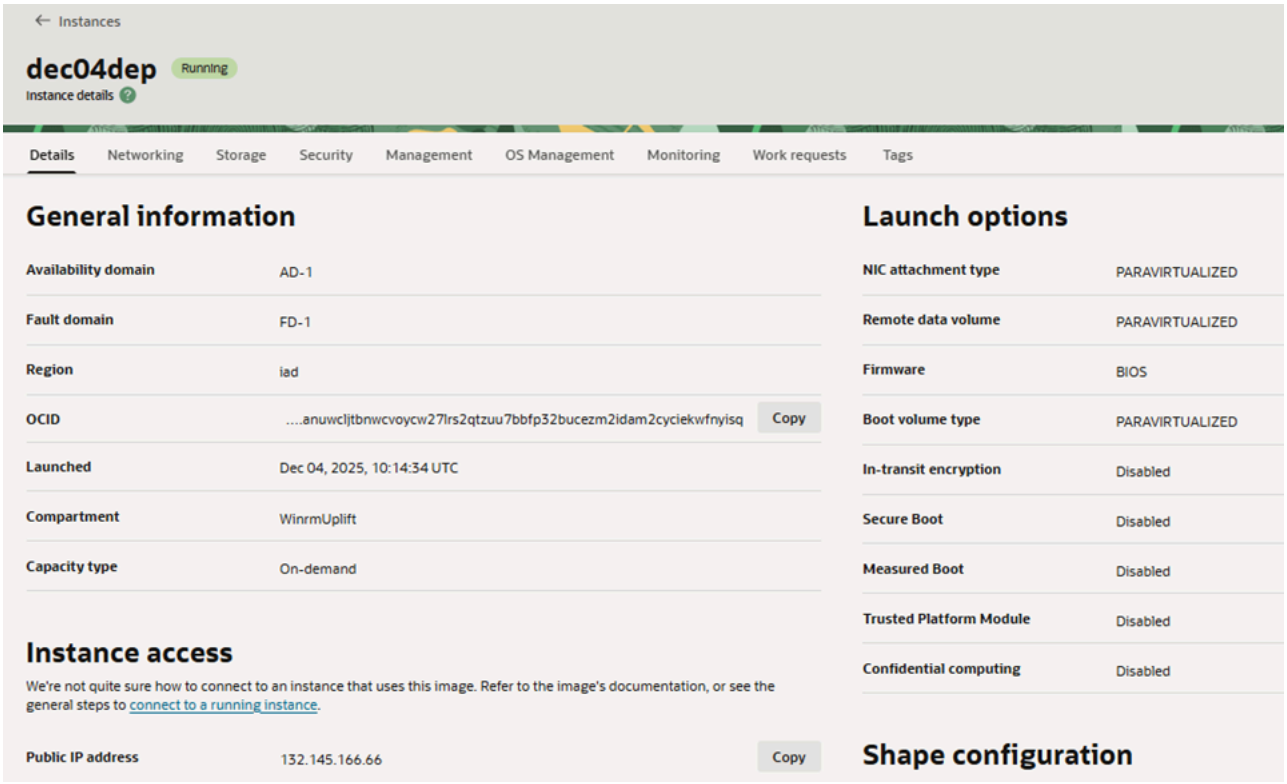
1. Connect to the Microsoft Windows VM in Oracle Cloud Infrastructure with a Remote Desktop Protocol (RDP) connection using this command in a Command Window:

   ```
   mstsc /f
   ```

2. On Remote Desktop Connection, complete these fields:

   - ***Computer***

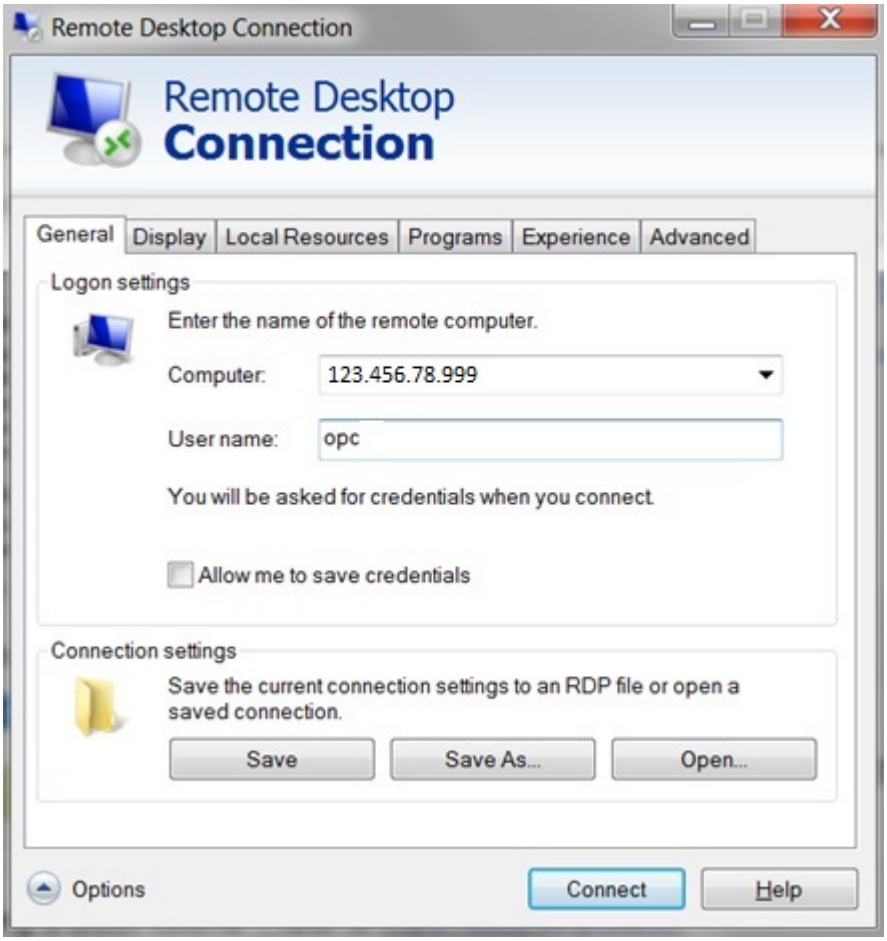
     Enter the Public IP Address which can be derived from the Instance Details for the Microsoft Windows Instance for the Deployment Server in the **Public IP Address** field.



   - ***User name***

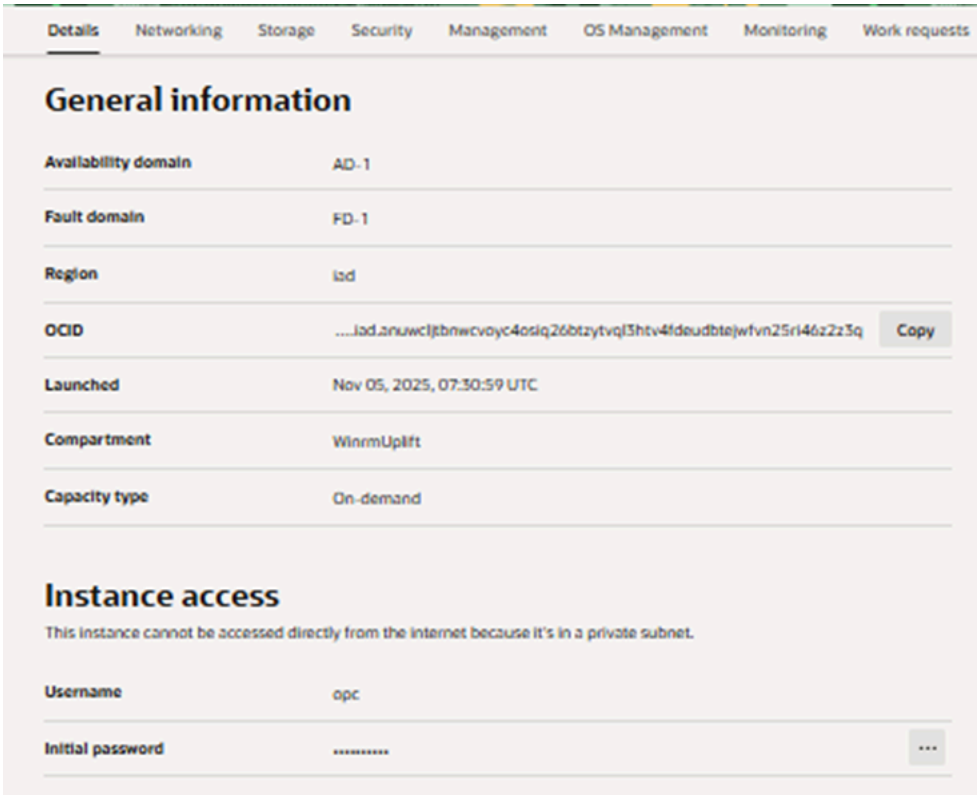
     Enter the value **opc**.

3. Click the **Connect** button.

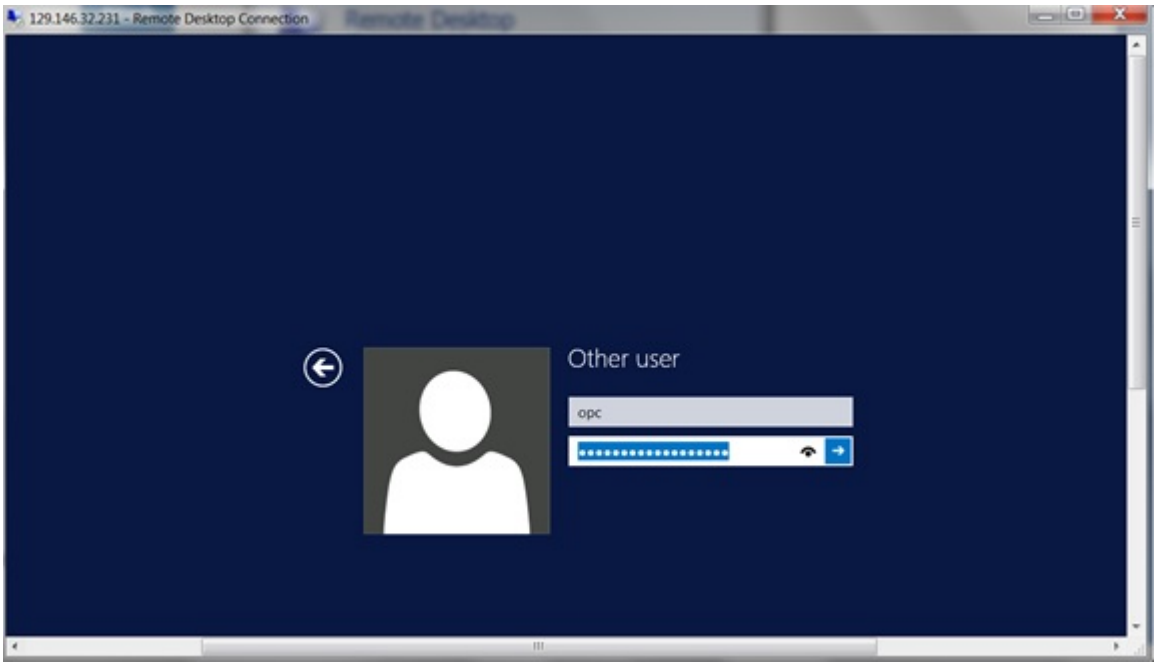


4. You are prompted to enter a password. This is the password that the system assigned upon creation of the Windows VM. On the **Instance Details** screen for the Windows VM that you created, locate the **Initial password** field.

5. In the **Initial password** field, click to expand more options and click the **Copy** option to copy the password.

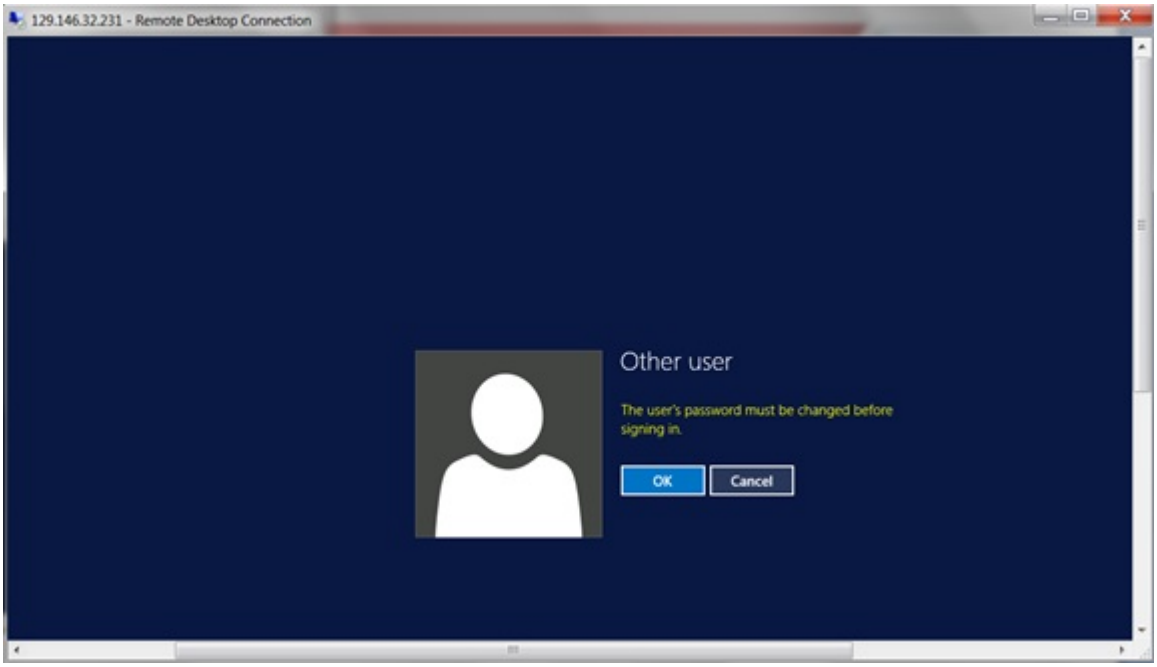


6. On Remote Desktop Connection, enter `opc` as the user and paste the copied password.



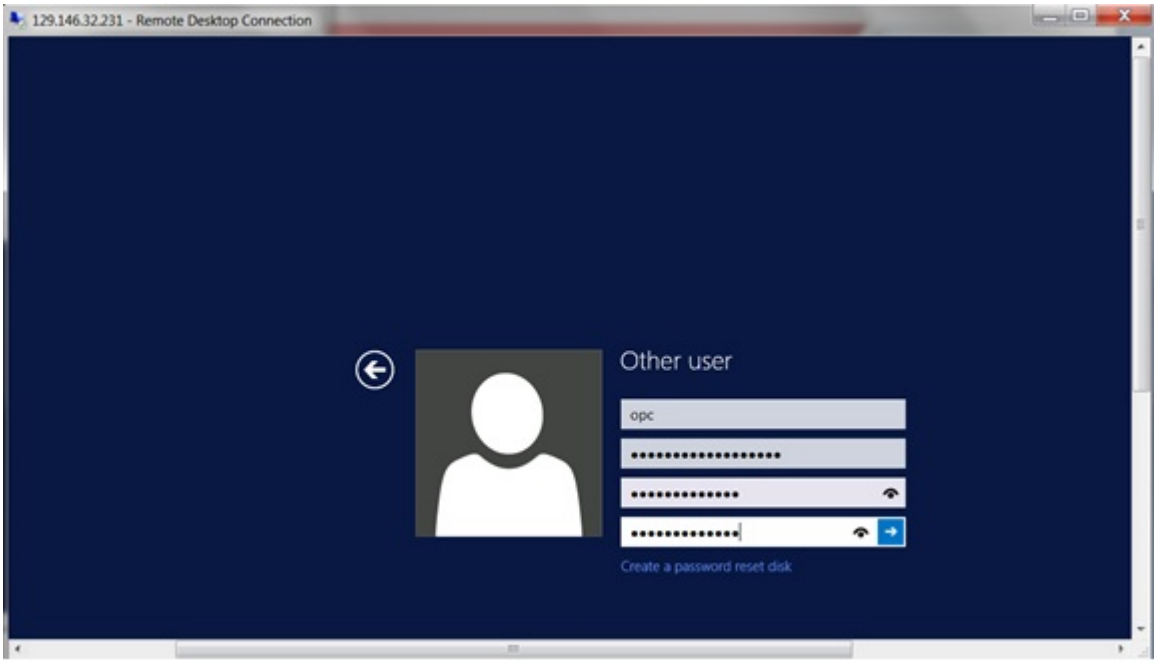
7. After you enter the credentials the first time you log in, you are prompted to change the password:

The user's password must be changed before signing in.



8. Change the password for the **opc** user following the Microsoft Windows policy for creating a user password.

> **Note:** The Password must contain at least 12 characters and must be comprised of at least one lower case letter, one upper case letter, one numeric digit, and one special character (for example; special characters could be _ @ ~ ! # % * +. Be sure and make a note of this password because you will need to use this same password later in the One-Click Provisioning Console.



6 Creating Volume Storage

Using Volume Storage

This section provides an overview to using volume storage in Oracle Cloud Infrastructure for use by JD Edwards EnterpriseOne with One-Click Provisioning.

To understand your volume storage options in Oracle Cloud Infrastructure, refer to this link: *Overview of Block Volume*.

Using Storage: Block Volume and Boot Volume

Oracle Cloud Infrastructure supports two types of volumes:

- **Block Volumes**

  This storage is used to expand the storage capacity of Compute instances, to provide durable and persistent data storage that can be migrated across Compute instances, and to host large databases in Compute. To use this volume type you must create, attach, and connect the volume.

- **Boot Volumes**

  Instances that are created on the Oracle Cloud Infrastructure are allocated a fixed default amount of storage, called the Boot Volume. This default storage amount must be expanded to meet the requirements of JD Edwards Enterprise servers. These storage amount requirements are specified in the section of this Learning Path entitled *Minimum Resource Requirements* .

Selecting between boot volume or block volume storage is the responsibility of your system architect. For JD Edwards EnterpriseOne, at a minimum, you must create sufficient storage for these machines:

- Provisioning Server
- Database Server
- Enterprise Server
- WebLogic Server
- Deployment Server
- Development Client

Block Volume Storage

If you choose to use block volume storage, you must complete the following steps:

- *Creating a Block Volume*
- *Attaching a Volume*
- *Connecting a Volume*

Note: This section contains instructions for both Linux and Microsoft Windows environments.

Boot Volume Storage

If you choose to use boot volume storage, refer to the steps in the following document:

- *Boot Volumes*

7 Configuring the Microsoft Windows Servers

Obtaining and Using Archive Files for One-Click Provisioning

This section shows you how to obtain and use archive files for One-Click Provisioning for JD Edwards EnterpriseOne.

Prerequisites

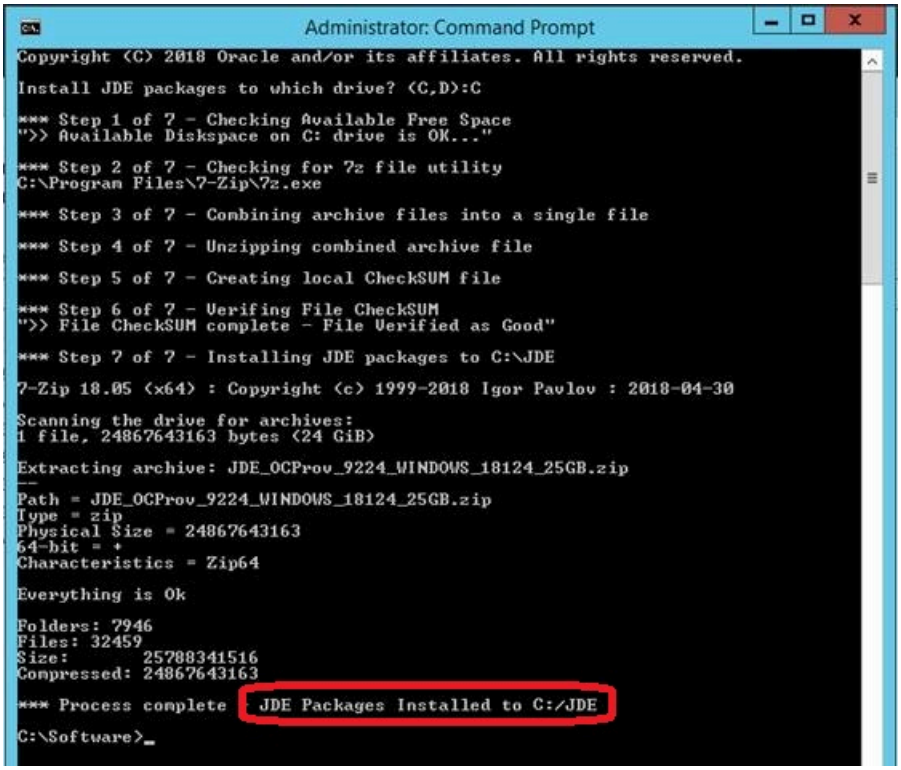
- You must have a VM or a server for the Provisioning Server.
- The VM or server for the Provisioning Server must be allocated with storage volume space, the amount of which is specified in the ***Before You Begin*** section at the beginning of this Learning Path.
- You must have performed the steps described in the module "Performing Common Setup for All Windows Servers" of this Learning Path.

Obtain, Unzip, Assemble, and Extract the Provisioning Server Archive Files

Due to file size limitations for files available from the Oracle Software Delivery Cloud (also called E-Delivery), the requisite archive cannot be posted as a single entity. Instead you must download a series of files that have been split into allowable sizes and then assemble them into a single archive, and then extract the contents of that archive using the following procedure.

1. Download the files for JD Edwards EnterpriseOne One-Click Provisioning from the Oracle Software Delivery Cloud using **All Categories** and **JD Edwards One-Click Provisioning** as the search criteria. From the displayed list, choose the relevant combination of JD Edwards EnterpriseOne applications and tools releases for Microsoft Windows and proceed to add the items to your cart.
2. Click **Selected Software** and then use the drop-down menu for **JD Edwards One-Click Provisioning** to choose **Microsoft Windows**.
3. To continue, review and agree to the license agreement.
4. A list of available files is shown.
5. Download the items in your cart. These items have part numbers in the form of VXXXXXX.zip and may not be in sequential order.
6. Using Windows Remote Desktop (RDP), connect to the Provisioning Server and upload the items you obtained from E-Delivery.
7. Using *only* the 7zip program (64-bit version), which is a prerequisite as specified in "Before You Begin", unzip *all* the downloaded files in the same folder.
8. Open a Command window to launch the necessary batch (.bat) files. The best practice is to not launch such files from Windows Explorer, or else the session will not persist and you can review progress upon successful completion because such sessions will automatically be closed by Microsoft Windows.
9. From a Command Prompt, run `rebuild.bat` to unzip and reassemble all the downloaded parts into a single file, and execute a checksum to ensure that the reassembled single file is not corrupted. The batch file also checks the system to ensure that the required zip program for unzipping, which is **7zip**, is installed. If **7zip** is not installed, an error message is displayed and the batch file is terminated.

10. If the extraction and reassembly and checksum complete successfully, you should receive a message similar to this:



Performing Common Setup for All Microsoft Windows Servers

This section shows you how to set up each core Microsoft Windows server required to run JD Edwards EnterpriseOne on Oracle Cloud Infrastructure.

Prerequisites

Using the user interface in Oracle Cloud Infrastructure, you must have created a Microsoft Windows VM instance for each server that will be deployed by JD Edwards EnterpriseOne One-Click Provisioning. At a minimum, the core JD Edwards EnterpriseOne servers include the Provisioning Server, Compute Database Server, Enterprise Server, WebLogic Server, and Deployment Server. For more information, refer to the OBE "Creating Microsoft Windows Instances as VMs in Oracle Cloud Infrastructure" in this Learning Path.

General

1. Ensure that the host name for the server contains only alphanumeric values. Special characters are not allowed.

2. All servers in the provisioning cycle must be configured with the same Microsoft Windows user name and credentials, where the user name *must* be **opc**. This common user must have aadministrator rights, that is, the user must be part of the Administrator group.

   > **Note:** JD Edwards EnterpriseOne One-Click Provisioning supports *only* these special characters for Windows user passwords: `_@~!#%*+(){}[].?`

3. If you change the password on any single machine in the provisioning cycle, you must likewise change the password all the other machines and reboot the Provisioning Server to recognize those changes.

Enable Remote Command Execution Through PowerShell

From PowerShell, use this command to enable remote command execution:

```
winrm quickconfig -q
```

Enable Inbound Ports in the Firewall

If you have the Microsoft Windows firewall enabled for any recommended profile (public, private, default), you need to open inbound and outbound ports for One-Click Provisioning to deploy the Deployment Server in the Microsoft Windows instance in Oracle Cloud Infrastructure. These ports are also required for JD Edwards EnterpriseOne runtime to function properly.

Use this procedure to open the inbound ports for *each* Microsoft Windows instance.

1. Go to Administrative Tools and select Windows Firewall with Advanced Security.
2. In the left pane, highlight **Inbound Rules**.
3. In the right pane, select Actions, then select Inbound Rules, and click **New Rule.**
4. On the Rule Type field, select **Port** as the type of rule to create.
5. Click the **Next** button.
6. On the Protocol and Ports page:
   - You can accept the default value of **TCP** for the protocol to which this rule applies.
   - Select the **Specific local ports** option, and for *each* Windows Server, enter each of the ports shown for that server in the following table. Separate the ports by a comma.

Windows Server Firewall Port List	
Component	**Inbound Ports to Open**
Provisioning Server	445 3000 3389 5150 5985 8998-8999

Windows Server Firewall Port List	
	7000-7001 14501-14502
Database Server	445 3389 5150 5985 <DB_PORT> **Note:** For SQL Server database, this is the value the user provides using the Provisioning Console. 14502-14510
Enterprise Server	445 3389 5150 5985 6017-6022 14502-14510
Web Server	445 3389 5150 5985 <WLS_ADMIN_PORT> **See Note 1** <SSL_ACCESS_PORT> **See Note 2** <SSL_ACCESS_PORT-1> **See Note 3** 14502-14520
Deployment Server	445

Windows Server Firewall Port List	
	3389 5150 5985 6017-6022 14502-14510

Note 1: This is the Admin Port on which the Admin Server is running. This value is set by the user while creating a WebLogic domain.

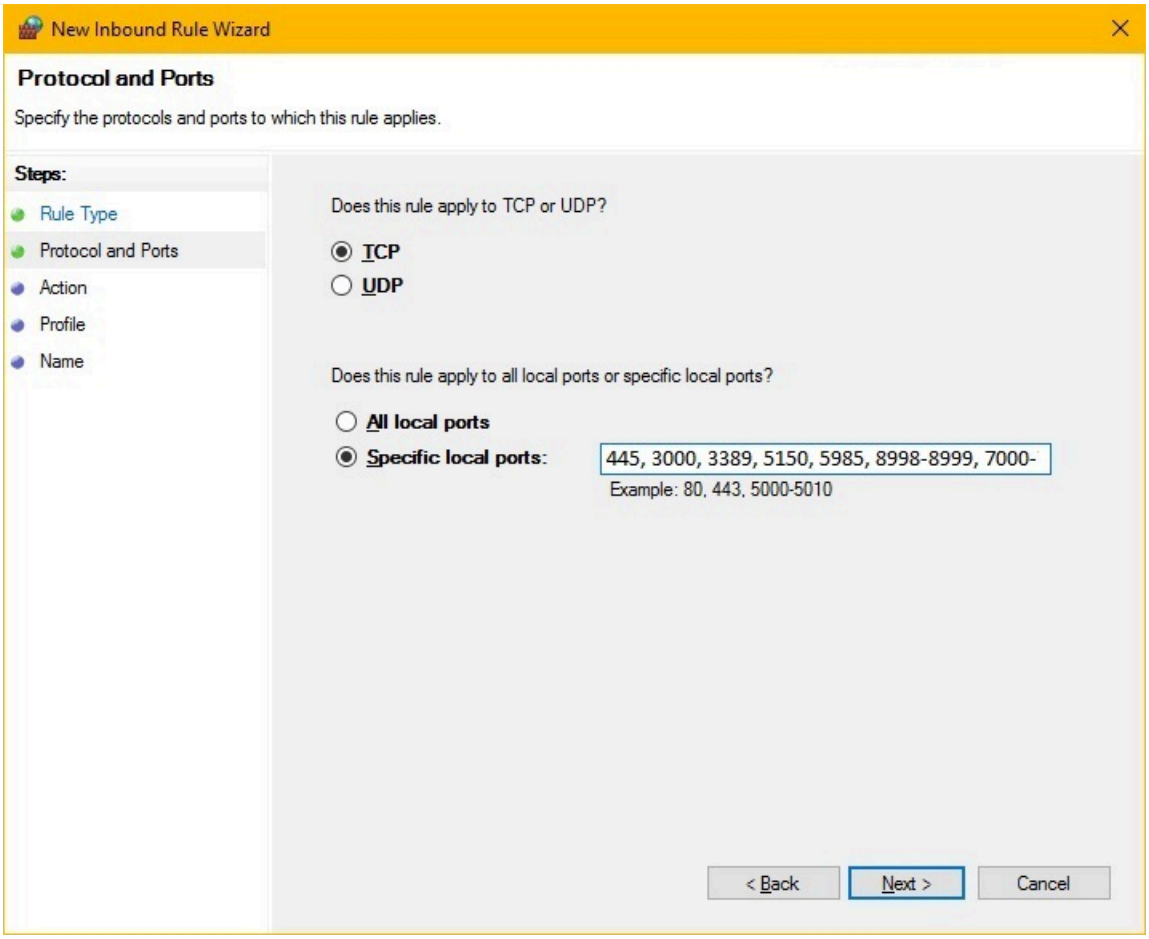
Note 2: This SSL port must be opened to enable the Server Manager Console to complete the tasks.

Note 3: This port number is equal to the value of the SSL port minus one. This port must be opened to enable the Server Manager to complete the provisioning tasks. For example, if you have specified the port value as 8081 in the One-Click Provisioning Console, you must open 8080 port (8081-1).

Also, you must open a port for each of the WebLogic Servers on Oracle Cloud Infrastructure. For example, if you have the following environments and server combinations, you should open eight ports: four ports for SSL for the port numbers specified by using the Provisioning Console, and four ports for non-SSL. The value of a non-SSL ports should be the value of an SSL port minus one.

- DV HTML
- PD HTML
- DV AIS

The following example shows the ports you should specify for the Provisioning Server. The complete list is not captured in the screenshot.



7. Click the **Next** button.
8. On Action, you can accept the default value which is **Allow the connection**.
9. Click the **Next** button.
10. On Profile, select all the firewall profile options (**Domain, Private, Public**).
11. Specify a name for the rule. For example, JDESMC_RDP
12. Click the **Finish** button to save the rule and exit the wizard.

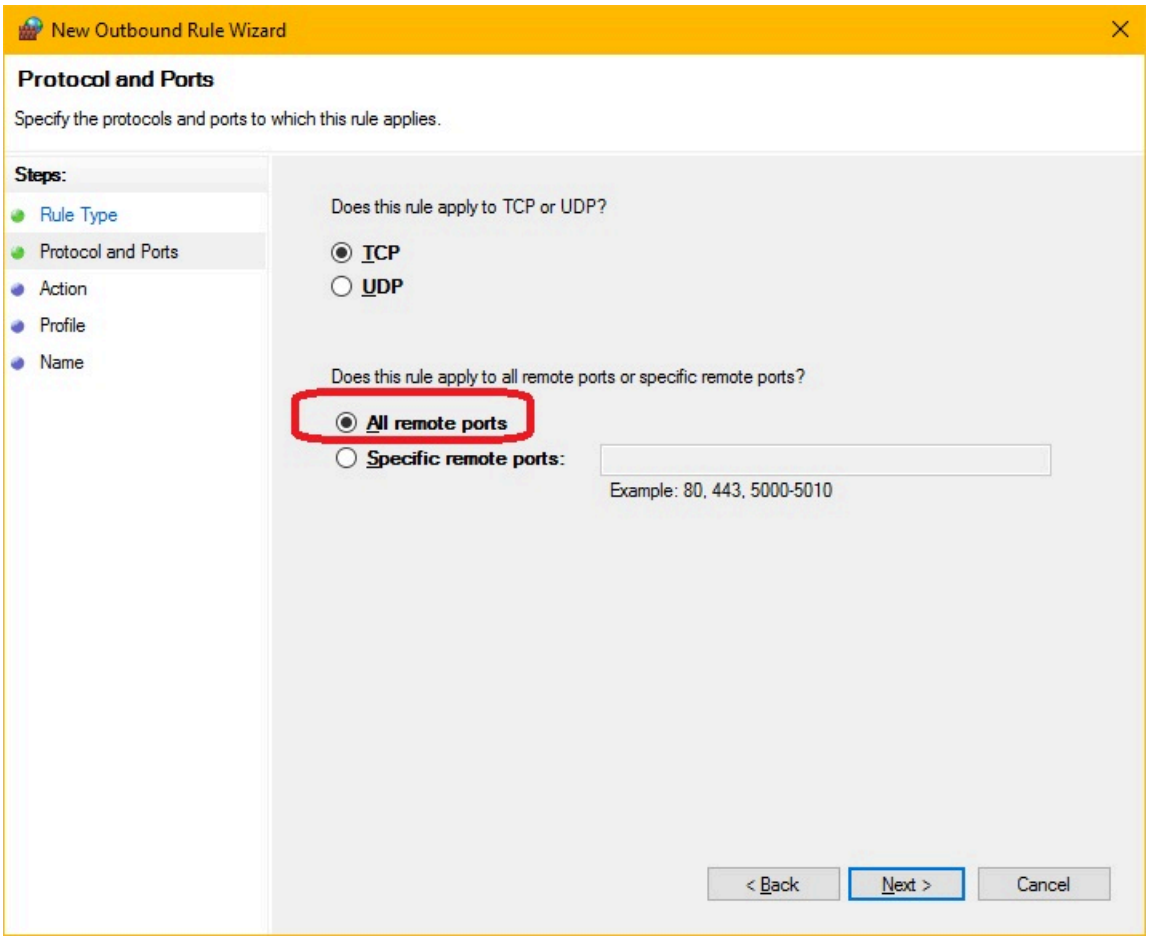
Enable Outbound Ports in the Firewall

If you have the Microsoft Windows firewall enabled for any recommended profile (public, private, default), you will need to open inbound and outbound ports for One-Click Provisioning to deploy the Deployment Server in the Microsoft Windows instance in OCI. These ports are also required for JD Edwards EnterpriseOne runtime to function properly.

Use this procedure to open the outbound ports in your Microsoft Windows instance.

1. Go to Administrative Tools, and select Windows Firewall with Advanced Security.
2. In the left pane, highlight **Outbound Rules**.
3. In the right pane, select Actions, and click **New Rule.**
4. On the Rule Type field, select **Port** as the type of rule to create.
5. Click the **Next** button.

6. On the Protocol and Ports page:
   a. You can accept the default value of **TCP** for the protocol to which this rule applies.
   b. Select the **All remote ports** option.

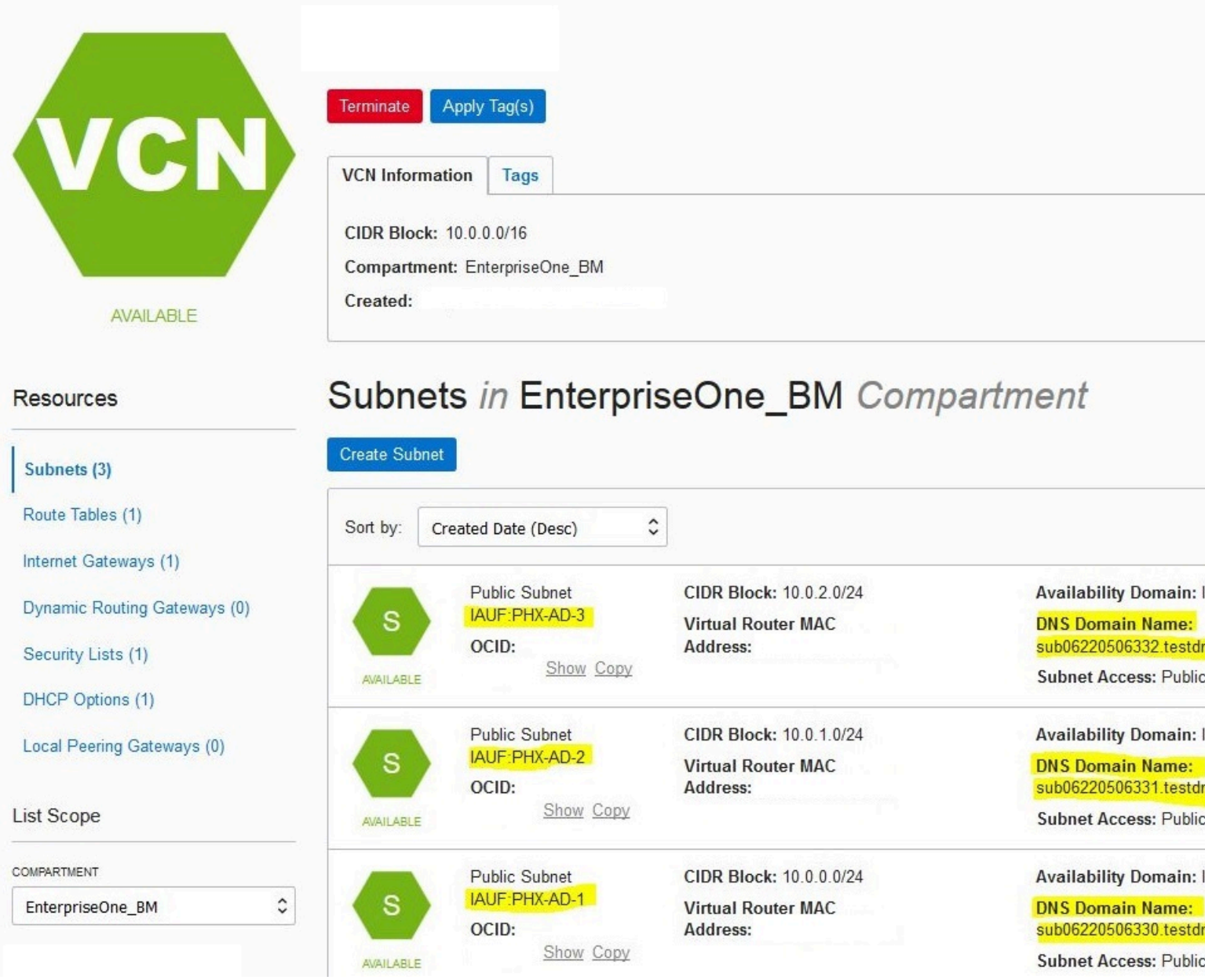


7. On Action, you can accept the default value which is **Allow the connection**.
8. Click the **Next** button.
9. On Profile, select all the firewall profile options (**Domain, Private, Public**).
10. Specify a name for the rule.
11. Click the **Finish** button to save the rule and exit the wizard.

Configure Settings for Ethernet Connections

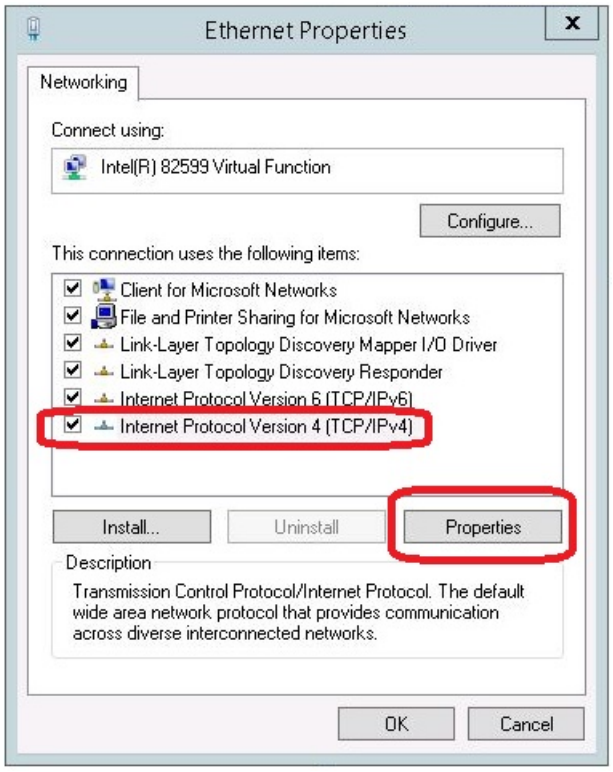
You must configure the settings for the Ethernet connection to specify the domain name of the Domain Name System (DNS) for the Availability Domain to which all the JD Edwards EnterpriseOne servers belong.

For example, if your subnets look like those shown in the example below, you must configure your network settings using this procedure:

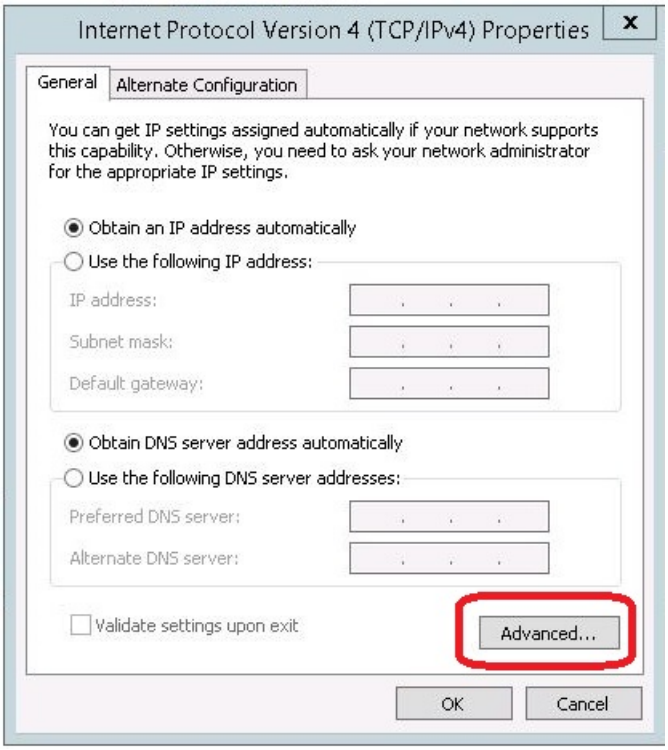


1. Open **Network and Sharing Center**.
2. From Ethernet settings, select Network, then select Connections, and click **Ethernet** to open **Ethernet Status**.
3. On the Ethernet Status window, click the **Properties** button.

4. On the Ethernet Properties window, select the **Internet Protocol Version 4 (TCP/IPv4)** option and click the **Properties** button.



5. On the Internet Protocol Version 4 (TCP/IPv4) Properties window, click the **Advanced** button.

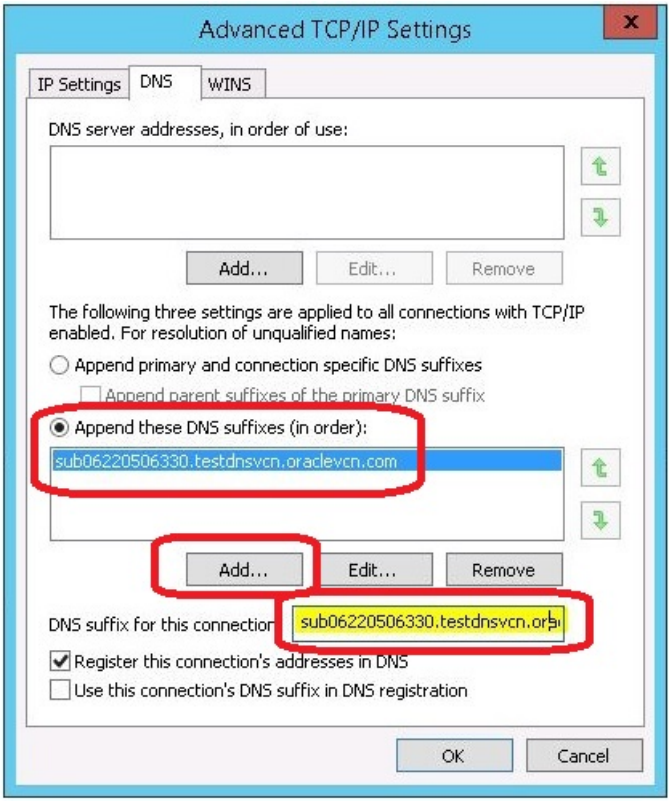


6. On the Advanced TCP/IP Settings window, select the **Append these DNS suffixes (in order):** option and click the **Add** button.

7. On the TCP/IP Domain Suffix dialog box, enter the value of the DNS Domain Name for your Availability Domain. For example, assuming that your subnets areas shown in the preceding screenshot showing the subnets for each Availability Domain and all the servers are created in the **sub0622506330.testdnsvcn.oraclevcn.com** subnet, you would enter this value for the suffix:

   sub0622506330.testdnsvcn.oraclevcn.com

8. Click the **Add** button to add the DNS suffix.
9. Add this same suffix (in this example, **sub0622506330.testdnsvcn.oraclevcn.com**) in the field labeled **DNS suffix for this connection**.



10. Click the **OK** button to accept the values and exit the **Network and Sharing Center**.

Change Security Option

If you chose a user other than **opc** for the One-Click Provisioning deployment of your Deployment Server, use this procedure to change the Microsoft Windows security option so that the user is recognized by JD Edwards EnterpriseOne.

1. Log in to the Deployment Server as the user you configured, which is other than the **opc** user.
2. Open the Microsoft Windows **Local Security Policy** program by going to Start and selecting Run, or by using this Command Prompt:

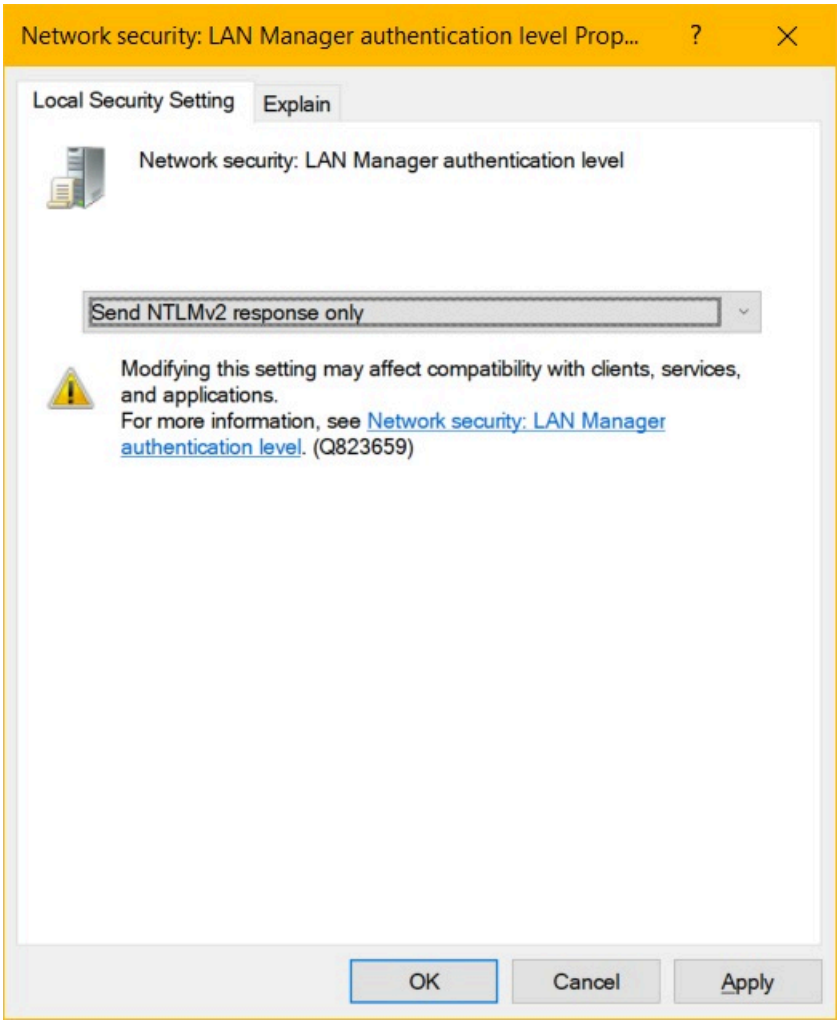
   ```
   secpol.msc
   ```

3. On the Local Security Policy window, navigate to Local Policies and select Security Options.
4. Locate and edit this setting:

   Network Security: LAN Manager authentication level

5. Use the drop-down list to select this setting:

   Send NTLM V2 response only



6. Click the **Apply** button to save the setting.

Change the Maximum Transmission Unit (MTU) Setting

The recommended MTU setting is 1500. Use this procedure to check, and if necessary change, the current MTU setting.

1. Open Windows PowerShell as Administrator and run this command (as a single contiguous line) to check current value of the MTU setting:

```
Get-NetIPInterface | where {($_.InterfaceAlias -eq "Ethernet") -and ($_.AddressFamily -eq "IPv4") -and ($_.NlMtu -Gt 0)}
```

2. If the returned value is not set to 1500, run this command (as a single contiguous line) to set the MTU value to 1500:

```
Get-NetIPInterface | where {($_.InterfaceAlias -eq "Ethernet") -and ($_.AddressFamily -eq "IPv4") -and ($_.NlMtu -Gt 0)} | Set-NetIPInterface -NlMtuBytes 1500
```

Setting Up the Provisioning Server

This section shows you how to set up the Provisioning Server for JD Edwards EnterpriseOne One-Click Provisioning.

> **Note:** These tasks are in *addition* to those tasks described in "Performing Common Setup for All Microsoft Windows Servers".

Prerequisites

- You must have obtained the archive files for One-Click Provisioning as described in the preceding OBE of this module entitled "Obtaining and Using Archive Files for One-Click Provisioning".
- You must have a VM or a server for each server component that will be deployed by JD Edwards EnterpriseOne One-Click Provisioning. At a minimum, the core JD Edwards EnterpriseOne servers include the Provisioning Server, Compute Database Server, Enterprise Server, WebLogic Server, and Deployment Server.
- You must have performed the steps described in the module "Performing Common Setup for All Windows Servers" of this Learning Path.

Mandatory Patches

For Tools Release 9.2.9.1: In order to fix Bug 37514850, a mandatory patch needs to be applied. This patch can be requested by raising an IAR and providing the bug number.

General

1. Ensure that you have a 64-bit version of 7zip installed on the Provisioning Server.
2. Ensure that the correct Ruby version is installed as Administrator on the Provisioning Server. See *Supported Software Versions* to verify the correct Ruby version.

   To obtain the code to download this Ruby version, refer to this link:

   https://rubyinstaller.org/downloads/

   > **Note:** If you do not see the supported Ruby version in the list of files currently available for download, check in the Archives subsection for the Ruby installer.

3. Ensure that Ruby is added to the PATH environment variable.
4. Ensure that winrm is installed on the Provisioning Server.

   Open a Command Prompt window and run this command:

   gem install –v 2.3.6 –r winrm -f

   Note: Ensure that your version of winrm is 2.3.6. Other versions of winrm are not supported.
5. Ensure that Microsoft Visual C++ 2022 Redistributable 64-bit is installed. To obtain the code to install these Visual C++ Redistributable versions, refer to this link:

   https://support.microsoft.com/en-us/help/2977003/the-latest-supported-visual-c-downloads

Run the setupPr.ps1 Script

From the drive and location specified when the rebuild.bat was run, for example, either C:\JDE\PP or D:\JDE\PP, open Windows PowerShell as Administrator and run this command:

```
.\setupPr.ps1
```

Note: The setupPr.ps1 script automates the remaining required configuration of the Provisioning Server and the system performs these requisite tasks:

- Sets up permission and ownership of the extracted content
- Adds system files such as `jdedwards, chkPort, and chkDNS`
- Configures the Samba service
- Adds the Server Manager Console service
- Adds Provisioning Console service
- Creates and configures self-signed certificates
- Disables IPv6 on the Provisioning Server

When the command completes successfully, the Provisioning Console becomes functional. You can access the Provisioning Console using a URL with the following syntax:

https://*<Public Ip Address>*:3000

The Provisioning Server image is now ready for use by One-Click Provisioning.

> **Note:** To ensure that you do not run out of disk space on your Provisioning Server in the later steps, at this point it is recommended that you delete the original downloaded archive files after you ensure that all of the contents were successfully extracted. Alternatively, if you have allocated greater than the recommended disk space for your Provisioning Server, you can delete the additional disk space when you are certain that all the components are fully functional.

Setting Up the Enterprise Server

This section shows you how to set up the Enterprise Server for JD Edwards EnterpriseOne One-Click Provisioning.

Prerequisites

- You must have a Microsoft Windows VM or server for the Enterprise Server that will be deployed by JD Edwards EnterpriseOne One-Click Provisioning.
- You must have performed the functions described in the module "Performing Common Setup for All Microsoft Windows Servers" of this Learning Path.

Setting Up the Enterprise Server

This section describes the setup tasks that must be performed on the Enterprise Server.

1. Ensure that you have performed all the tasks described in the module "Performing Common Setup for All Microsoft Windows Servers" of this Learning Path.
2. Enable remote command execution through PowerShell by using this command:

```
winrm quickconfig -q
```

3. To enable Server Package Builds, you must install Visual Studio 2017 and Microsoft Software Development Kit (SDK) for Windows 10.

Setting Up the WebLogic Server

This section shows you how to set up the WebLogic Server for JD Edwards EnterpriseOne.

Prerequisites

- You must have a Microsoft Windows VM or server for the WebLogic Server.
- You must have performed the steps described in the module "Performing Common Setup for All Microsoft Windows Servers" of this Learning Path.

General

> **Note:** The deployment of the JDK using One-Click Provisioning Console removes the string `anon, NULL` from the property `jdk.tls.disabledAlgorithms` in the file `\jre\lib\security`.

Enable remote command execution through PowerShell by using this command:

```
winrm quickconfig -q
```

Install the Oracle WebLogic Server and a JDK

You must manually preinstall the Oracle WebLogic Server (WebLogic Server) and a JDK to be used for the WebLogic Server.

> **Note:** For the JDK installation, ensure that the JDK is installed by the same user that has been or will be used to install the WebLogic Server. For example, if you use the **oracle** user to install the JDK, you must use the **oracle** user to install the WebLogic Server, or conversely depending on the order in which you install these products.

Customers can then use JD Edwards One-Click Provisioning to deploy the JD Edwards EnterpriseOne web components into the preinstalled WebLogic Server domain. Refer to the Oracle Certifications for JD Edwards EnterpriseOne One-Click Provisioning on Oracle Cloud Infrastructure for details on the supported versions of the WebLogic Server.

The complete list of prerequisites are below:

- Compute instance must have a supported version of WebLogic Server preinstalled.

  The password must be 8 to 30 characters long, must contain at least one number, and optionally any number of either the Pound Sign (#) or Underscore (_) special characters.

  > **Note:** The password for any WebLogic Server user *cannot* contain these special characters:
  >
  > ```
  > Dollar Sign ($)
  > Exclamation Mark (!)
  > Ampersand (&)
  > ```
  >
  > Using any of the above special characters violates the Oracle Cloud password policy and will result in denied access.

- Compute instance must also have a supported JDK version installed.
- WebLogic Server must be defined with at least one domain.
- WebLogic Server must be in a running state and be able to connect to the Admin Console.
- WebLogic Server must have a running Node Manager process for the existing domain.

Postinstallation of WebLogic Server

After you have installed the WebLogic Server, prior to using the Provisioning Console for JD Edwards EnterpriseOne, you must manually configure the WebLogic Node Manager to disable SSL. Otherwise the provisioning will fail.

1. Locate the nodemanager.property file which is typically found in this location:

   ```
   <ORACLE_HOME>/user_projects/domains/<DOMAINNAME>/nodemanager/nodemanager.properties
   ```

2. Edit the nodemanager.property file to set this property to disable SSL:

   ```
   SecureListener=false
   ```

3. Save the nodemanager.property file.
4. You must set the listen address to have the same value as the **ListenAddress** property of the nodemanager.properties file. You must set the listen port 5556, which is non-secure (instead of 5557, which is secure) in both the Node Manager properties file and in the Node Manager using the WebLogic Server user interface. For instructions, refer to this procedure: *Changing the Oracle HTTP Server Listen Ports*.

   > **Note:** If the Node Manager machine is not reachable, perform these steps:
   >
   > - Log in to the WebLogic Server Admin Console.
   > - Expand **Environment**.
   > - Click **Machines**.
   > - Select your machine.
   > - Click the **Node Manager** tab and make sure that **Type** is set to **Plain**.
   > - Restart the WebLogic Node Manager for the setting to take effect.

Ensure WebLogic Server is Patch Current

Refer to the Oracle Certifications for One-Click for WebLogic Server to verify that the latest available patches are applied. Such patches can affect the ability of One-Click Provisioning to deploy web components into the WebLogic Server.

Setting Up the Deployment Server

This section shows you how to set up the Deployment Server for JD Edwards EnterpriseOne in Oracle Cloud Infrastructure on Windows.

Prerequisites

- You must have created a Microsoft Windows VM for the Deployment Server.
- You must have performed the steps described in the module "Performing Common Setup for All Microsoft Windows Servers" of this Learning Path.

General

Enable remote command execution through PowerShell by using this command:

```
winrm quickconfig -q
```

8 Configuring the Database

Setting Up the Compute Oracle Database Server

This section shows you how to set up the Compute Oracle Database Server in the Oracle Cloud Infrastructure.

Prerequisites

- You must have created a Microsoft Windows VM for the Compute Oracle Database Server.
- You must have performed the steps described in the module "Performing Common Setup for All Microsoft Windows Servers"of this Learning Path.

Prerequisite Configuration for the Oracle Compute Database Server

The Oracle database that is deployed on the Oracle Cloud Infrastructure by the JD Edwards EnterpriseOne One-Click Provisioning, supports both the Oracle Enterprise Edition and the Standard Edition 2 for the current supported release of the Oracle Database. Refer to the Oracle Certifications for JD Edwards EnterpriseOne One-Click Provisioning on Oracle Cloud Infrastructure for current updates on supported software versions and software prerequisites.

> **Note:** If you choose to use your own Oracle database for the Compute Database Server, you should have an Oracle DBA monitor the database for performance of subsequent JD Edwards functions, such as Package Build. Database functionalities such as archive logging can adversely affect disk space usage and could potentially cause database failures.

The following prerequisite configuration settings are applicable to both a customer-installed Oracle database and an Oracle Database Service. These prerequisite settings must be complete before the One-Click Provisioning Server installs a JD Edwards EnterpriseOne Database Server running on the Oracle Cloud Infrastructure:

- You must have an Oracle Compute Database Server instance installed on the Oracle Cloud Infrastructure.

  > **Note:** The password for the users of an Oracle database in an Oracle Cloud Infrastructure Compute instance can only include these special characters:
  >
  > ```
  > Underscore(_)
  > Number sign(#)
  > Hyphen (-)
  > ```

- You must make TNS entry of the pluggable database in the tnsnames.ora file on the Database Server instance (do not use a variable for **ORACLE_HOME**; you must use an absolute value for the entry). The hostname field should be updated with the hostname of the Database Server machine.

  > **Note:** For the shared schema, the TNS Alias must be **JDEORCL** and for non-shared schema it must be an alias value *other than* **JDEORCL**.

- You must install the Oracle database as the **oracle** user, and *not* as any other user such as **opc**.
- You must set the database character set to **AL32UTF8**

- You must set the database national character set for the Unicode page setting to **AL16UTF16**

> **Note:** The character set parameters are critical and must be set when the database is installed; neither the character sets OR the parameters cannot be changed after installation.

- Minimum storage requirement for the JD Edwards Shared Database is 10 GB
- Minimum storage requirement per pathcode is 20GB (including demo data)
- Above mentioned storage should be made available for:
  - OraDB install directory
  - OraDB index directory
  - OraDB table directory

  These are the directories that you will specify during Orchestration.

> **Note:** The best practice is to use different mount points for creating these directories. Otherwise, you may encounter database deployment issues.

- You must set the DB processes to provision the JD Edwards EnterpriseOne Database Server to a minimum value of 1500.
- You must ensure that the Files System IO option is **SETALL**
- You must ensure that the database is running with Pluggable Database (PDB) named **JDEORCL** set to **OPEN_MODE**.
- Set environment variables for Oracle Database on Compute because by default environment variables for the oracle user are not set.

The following is a detailed list of commands necessary to set up the prerequisites for the Oracle Database running in the Oracle Cloud Infrastructure for use with JD Edwards EnterpriseOne One-Click Provisioning.

1. You must make a TNS entry of the pluggable database in the listener.ora and tnsnames.ora files of the Database Server machine, where **hostname** is the hostname of the Compute Database Server machine. Ensure the same **port** is also specified in each file. For example:

```
----------------
listener.ora
----------------
LISTENER_ORCL =
(ADDRESS = (PROTOCOL = TCP)(HOST = hostname)(PORT = 1521))

ORCL =
(DESCRIPTION =
(ADDRESS = (PROTOCOL = TCP)(HOST = hostname)(PORT = 1521))
(CONNECT_DATA =
(SERVER = DEDICATED)
(SERVICE_NAME = jdeorcl)
)
)
--------------------
tnsnames.ora
--------------------
JDEORCL =
(DESCRIPTION =
(ADDRESS = (PROTOCOL = TCP)(HOST = hostname)(PORT = 1521))
(CONNECT_DATA =
(SERVER = DEDICATED)
```

```
(SERVICE_NAME = jdeorcl)
)
)
```

2. Connect to the database using this command:

   ```
   sqlplus / 'as sysdba';
   ```

3. Verify the code page setting of the Oracle database using this command:

   ```
   SELECT VALUE FROM NLS_DATABASE_PARAMETERS WHERE PARAMETER = 'NLS_CHARACTERSET';
   ```

4. If the character set is not **AL32UTF8**, you will have to reinstall the database using the correct parameter to set it.
5. Verify the Unicode page setting of the Oracle database by executing this command:

   ```
   SELECT VALUE FROM NLS_DATABASE_PARAMETERS WHERE PARAMETER = 'NLS_NCHAR_CHARACTERSET';
   ```

6. If the setting is not **AL16UTF16**, you will have to reinstall the database using the correct parameter to set the character set.
7. Determine the number of DB processes available using this command:

   ```
   select limit_value from v$resource_limit where resource_name='processes';
   ```

8. If the value is less than 1500 (which is the minimum recommended for use with JD Edwards EnterpriseOne, run this command to set the minimum recommended value:

   ```
   alter system set processes=1500 scope=spfile;
   ```

9. Check the value of the **filesystemio_option** parameter using this command:

   ```
   show parameter filesystemio_options;
   ```

10. If the value of the **filesystemio_option** parameter is not **SETALL** (which is required), use this command to set the value:

    ```
    alter system set filesystemio_options=setall scope=spfile;
    ```

11. Shut down the database using this command:

    ```
    shutdown immediate;
    ```

12. Start the database using this command:

    startup;

13. Assuming that your pluggable database is named **JDEORCL**, verify that the database is open using this command:

    ```
    select OPEN_MODE from v$pdbs where NAME = 'JDEORCL';
    ```

    If the pluggable database you want to use is not named **JDEORCL**, you can use this command to find the names of the available PDBs (ignore PDF$SEED) and substitute one name with **JDEORCL** in the command above):

    ```
    NAME, OPEN_MODE from v$pdbs;
    ```

14. If the **OPEN_MODE** is set to **READ WRITE** then the PDB is ready to be provisioned by the JD Edwards EnterpriseOne One-Click Provisioning Server.
15. If the **OPEN_MODE** is not **READ WRITE** then the PDB is not open. Open the PDB using this command:

    ```
    alter pluggable database JDEORCL open;
    ```

    In the above command, if your database is not named **JDEORCL**, substitute the database name with **JDEORCL**.

16. Log in to the database using this command:

    ```
    sqlplus sys/<DB_ADM_PWD>@<CONTAINER_SID> as sysdba; For example, sqlplus sys/Jde_Admin1@orcl as sysdba;
    ```

17. Set the recovery space using this command:

```
sql> ALTER SYSTEM SET db_recovery_file_dest_size=50G SCOPE=BOTH;
```

18. Check whether the temporary tablespace with name ‘TEMP’ is available by running following sequence of commands:
    - Use this command to log in to sqlplus as the system user at the PDB Level:

      ```
      sqlplus system/<db_adm_pwd>@JDEORCL
      ```
    - Run the following query to check temporary for the existence of a tablespace with name ‘TEMP’:

      ```
      SELECT TABLESPACE_NAME from DBA_TABLESPACES
      ```

      where TABLESPACE_NAME='TEMP'
    - If the tablespace query does not output results that a temporary tablespace exists with name ‘TEMP’, run the following command as a single contiguous line with no returns:

      ```
      CREATE TEMPORARY TABLESPACE TEMP TEMPFILE 'jdetemp.dbf' SIZE 500m autoextend on next 10m maxsize unlimited
      ```

      If the command executes correctly, it should output results like "Tablespace Created".

The PDB is ready to be provisioned by the JD Edwards EnterpriseOne One-Click Provisioning Server.

9 Using the One-Click Provisioning Server

Configure CA Certificates for One-Click UI (Optional)

This section shows you how to configure CA Certificates for the One-Click User Interface. This task is optional.

JD Edwards EnterpriseOne One-Click Provisioning can be configured with a supplied CA certificate. However, after initial installation you must obtain your own CA certificates. These must be certificates that are verified by a verified CA authority such as Entrust and Symantec Corporation.

Prerequisite

You must obtain CA certificates and their chain of deliverables.

Configuring CA Certificates for One-Click UI (Optional)

Use this procedure to configure CA certificates for the One-Click Provisioning user interface. This step is not required for initial installation but is required for subsequent usage of JD Edwards EnterpriseOne in Oracle Cloud Infrastructure.

1. Combine the the contents of `rootca.pem` and `intermediateca.pem` certificates to a file named `ca-cert.pem` file as per order from the CA authority.
2. Rename `.net.key` to `key.pem`.
3. Rename `<variable>.crt` to `cert.pem`.
4. Copy `ca-cert.pem`, `key.pem` and `cert.pem` to this directory:

   ```
   /E1CloudConsole/keys
   ```
5. Restart the Provisioning Server:
   - **Linux-based Provisioning Server**

     Restart the E1CloudConsole.service using following command:

     ```
     sudo systemctl stop E1CloudConsole.service sudo systemctl start E1CloudConsole.service
     ```
   - **Microsoft Windows-based Provisioning Server**

     Use these steps to restart the user interface:

     - Navigate to this directory:

       ```
       \JDE\bin
       ```
     - Open Powershell with Administrator rights.
     - Run this script:

       ```
       .\E1CloudConsoleWin.ps1
       ```

Accessing the JD Edwards Provisioning Console

This section shows you how to access the JD Edwards Provisioning Console.

As described in the the subsequent OBEs in this Learning Path, you will access and use the Provisioning Console to set up a completely functional EnterpriseOne environment using the JD Edwards One-Click Provisioning Console by performing these three steps:

- Configure – Provide the Server Manager details.
- Orchestrate – Create the deployment plan.
- Deploy – Initiate the scripts for the automated provisioning of the EnterpriseOne system.

Prerequisites

- You should have a fundamental understanding of the Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription and an Administrator account to Oracle Cloud Infrastructure as described at this site: *Getting Started with Oracle Cloud Applications*
- To access the Provisioning Console, you must use a supported browser. See **Supported Browsers** in *Troubleshooting Signing In to the Console*.

Accessing the JD Edwards Provisioning Console

The recommended browsers for accessing the One-Click Provisioning Console are:

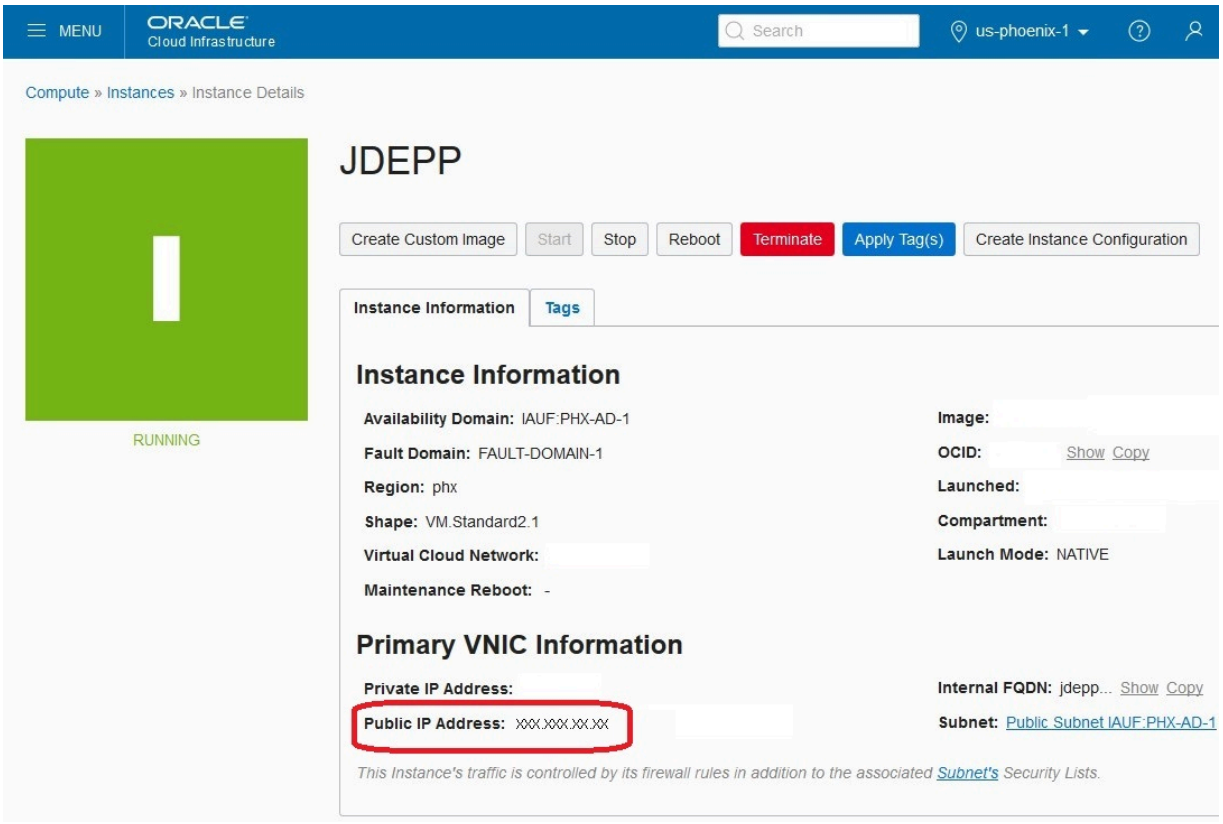
- Google Chrome
- Mozilla Firefox

  Open the browser and connect to the URL using this syntax:

  ```
  https://xxx.xxx.xxx.xxx:3000
  ```

  Where:

  - **https** is the only supported browser protocol.
  - **XXX.XXX.XXX.XXX** is the public IP address for the One-Click Provisioning Server Instance. This IP address is shown in the Oracle Cloud Infrastructure user interface on the Instance Details screen for the instance that you created for the One-Click Provisioning Server, as shown in the below example:



  - **3000** is the port on which the One-Click Provisioning Server is running, and which you must include as part of the address.

Note: Should you exit the Provisioning Console or experience a timeout, the next time you enter the Provisioning Console it displays the point where you left off. When you click the **Configure** icon, you will be prompted for the same credentials that you entered during your first access to the One-Click Provisioning Console.

Configuring the Server Manager Account

This tutorial shows how to configure the Server Manager account in JD Edwards One-Click Provisioning Console.

Configuring the Server Manager Account

Configuring the Server Manager Account

This section shows how to configure the Server Manager account in JD Edwards One-Click Provisioning Console.

If you are a new user, you are required to change the administrator passwords for WebLogic Server and Server Manager Console. Remember the Server Manager password you entered in the Change Password window for future logins.

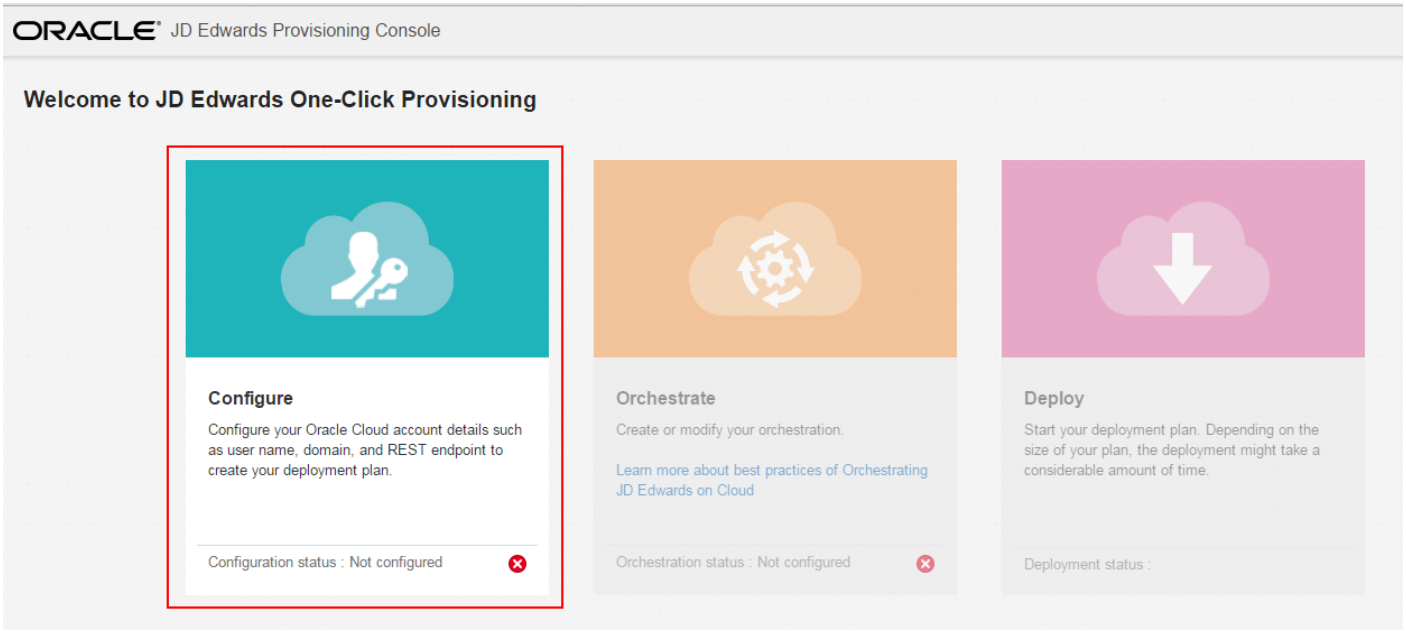
Prerequisite

Downloaded the One-Click archive files from the Oracle Software Delivery Cloud (also called OSDC or E-Delivery). For more information see the section entitled: ***Setting Up the Provisioning Server*** .

Configure the Server Manager Account

Use this procedure to provide the account information.

1. On Welcome to the JD Edwards Provisioning Console, click the **Configure** icon.



2. If you are a new user, as prompted by the JD Edwards Provisioning Console, you are also required to change the administrator passwords for WebLogic Server and Server Manager Console.

   On Change Password, enter the passwords for the Server Manager Administrator. The password must only have numbers, alphabets, and special characters (@,!,$,_,#), and is between 8 and 30 characters long.

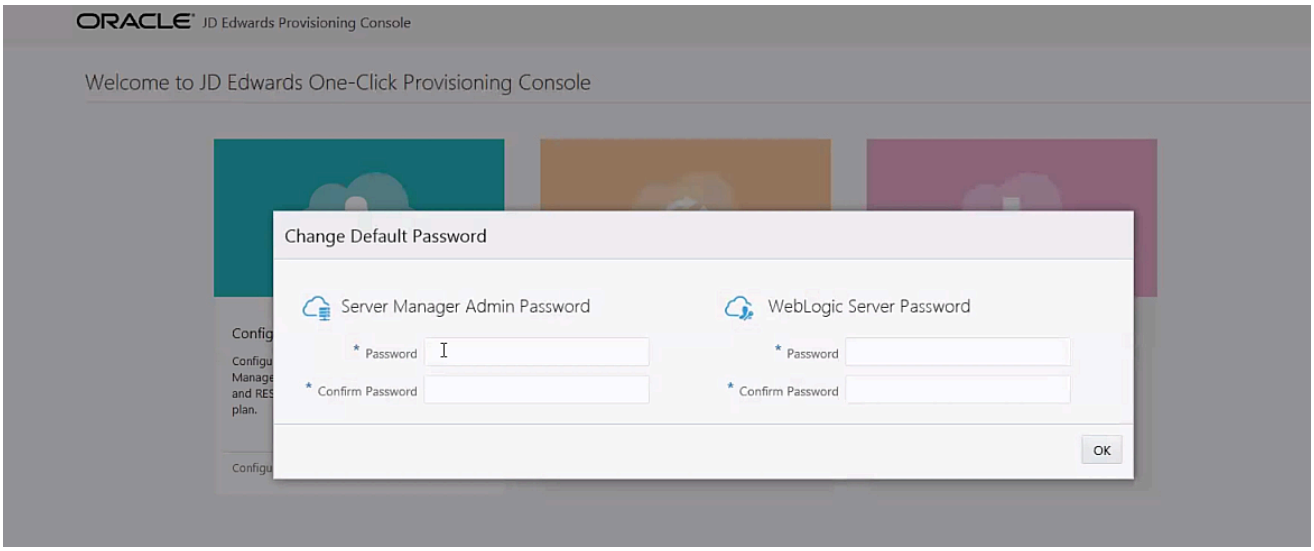
   Also, enter the password for the WebLogic Server. The password must start with a letter, is between 8 and 30 characters long, contains at least one number, and optionally, any number of special characters (#,_). For example, Ach1z0#d

   > **Note:** The password for any WebLogic Server user cannot contain the $ or ! character. Using either of these characters violates the Oracle password policy and will result in denied access.

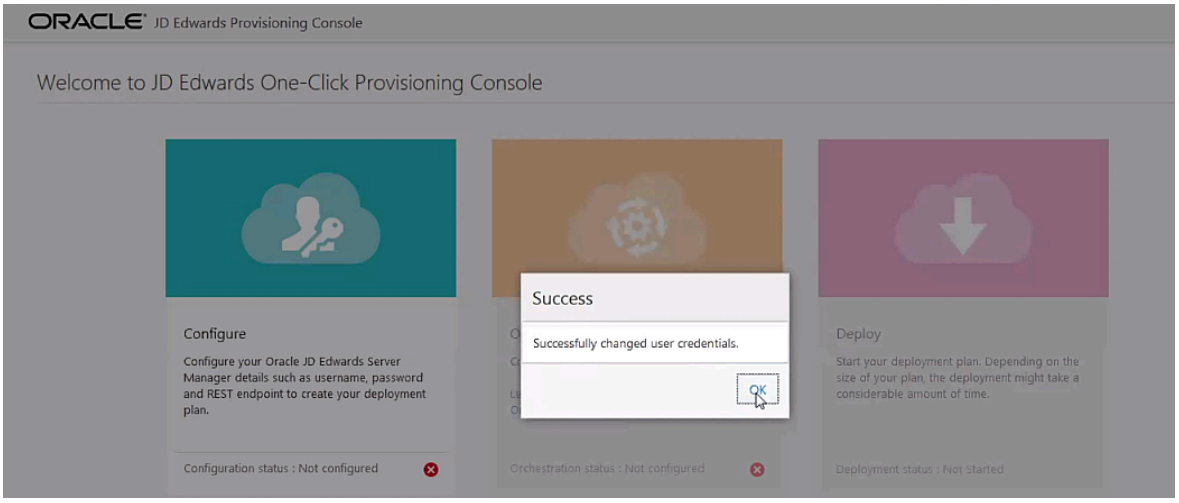
   > **Tip:** Valid values for the passwords are displayed in the tooltip when you click the field.

   Click the **OK** button.

   > **Note:** The system displays a message indicating that is changing default passwords; this may take a few minutes to complete before the next screen is displayed.

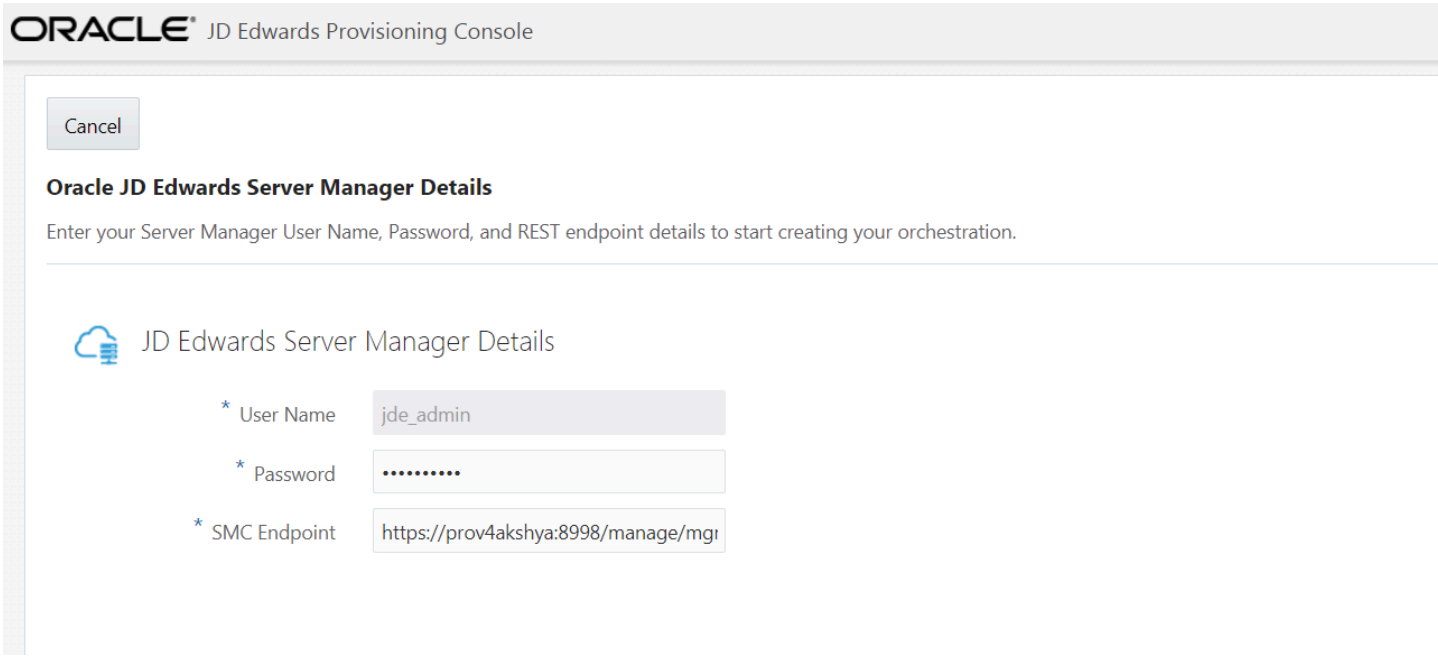


3. On the Success window, click the **OK** button.



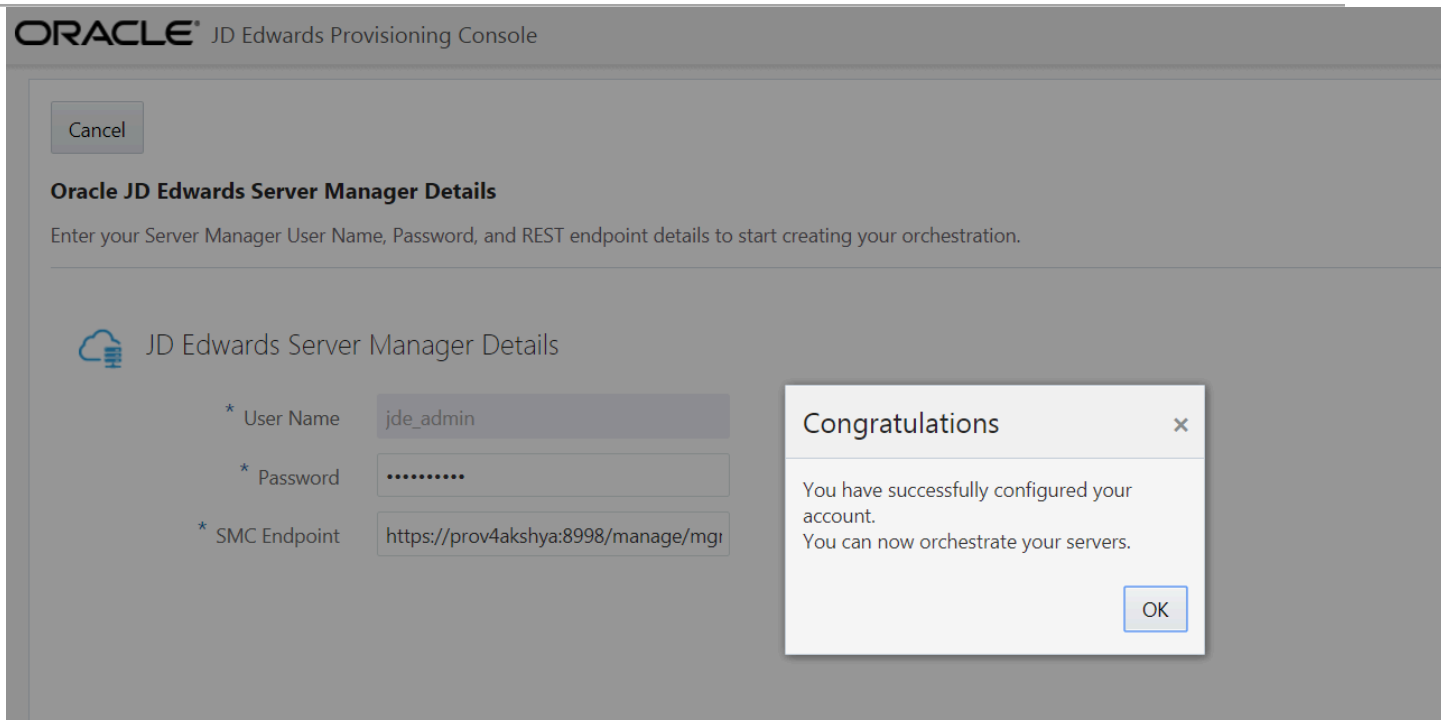
4. On Oracle JD Edwards Server Manager Details, reenter the Admin password for the Server Manager Console. The SMC Endpoint is pre-populated automatically.

> **Note:** It is recommended that you record this value on the Pre-Install Worksheet, which you created as described in the companion document to this tutorial in the section entitled: Create the **Pre-Install Worksheet**.



5. Click the **Save Configuration** button.

   The system will take some time to authenticate the Server Manager Endpoint and Credentials. When the authentication is verified, click the **OK** button on the **Congratulations** box.


ORACLE JD Edwards Provisioning Console
Cancel
Oracle JD Edwards Server Manager Details
Enter your Server Manager User Name, Password, and REST endpoint details to start creating your orchestration.
JD Edwards Server Manager Details
* User Name
jde_admin
* Password
* SMC Endpoint
https://prov4akshya:8998/manage/mgr
Congratulations
You have successfully configured your account.
You can now orchestrate your servers.
OK

10 Creating a Deployment Plan

Orchestrating a Quick Start Deployment Plan Using an Oracle Database

This tutorial shows you how to orchestrate a Basic Deployment Plan using the Quick Start mode.

Orchestrating a Quick Start Deployment Plan Using an Oracle Database

Orchestrating the Quick Start Plan Using the Oracle Database Server

This section shows you how to orchestrate a Basic Deployment Plan using the Quick Start mode.

Use the Quick Start mode in the JD Edwards One-Click Provisioning Console to create a Deployment Plan using the Oracle Database Server that includes all the core components of JD Edwards EnterpriseOne.

Prerequisite

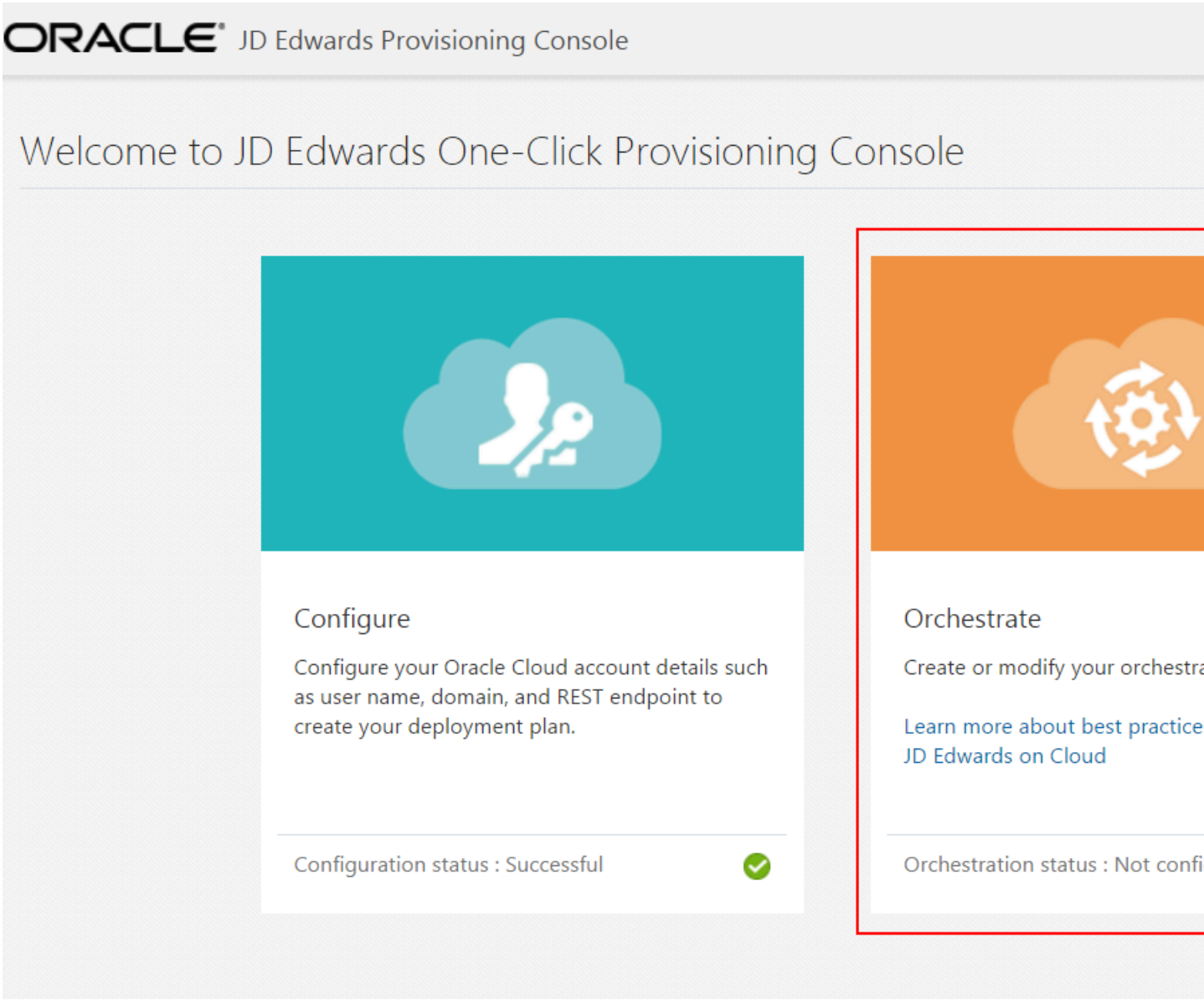
To perform the steps in this tutorial you must have:

- Configured the administrator passwords for the WebLogic Server and the Server Manager Console in the Configure section of the JD Edwards One-Click Provisioning Console.

Orchestrating the Quick Start Plan Using the Oracle Database Server

To use the JD Edwards Provisioning Console to orchestrate and deploy the Quick Start plan using the Oracle Database Server:

1. On the Welcome to JD Edwards One-Click Provisioning Console page, click the **Orchestrate** icon.

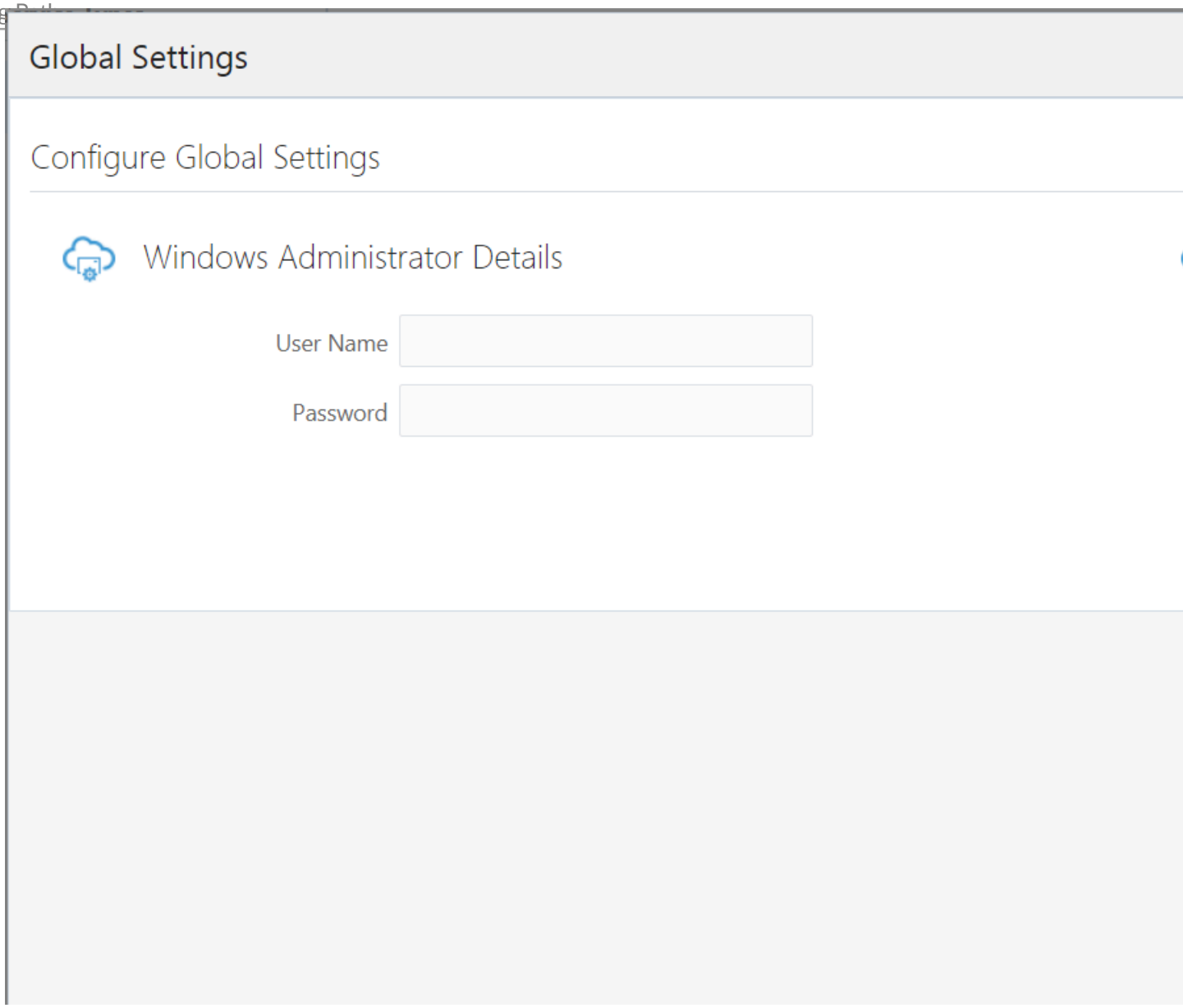


2. If you are creating an orchestration using JD Edwards One-Click Provisioning for the first time, the following Global Settings screen will appear first.

   In the **Windows Administrator Details** section, enter the **User Name** and **Password** to access the Windows environment. All servers in the provisioning cycle must be configured with the same Microsoft Windows user

name and credentials, where the user name *must* be **opc**. This common user must have administrator rights; that is, the user must be part of the Administrator group.

> **Note:** The password for the **opc** user is the same as the password you set when you created this user as described in the preceding section of this Learning Path entitled: "Performing Common Setup for All Microsoft Windows Servers". As described in that section, when you set the password it must have conformed to specific requirements of the One-Click Provisioning Console; else an error is given and you cannot proceed until the password conforms to the stated requirements. To reiterate, the password requirements are:
>
> - Minimum of 12 characters
> - Minimum of one lower case character
> - Minimum of one upper case character
> - Minimum of one numeric character
> - Minimum of one special character, where only these are supported:
>
> ```
> Underscore (_)
> At sign(@)
> Tilde (~)
> Exclamation point (!)
> Number sign (#)
> Percent sign (%)
> Asterisk (*)
> Plus sign (+)
> Parentheses ()
> Braces ({})
> Brackets ([])
> Period (.)
> Question mark (?)
> ```


Global Settings
Configure Global Settings
Windows Administrator Details
User Name
Password

3. In the Set EnterpriseOne Passwords section, enter and then confirm these passwords:
   - **JDE User Password**

     Create the password for JD Edwards EnterpriseOne. In support of the long password functionality provided by JD Edwards Tools Release 9.2.4.5, the password must be between 12 and 30 characters. It can contain only alphanumeric characters, and can only include this special character: **_ (underscore)**.
   - **Site Key Passphrase**

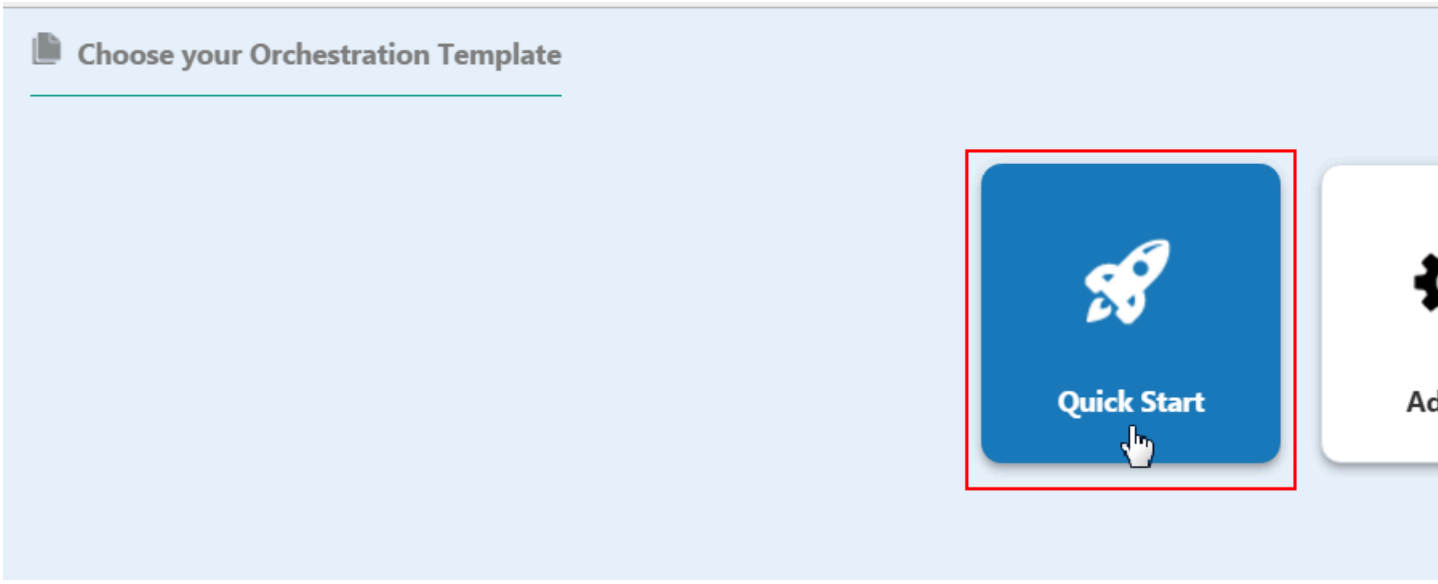
     Enter the passphrase for generating the site key. The passphrase must start with a letter, end with an alphanumeric character, must be between 8 and 40 characters, and contain at least 2 uppercase letters, 2 lowercase letters, 2 numbers, and 2 underscore characters.

> **Tip:** The conditions to set the passwords appear in the tooltip when you click the fields.

> **Note:** It is highly recommended that you keep a record of these critical passwords. If you have not already done so, you should ensure that these values are recorded on the ***Preinstallation Worksheet*** .

4. Click the **Save** button to exit the Global Settings screen.
5. On the Choose your Orchestration Template page, click the **Quick Start** icon to create your Quick Start JD Edwards Deployment Plan.

> **Note:** Refer to the applicable sections of this Learning Path for instructions on using the Advanced, Export, and Import orchestration functions.



6. On the JD Edwards Database Server page, complete these fields to create and configure the Database Server instance.

> **Note:** You must enter the same password for this Windows Server that you previously specified in the section of this OBE entitled: ***Logging in to the Windows VM*** .

Server Configuration

- **Database Server Type**

  Select the Database Server Type as Oracle Database. The server types available are: Oracle Database and SQL Server.
- **Platform**

  This field is disabled and is automatically populated as Windows.
- **Instance Name**

  Create an instance name for your database instance.
- **Host Name**

  Enter the host name.

Database Configuration

- **DB Install Path**

  Enter the path of the directory where you have installed the Database Server components.
- **DB Admin Password**

  Enter the password of the database administrator.

  > **Note:** JD Edwards EnterpriseOne One-Click Provisioning supports *only* these special characters for the Oracle database admin password:
  >
  > ```
  > Underscore (_)
  > Pound Sign (#)
  > Hypen (-)
  > ```
- **Net Service Name**

  Enter the Net Service Name. See *Finding DB Unique Name, Oracle SID, and Service Name*.

JD Edwards Database Configuration

- **Use ASM feature**

  Enable this option if required.
- **JDE DB Install Directory**

  Enter the installation path.

  Path Rules: All the directories in the specified path must preexist, except the last directory in the path. The name of the last directory must be unique. One-Click validation checks that the parent directory exists. The child directory is created by One-Click using the name provided in the input. If there are sub folders leading to the child directory, they must be created manually. For example, if the specified JDE DB

Install directory is `C:\JDEdwards\DBInstallPath`, then `C:\JDEdwards` is the parent directory and it must be created manually. `DBInstallPath` is the child directory and should not be created manually, One-Click uses the name provided in the input and creates it.

- **JDE DB Table Directory**

  Enter the path to install the table data.

  Path Rules: All the directories in the specified path must preexist, except the last directory in the path. The name of the last directory must be unique. One-Click validation checks that the parent directory exists. The child directory is created by One-Click using the name provided in the input. If there are sub folders leading to the child directory, they must be created manually. For example, if the specified JDE DB Table directory is `C:\JDEdwards\Table`, then `C:\JDEdwards` is the parent directory and it must be created manually. `Table` is the child directory and should not be created manually, One-Click uses the name provided in the input and creates it.

- **JDE DB Index Directory**

  Enter the path to install the indexes.

  Path Rules: All the directories in the specified path must preexist, except the last directory in the path. The name of the last directory must be unique. One-Click validation checks that the parent directory exists. The child directory is created by One-Click using the name provided in the input. If there are sub folders leading to the child directory, they must be created manually. For example, if the specified JDE DB Table directory is `C:\JDEdwards\Index`, then `C:\JDEdwards` is the parent directory and it must be created

manually. `Index` is the child directory and should not be created manually, One-Click uses the name provided in the input and creates it.

- **Schemas**

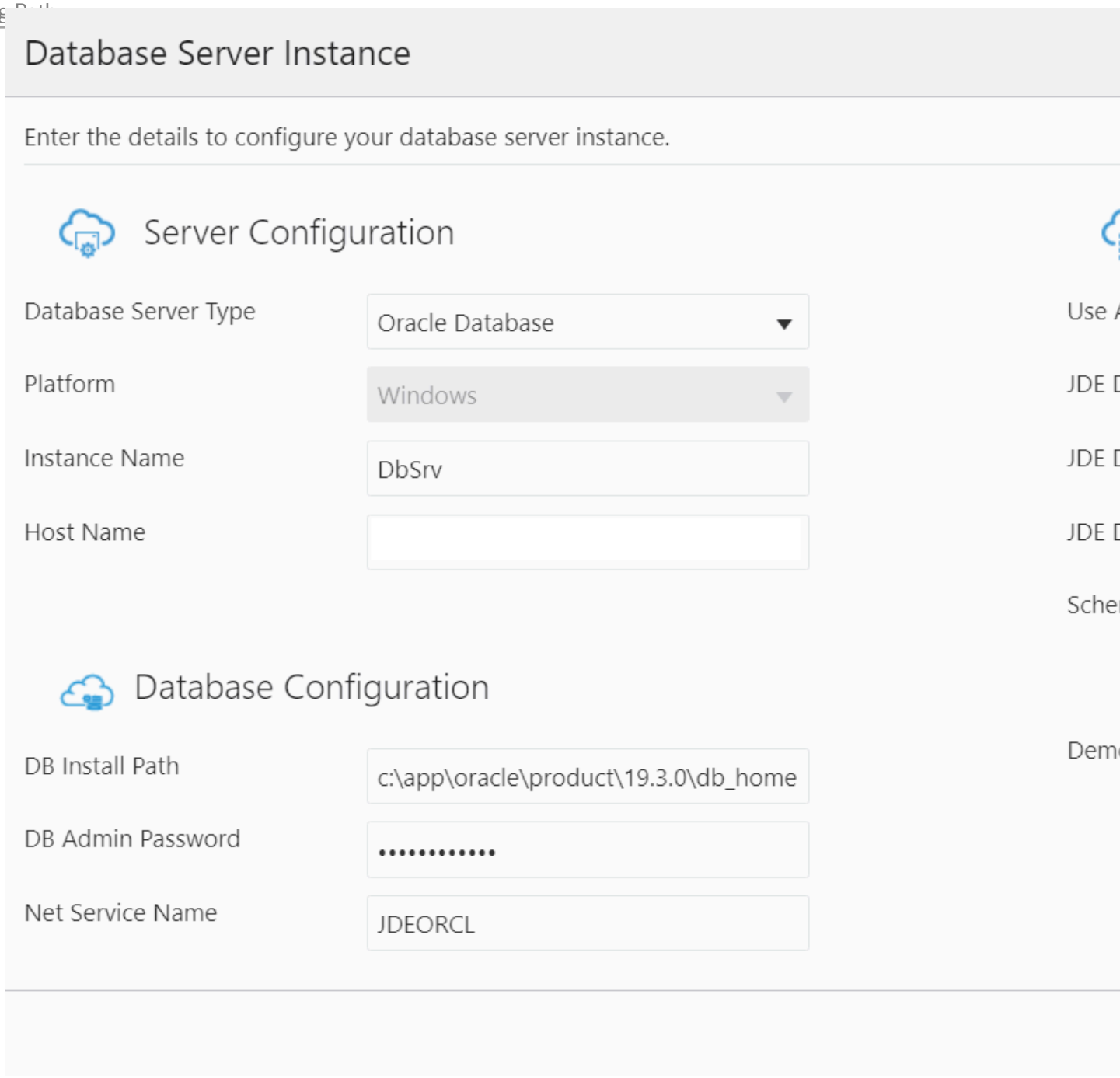
  Click the Schemas field and select the schemas you want from the auto-suggest. The schemas available are: Shared, Development, Prototype, Production, and Pristine with Demo Data.

  > **Note:** It is mandatory to add the Shared schema. If you do not add the Shared schema, the message "You must select Shared schema" is displayed.

  > **Note:** At this point you should ensure that you specify *all* the schemas you might use. The schemas you install on the Database Server can be deployed only once. This information is specified on the Provisioning Console. After the configuration is deployed, you can use the Provisioning Console to programmatically add additional schemas.

- **Demo Data**

  Click the **Demo Data** field and select the demo data available from the auto-suggest. Demo data will be available depending on the schema selected. For example, if you select the schema as Development, the Development demo data will be available.



7. Click the **Next** button. Because you will be connecting to an existing Oracle database instance, the system validates all the inputs that are provided. If the validation is successful, the JD Edwards Enterprise Server page is displayed.

8. On the JD Edwards Enterprise Server page, complete these fields to create and configure the Enterprise Server instance.

Server Configuration

- **Platform**

  This field is disabled and it is automatically populated as Windows.
- **Instance Name**

  Create an instance name for the Enterprise Server. The conditions to set the instance name are displayed in the tooltip when you click the field.
- **Host Name**

  Enter the host name.

Oracle JDBC Driver Details

The Oracle JDBC driver is required for connectivity between the Enterprise Server and the Oracle database server.

Click the Browse button to select the location for each of the required components for the Oracle JDBC driver. For example:

- odbc8.jar
- ons.jar
- ucp.jar

> **Note:** Refer to Oracle Certifications for the version of the supported driver and associated components.

Enterprise Server Preferences

- **Installation Drive**

  Enter the Installation Drive.
- **Server Type**

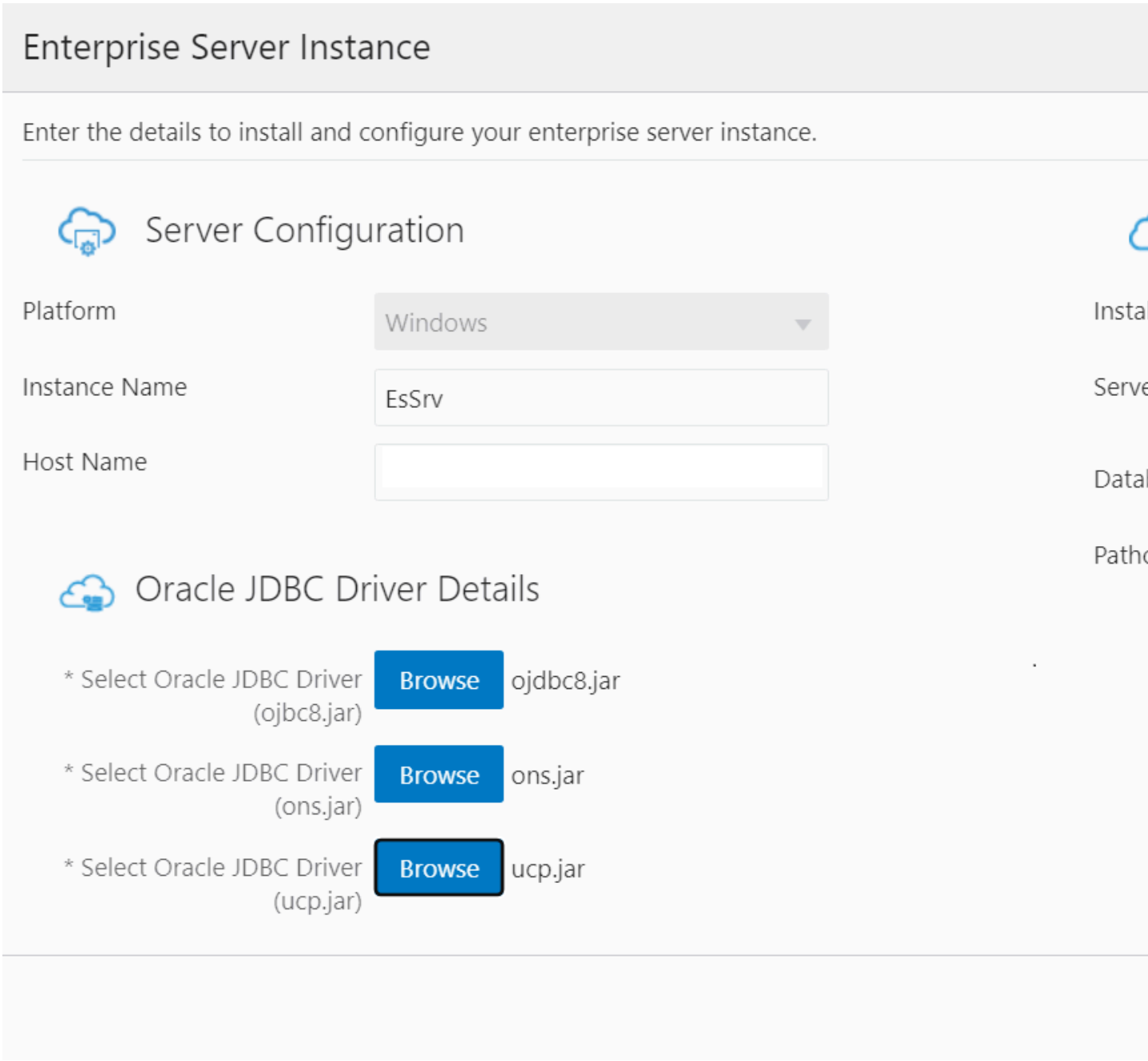
  Select one or both of the available server types for this Enterprise Server.

  Single Enterprise Server. If you are deploying only a single Enterprise Server, select both Logic and Batch.

  Multiple Enterprise Servers. If you are deploying multiple Enterprise Servers, at least one must be specified as a Logic server per pathcode. The others can be specified as Batch servers.
- **Pathcodes**

  Click the Available Pathcodes field and select the pathcodes required from the auto-suggest. The four available pathcodes are: Development, Prototype, Pristine, and Production.

Note: It is a good practice to select pathcodes that correlate to the schemas you selected for the Database Server. The Provisioning Console programmatically enforces this correlation. If you select pathcodes on the Enterprise Server that are a superset of the database schemas you selected, the Enterprise Server will not be able to access the data required to function correctly. The pathcodes you choose to install on the Enterprise Server can only be deployed once, which is specified at this point in the Provisioning Console. You can use the Provisioning Console to programmatically add additional schemas after deploying the orchestration.



9. Click the **Next** button. Because you will be connecting to an existing Oracle instance, the system validates all the inputs that are provided. If the validation is successful, the JD Edwards HTML Server Instance page is displayed.
10. On the JD Edwards HTML Server page, complete these fields to create and configure the HTML Server instance.

    Server Configuration

    - **Platform**

      This field is disabled and is automatically populated as Windows.
    - **Instance Name**

      Create the name of the HTML sever instance.
    - **Host Name**

      Enter the Fully Qualified Domain Name (FQDN) if the DNS service is enabled.

      Otherwise, enter only the host name that is configured in the host machine.
    - **Port**

      Enter a unique (available) port number for this server which will use an SSL connection. This port number must be between 1024 and 65535. This port number is used by HTTPS to create a container and deploy

the web component. For whichever port number you enter here, ensure that the port for one less is also available. This is, if you specify port 8081, you must also ensure that port 8080 is available.

> **Note:** For each SSL port that you open in the firewall, you must also open a companion port for use by non-SSL access required for the Server Manager. The value for the companion port must be a numeric value that is one less than that specified for the SSL port. For example, if you specify a port value of 8081 for SSL, in the firewall you must also open a port one less than that value; For example, if you specify a port value of 8081 for SSL, in the firewall you must also open the port 8080. For more information, refer to the section "Enable Inbound Ports in the Firewall" of the OBE "Performing Common Setup for All Microsoft Windows Servers" in this Learning Path.

Web Server Preferences

- **PathCode**

  Select the required pathcode from the drop-down menu.

WebLogic Details

- **User Name**

  Enter the user name.
- **Password**

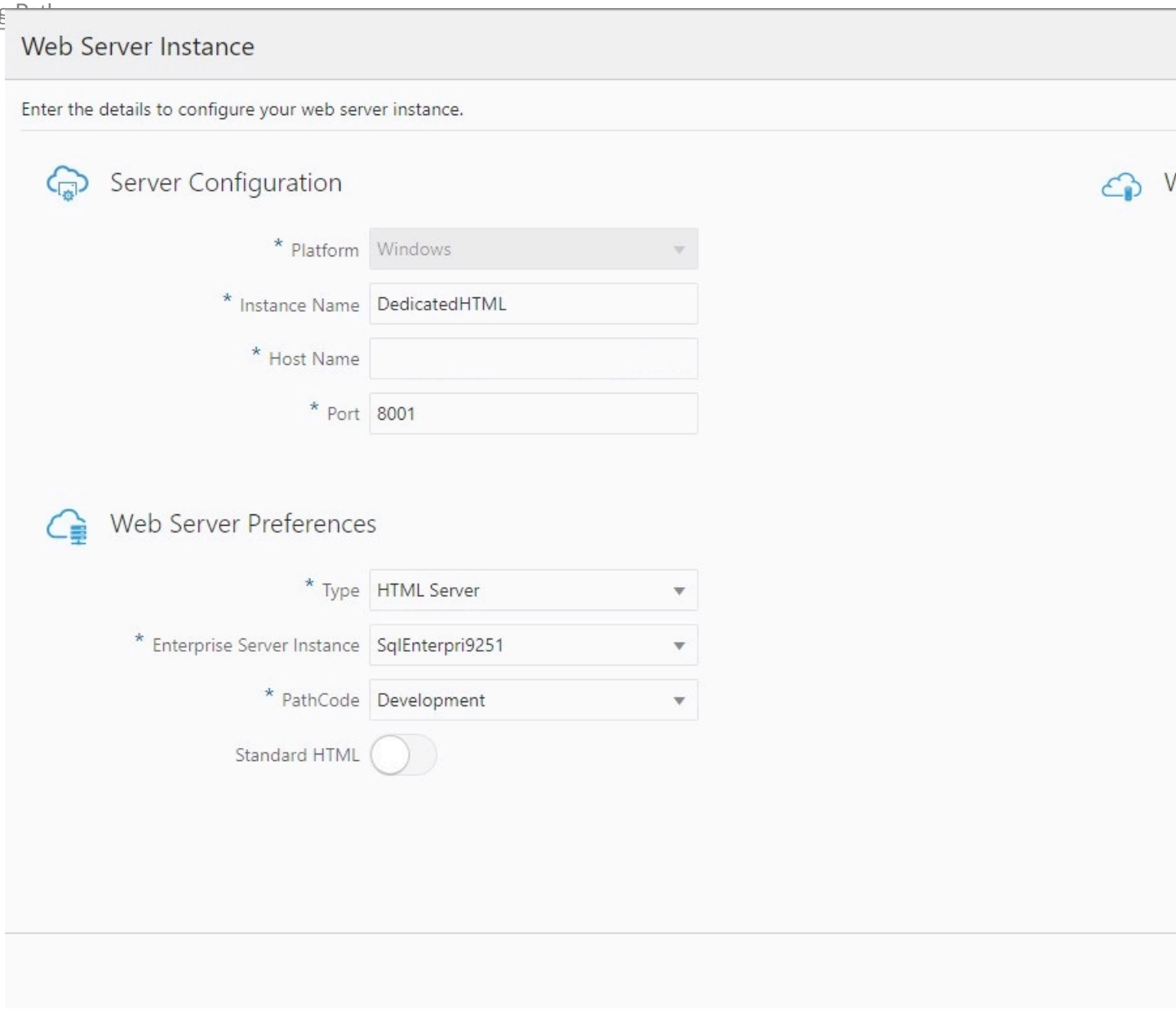
  Enter the WebLogic Server password.
- **Admin Port**

  Enter the port number to access the WebLogic Administration Console.
- **Install Path**

  Enter the installation path of the WebLogic instance.
- **JDK Install Path**

  Enter the JDK installation path.

> **Note:** Each HTML Server can only support one pathcode. If you want additional HTML instances to support additional pathcodes, you should use the advanced mode of the Provisioning Console. Refer to the section "Orchestrating an Advanced Deployment Plan Using the Oracle Database Server" of this Learning Path.



11. Click the **Next** button. The system validates the inputs. If the validation is successful, the JD Edwards AIS Server page is displayed.
12. On the JD Edwards AIS Server, complete these fields to configure your AIS Server instance.

    Server Configuration

    - **Platform**

      This field is disabled and is automatically populated as Windows.
    - **Instance Name**

      Create an instance name for the WebLogic Server.
    - **Host Name**

      Enter the host name.

Port

Enter a unique (available) port number for this server that will use an SSL connection. This port number must be between 1024 and 65535. This port number is used by HTTPS to create a container and deploy

the web component. For whichever port number you enter here, ensure that the port for one less is also available. That is, if you specify port 8081, you must also ensure that port 8080 is available.

> **Note:** For each SSL port that you open in the firewall, you must also open a companion port for non-SSL access required for using the Server Manager. The value for the companion port must be a numeric value that is one less than that specified for the SSL port. For example, if you specify a port value of 8081 for SSL, in the firewall you must also open the port 8080. For more information, refer to the section "Enable Inbound Ports in the Firewall" of the OBE "Performing Common Setup for All Microsoft Windows Servers" in this Learning Path.

WebLogic Details

- **User Name**

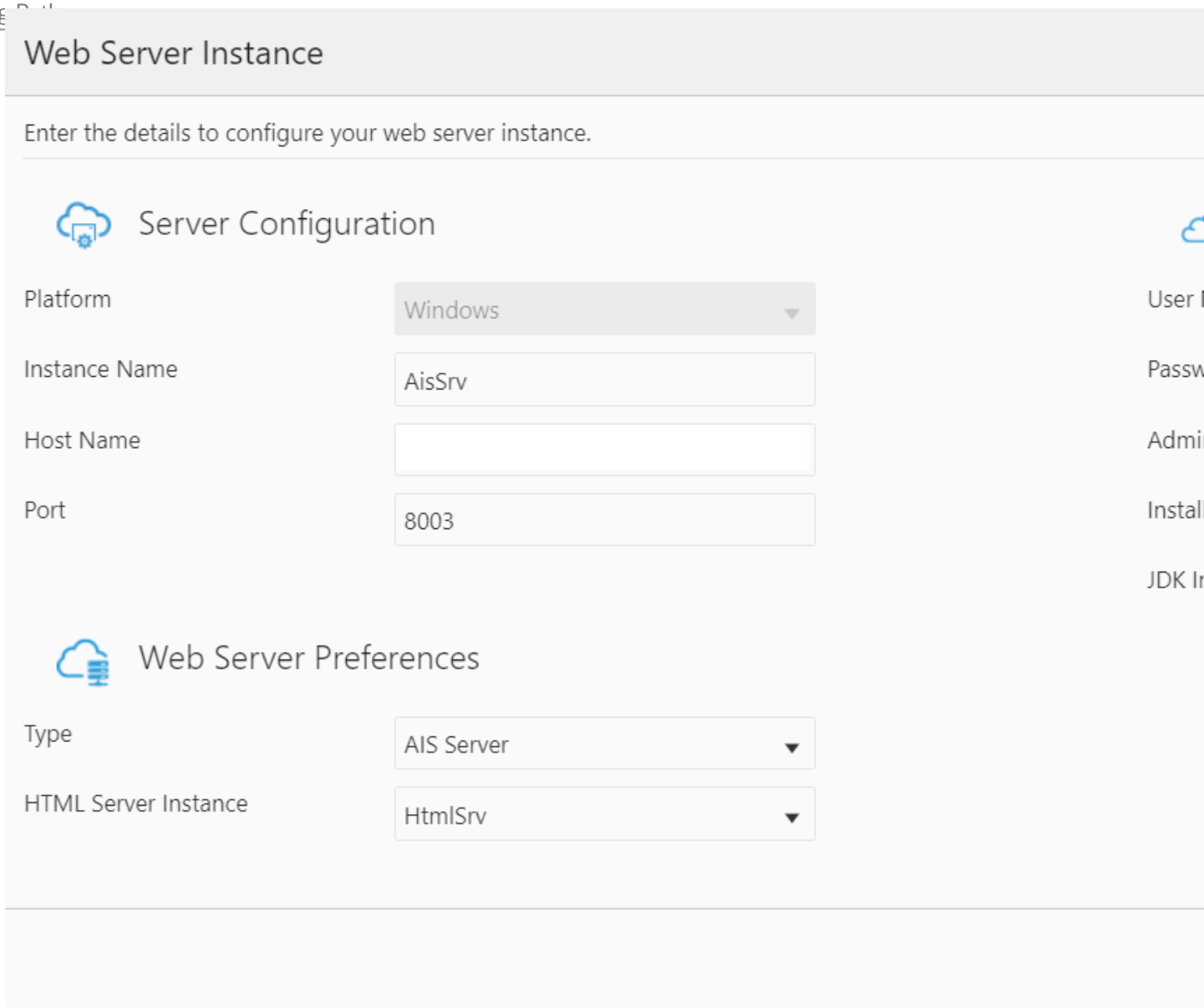
  Enter the user name.
- **Password**

  Enter the WebLogic password.
- **Admin Port**

  Enter the admin port number.
- **Install Path**

  Enter the installation path of the WebLogic instance.
- **JDK Install Path**

  Enter the JDK installation path.



13. Click the **Next** button. The system validates the inputs. If the validation is successful, the JD Edwards Deployment Server page is displayed.
14. On the JD Edwards Deployment Server, complete these fields to create and configure your Deployment Server instance.

Server Configuration

- **Instance Name**

  Create an instance name for the Deployment Server instance. The conditions to set the instance name are displayed in the tool tip when you click the field.
- **Host Name**

  Enter the host name.

Deployment Server Preferences

- **Location**

  Enter the location.

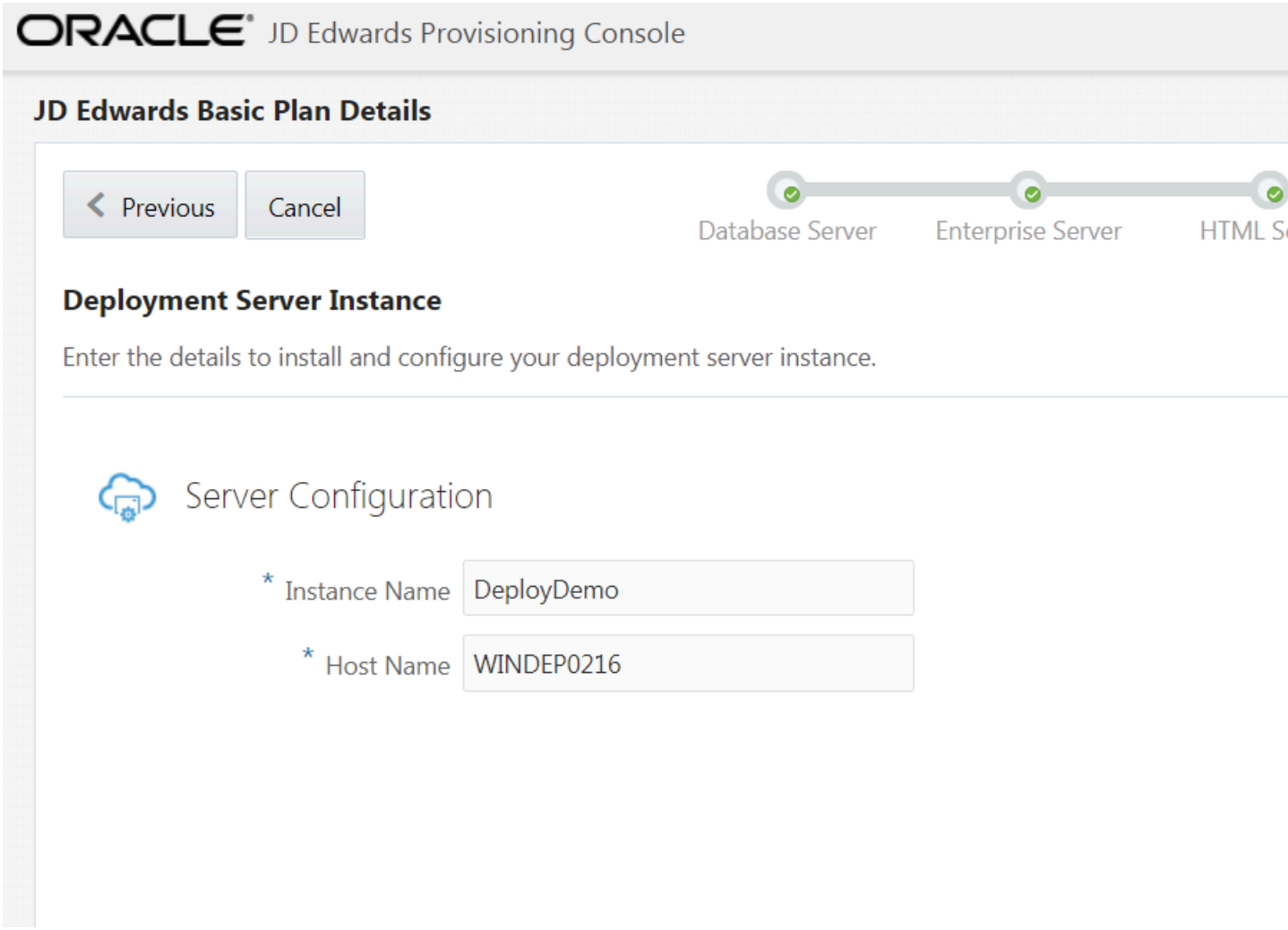
  This value is the base location for your JD Edwards EnterpriseOne machines. For example, typical values might be a city name (such as Denver or Austin), a geographical region name (such as US or India), or a general location name (such as Corporate).

- **Installation Drive**

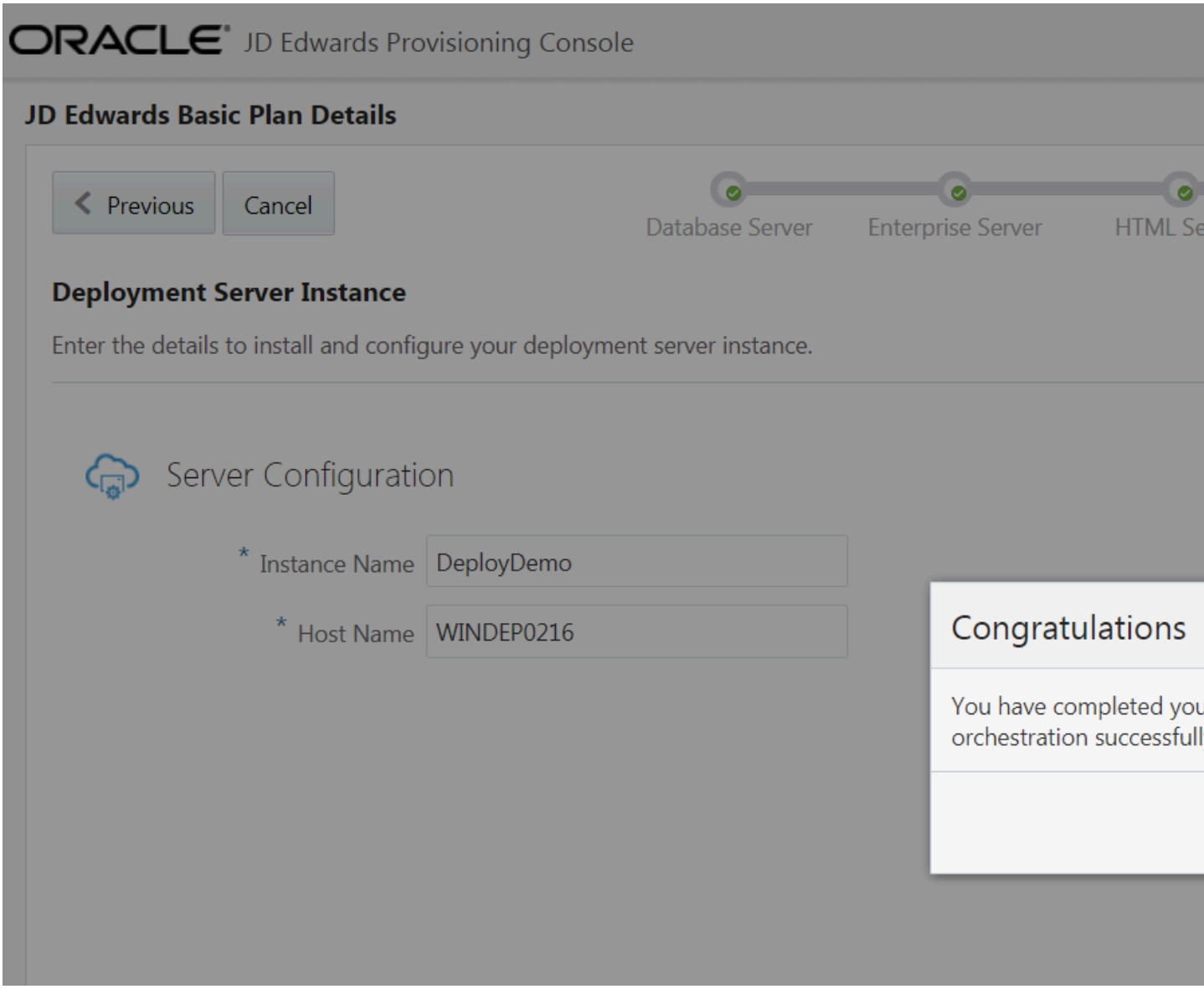
  Enter the drive for the installation.

- **Pathcodes**

  This field is automatically populated.

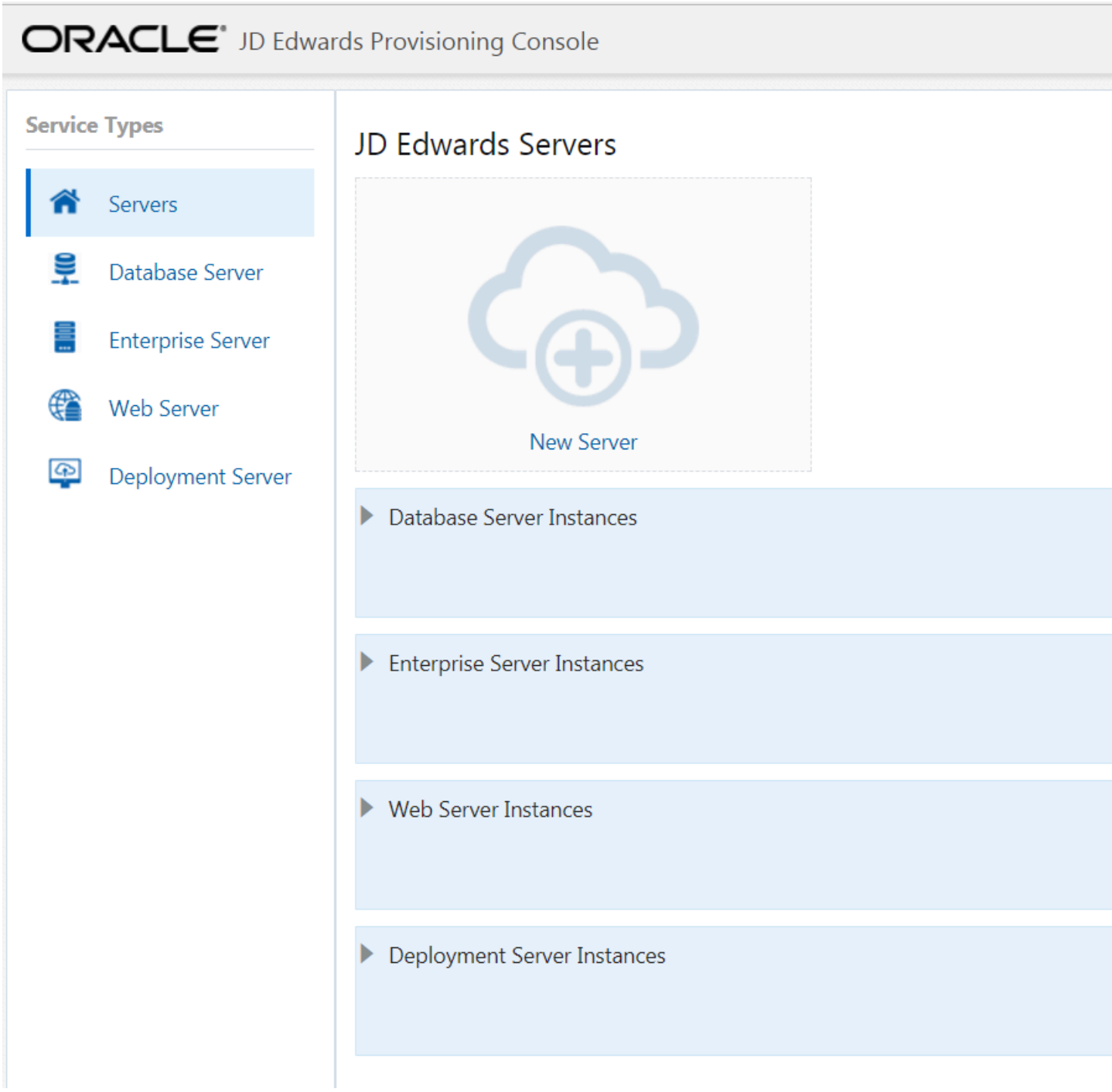


15. Click the **Finish** button. A success message is displayed.



16. Click the **OK** button.
17. The summary window is displayed. In the summary window, you can see that one instance is created for each of the servers. Click the **Back** button to proceed to deploy your services by

performing the steps described in the section "Deploying an Orchestration" in this Learning Path.



Note: For this Quick Start Deployment Plan, you can click the **Options** function from the menu bar to change your global settings or to reset your settings (that is, to delete your configuration details, global settings, and orchestration data). Also optionally, you can further customize a completed Quick Start Deployment Plan using the **Advanced** deployment function of the JD Edwards Provisioning Console. For more information, refer to the section "Orchestrating the Advanced Deployment Plan Using the Oracle Database Server" of this Learning Path.

Orchestrating the Advanced Plan Using the Oracle Database Server

This tutorial shows you how to orchestrate an Advanced Deployment Plan using the Oracle Database Server.

Orchestrating the Advanced Plan Using the Oracle Database Server

Orchestrating the Advanced Plan Using the Oracle Database Server

This section shows you how to orchestrate an Advanced Deployment Plan using the Oracle Database Server.

You can orchestrate a Deployment Plan using the Advanced mode, which enables you to:

- Modify and add servers to an existing Orchestration that was created using the Quick Start wizard.
- Create a new Orchestration with no guidance from a wizard. Unlike the Quick Start wizard, the Advanced mode will *not* guide you through the required sequence of machines to satisfy dependencies of the configuration. For example, the allowable pathcodes for an Enterprise Server are dependent on the schemas previously selected for the Database Server.

Prerequisites

- Configured the administrator passwords for the WebLogic Server and the Server Manager Console in the Configure section of the JD Edwards One-Click Provisioning Console.
- Before orchestrating an Advanced Deployment Plan, the recommended practice is to first orchestrate a basic Deployment Plan using the Quick Start mode. The Quick Start procedure is documented in the section "Orchestrating the Quick Start Plan Using the Oracle Database Server" of this Learning Path. After this Quick Start orchestration is created, you can use the Advanced mode to modify, delete, or add additional server instances.

  Alternatively, experienced users, who are aware of the required sequence of creation and the interdependencies, can use the Advanced Mode to create an orchestration from start.

Orchestrating the Advanced Plan Using the Oracle Database Server

The required sequence of adding instances to an orchestration and the rules related to the machines and pathcodes are as follows:

1. **Database Server**

   You can create five database instances if you select one schema per instance.
2. **Enterprise Server**

   One or many Enterprise Servers can be created. At least one Enterprise Server must be created with selected pathcodes available from the schemas that were selected for the Database Server. An Enterprise Server must be configured before you can add HTML Servers. If multiple Enterprise Servers are deployed, at least one must be

configured as a Logic Server per pathcode. Additional Enterprise Servers can be added to an Orchestration and they can be deployed after your initial plan is deployed.

3. **Web Servers**

   HTML Server. Web Servers include the JD Edwards EnterpriseOne HTML Server. There are two types of HTML Servers: **Standard JAS** and **Dedicated HTML for AIS**.

   One to many HTML Server instances can be created and each will be associated with one specific pathcode that is available on the Enterprise Server. Additional HTML Servers can be added to an Orchestration and they can be deployed after your initial plan is deployed.

   Refer to the ***Fundamentals*** section of this Learning Path for a description of each type of HTML Server.

   AIS Server. Another type of Web Server for JD Edwards EnterpriseOne is the AIS Server, which must be installed and configured along with a Dedicated HTML Server for AIS.

   Zero to many AIS Server instances can be created and each will be associated with a specific HTML Server instance. Additional AIS Server instances can be added on to your plan and deployed after your initial plan is deployed.

   > **Note:** If you do not specify at least one AIS Server, the full functionality of certain JD Edwards EnterpriseOne applications will not be available. If you used the Quick Start mode to configure a basic environment, the workflow required the inclusion of this server.

   > **Note:** You cannot specify a single HTML Server instance to also support an AIS Server; that is, you cannot combine two servers in the same instance. You must create a separate instance for each AIS Server.

4. **AIS Servers**

   You can either create or not create an AIS Server. Multiple AIS Server instances can be created and each will be associated with a specific HTML Server instance. Additional AIS Server instances can be added to your plan and deployed after your initial plan is deployed.

   > **Note:** If you do not specify at least one AIS Server, the full functionality of certain JD Edwards EnterpriseOne applications will not be available.

   > **Note:** You cannot specify an HTML Server instance to support an AIS Server. You must create a separate instance for each AIS Server.

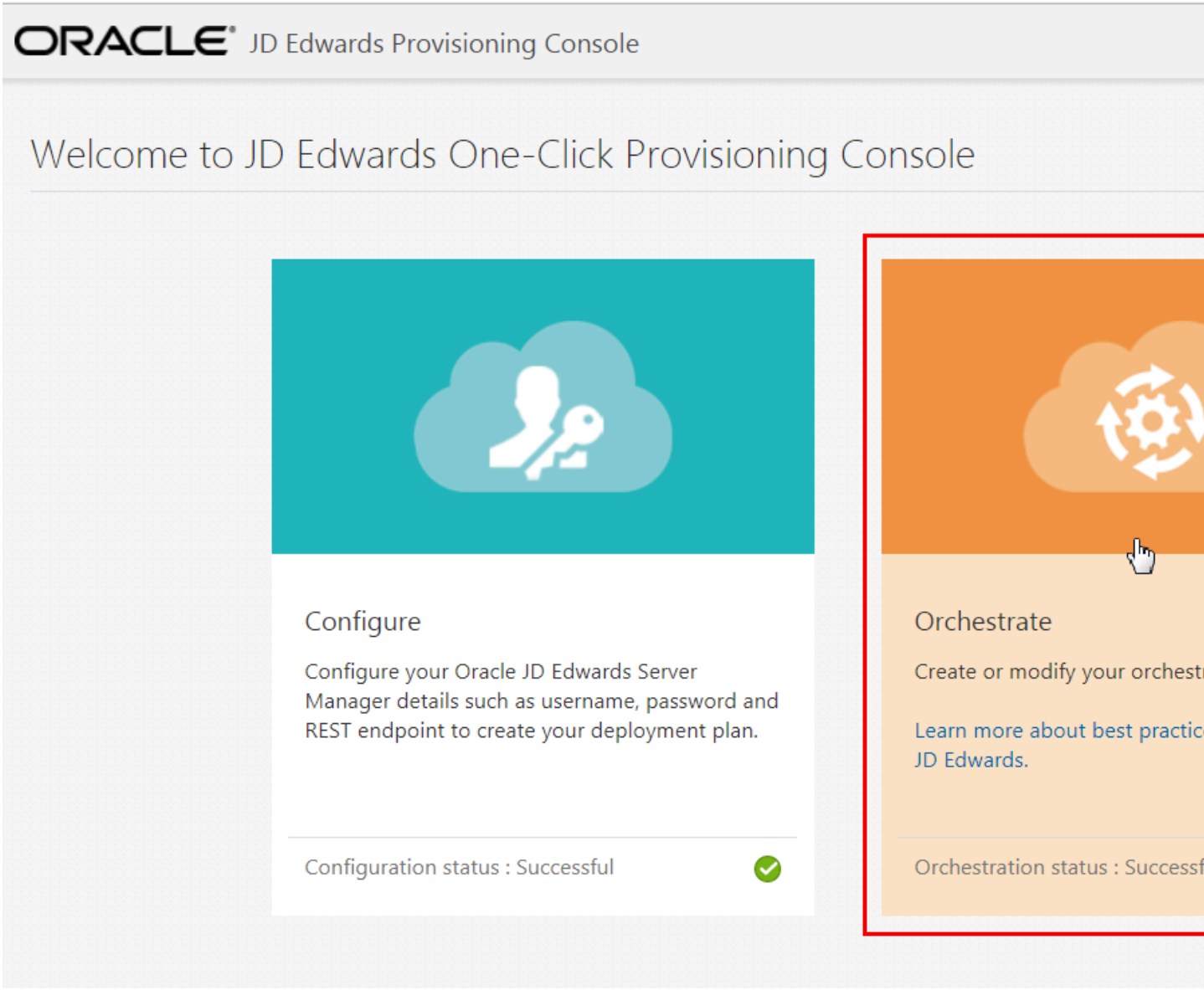
5. **Deployment Server**

   A single Deployment Server can be created and all the pathcodes can be selected regardless of the pathcodes selected for your runtime servers.

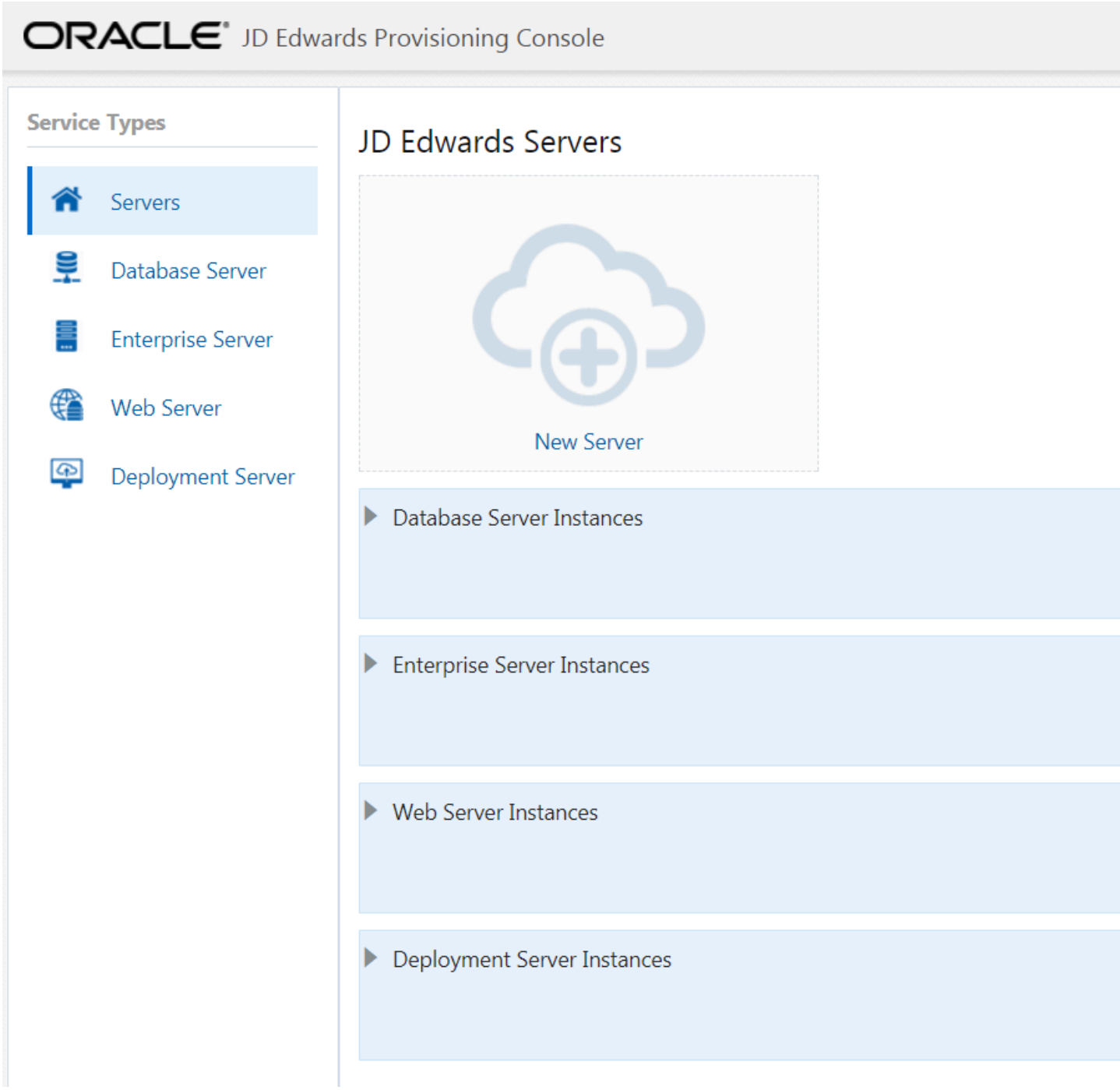
   > **Note:** For any orchestration created or modified using the Advanced Mode Deployment Plan, you can click the **Options** function from the menu bar to change your global settings or to reset your settings (that is, to delete your configuration details, global settings, and orchestration data).

To use the JD Edwards Provisioning Console to orchestrate and deploy an Advanced Deployment Plan:

1. On the JD Edwards Provisioning Console page, click the **Orchestrate** icon.



2. On the JD Edwards Servers page, click the instance of an existing server, or click the **New Server** icon to add a new JD Edwards service. Alternatively, you can select the desired server from **Service Types** on the left tab, and then click **New Server** to add a new server.



Note: The remainder of this procedure includes steps to either add (where allowed) or modify (existing) these instances:

- Database Server
- Enterprise Server
- Web Server (for example, HTML and AIS Servers)
- Deployment Server*

* The Provisioning Console will not allow you to add more than one of these server types because only one server of this type is supported per deployment.

Database Server

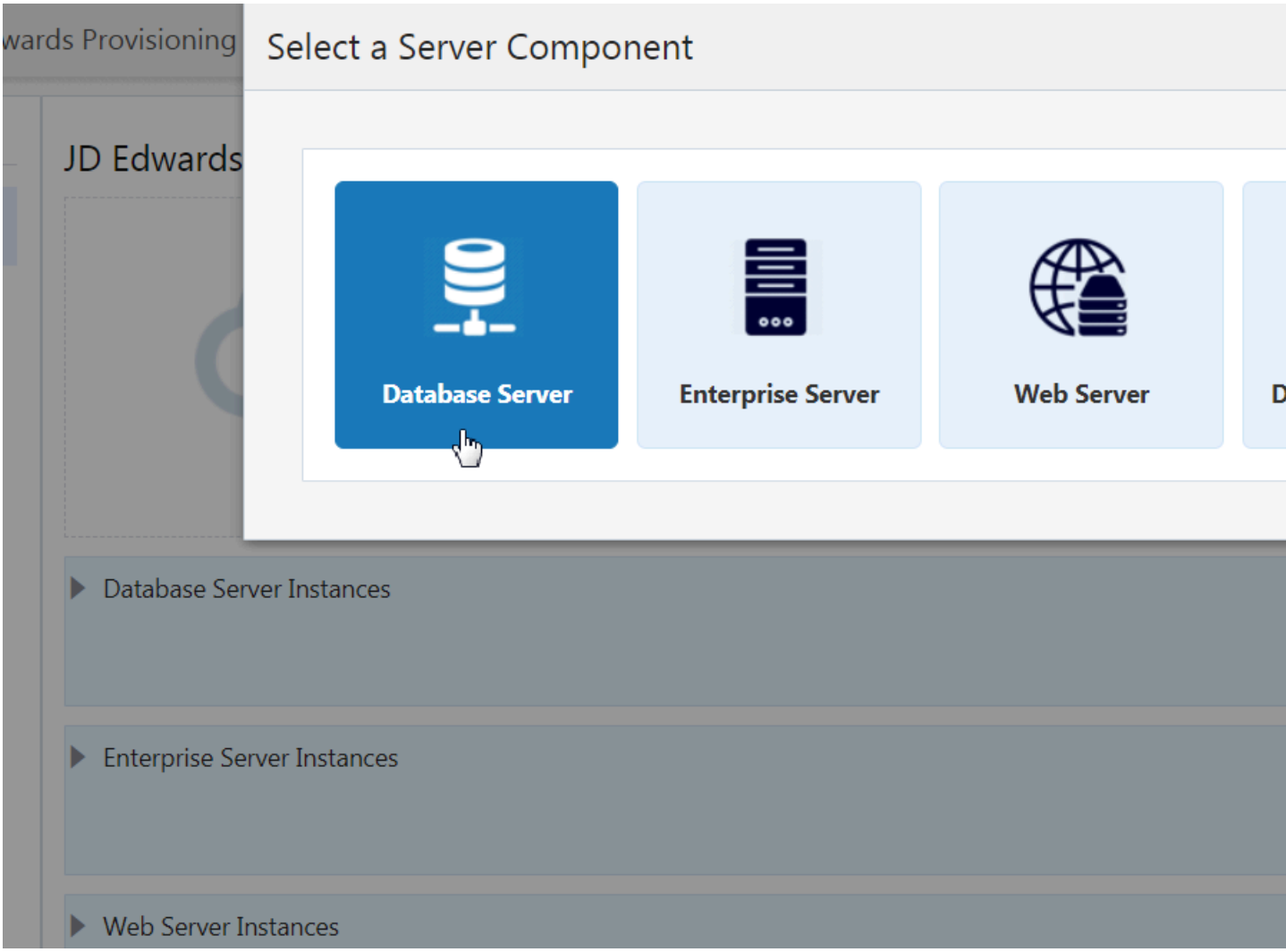
You can create five database instances if you select one schema per instance. For example, if you select Development and Shared schemas for an instance, you can create three more database instances. For one deployment instance, you can have a maximum of five schemas distributed across one or many database instances.

You can provision the Database Server instance with the available schemas as required. The following schemas are available for the database instance:

- Development
- Shared (required)
- Prototype
- Production
- Pristine

To add a Database Server instance:

1. Click the **New Server** icon and select **Database Server** from the Select a Server Component window.



2. On Database Server Instance page, complete the following fields to create and configure the Database Server instance.

> **Note:** You must enter the same password for this Windows Server that you previously specified in the section of this OBE entitled: ***Logging in to the Windows VM*** .

Server Configuration

- **Database Server Type**

  Select the Database Server Type as Oracle Database. The server types available are: Oracle Database and SQL Server.
- **Platform**

  This field is disabled and is automatically populated as Windows.
- **Instance Name**

Create an instance name for your database instance.

- **Host Name**

  Enter the host name.

Database Configuration

- **DB Install Path**

  Enter the path of the directory where you have installed the Database Server components.
- **DB Admin Password**

  Enter the password of the database administrator.

  > **Note:** JD Edwards EnterpriseOne One-Click Provisioning supports *only* these special characters for the Oracle database admin password:
  >
  > ```
  > Underscore (_)
  > Pound Sign (#)
  > Hypen (-)
  > ```

- **Net Service Name**

  Enter the Net Service Name. See *Finding DB Unique Name, Oracle SID, and Service Name*.

JD Edwards Database Configuration

- **Use ASM feature**

  Enable this option if required.
- **JDE DB Install Directory**

  Enter the installation path.

  Path Rules: All the directories in the specified path must preexist, except the last directory in the path. The name of the last directory must be unique. One-Click validation checks that the parent directory exists. The child directory is created by One-Click using the name provided in the input. If there are sub folders leading to the child directory, they must be created manually. For example, if the specified JDE DB Install directory is `c:\JDEdwards\DBInstallPath`, then `c:\JDEdwards` is the parent directory and it must be created manually. `DBInstallPath` is the child directory and should not be created manually, One-Click uses the name provided in the input and creates it.
- **JDE DB Table Directory**

  Enter the path to install the table data.

  Path Rules: All the directories in the specified path must preexist, except the last directory in the path. The name of the last directory must be unique. One-Click validation checks that the parent directory exists. The child directory is created by One-Click using the name provided in the input. If there are sub folders leading to the child directory, they must be created manually. For example, if the specified JDE DB Table directory is `c:\JDEdwards\Table`, then `c:\JDEdwards` is the parent directory and it must be created

manually. `Table` is the child directory and should not be created manually, One-Click uses the name provided in the input and creates it.

- **JDE DB Index Directory**

  Enter the path to install the indexes.

  Path Rules: All the directories in the specified path must preexist, except the last directory in the path. The name of the last directory must be unique. One-Click validation checks that the parent directory exists. The child directory is created by One-Click using the name provided in the input. If there are sub folders leading to the child directory, they must be created manually. For example, if the specified JDE DB Table directory is `c:\JDEdwards\Index`, then `c:\JDEdwards` is the parent directory and it must be created

manually. `Index` is the child directory and should not be created manually, One-Click uses the name provided in the input and creates it.

- **Schemas**

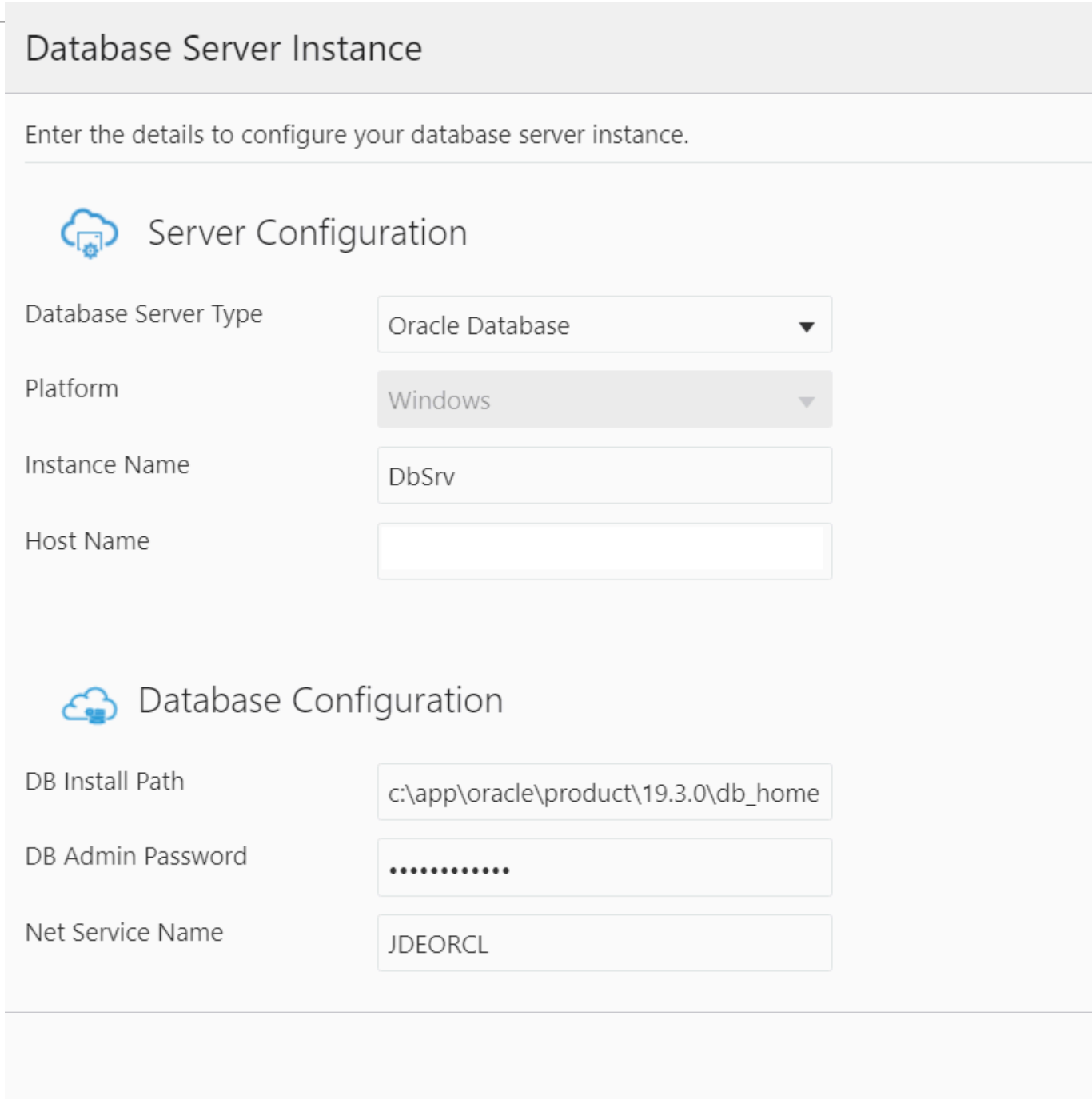
  Click the Schemas field and select the schemas you want from the auto-suggest. The schemas available are: Shared Development Prototype Production and Pristine with Demo Data.

  > **Note:** It is mandatory to add the Shared schema. If you do not add the Shared schema, the message "You must select Shared schema" is displayed.

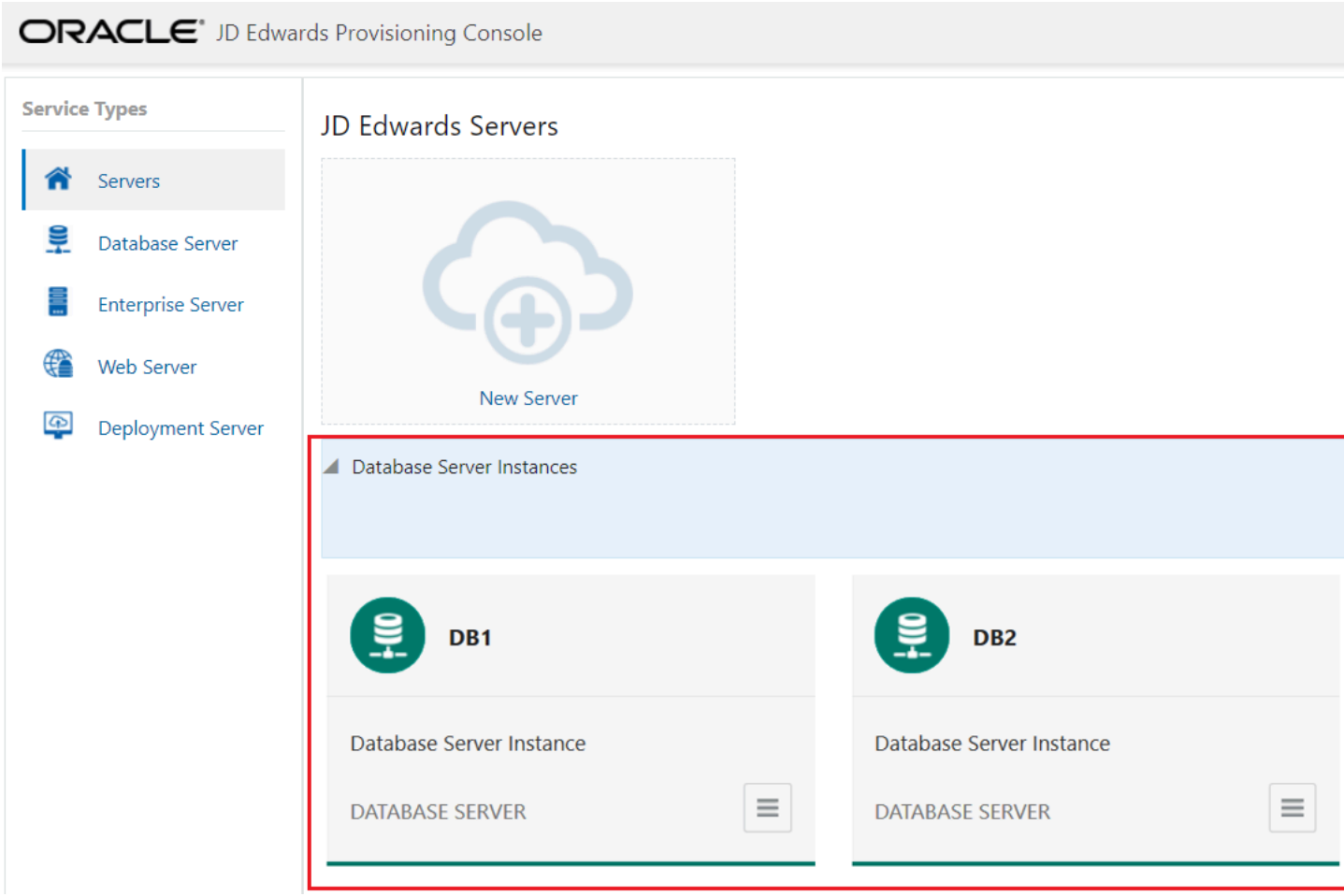
  > **Note:** t this point you should ensure that you specify *all* the schemas you might use. The schemas you install on the Database Server can be deployed only once. This information is specified on the Provisioning Console. After the configuration is deployed, you can use the Provisioning Console to programmatically add additional schemas.

- **Demo Data**

  Click the **Demo Data** field and select the demo data available from the auto-suggest. Demo data will be available depending on the schema selected. For example, if you select the schema as Development, the Development demo data will be available.

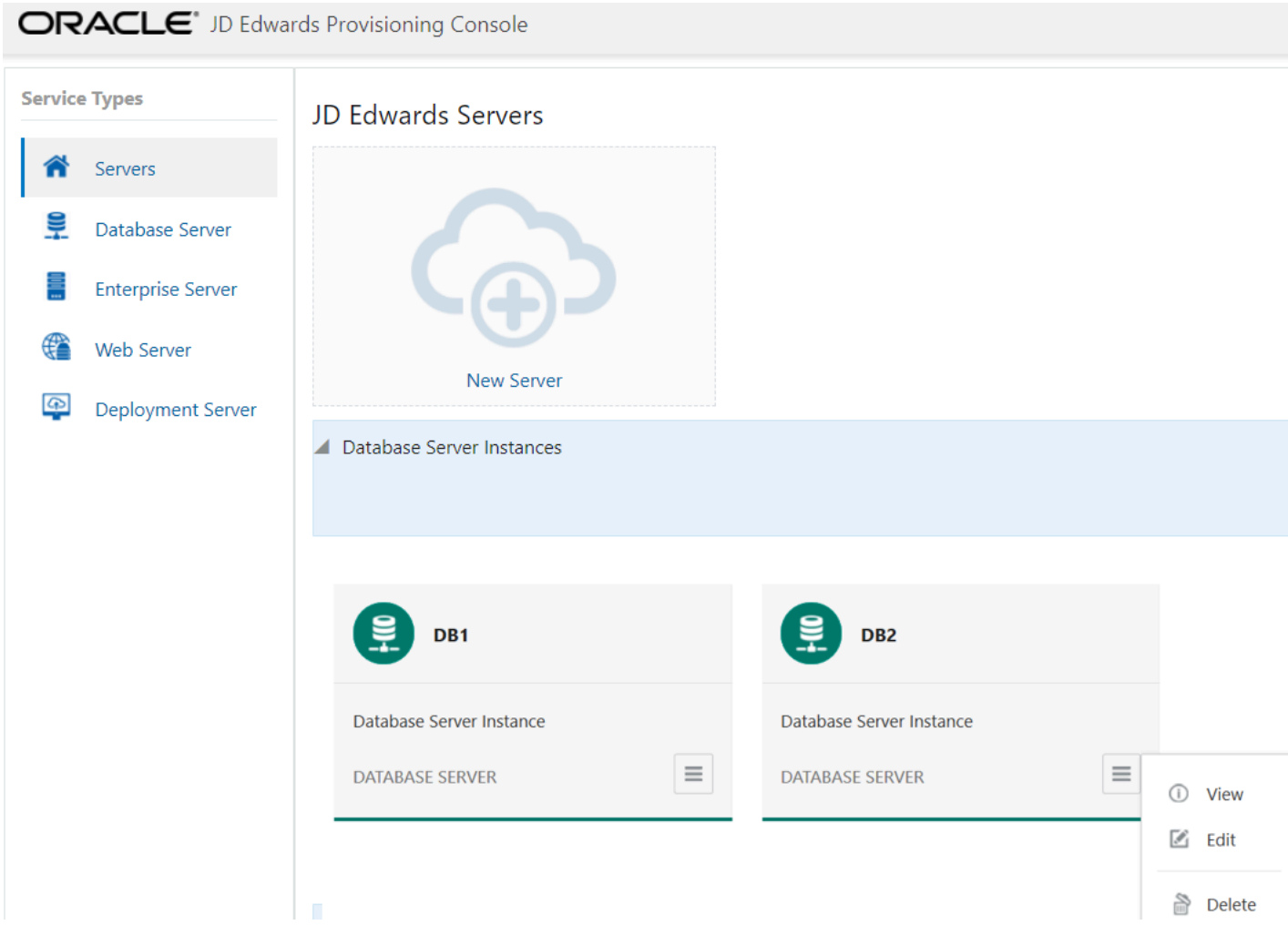

Database Server Instance
Enter the details to configure your database server instance.
Server Configuration
Database Server Type
Oracle Database
Platform
Windows
Instance Name
DbSrv
Host Name
Database Configuration
DB Install Path
c:\app\oracle\product\19.3.0\db_home
DB Admin Password
Net Service Name
JDEORCL

You should now be able to view multiple instances of the Database Server.



3. Click **View** from the Application Options menu to view the existing configuration for the Database Server. To modify the instance configuration, select the **Edit** option from use the Application Options menu and choose.

Note: The Provisioning Console for One-Click Provisioning allows you to edit the schemas and demo data settings for an existing Database Server post-deployment.



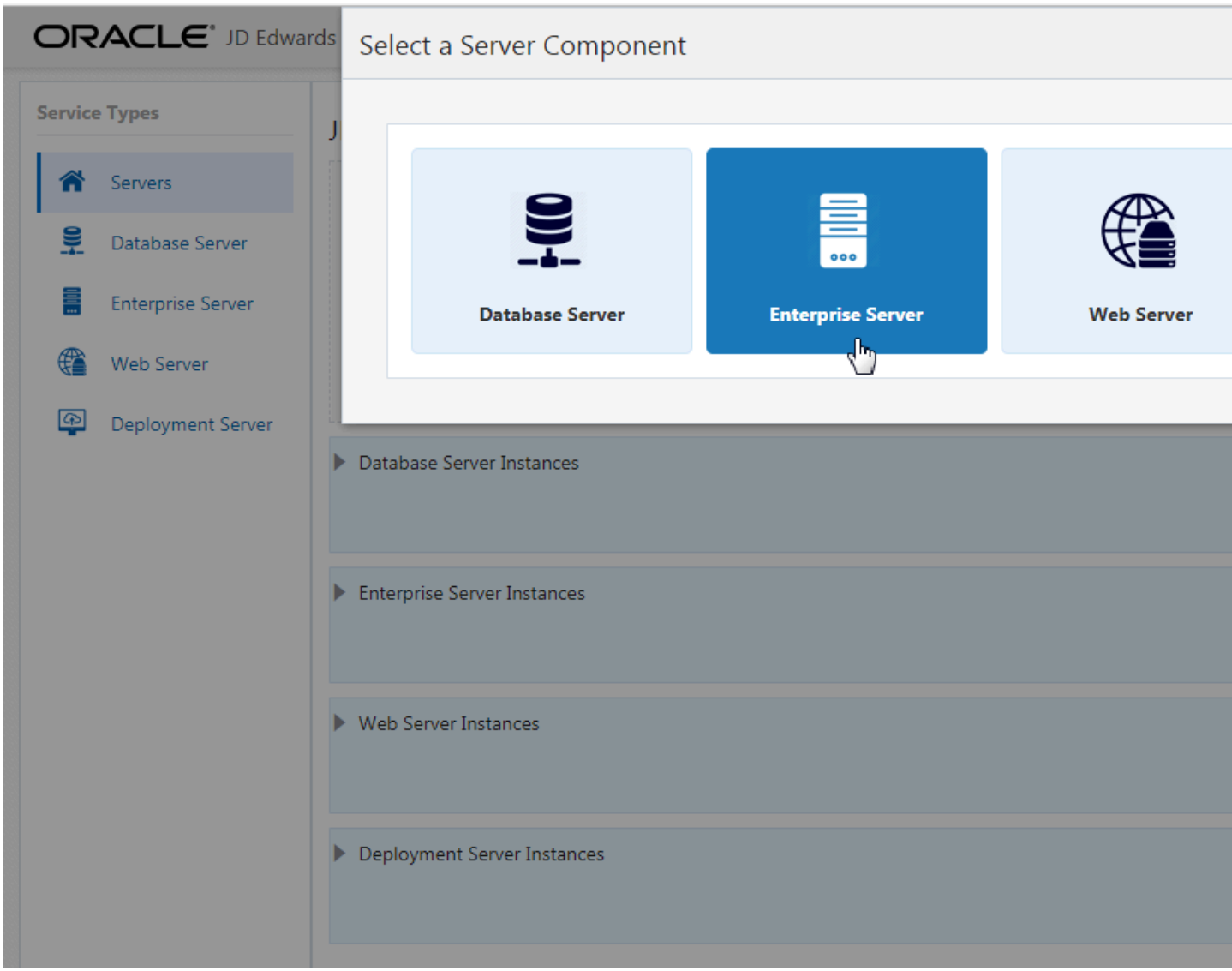
4. To delete the instance, select the **Delete** option from the Application Options menu.

Enterprise Server

You can define any number of Enterprise Server instances. If you want only one Enterprise Server, you should define it to run both Logic and Batch. If you want to define multiple Enterprise Servers, at least one must be a Logic Server per pathcode.

To add an Enterprise Server:

1. Click the New Server icon and select Enterprise Server from the Select a Component window.



2. On Enterprise Server Instance page, complete these fields to create and configure the Enterprise Server instance.

Server Configuration

- **Platform**

  This field is disabled and it is automatically populated as Windows.
- **Instance Name**

  Create an instance name for the Enterprise Server. The conditions to set the instance name are displayed in the tooltip when you click the field.
- **Host Name**

  Enter the host name.

Oracle JDBC Driver Details

The Oracle JDBC driver is required for connectivity between the Enterprise Server and the Oracle database server.

Click the Browse button to select the location for each of the required components for the Oracle JDBC driver. For example:

- odbc8.jar
- ons.jar
- ucp.jar

> **Note:** Refer to Oracle Certifications for the version of the supported driver and associated components.

Enterprise Server Preferences

- **Installation Drive**

  Enter the Installation Drive.
- **Server Type**

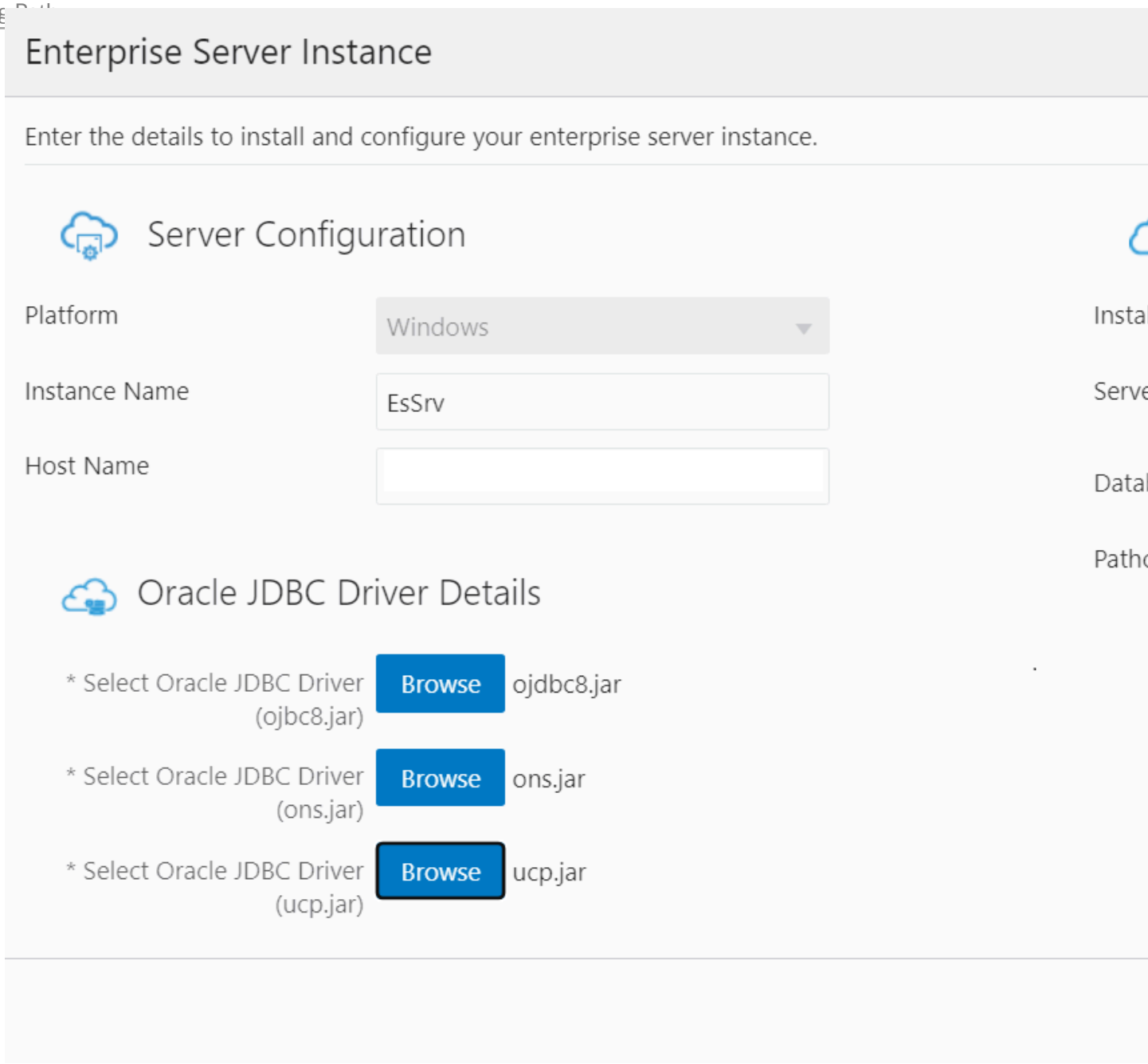
  Select one or both of the available server types for this Enterprise Server.

  Single Enterprise Server. If you are deploying only a single Enterprise Server, select both Logic and Batch.

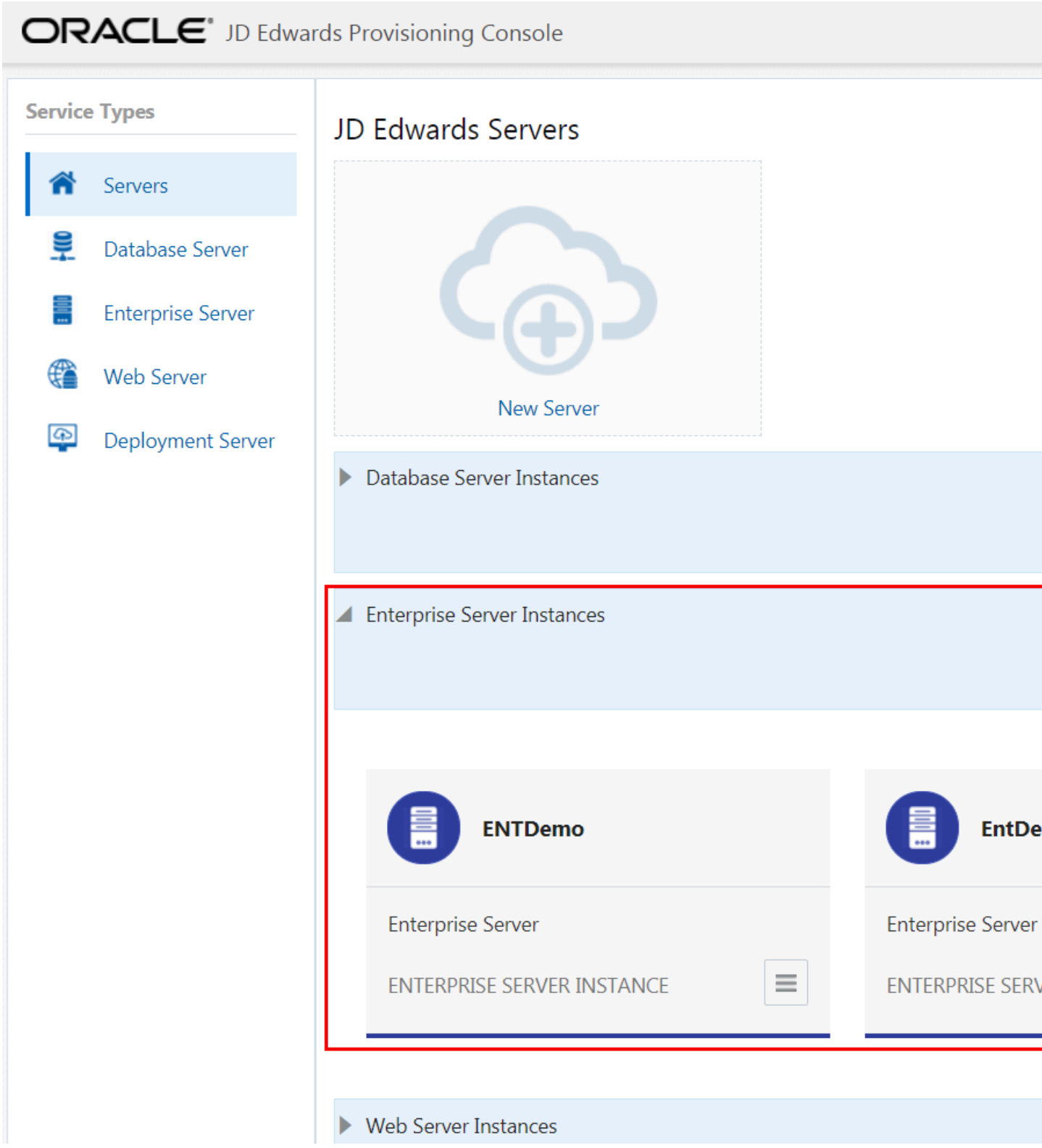
  Multiple Enterprise Servers. If you are deploying multiple Enterprise Servers, at least one must be specified as a Logic server per pathcode. The others can be specified as Batch servers.
- **Pathcodes**

  Click the Available Pathcodes field and select the pathcodes required from the auto-suggest. The four available pathcodes are: Development, Prototype, Pristine, and Production.

> **Note:** It is a good practice to select pathcodes that correlate to the schemas you selected for the Database Server. The Provisioning Console programmatically enforces this correlation. If you select pathcodes on the Enterprise Server that are a superset of the database schemas you selected, the Enterprise Server will not be able to access the data required to function correctly. The pathcodes you choose to install on the Enterprise Server can only be deployed once, which is specified at this point in the Provisioning Console.You can use the Provisioning Console to programmatically add additional schemas after deploying the orchestration.

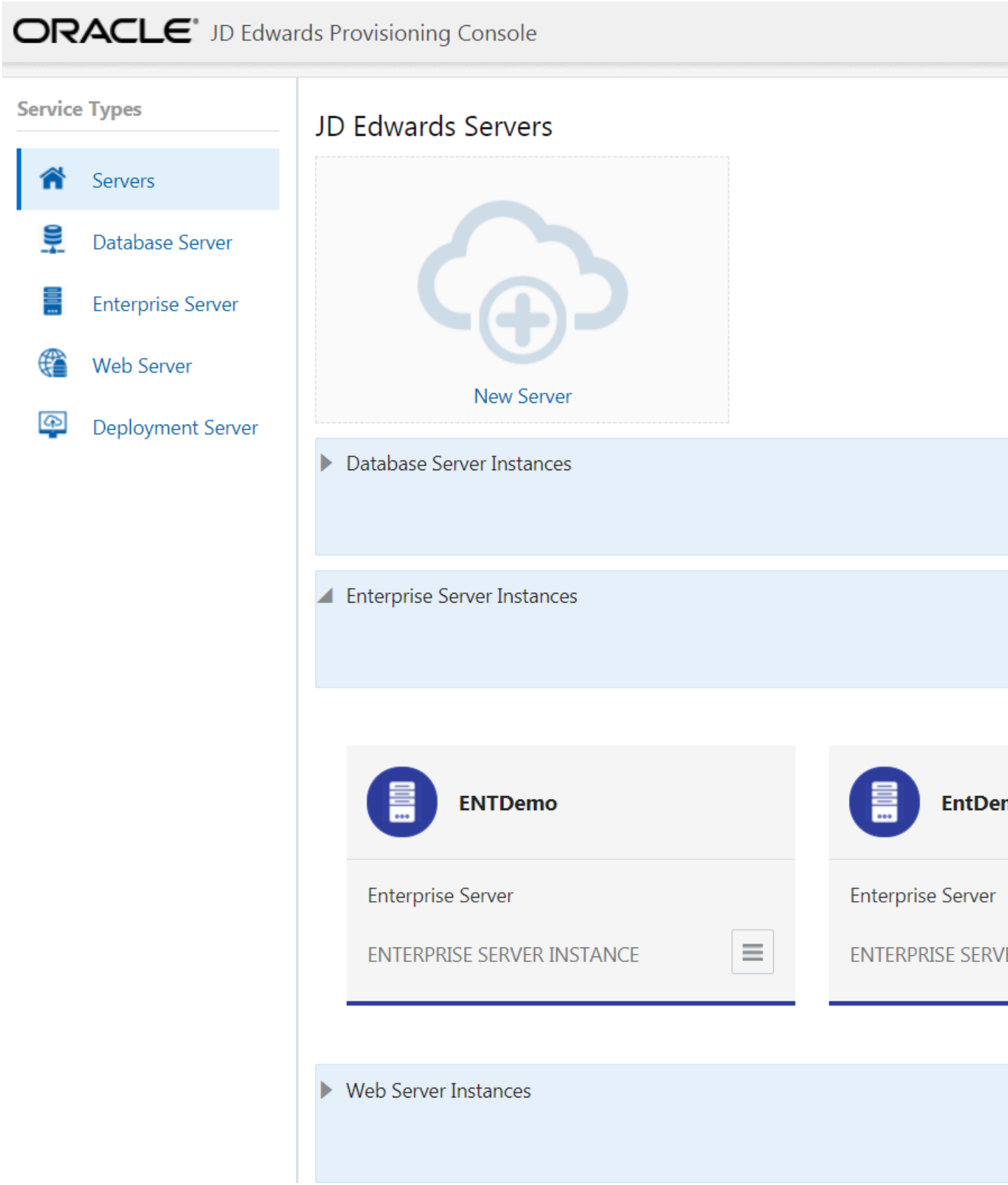

Enterprise Server Instance
Enter the details to install and configure your enterprise server instance.
Server Configuration
Platform
Windows
Instance Name
EsSrv
Host Name
Oracle JDBC Driver Details
* Select Oracle JDBC Driver (ojbc8.jar)
Browse
ojdbc8.jar
* Select Oracle JDBC Driver (ons.jar)
Browse
ons.jar
* Select Oracle JDBC Driver (ucp.jar)
Browse
ucp.jar

3. You should now be able to view multiple instances of the Enterprise Server.



4. If an Enterprise Server exists, click **View** from the Application Options menu to view the existing configuration for the Enterprise Server. the instance configuration, select the **Edit**

option from the action menu. Use the **Clone** option to clone the Enterprise Server instance.



5. To delete the instance, select **Delete** from the Application Options menu.

Web Server

The instance type for Web Servers can be any of the servers available from the Type drop-down list; however, you must have configured at least one configured HTML Server prior to creating an associated AIS instance.

You can define any number of Web Server instances.

To add or modify a Web Server instance:

1. Select the service type for the Web Server.
2. To create a new Web Server, click the **New Server** icon and then the **Web Server** icon.
3. To view an existing Web Server, click **View** from the Application Options menu. To modify the instance configuration, select the **Edit** option from the action tab. You will need enter the values for your installation for each of these Web Server types:
    - HTML Server (Dedicated HTML Server for AIS)
    - Application Interface Services (AIS) Server
    - Standard JAS Server

    > **Note:** For a description of each HTML server type (Dedicated for AIS or Standard), refer to the ***Fundamentals*** section of this Learning Path.

    > **Note:** Because multiple Web Server instances can run on the same WebLogic Server, you must specify a different port for each instance.

4. On the JD Edwards HTML Server page, complete these fields to create and configure the HTML Server instance.

    Server Configuration

    - **Platform**

      This field is disabled and is automatically populated as Windows.
    - **Instance Name**

      Create the name of the HTML sever instance.
    - **Host Name**

      Enter the Fully Qualified Domain Name (FQDN) if the DNS service is enabled.

      Otherwise, enter only the host name that is configured in the host machine.

    - **Port**

      Enter a unique (available) port number for this server which will use an SSL connection. This port number must be between 1024 and 65535. This port number is used by HTTPS to create a container and deploy

the web component. For whichever port number you enter here, ensure that the port for one less is also available. This is, if you specify port 8081, you must also ensure that port 8080 is available.

> **Note:** For each SSL port that you open in the firewall, you must also open a companion port for use by non-SSL access required for the Server Manager. The value for the companion port must be a numeric value that is one less than that specified for the SSL port. For example, if you specify a port value of 8081 for SSL, in the firewall you must also open a port one less than that value; For example, if you specify a port value of 8081 for SSL, in the firewall you must also open the port 8080. For more information, refer to the section "Enable Inbound Ports in the Firewall" of the OBE "Performing Common Setup for All Microsoft Windows Servers" in this Learning Path.

Web Server Preferences

- **PathCode**

  Select the required pathcode from the drop-down menu.

WebLogic Details

- **User Name**

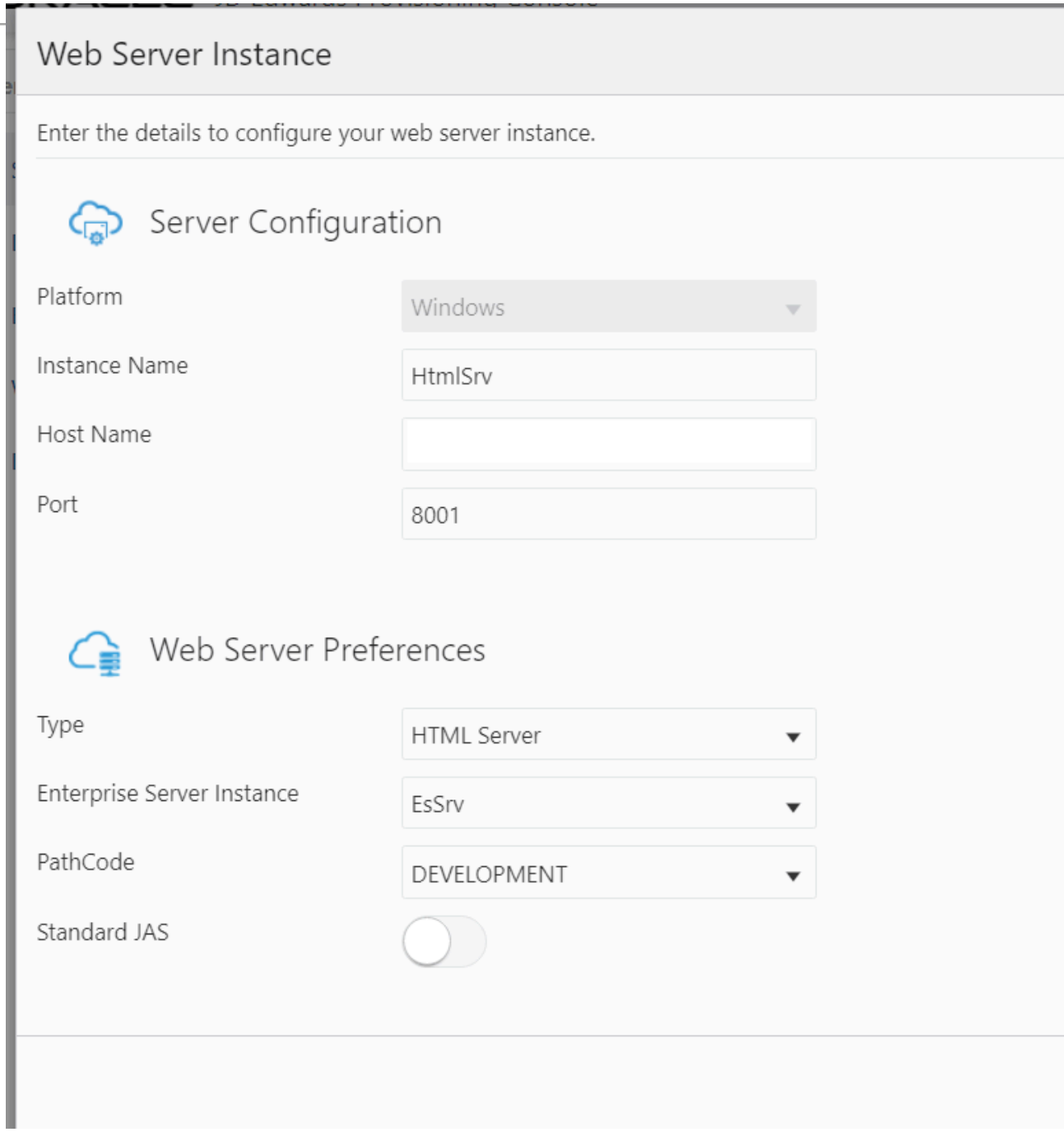
  Enter the user name.
- **Password**

  Enter the WebLogic Server password.
- **Admin Port**

  Enter the port number to access the WebLogic Administration Console.
- **Install Path**

  Enter the installation path of the WebLogic instance.
- **JDK Install Path**

  Enter the JDK installation path.



5. Click the **Next** button. The system validates the inputs. If the validation is successful, the JD Edwards AIS Server page is displayed.

6. On the JD Edwards AIS Server, complete these fields to configure your AIS Server instance.

Server Configuration

- **Platform**

  This field is disabled and is automatically populated as Windows.
- **Instance Name**

  Create an instance name for the WebLogic Server.
- **Host Name**

  Enter the host name.
- **Port**

  Enter a unique (available) port number for this server that will use an SSL connection. This port number must be between 1024 and 65535. This port number is used by HTTPS to create a container and deploy

the web component. For whichever port number you enter here, ensure that the port for one less is also available. That is, if you specify port 8081, you must also ensure that port 8080 is available.

> **Note:** For each SSL port that you open in the firewall, you must also open a companion port for non-SSL access required for using the Server Manager. The value for the companion port must be a numeric value that is one less than that specified for the SSL port. For example, if you specify a port value of 8081 for SSL, in the firewall you must also open the port 8080. For more information, refer to the section "Enable Inbound Ports in the Firewall" of the OBE "Performing Common Setup for All Microsoft Windows Servers" in this Learning Path.

WebLogic Details

- **User Name**

  Enter the user name.
- **Password**

  Enter the WebLogic password.
- **Admin Port**

  Enter the admin port number.
- **Install Path**

  Enter the installation path of the WebLogic instance.
- **JDK Install Path**

  Enter the JDK installation path.

Web Server Instance

Enter the details to configure your web server instance.

Server Configuration

Platform	Windows
Instance Name	AisSrv
Host Name	
Port	8003

Web Server Preferences

Type	AIS Server
HTML Server Instance	HtmlSrv

Web Server Instance

Enter the details to configure your web server instance.

Server Configuration

* Platform	Windows
* Instance Name	HtmlStandDemo2
* Host Name	WINWLS0219
* Port	8005

Web Server Preferences

7. Click the **Next** button. The system validates the inputs. If the validation is successful, the JD Edwards Deployment Server page is displayed.
8. On the JD Edwards Deployment Server, complete these fields to create and configure your Deployment Server instance.

   Server Configuration

   - **Instance Name**

     Create an instance name for the Deployment Server instance. The conditions to set the instance name are displayed in the tool tip when you click the field.
   - **Host Name**

     Enter the host name.

   Deployment Server Preferences

   - **Location**

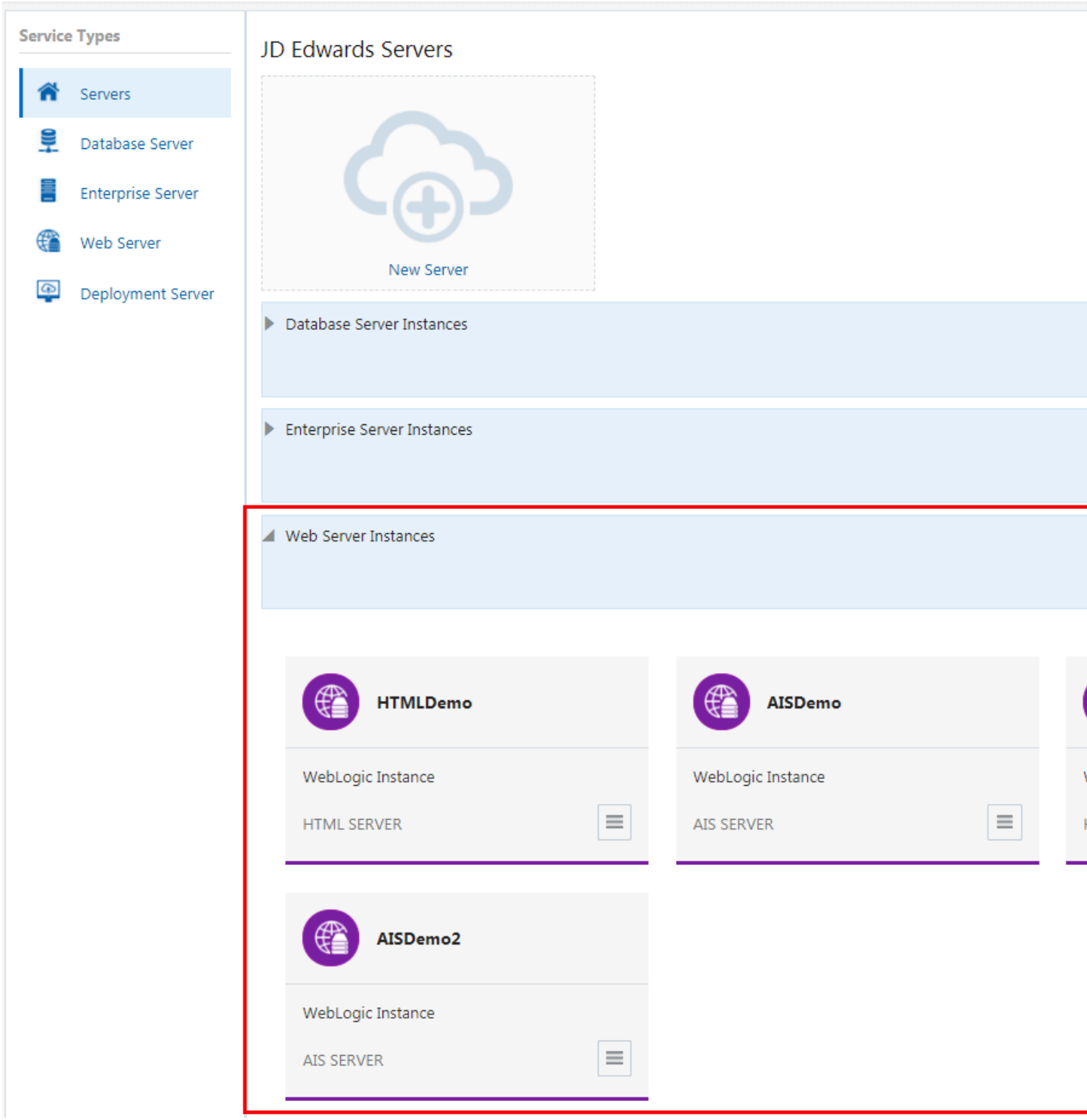
     Enter the location.

     This value is the base location for your JD Edwards EnterpriseOne machines. For example, typical values might be a city name (such as Denver or Austin), a geographical region name (such as US or India), or a general location name (such as Corporate).
   - **Installation Drive**

     Enter the drive for the installation.
   - **Pathcodes**

     This field is automatically populated.
9. Click the **Finish** button.

10. Verify that the Web Server instances you modified or added are displayed in the JD Edwards Servers window.

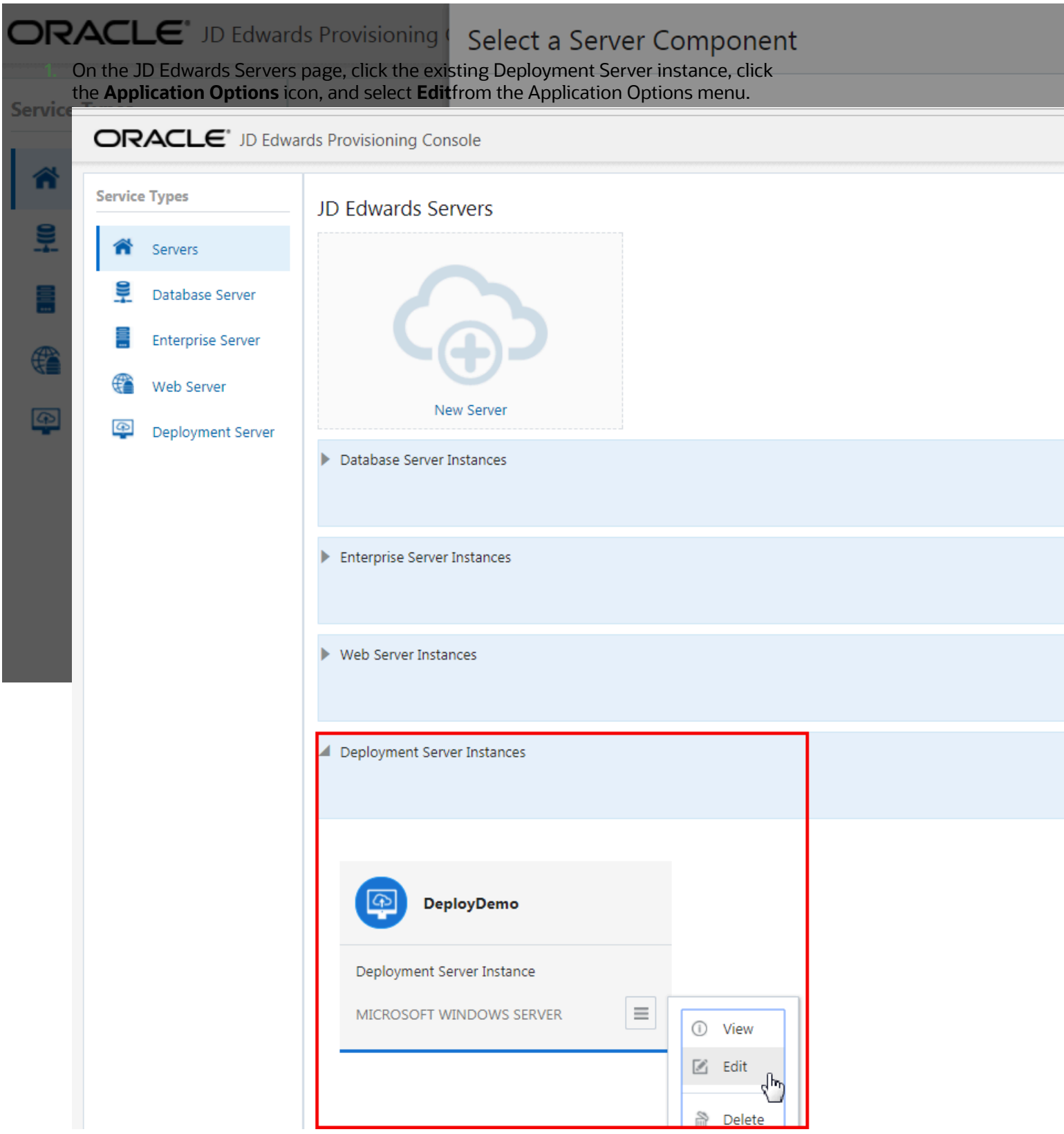


11. To delete any web instance, select **Delete** from the Application Options menu.

Deployment Server

You can use only one Deployment Server per deployment. If you attempt to add more than one Deployment Server, the Provisioning Console displays an error.

1. On the JD Edwards Servers page, click the existing Deployment Server instance, click the **Application Options** icon, and select **Edit** from the Application Options menu.



2. On the JD Edwards Deployment Server, complete these fields to create and configure your Deployment Server instance.

   Server Configuration

   - **Instance Name**

     Create an instance name for the Deployment Server instance. The conditions to set the instance name are displayed in the tool tip when you click the field.
   - **Host Name**

     Enter the host name.
   - **Deployment Server Preferences**

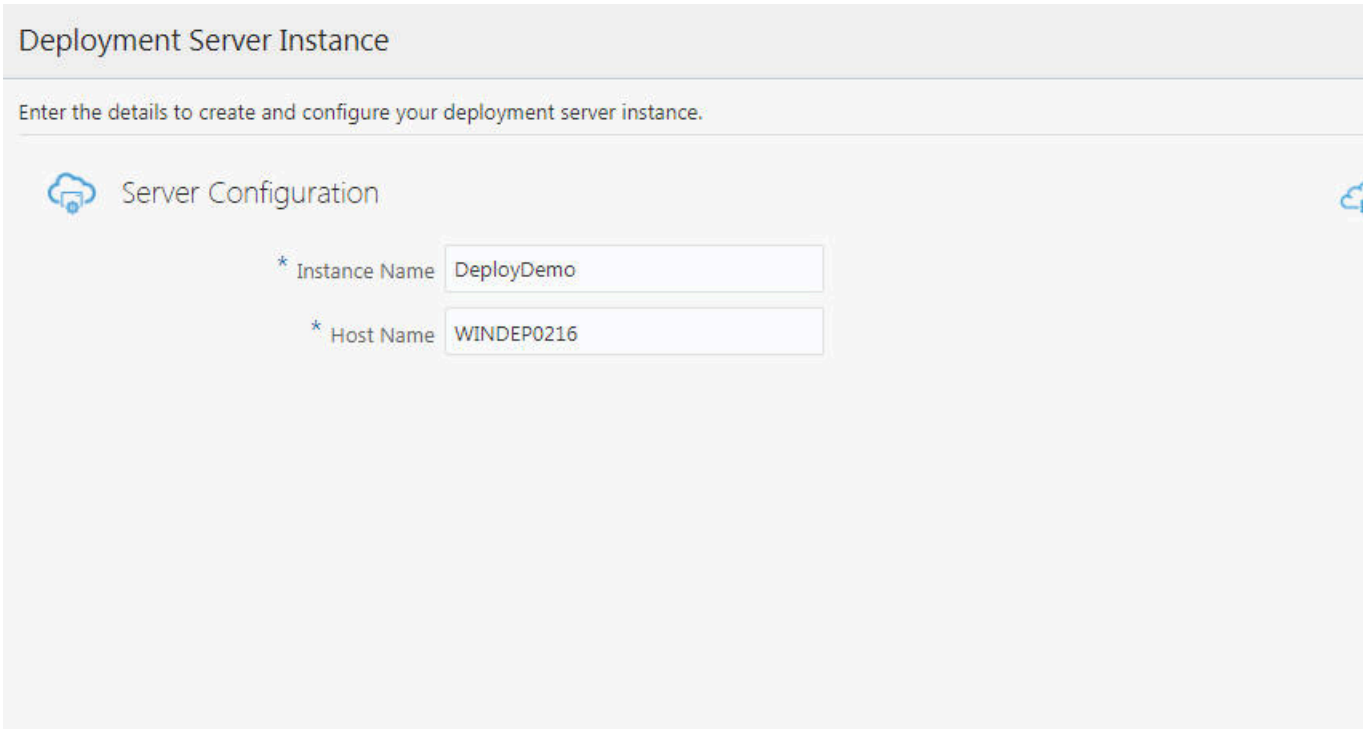
     - **Location**

       Enter the location.

       This value is the base location for your JD Edwards EnterpriseOne machines. For example, typical values might be a city name (such as Denver or Austin), a geographical region name (such as US or India), or a general location name (such as Corporate).
     - **Installation Drive**

       Enter the drive for the installation.
     - **Pathcodes**

       This field is automatically populated.



3. Click the **Finish** button. A success message is displayed.
4. Verify that the Deployment Server instance you modified is displayed in the JD Edwards Servers window.

5. You can select the **Delete** option in the Application Options menu to delete the Deployment Server instance. After you delete the existing Deployment Server instance, you can click the **New Server** icon, and then select Deployment Server from the Select a Component page to add a new Deployment Server instance.

   Note: To deploy an orchestration, refer to the section "Deploying an Orchestration" of this Learning Path.

11 Deploying JD Edwards EnterpriseOne

Deploying an Orchestration

This tutorial shows you how to deploy an orchestration:

Deploying an Orchestration

Deploying an Orchestration

This section shows you how to deploy an Orchestration.

You can create a Quick Start or an Advanced Deployment Plan in the Orchestrate section of the JD Edwards One-Click Provisioning Console. When you start your deployment, the system initiates the scripts for the automated provisioning of the EnterpriseOne system.

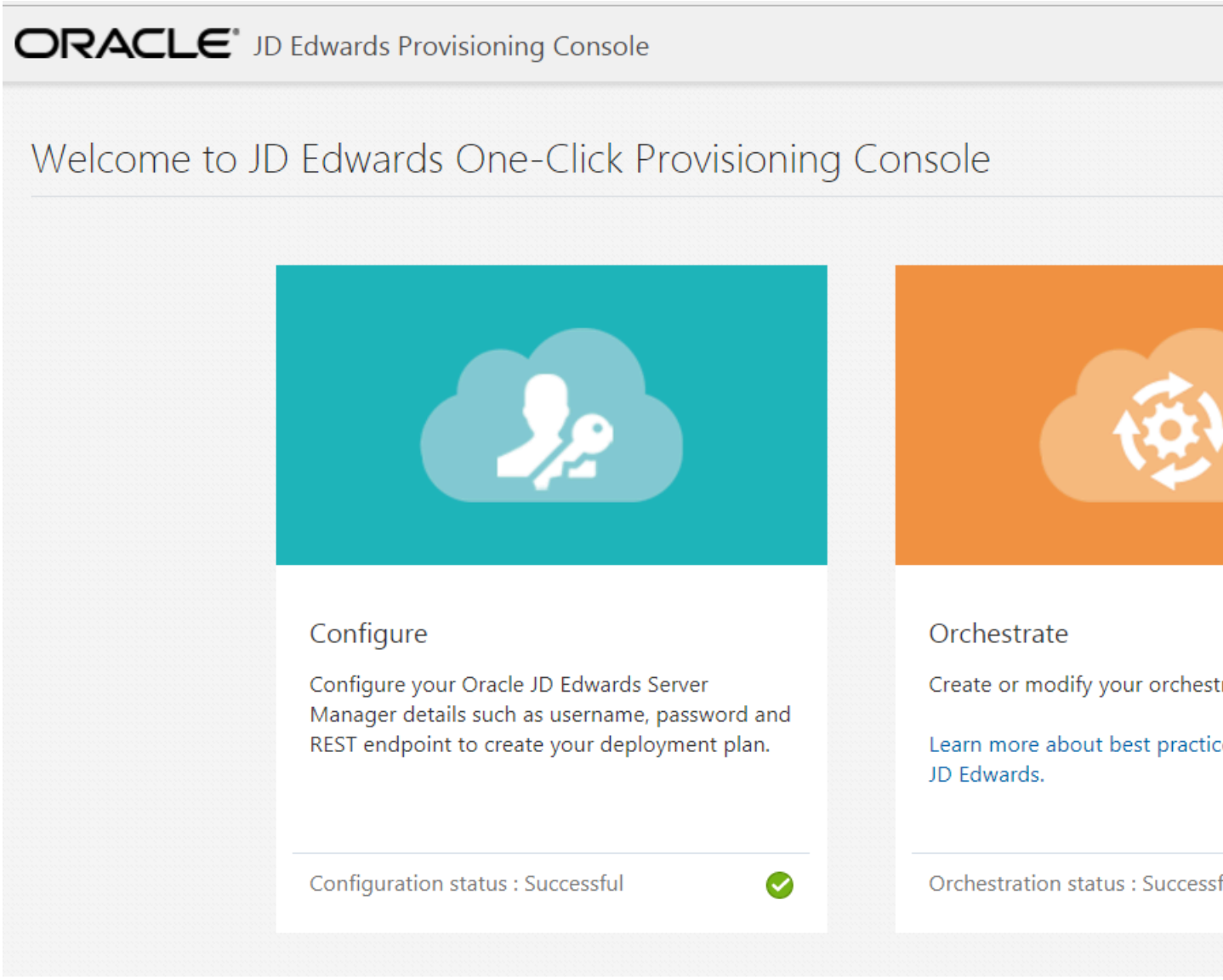
Prerequisite

A completed Quick Start or an Advanced Deployment Plan created using the JD Edwards One-Click Provisioning Console.

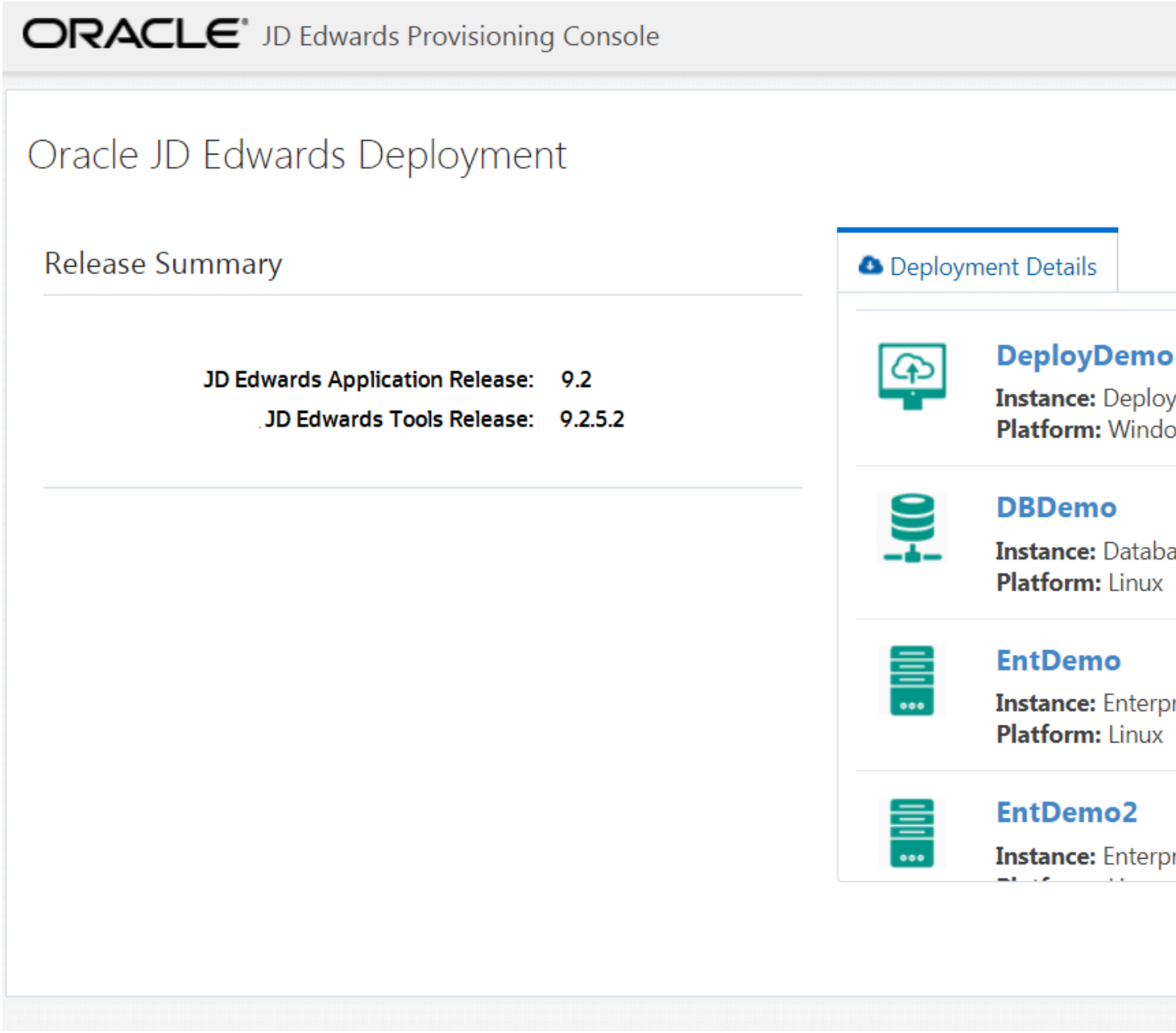
Deploying an Orchestration

This procedure describes how to deploy an orchestration, whether it is a Quick Start or an Advanced mode Deployment Plan.

1. After you create a Deployment Plan, from the JD Edwards Provisioning Console, click the **Deploy** icon.

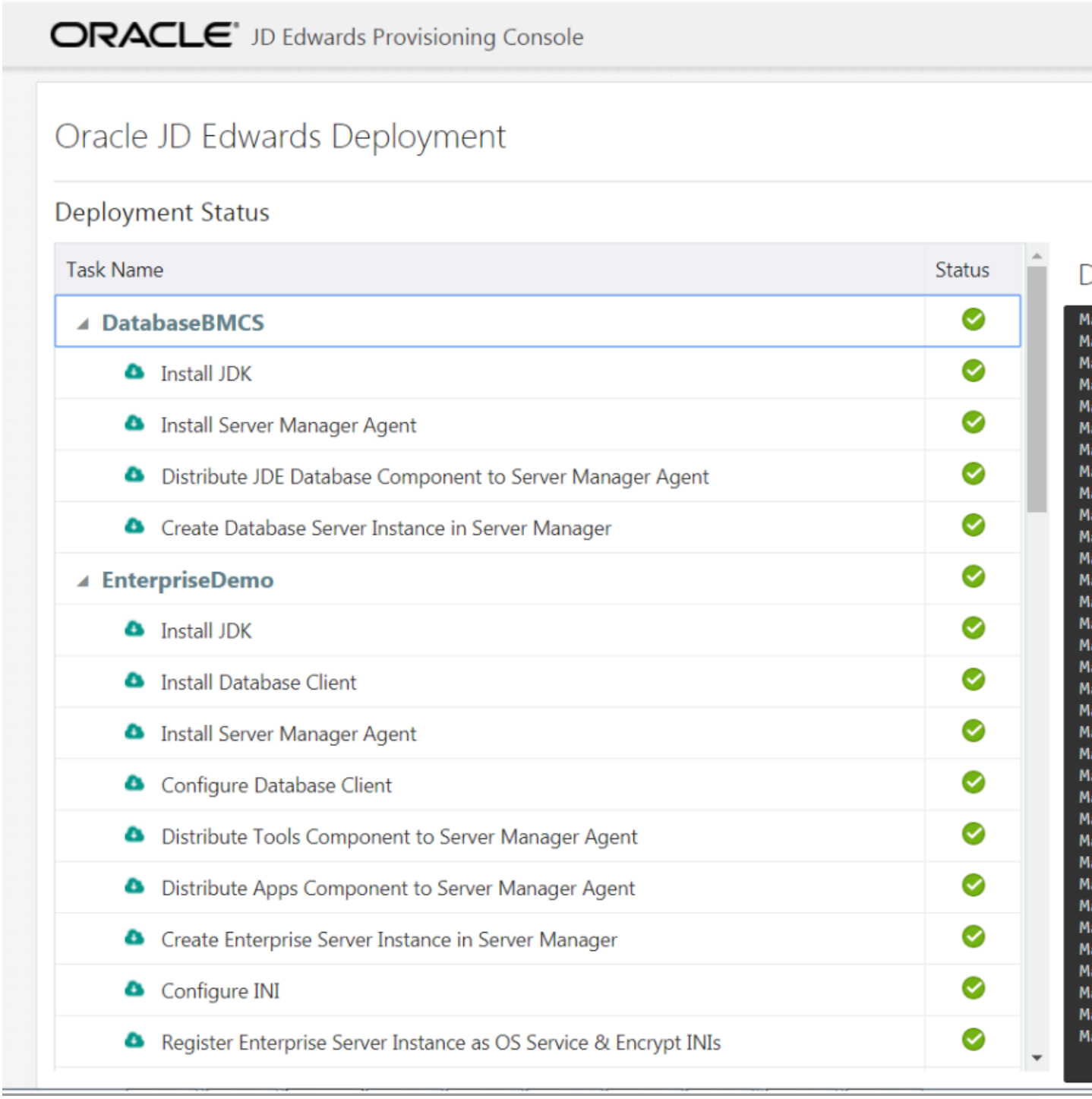


2. To view the Account details and Global Settings Summary, in the **Deployment Details** tab click the "**>**" icon for each server in the Deployment Details to see the details of the servers you provisioned.



3. Click the **Back** button if required to make additional changes to the server instances.
4. To start the deployment, click the **Start Deployment** button.

5. On Deployment Status, you can see all the instances and task details and their progress. You can also view the log or summary of each of the tasks. The time taken to deploy the servers depends on your customization.



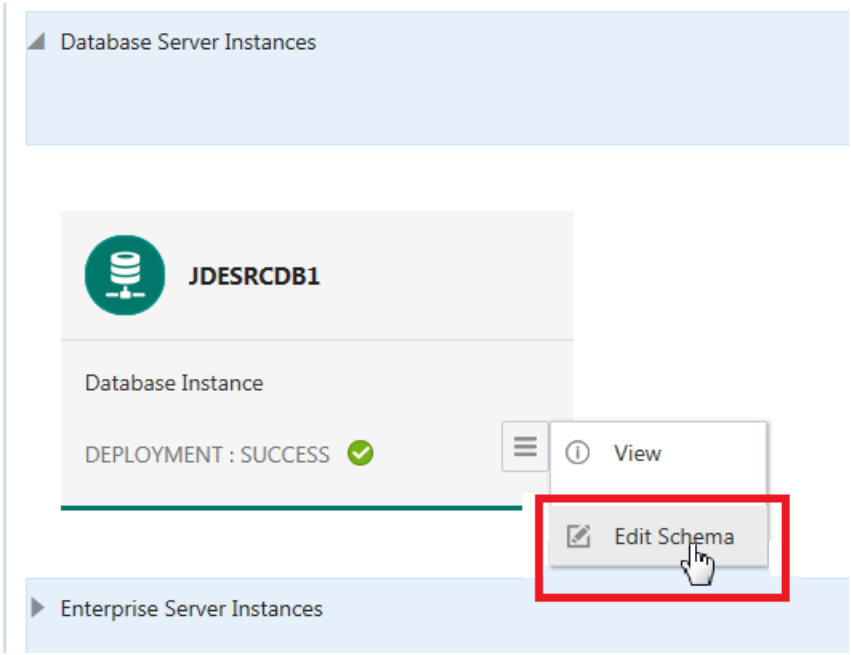
6. Click the **Back** button if you want to go back to the Deployment Summary window.

Adding Additional Pathcodes Post Deployment

You can add additional pathcodes to the Database Server instance after the deployment is successful.

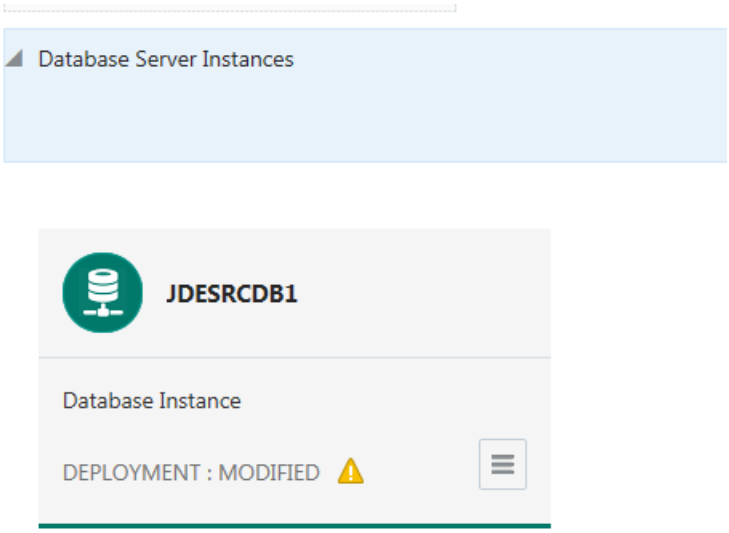
To add additional pathcodes:

1. On Welcome to the JD Edwards Provisioning Console, click the **Orchestrate** icon.
2. On JD Edwards Servers, click on **Database Server Instances**.
3. Select the Database Server instance, and then use the action tab to choose **Edit Schema** option.



4. On Existing Database Instance Details, select the available pathcodes. An error message window appears if you attempt to delete the previously installed schema or the demo data.
5. Click the **OK** button.

6. Now you can see the Deployment status as **MODIFIED**.



7. Click the **Back** button, and then click **Deploy** icon to start your modified deployment.

Orchestrating an Advanced Deployment

This section shows you how to orchestrate an advanced deployment plan by adding Web Servers and Enterprise Servers post deployment.

You can add additional Web Servers and Enterprise Servers after you complete your Deployment. You cannot add any other server type after the deployment.

Prerequisite

Successfully completed the Deployment of a Quick Start or an Advanced Deployment Plan using the JD Edwards One-Click Provisioning Console. These tasks are described in preceding sections of this Learning Path.

Orchestrating an Advanced Deployment Plan by Adding Web Servers and Enterprise Servers Post Deployment

To add additional servers post deployment:

1. On JD Edwards One-Click Provisioning Console, click the **Orchestrate** icon .
2. On JD Edwards Servers, click the **New Server** icon, and in the Select a Component window, select **Web Server**.
3. On Web Server Instance Details, enter appropriate values for your installation.
4. Click the **OK** button. Similarly, you can add new Enterprise Servers.
5. On JD Edwards Servers, click the **Back** button.
6. On **JD Edwards One-Click Provisioning Console**, click the **Deploy** icon.
7. On **JD Edwards Deployment** window, review the deployment summary. You can verify the newly added servers in the **Deployment Details** tab.

Note: To deploy an orchestration, refer to the section of this guide entitled: ***Deploy an Orchestration.***

12 Saving and Reusing Deployment Plans

Exporting an Orchestration

This section shows you how to export an orchestration.

You can use the export and import functions of the JD Edwards Provisioning Console to save an existing orchestration (export) and to reuse (import) the saved orchestration.

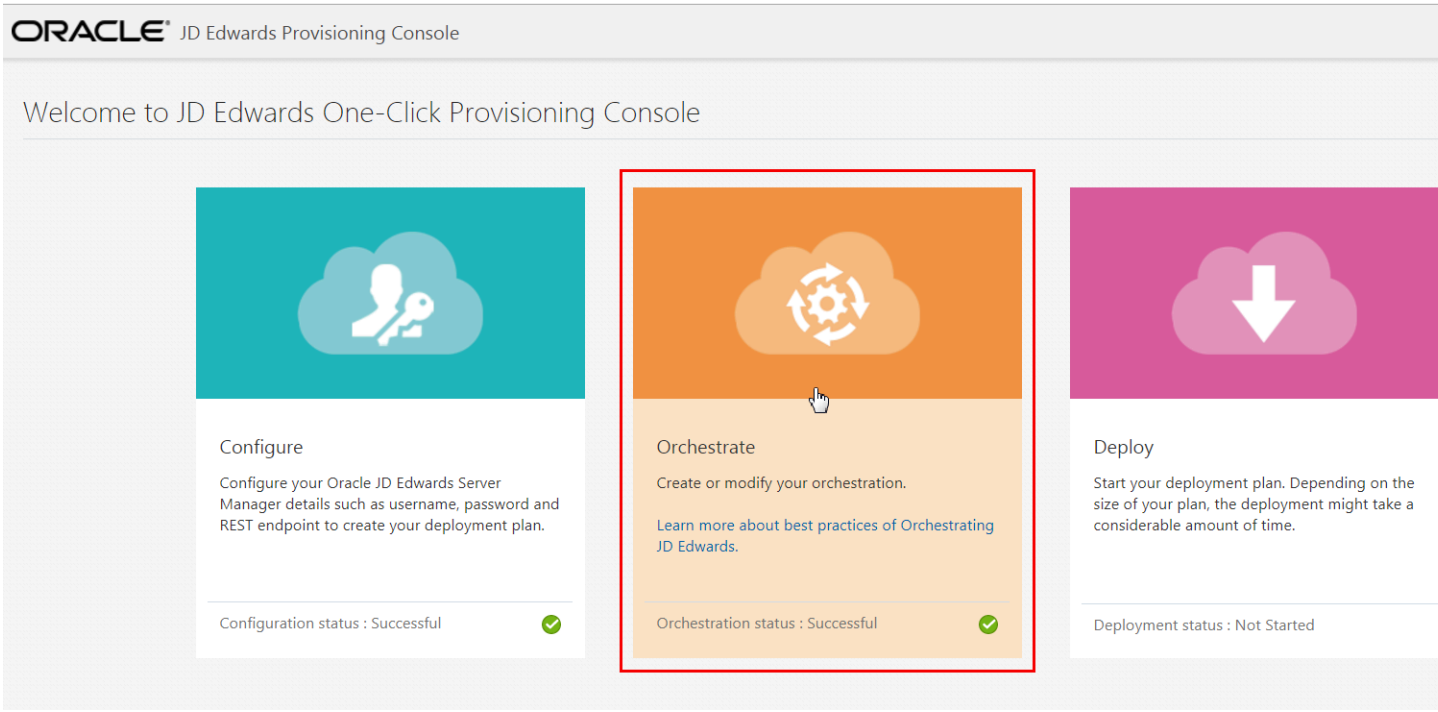
Prerequisite

A completed Quick Start Deployment Plan or an Advanced Deployment Plan created using the JD Edwards One-Click Provisioning Console.

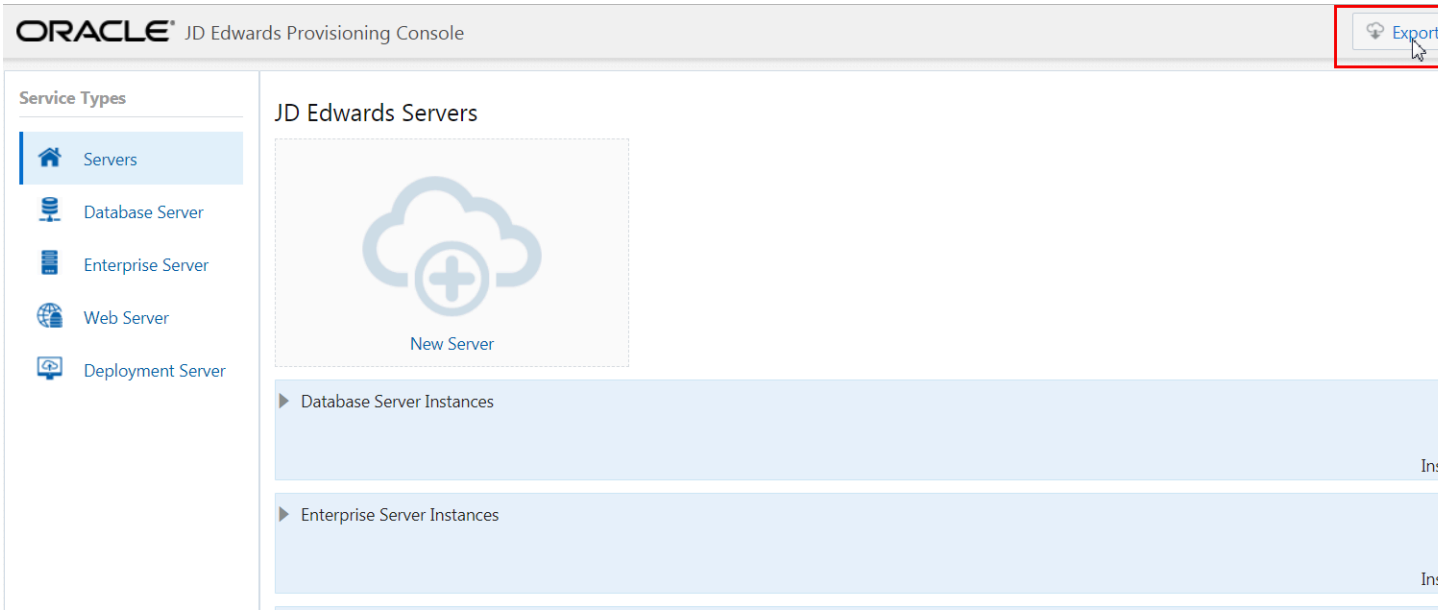
Exporting an Orchestration

To export an orchestration:

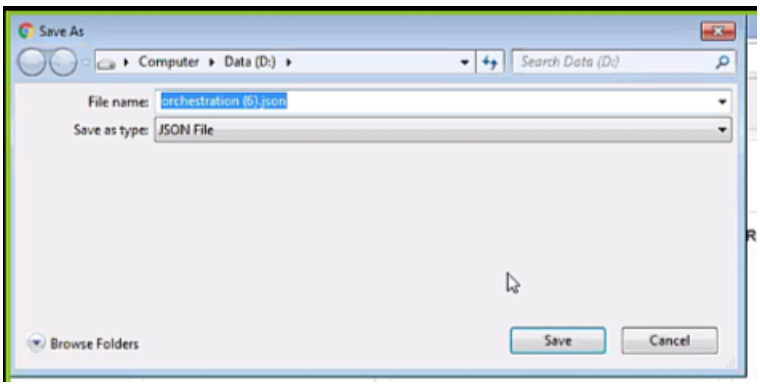
1. On the JD Edwards Provisioning Console window, click the **Orchestrate** icon.



2. To export an existing orchestration, on an existing orchestration, from the title bar select **Export Orchestration**.



3. On the **Save As** dialog box, choose a path and file name for the exported orchestration.



4. Click the **Save** button.

Note: If you want to view the raw contents of the .json file, you can open the file in an ASCII editor as shown in the following screenshot.

orchestration.json

```
{
    "depServer": [
        {
            "instanceName": "DeployDemo",
            "serviceType": "VM",
            "hostDetails": {
                "serviceName": "depfinalAD2",
                "userName": "opc",
                "password": "ADQW20jVUBBtKxl/LBDSbx/rIAsraf0DTJAA==",
                "osPlatform": "WINDOWS"
            },
            "serverDetails": {
                "dependentServer": "DBDemo",
                "pathcodes": [
                    "DEVELOPMENT",
                    "PRISTINE",
                    "PROTOTYPE",
                    "PRODUCTION"
                ],
                "jdeLocation": "Corporate",
                "setupDrive": "D:"
            }
        }
    ],
    "databaseServer": [
        {
            "instanceName": "DBDemo",
            "serviceType": "VM",
            "hostDetails": {
                "serviceName": "dbad2",
```

Importing an Orchestration

This section shows you how to import an orchestration.

You can use the export and import functions of the JD Edwards Provisioning Console to save an existing orchestration (export) and to reuse (import) the saved orchestration.

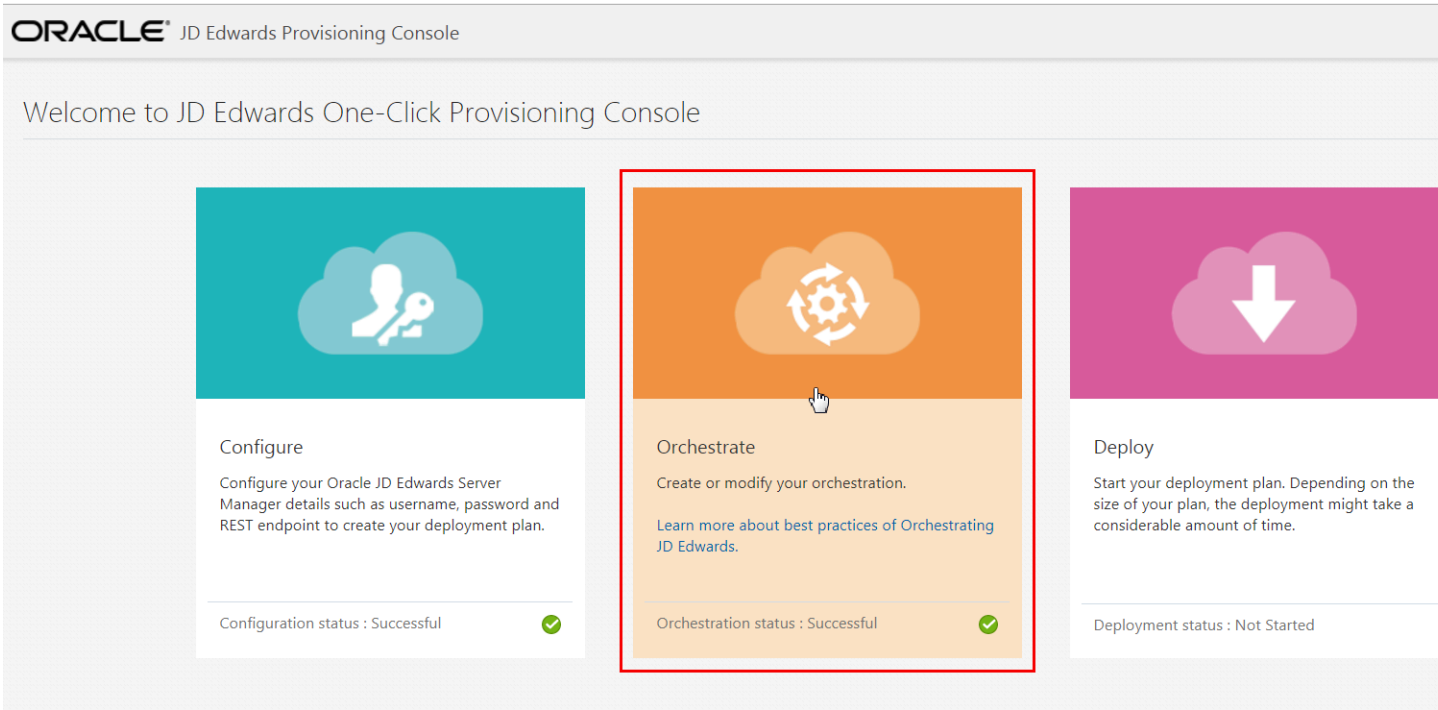
Prerequisite

You must have configured the administrator passwords for WebLogic Server and Server Manager Console in the Configure section of the JD Edwards One-Click Provisioning Console.

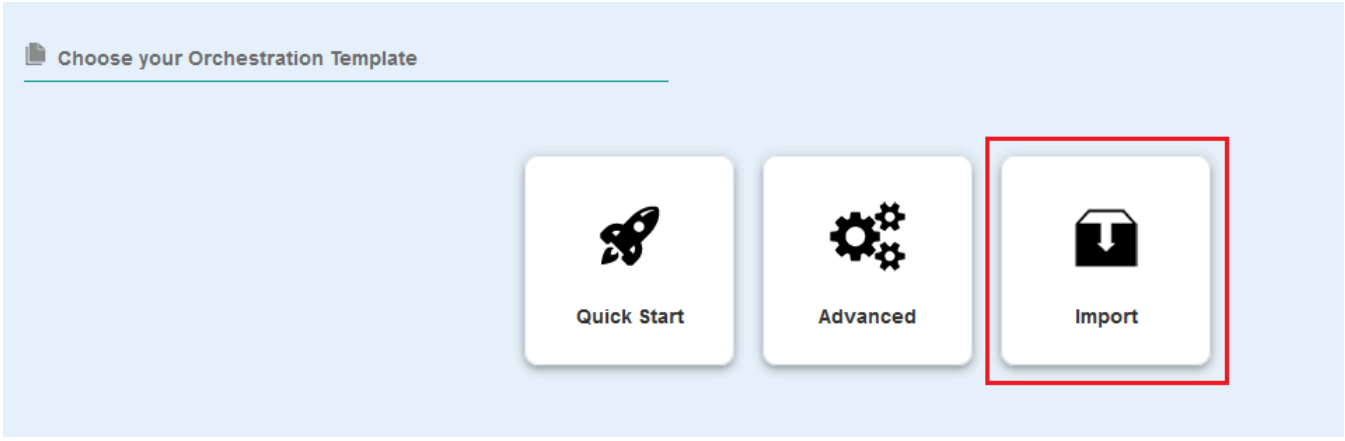
Importing an Orchestration

To import an existing exported orchestration:

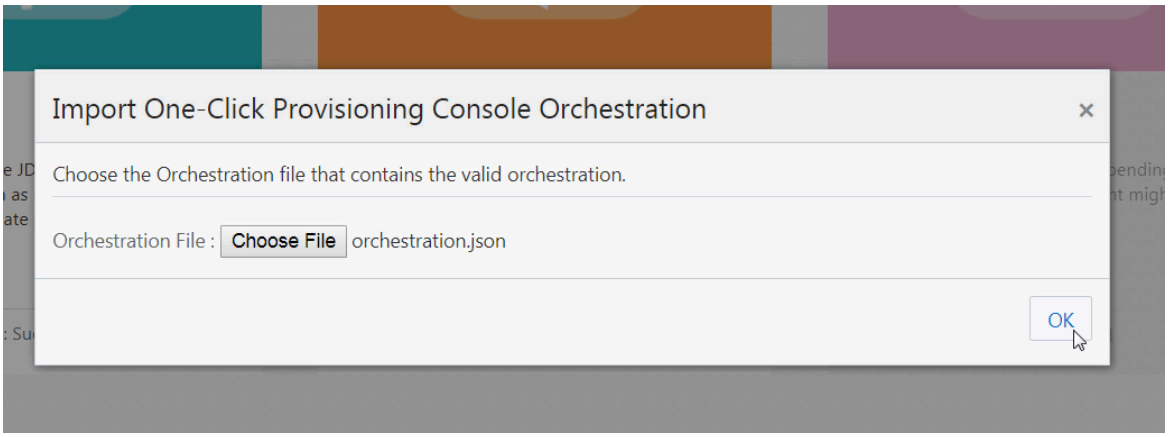
1. On the JD Edwards Provisioning Console, click the **Orchestrate** icon.



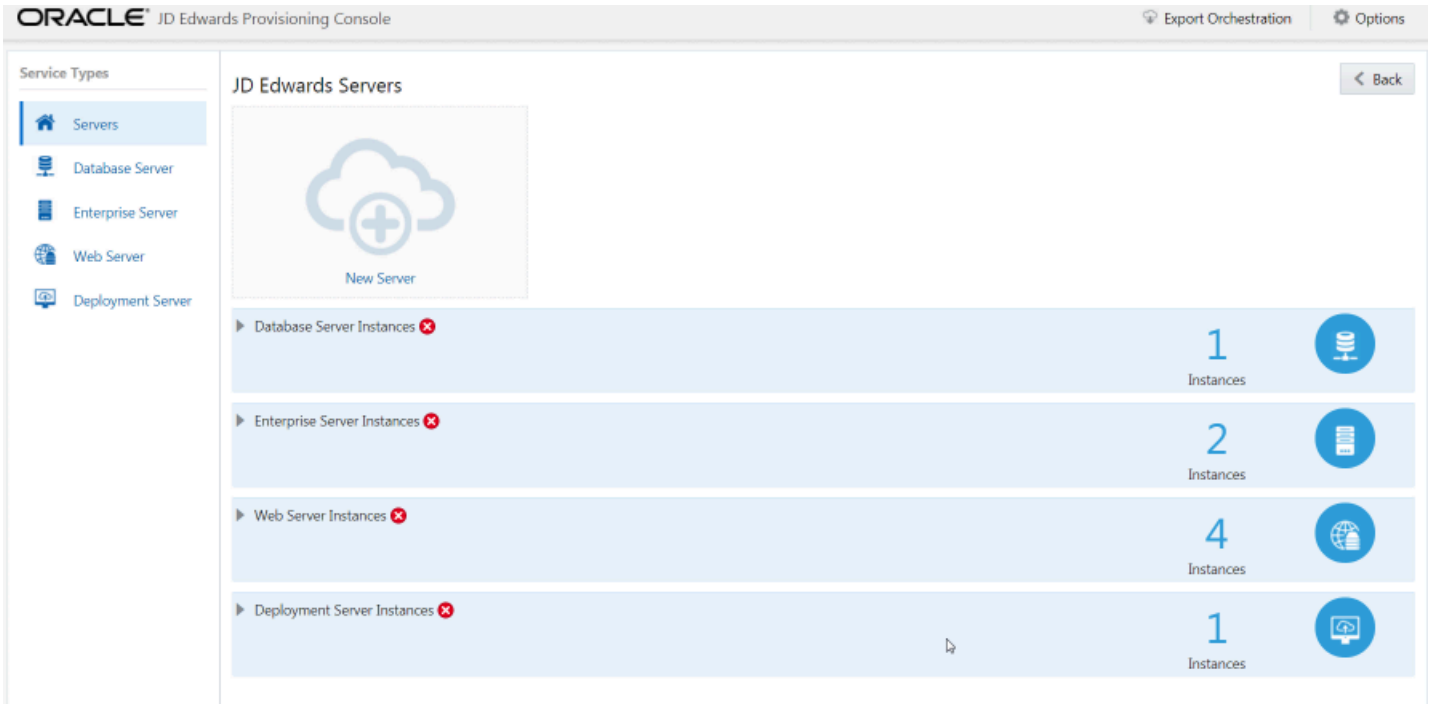
2. Click the **Import** icon.



3. On the Import One-Click Provisioning Console Orchestration window, click **Choose File**, and then browse and select the exported `.json` file.



Note: If an error exists in the orchestration file you imported, the system displays the details of that error. Also, the system displays an error as illustrated in the following screenshot, if password authentication is required. You must edit the instance, enter the required password, and then save the instance.



13 Configuring JD Edwards Components Post Deployment

Performing Post Installation for the Deployment Server

This section shows you how to perform post installation for the Deployment Server.

After you successfully provision all the Servers using the One-Click Provisioning Console, you must build packages on your Deployment Server.

Prerequisite

The complete Visual Studio product (which includes the runtime, the compiler, and associated tools) must be purchased and licensed from Microsoft.

- JD Edwards EnterpriseOne Applications Release 9.2 requires runtime libraries and the full product for Visual Studio.

General

The Deployment Server that is deployed by the Provisioning Server includes all the required third-party products including a JDK, E1Local Oracle database, and the EnterpriseOne database client. If you will be performing package builds, refer to the subsection entitled: Package Build Considerations.

Accessing the Deployment Server

You can access your Deployment Server using Microsoft Windows Remote Desktop Protocol (RDP).

- For One-Click Provisioning, you will need the Public IP address of the Deployment Server and the password.
- For Infrastructure Provisioning, you will need to connect as described in the section entitled "Connecting to a Windows Host in a Private Network Through the Bastion Host".

For information regarding the Public IP address, refer to the section of this Learning Path entitled: ***Accessing the JD Edwards EnterpriseOne Servers Using Their Public IP Addresses.***

The password for the Deployment Server was assigned when you input values in the **Deployment Server Instance** screen in the preceding sections of this Learning Path that are titled: ***Orchestrate a Quick Start Deployment Plan*** . If you followed the recommendation, this password should be recorded on the ***Pre-Install Worksheet*** .

Package Build Considerations

In order to build packages on your Deployment Server, you will need to:

- Install Microsoft Windows Visual Studio and Windows SDK
- Update Visual Studio Version in the jde.ini File
- Refresh CNC Data in JDEPLAN
- Build a New Client Package

- Build a New Server Package

Install Microsoft Windows Visual Studio and Windows SDK

The One-Click Provisioning Server delivers a Deployment Server to Windows 2022 Standard with most of the software already installed with the exception of Microsoft Windows Visual Studio and Microsoft Windows Software Development Kit (SDK). Refer to the JD Edwards Deployment Server Certification page for current updates on supported software versions and software prerequisites. The Certification page can be accessed through the Oracle Support Portal:

https://www.oracle.com/support/index.html

The Visual Studio runtime libraries (which are partial products with no development tools) for each supported release of Visual Studio are freely available from the Microsoft Download Center. The complete Visual Studio product (which includes the runtime and the compiler and associated tools) must be purchased and licensed from Microsoft.

As of the general availability of JD Edwards EnterpriseOne One-Click Provisioning for Tools Release 9.2, the following versions and associated links and navigation are valid.

- **Visual Studio 2022 Full Product**

  > **Note:** You need Visual Studio 2022, which is a licensed product from Microsoft, if you plan on building packages on the Deployment Server. *https://visualstudio.microsoft.com/downloads/*

- **Microsoft Software Development Kit (SDK) for Windows 11**

  > **Note:** Although the SDK download is labelled as Microsoft Windows 11, the same download is applicable to both Windows Client 11 and Windows Server 2022. This SDK is specifically required for any Microsoft Windows-based machine that is building JD Edwards EnterpriseOne packages.Windows Software Development Kit Version 10.0.22621.0 *https://msdn.microsoft.com/en-us/windows/downloads/sdk-archive*

Update Visual Studio Version in the jde.ini File

Ensure that you set the correct version of Visual Studio in the `[JDE_CG]` section of the `jde.ini` file on the Deployment Server. For details, refer to this document on Oracle Technology Network (OTN) for instructions:

JD Edwards EnterpriseOne Development Client Installation Guide for Oracle WebLogic Server (WLS) and WebSphere Application Server (WAS) Express.

- Understanding the Development Client Installation
- Installing Compiler, Linker, and Software Development Kit (SDK)
- Updating the jde.ini File

Refresh CNC Data in JDEPLAN

The ESU process has changed to include automatic generation of OCM mappings and tables for tables that are not in Business Data. In order for this process to work correctly, you must update the CNC information in JDEPLAN before applying any Tools-related ESUs. Also if you have multiple Enterprise Servers, Database Servers, or both, you must perform this procedure in order to synchronize data between the System and Planner pathcodes before you proceed further.

1. Sign into JDEPLAN.

2. Run R9840C, and copy system/planner information

   from: System – 920

   to: Planner – 920

   Note: R9840C will copy any missing CNC from System to Planner.

3. Run R98403A, choosing version XJDE0004, for syncing the data from System – 920 to Planner – 920 database.
4. Change the Data Selection to F98611.
5. Change the Processing Options as follows:
   - Source Data Source = System – 920
   - Target Data Source = Planner – 920
   - Proof Mode = 1
   - Replace Duplicates = Y
   - Clear Table = N

Using these processing options, running the R98403A will add any missing data source definitions in JDEPLAN with the correct definitions from System – 920.

Build a New Client Package

You must build a new Client package in order to obtain source files for the path code and to build future update packages against.

Note: Update packages against the delivered FA packages (PS920FA, PY920FA, PD920FA, and DV920FA) is not supported.

Due to space considerations on the `D:\` drive, you will need to move the `D:\Software` directory and all of its contents to the `C:\` drive or another computer. For example:

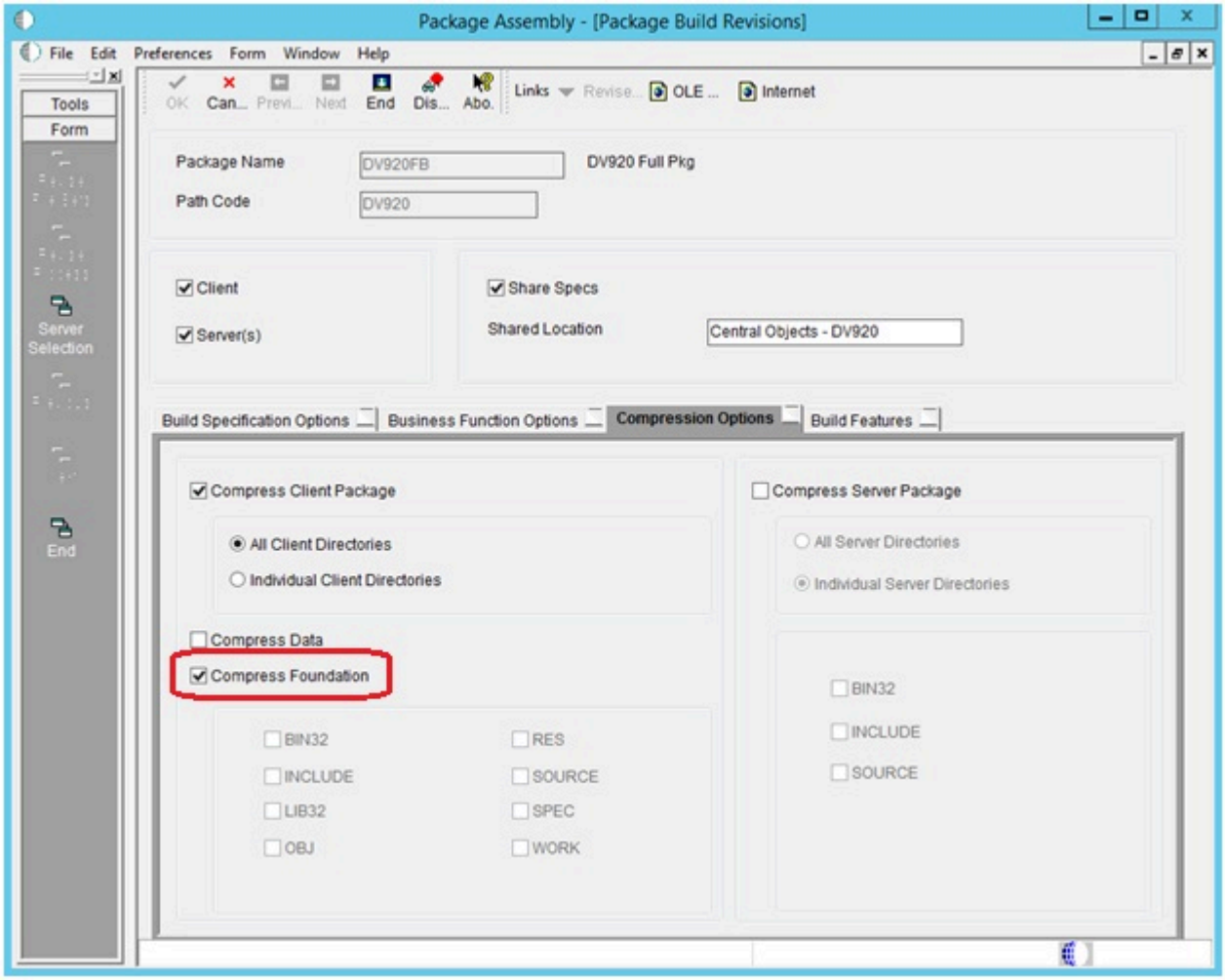
1. Add a new directory under the `C:\` drive labeled:

   `C:\SoftwareBKUP`
2. Copy the `D:\Software` directory (and all its contents) to the `C:\SoftwareBKUP` directory.
3. Delete the `D:\`Software directory.

Complete the following steps to build a full package by following the standard procedure to build a full package with the following important distinctions.

Note: The creation of update packages against the delivered FA packages (PS920FA, PY920FA, PD920FA, and DV920FA) is not supported. In order to build update packages in the future, you must build and deploy a new full package.

1. On the last screen of the Build Definition, on Package Assembly – [Package Build Revisions], select the Compression Options tab.
2. Ensure the **Compress Foundation** check box is selected. This is required to recompress the system folder on the Deployment Server to create a new systemcomp directory that includes a JRE. This JRE is required for use by the Development Client.



Note: If you encounter NER failures during your full package build (server side only), to resolve these failures refer to the My Oracle Support Doc Id 1950295.1 at this link: *https://support.oracle.com/epmos/faces/DocumentDisplay?id=1950295.1*

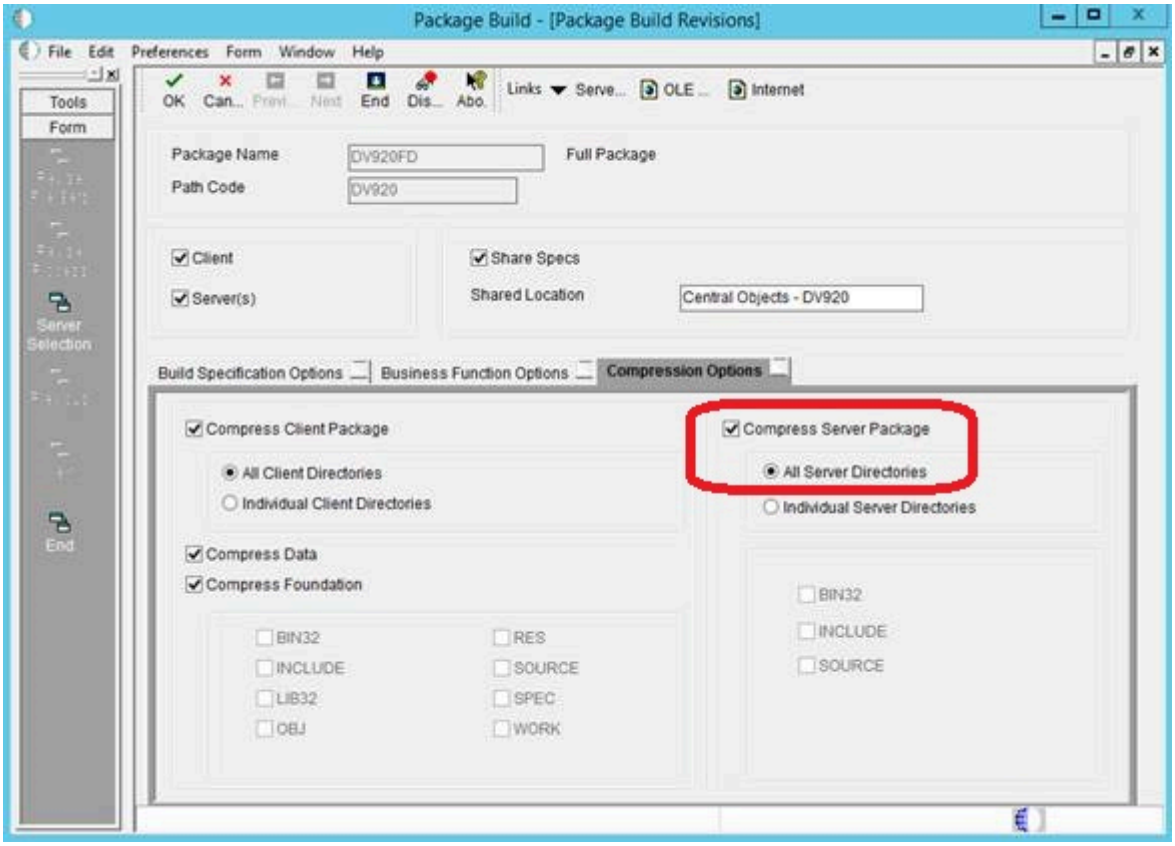
Build a New Server Package

As a best practice it is strongly recommended that you build a new server package. For multiple Enterprise Server environments, the procedures in this section are mandatory.

On Package Build, Package Build Revisions, in addition to the normal compression options, you must select these additional options during the package build process for any full package:

- **Compress Server Package**

- **All Directories**



Performing Post Installation for the Standalone Deployment Server

This section shows you how to perform the post installation tasks for the standalone Deployment Server with Oracle database.

> **Note:** This section is *only* applicable if you have deployed a standalone Deployment Server with Oracle database using One-Click Provisioning.

You can use One-Click Provisioning to install a standalone Deployment Server. A standalone Deployment Server is deployed when you first use One-Click Provisioning to provision a Deployment Server only, and then use One-Click Provisioning to provision other servers such as the Database Server, Enterprise Server, and HTML Server. This section describes how to complete the postinstallation steps for such a standalone Deployment Server.

If you have used One-Click Provisioning to deploy a standalone Deployment Server (that is, you did not use One-Click to initially deploy a complete system), you must perform the following procedure on your Deployment Server to enable access by JD Edwards EnterpriseOne.

Enable DEP920 Login for an Oracle Database

> **Note:** This section is only applicable if your deployment of JD Edwards EnterpriseOne includes an Oracle Database Server.

After you have used One-Click Provisioning to deploy the complete suite of JD Edwards EnterpriseOne servers, you need to enable EnterpriseOne access to the Oracle database from the Deployment Server.

1. Access the Deployment Server as described in the preceding section "Accessing the Deployment Server".
2. Edit the jde.ini file, which is typically located in this directory:

   ```
   c:\Windows
   ```
3. Edit the jde.ini file to provide a valid value for the **SecurityServer**= setting. This is the machine name for your Enterprise Server. For example:

   ```
   [SECURITY]

   SecurityServer=oraes
   ```
4. Save and close the `jde.ini` file.
5. Navigate to the location of the Oracle Client that is installed on your Deployment Server. For example:

   ```
   C:\JDE\oracle1212\product\client_1\network\admin
   ```
6. In the above directory, edit the `tnsnames.ora` file to add the listener details. You can copy these details from the `tnsnames.ora` file on your Server Manager machine or your Enterprise Server machine. This `tnsnames.ora` file is located in the same location on each machine. From the Server Manager, use this navigation to find this `tnsnames.ora` file on either the Server Manager machine or the Enterprise Server:

   From the HTML Server, select DATABASE, and then select Tnsnames.

   For example, this is the listener section you should copy:

   ```
   JDEORCL =
    (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = oradb.subnet.vcn.com)(PORT = 1521))
    (CONNECT_DATA =
    (SERVER = DEDICATED)
    (SERVICE_NAME = jdeorcl.subnet.vcn.com)
    )
   )
   ```
7. Save and close the `tnsnames.ora` file.
8. Navigate to the location of the E1Local Network, which is typically:

   ```
   C:\JDE\DEP\Oracle\E1Local\NETWORK\ADMIN
   ```
9. In the above directory, edit the `tnsnames.ora` file to add the same listener details that you obtained and copied in a previous step in this procedure.
10. Save and close the `tnsnames.ora` file.
11. Validate the configuration of the tnsnames.ora file by running `ActiveConsole.exe` and logging in to the DEP920 environment.

Considerations for Development Client

This section explains the required considerations before you create the Development Clients.

Prerequisites

- If you want to install a JD Edwards EnterpriseOne Development Client that will work with JD Edwards EnterpriseOne One-Click Provisioning, you must manually provision an additional Microsoft Windows machine. After the Microsoft Windows machine is provisioned, the process to set up and install a Development Client is the same regardless of where the client is installed.
- You must also install all the required third-party software and build a full client package on the Deployment Server.
- Refer to the *JD Edwards EnterpriseOne Development Client Installation Guide* for detailed instructions.

Considerations for Development Client

Consider the following requirements before you create the Development Clients:

- Microsoft Windows machines must be on the same private network on which the JD Edwards EnterpriseOne Database Server and Enterprise Server exist, and the machines must be able to communicate with those servers.
- Ensure that a full package build is completed on the Deployment Server. This package build creates the Development Client package installation. The delivered FA package will technically install a Development Client, but such a Development Client is not suitable for most developer activities.
- Ensure that IPv6 is disabled on the Microsoft Windows machine on which you will install the JD Edwards EnterpriseOne Development Client.
  Run this command to disable IPv6:
  ```
  reg add hklm\system\currentcontrolset\services\tcpip6\parameters /v DisabledComponents /t REG_DWORD /d 0xFFFFFFFF
  ```
  Use **ipconfig** to verify that the status of IPv6 is set to disabled.

Performing Post Installation for the Enterprise Server

This section shows you how to perform the postinstallation tasks for the Enterprise Server.

After you provision all the Servers using the One-Click Provisioning Console, you must perform postinstallation tasks on your Enterprise Server.

Enabling Enterprise Server Predefined Ports

You must enable predefined ports in the jde.ini file on the Enterprise Server. Use Server Manager to ensure that this setting exists:

```
[JDENET]

enablePredefinedPorts=1
```

For Release 9.2, the serviceNameListen value is 6017. The next port for use by net services on the Enterprise Server is defined by the value serviceNameListen+1 until the default value of six net processes set by maxNetProcesses= is reached. To meet the default value of six net processes, in the firewall on the Enterprise Server you must open ports 6018–6023 for use by the net processes.These ports cannot be in use by any other process running on the Enterprise Server. If they are already in use, then the program using them must be reconfigured to use different ports.

Updating the Version of Visual Studio

You must use Server Manager to update the jde.ini file on the Enterprise Server to specify the correct version of Visual Studio.

1. Use Server Manager to open the managed instance of the Enterprise Server that is deployed in Oracle Cloud Infrastructure.
2. Go to Configuration, Advanced Mode.
3. Select the **Package Build** section.
4. Scroll down to the **Visual Studio Compiler Version** setting.
5. Select the version of the Visual Studio which you have installed on the target Enterprise machine.
6. Click the **Apply** button to save the setting.
7. To enable the configuration changes to take affect, stop and start the instance for the updated Enterprise Server.

Obtaining and Installing CA Certificates in the Oracle WebLogic Servers and the Deployment

This section shows you how to obtain and install CA Certificates in the Oracle WebLogic Servers and the Deployment Server.

The deployment of JD Edwards EnterpriseOne One-Click Provisioning includes temporary Certificate Authority (CA) certificates. Because these certificates are set to expire at preset and non-extendable times, you must obtain and install your own CA certificates. These must be certificates that are verified by a verified CA authority such as Entrust and Symantec Corporation.

Prerequisite

Installed Java Keystore.

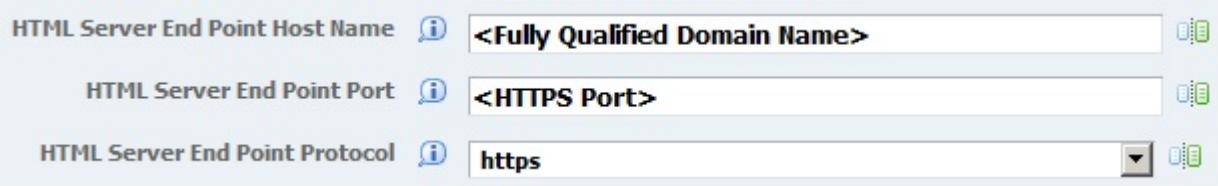
The following outlines the general procedure to create a Keystore and to generate a Certificate Signing Request (CSR).

1. In your local environment, obtain and install a Java Keystore. This is a repository for security certificates – either authorization certificates or public key certificates – plus corresponding private keys. These keys are used for SSL encryption by the Oracle WebLogic Server. A file with extension jks serves as keystore.
2. From the Keystore, generate a Certificate Signing Request (CSR).
3. Export the Certificate Signing Request (CSR).
4. Validate the CSR. For example, you could use the validation tools provided by Symantec such as "checker".
5. Submit the CSR to the Certificate Authority such as Entrust or Symantec Corporation.

6. Upon return receipt, import the validated certificates to the Keystore for each server. That is, each server that must communicate with another must have its own certificate ***plus*** that of the target server. In this case, the HTML Server must have its own certificate plus that of the AIS Server, and vice versa.
7. Logged in as the WebLogic Adminstrator, you must manually modify each of these instance of Oracle WebLogic Server within your One-Click deployment to use the new Keystore:
   - Server Manager Console
   - Each instance of a JD Edwards EnterpriseOne HTML Server (JAS)
   - Each instance of a JD Edwards EnterpriseOne AIS Server
8. You should also modify the parameters using Server Manager to use the https connection for communication between the HTML Server and the AIS Server.

   a. In the **HTML instance**, modify the following Web Runtime parameters to use https, a fully qualified domain name, and https port:

   b. In the **AIS instance**, modify the following HTML Server parameters to use https, a fully qualified domain name, and https port:



Tip: After you have SSL configured and tested, it is recommended that you disable all the non-SSL ports.

For additional details on working with CA certificates on your Oracle WebLogic Server, refer to this guide: *Administering Security for Oracle WebLogic Server.*.

Enabling Oracle Database Connection Pooling

Because this functionality applies equally to Oracle Cloud Infrastructure and On-Premises, beginning with Tools Release 9.2.6 this content resides in the ***Server Manager Guide*** , in the chapter entitled: *Enabling Oracle Database Connection Pooling*.

14 Accessing the Provisioned Servers

Accessing the JD Edwards EnterpriseOne Servers Using Their Public IP Addresses

This section shows you how to access the JD Edwards EnterpriseOne Servers using their public IP addresses.

Prerequisites

- The user interface for the Oracle Cloud Infrastructure Console is constantly evolving. For the most up-to-date descriptions and navigation, refer to *Using the Console.*
- You should have a fundamental understanding of the Oracle Cloud Infrastructure. It is highly recommended that you review the extensive collateral information, including training, at this site: *Oracle Cloud Infrastructure*
- You must have a subscription and an Administrator account to Oracle Cloud Infrastructure as described at this site: *Getting Started with Oracle Cloud*
- Successfully completed the Deployment of a Quick Start or an Advanced Deployment Plan using the JD Edwards One-Click Provisioning Console.

After the successful deployment of all the Servers according to the Orchestration created using the JD Edwards One-Click Provisioning Console, you can access these deployed JD Edwards EnterpriseOne Servers and Development Client Using their public IP addresses:

- Server Manager Console
- HTML Server
- AIS Server
- Deployment Server

Server Manager Console

After the Server Manager Console is started, you can access it using its public IP address using this syntax:

http://<Public IP Address for Server Manager>:8999/manage

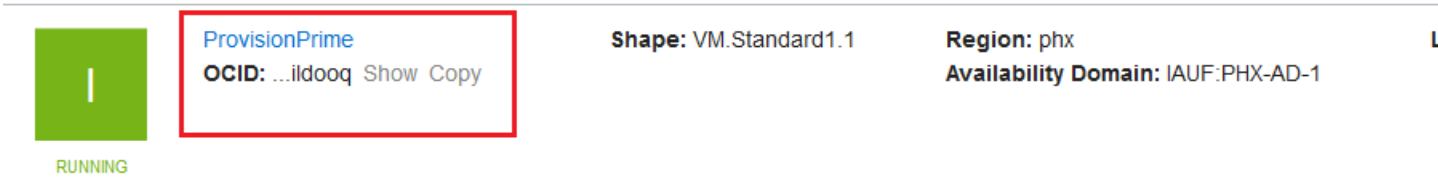
For example:

http://111.11.11.111:8999/manage

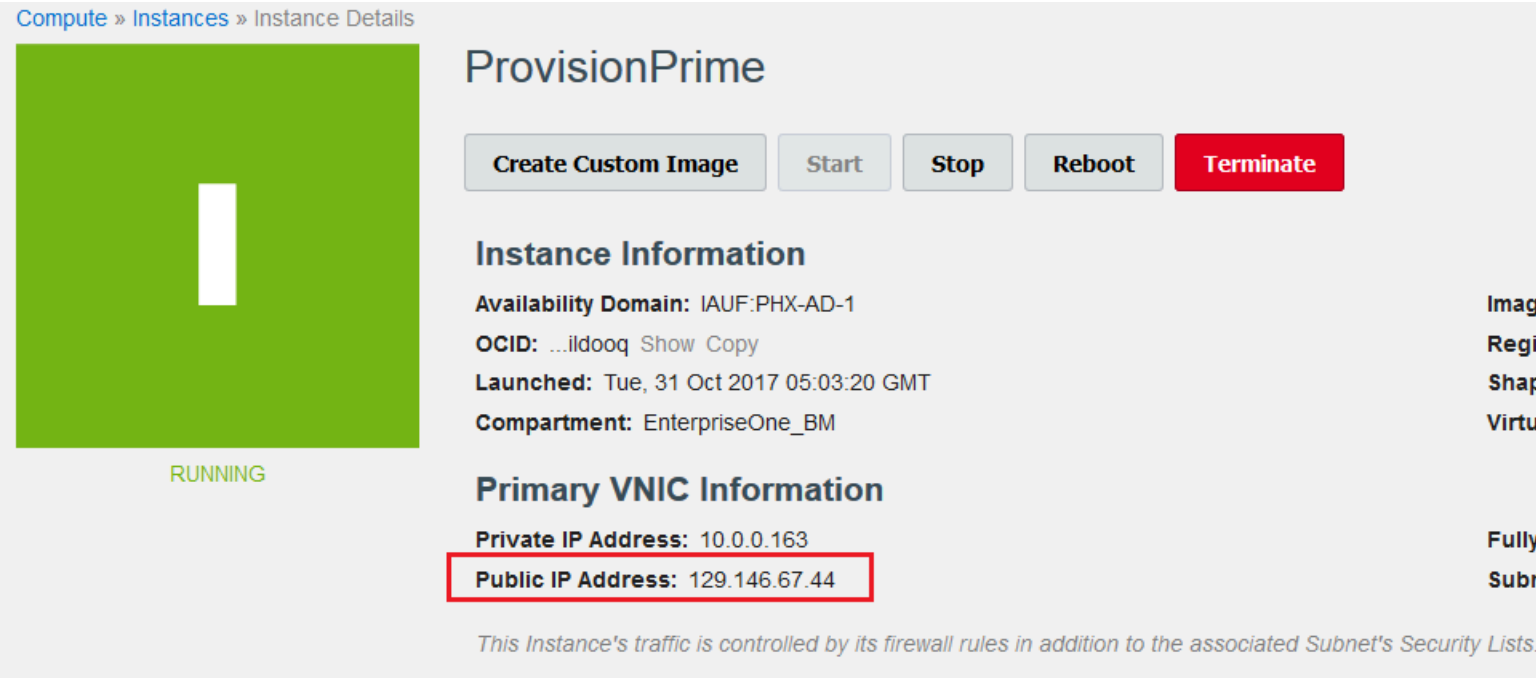
> **Note:** You should always use HTTP to access the Server Manager Console for normal operations. Although the Server Manager Console is also enabled for HTTPS/SSL protocol, such access is restricted for internal use as part of the REST/API functionality, and should not be used for normal operations.

To acquire the public IP address assigned to the instance:

1. Access Oracle Cloud Infrastructure and go to **Compute**, and select the **instance** menu.The system displays the list of instances.
2. Click the **host name** of your provisioning server in the displayed list. For example, click ProvisionPrime.



The system now displays the details of the instance where you can find the public IP address of the instance.



HTML Server

After your HTML Server is deployed, you can access it using its public IP address using this syntax:

https://<Public IP Address for HTML Server>:<port as defined in orchestration>/jde/E1Menu.maf

> **Note:** The file name E1Menu.maf is case-sensitive and must be specified exactly as shown here.

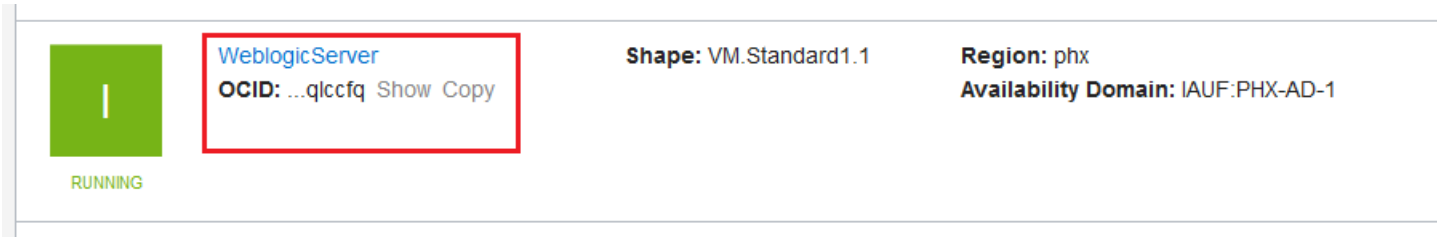
For example:

https://111.11.11.111:8001/jde/E1Menu.maf

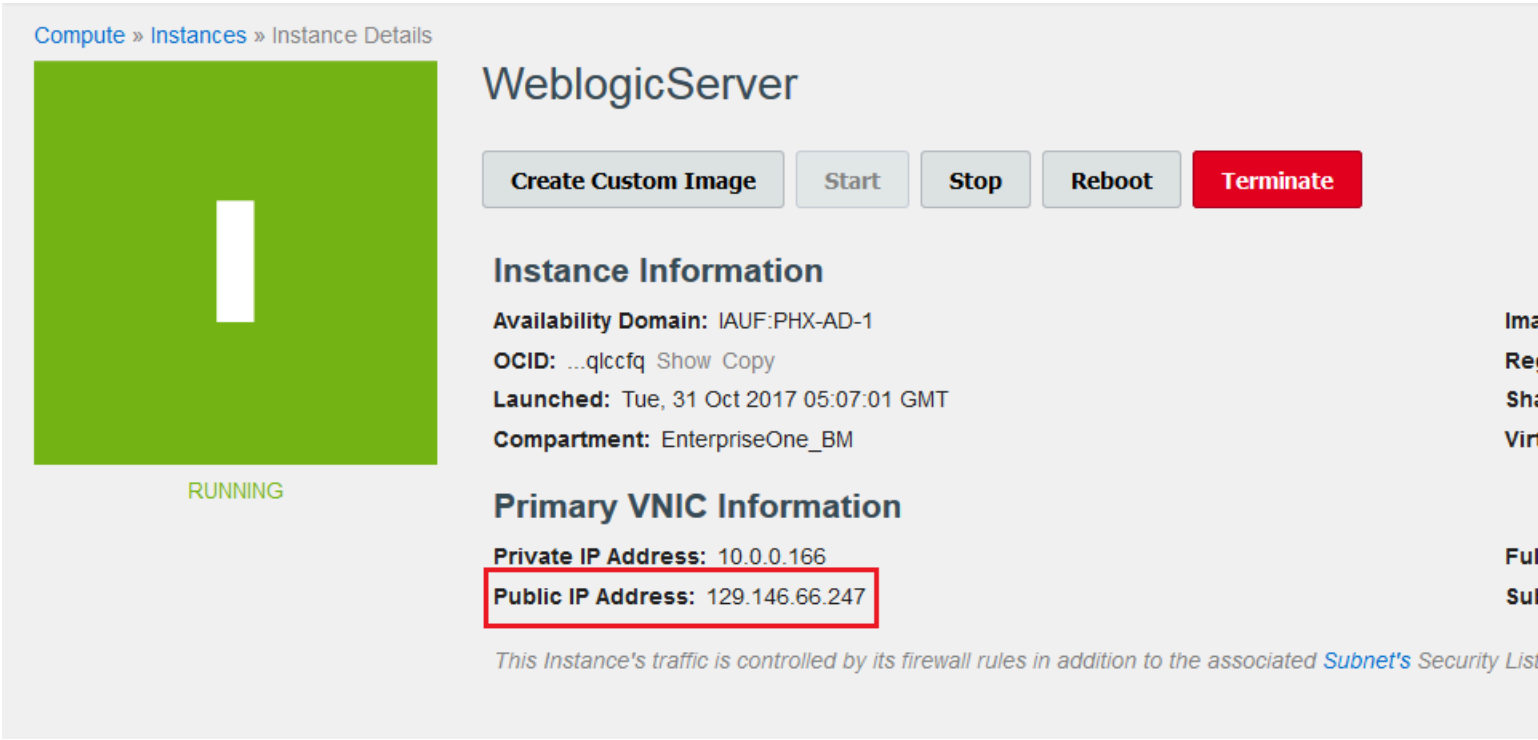
To acquire the public IP address assigned to the HTML instance:

1. Access Oracle Cloud Infrastructure and go to **Compute**, and select the **instance** menu.The system displays the list of instances.

2. Click the **host name** of your provisioning server in the displayed list. For example, click WeblogicServer.



The system now displays the details of the instance where you can find the public IP address of the instance.



AIS Server

After your AIS Server is deployed, you can access it using its public IP address using this syntax:

https://<Public IP Address for AIS Server>:<port as defined in orchestration>/jderest/defaultconfig

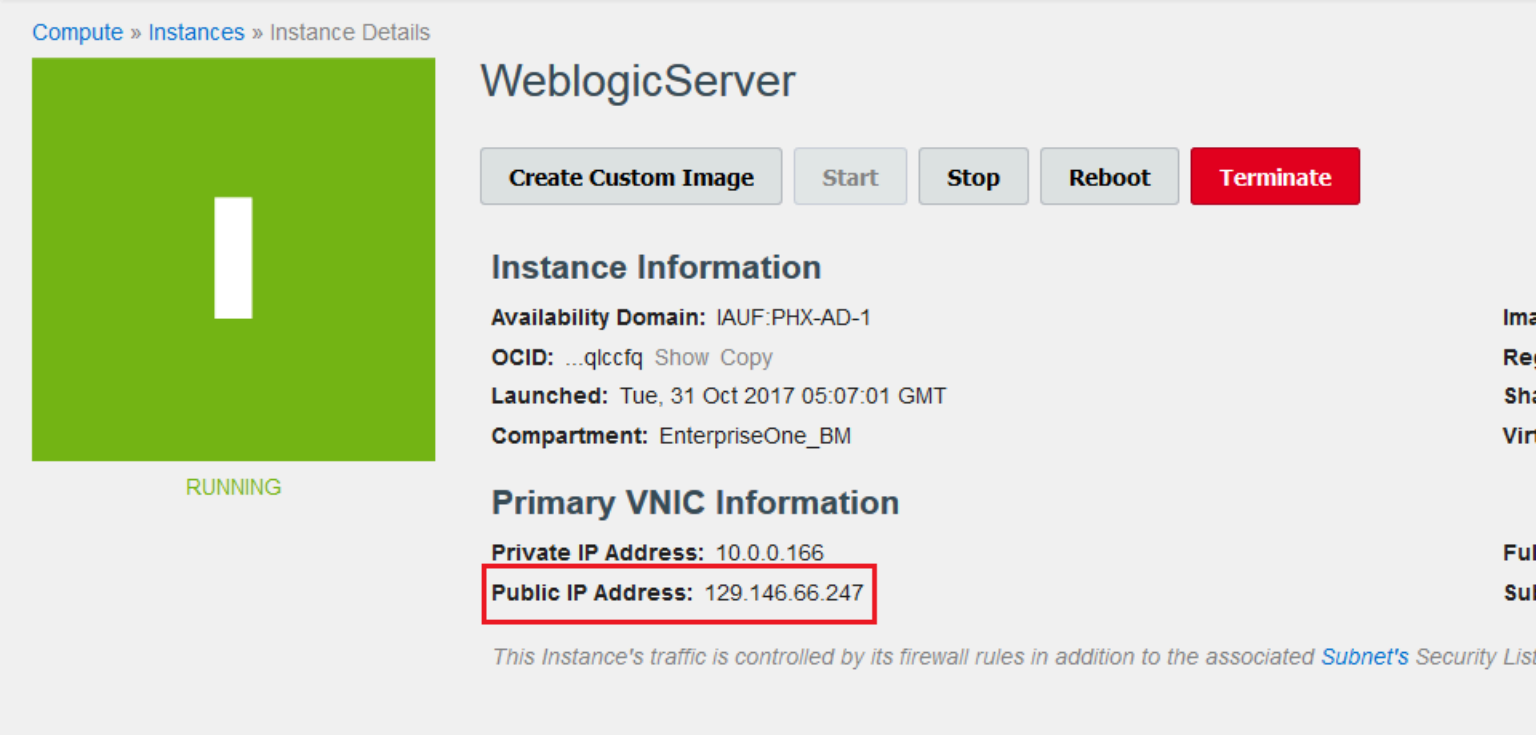
For example:

https://111.11.11.111:8002/jderest/defaultconfig

To acquire the public IP address assigned to the AIS instance:

1. Access Oracle Cloud Infrastructure and go to **Compute**, and select the **instance** menu.The system displays the list of instances.
2. Click the **host name** of your provisioning server in the displayed list. For example, click WeblogicServer.

The system now displays the details of the instance where you can find the public IP address of the instance.



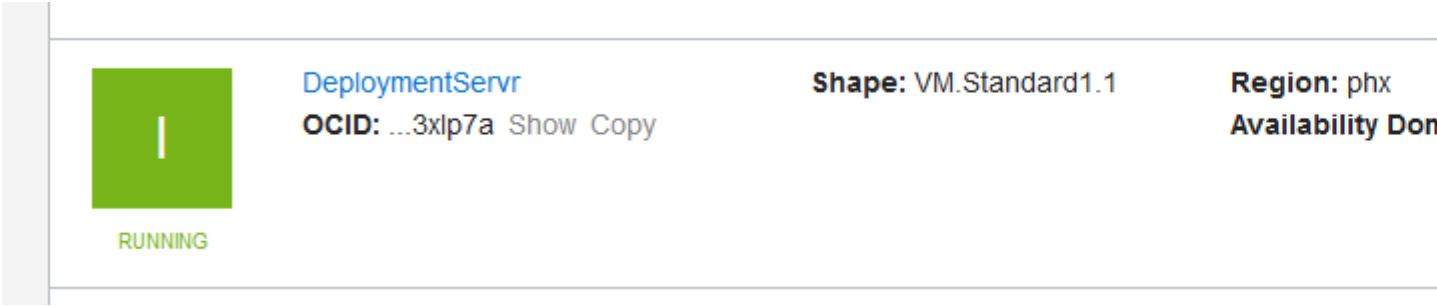
Deployment Server

You can access your Deployment Server using Microsoft Windows Remote Desktop Protocol (RDP). To do so, you will need the public IP address of this instance.

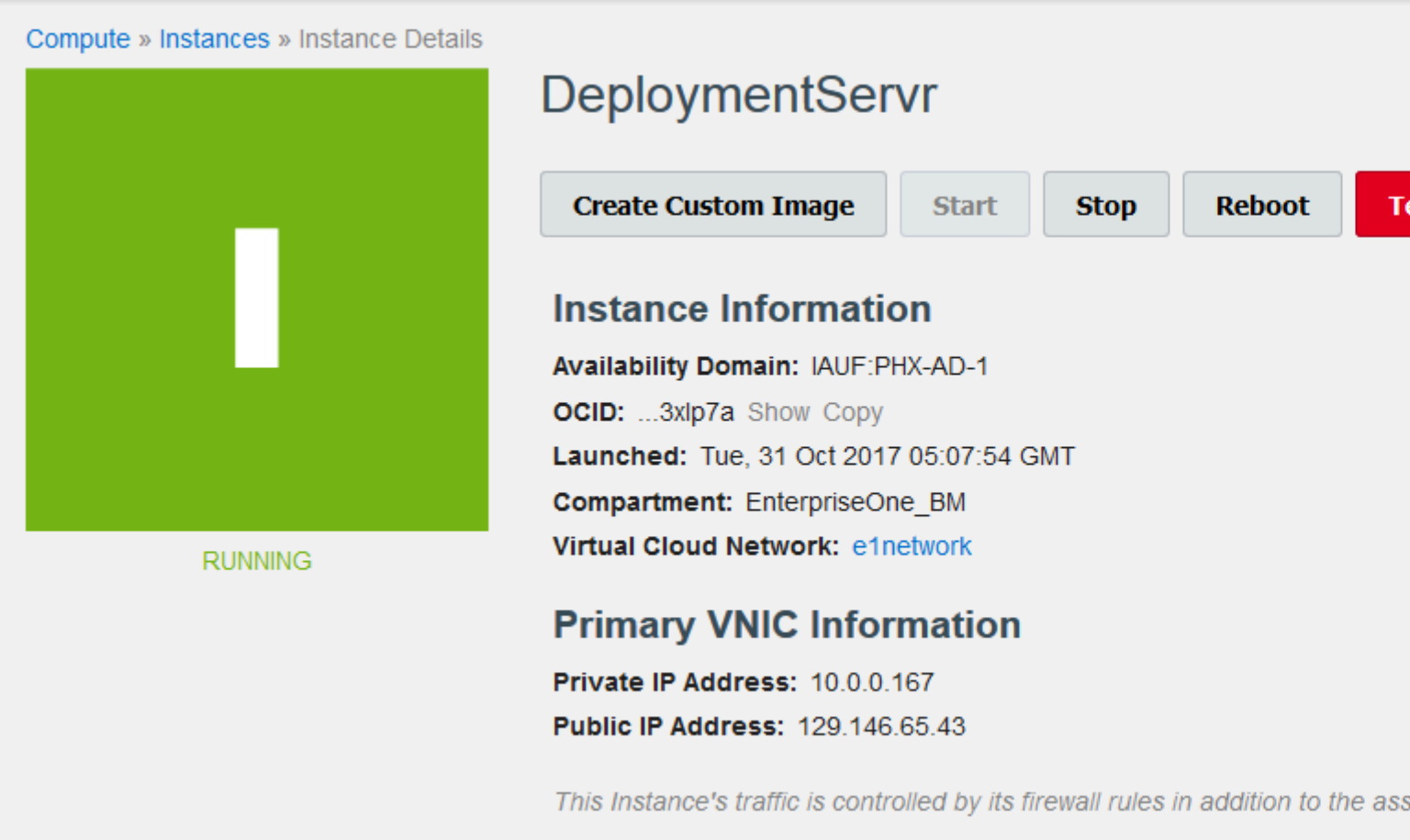
To acquire the public IP address assigned to the Deployment server instance:

1. Access Oracle Cloud Infrastructure and go to **Compute**, and select the **instance** menu.The system displays the list of instances.

2. Click the **host name** of your provisioning server in the displayed list. For example, click DeploymentServr.



The system now displays the details of the instance where you can find the public IP address of the instance.



15 Troubleshooting Your One-Click Deployment

Troubleshooting

This section shows you the list of troubleshooting topics and resolutions.

One-Click Provisioning Console Troubleshooting Tips

This section contains the following troubleshooting tips for the EnterpriseOne One-Click Provisioning Console:

- Accessing a Previously Saved Provisioning Console Configuration
- Console Administration
- Console Service Status
- Start the Console
- Stop the Console
- View the Console Logs

Accessing a Previously Saved Provisioning Console Configuration

Symptom:	You cannot access a previously created Quick Start Deployment Plan.
Cause:	After you created a Quick Start Deployment Plan (either complete or partial), you exited the browser used to connect to the One-Click Provisioning Console.
Resolution:	When you next access the Provisioning Console, you will be prompted to enter the same credentials that you entered for the first access to the console. Those credentials are the password for the Server Manager for JD Edwards EnterpriseOne. After the credentials are validated, you can access the previously saved configuration.

Console Administration

The One-Click Provisioning Console process is configured as a system service in the One-Click Provisioning Server image. The configuration file (E1CloudConsole.service) is located in this directory:

```
/etc/systemd/system/E1CloudConsole.service
```

Console Service Status

Run following command in the shell to display the One-Click Provisioning Console service status:

```
$ sudo systemctl status E1CloudConsole
```

Start the Console

Run the following command in the shell to start the One-Click Provisioning Console service.

```
$ sudo systemctl start E1CloudConsole
```

Run the following command to verify the service status within same machine:

```
$ curl -kI https://localhost:3000
```

The response from the Curl command should be similar to this:

```
[opc@multitest ~]$ curl -kI https://localhost:3000//</span>\\\\ HTTP/1.1 200 OK
X-DNS-Prefetch-Control: off
X-Content-Type-Options: nosniff
X-Frame-Options: SAMEORIGIN
Strict-Transport-Security: max-age=86400
X-Download-Options: noopen
X-XSS-Protection: 1; mode=block
Accept-Ranges: bytes
Cache-Control: public, max-age=0
Last-Modified:
ETag: W/"5862-156cad16600"
Content-Type: text/html; charset=UTF-8
Content-Length: 22626
Date:
Connection: keep-alive
```

Outside the machine, you can access the One-Click Provisioning Console application using the below URL:

```
https://<#PUBLIC_IP#>:3000/
```

Stop the Console

Run following command in the shell to stop the One-Click Provisioning Console service.

```
$ sudo systemctl stop E1CloudConsole
```

View the Console Logs

Run following command in the shell to view the logs for the One-Click Provisioning Console.

```
$ sudo journalctl -u E1CloudConsole
```

Press **Page-Down** to scroll through the logs.

Enter **Shift + G** to scroll to end of the log.

> **Note:** The One-Click Provisioning Console logs are completely regenerated each time the Console is run.

Enterprise Server Provisioning Fails - Communication Failure

Symptom:	Provisioning fails to deploy the Enterprise Server with an error returned indicating a communication failure.
Cause:	A timeout may have occurred during communications between the One-Click Provisioning processes and the Oracle Cloud Infrastructure Services.
Resolution:	Restart the deployment of One-Click Provisioning.

Enterprise Server Provisioning Fails - Health Check Fails

Symptom:	Porttest remotely executes, but fails.
Cause:	Possibly a timing issue if the kernels are not starting up fast enough to execute a porttest successfully.
Resolution:	If host name command in the Enterprise Server returns the FQDN then set the short hostname by using the following command: **`sudo hostnamectl set-hostname <short host name>`** Rerun the Deployment Server again. It should quickly skip to the Ent Health Check and pass the health check.

HTML Server Intermittently Unavailable

Symptom:	There is an intermittently occurring issue with the HTML server provisioned on the WebLogic Server going down and users not being able to access the EnterpriseOne HTML login page. Generally when this issue occurs, the below error is displayed in the WebLogic Server logs or in the HTML Server logs: **java.lang.OutOfMemoryError: PermGen space**
Resolution:	To bring up the EnterpriseOne HTML server when it goes down with the above error, try one of the following steps: 1. Restart the EnterpriseOne HTML Server instance from the Server Manager Console and then check if the EnterpriseOne HTML login page is accessible. 2. If the JD Edwards EnterpriseOne HTML Server login page is not accessible even after restart, then set the below JVM arguments in the HTML Server from the WebLogic Server console and then restart the HTML Server. a. Log in to the WebLogic Server console. b. Go to the Servers on the environment tab and then select the HTML Server. c. Go to Server Start tab and click the **Lock & Edit** button in the left upper corner. d. In the Arguments section, change the values for the following arguments from their existing value to 1024m: **`-XX:PermSize=1024m`** **`-XX:MaxPermSize=1024m`** e. In the Arguments section, go to the end and enter one line space and paste the below arguments: **`-XX:+CMSClassUnloadingEnabled`** **`-XX:+CMSPermGenSweepingEnabled`** **`-XX:+UseConcMarkSweepGC`** f. Click the **Save** button. g. Click the **Activate Changes** button in the left upper corner. h. Restart the EnterpriseOne HTML Server. 3. If the JD Edwards EnterpriseOne HTML Server login page is still not accessible, then free up some resources (OCPU and memory) from the cloud domain and restart the EnterpriseOne HTML Server from the Server Manager console.

Server Manager Console Fails to View Log File and Download Log for Enterprise Server and HTML Server

Symptom:	Server Manager Console Fails to View Log File and Download Log for Enterprise Server and HTML Server.
Resolution:	You should always use the HTTP protocol to access the Server Manager Console for normal operations. Although the Server Manager Console is also enabled for HTTPS/SSL protocol, such access is restricted for internal use as part of the REST/API functionality, and should not be used for normal operations.

PDB on Compute Not Open

The Console checks to ensure the Pluggable Database (PDB) on the Oracle Cloud Infrastructure is open (set to READ WRITE) as you begin to provision it. If the PDB is not open, the Console scripts will issue commands to open it. However, if the PDB is still closed (not set to READ WRITE) when the deployment commences, the deployment will fail. Use the following procedure to determine if the PDB is open, and if not how to set it to open.

1. Connect to the database using this command:

   ```
   sqlplus '/as sysdba';
   ```
2. Verify the pluggable database **JDEORCL** is open using this command:

   ```
   select OPEN_MODE from v$pdbs where NAME = 'JDEORCL';
   ```
3. If the **OPEN_MODE** is set to **READ WRITE**, then the PDB is ready to be provisioned by the JD Edwards EnterpriseOne One-Click Provisioning Server.
4. If the **OPEN_MODE** is not **READ WRITE**, then the PDB is not open. Open the PDB using this command:

   ```
   alter pluggable database JDEORCL open;
   ```

Not Able to View and Download Server Manager Home Logs When Server Manager is SSL-Enabled

When Server Manager is SSL-enabled, the users may not be able to view and download the Server Manager Home logs. The root cause may be because the proper security certificates are not available. For instructions on how create and import security certificates, refer to these documents:

- *JD Edwards EnterpriseOne Tools Server Manager Guide*
- *JD Edwards EnterpriseOne Tools Security Administration Guide*

The JD Edwards EnterpriseOne HTML Server Login Fails

If the JD Edwards EnterpriseOne HTML Server login fails, run the port test on the JD Edwards EnterpriseOne Enterprise Server. If the port test fails, check the host entries in the /etc/hosts file. See **Edit the /etc/hosts File for Connectivity** section in this tutorial.

JAVA BSFN Fails in Web Server

If the host name command in the JAS Server returns the FQDN then set the short hostname by using the following command.

```
sudo hostnamectl set-hostname<short host name>
```

The JD Edwards Enterprise Server - Port Test Fails

If the port test fails on the JD Edwards EnterpriseOne Enterprise Server, check the host entries in the /etc/hosts file. See **Edit the /etc/hosts File for Connectivity** section in this tutorial.

Resolving Hostname Issues During Provisioning

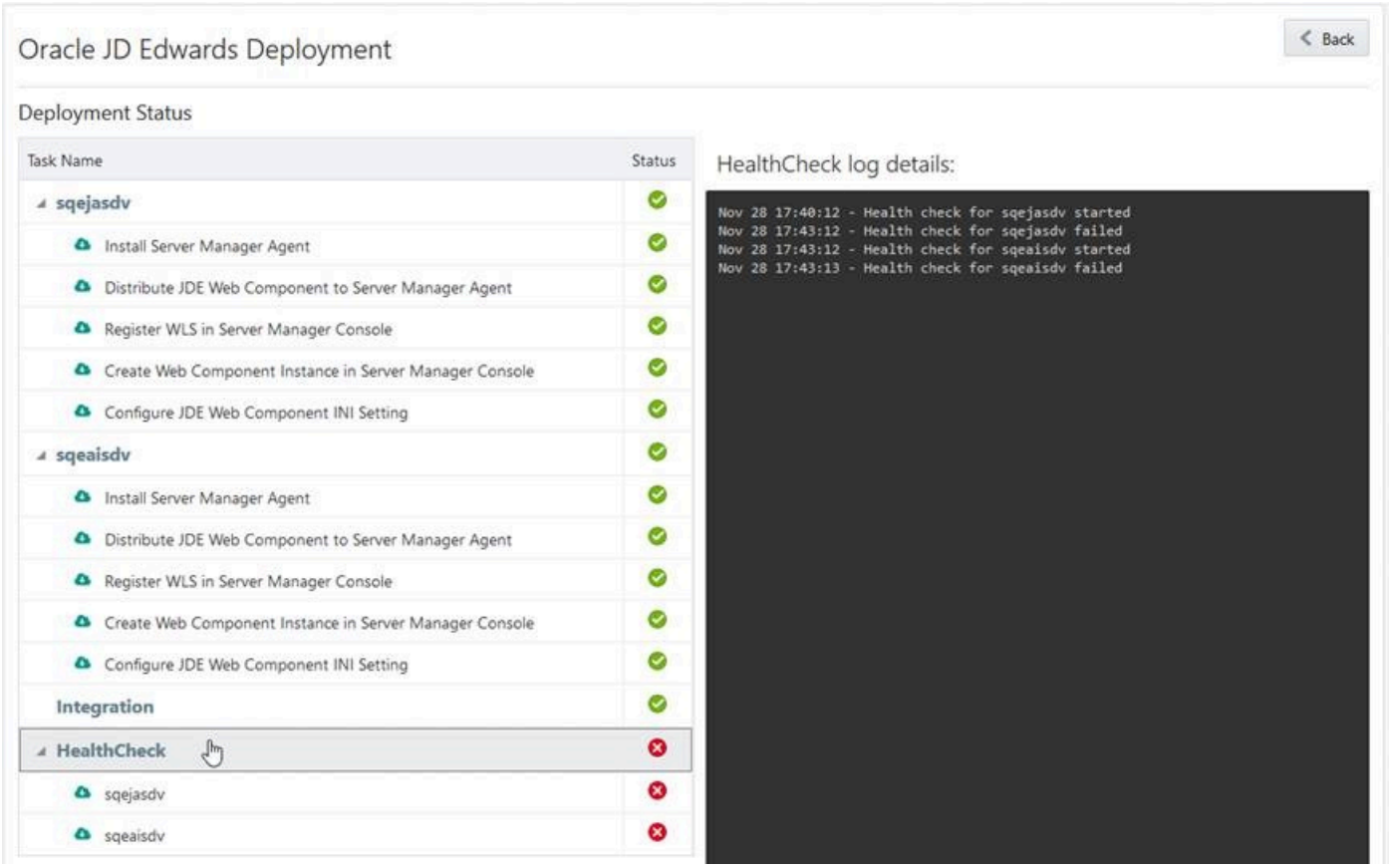
If you encounter hostname issues during orchestration because the provisioning was run against machines with the long hostnames, FQDNs, or both, then use the following procedure to resolve the issue:

1. On the operating system level, change the hostnames of all servers in the on-premises architecture to use a short hostname without the FQDN.
2. On the database level, change all the hostnames in JDE tables to use short hostnames without using the FQDN.
3. Ping all the machines with short hostnames and verify that the ping test is successful.

See *Understanding Machine Names* for more information.

Health Checks Fail as Final Step in OCI Provisioning

If the health checks fail during the final step in OCI Provisioning (as shown in the example below), it is likely because the predefined ports for the Enterprise Server are either not enabled or not properly defined in the VCN.



Security Server JdeSocket Or SocketException Errors When Logging In To EnterpriseOne

If a JD Edwards EnterpriseOne Server is deployed inside a firewall-protected network, you must enable predefined ports so that all NET server ports are allocated within the predefined port range.

Error ORA-00904: "NRUSER1": Invalid Identifier for Table F980051

The JAS log files displays the following error after you install EnterpriseOne using the JD Edwards One-Click Provisioning Console with Tools 9.2.2.4:

```
[SEVERE] - [JDBJ] SQLException occurred in the SQLPhysicalConnection.select():Auto: | Table or View Name
= F980051 - Data Source[0] = System - 920 java.sql.SQLSyntaxErrorException: ORA-00904: "NRUSER1": invalid
identifier

[SEVERE] - [BASE] com.jdedwards.database.base.JDBException: [SQL_EXCEPTION_OCCURRED] An SQL exception occurred:
ORA-00904: "NRUSER1": invalid identifier . java.sql.SQLSyntaxErrorException: ORA-00904: "NRUSER1": invalid
identifier

[SEVERE] - [BASE] com.jdedwards.database.base.JDBException: [SQL_EXCEPTION_OCCURRED] An SQL exception occurred:
ORA-00904: "NRUSER1": invalid identifier . com.jdedwards.database.base.JDBException: [SQL_EXCEPTION_OCCURRED] An
SQL exception occurred: ORA-00904: "NRUSER1": invalid identifier
```

Cause:

The delivered image for One-Click Provisioning has incorrect OCM mappings for the F980051 table. The OCM for this table is pointing to the System - 920 database data source where the structure of the table is not consistent with the table specs.

Solution:

1. Check both the System and the Server Map data source OCM mappings and change the OCM mappings as shown in the following list:

   Use the following correct OCM mappings for F98005* tables:
   - F980051 (Bell Status) mapped to Control Tables - <Environment>
   - F980052 (Notification Execution History) mapped to Control Tables - <Environment>
   - F980053 (Subscription Metadata) mapped to Control Tables - <Environment>
   - F980054 (Notification Queue) mapped to System - 920
   - F980055 (Notifications Constants) mapped to System - 920
   - F980056 (Notifications Offline Repository) mapped to System - 920
   - F980057 (Notifications Offline Repository Archive) mapped to System – 920
2. Restart the Enterprise service.

For more information, see Doc ID 2408472.1 on My Oracle Support.

Error in Server Manager Console Enterprise Server Process Detail Graph

Symptom:	Unable to display the results of the selected monitor. The monitor is no longer available for viewing.

Cause:	The monitors were registered for each of the Enterprise Server instances but the Server manager Console did not identify these monitors, and hence caused an issue related to the graphs.
Resolution:	Verify monitors.xml located in the path \SCFMC\targets\home\ , and check if the entries are recorded for all the required monitors. If the graphs are not visible for a particular monitor even if the monitor's entry is recorded in the monitors.xml file, then restart the Server Manager Console.

Orchestrating JD Edwards EnterpriseOne Servers Returns IPV6 Is Not Disabled

Use this procedure if One-Click Provisioning returns this message for any Linux server that you are provisioning:

- IPV6 Is Not Disabled
  a. Ensure that /etc/sysctl.conf file contains below list of entries:

     ```
     net.ipv6.conf.default.disable_ipv6 = 1

     net.ipv6.conf.all.disable_ipv6 = 1
     ```

  b. If the above settings do not exist, you must update the `/etc/sysctl.conf` file to include the above settings.

     > **Note:** A mandatory reboot is necessary in order for the settings to take affect. and reboot the machine.

  c. Verify the output of below command to ensure there is no entry for the string "inet6"

     ```
     sudo ifconfig | grep inet6
     ```

  d. If the string "inet6" continues to occur in the output of the above command output, verify your settings and ensure that the machine has been rebooted.

Regenerating and Reinstalling Certificates

This section shows you how to regenerate and reinstall Self-Signed Certificates for One-Click Provisioning.

The deployment of JD Edwards EnterpriseOne One-Click Provisioning includes temporary self-signed certificates. By design, these certificates are set to expire at one-year intervals from when they were generated.

> **Note:** After self-signed certificates are expired, Oracle strongly recommends that you generate and install your own CA certificates as described in this section. These must be certificates that are verified by a verified CA authority such as Entrust and Symantec Corporation.

Prerequisite

You must have an installation of Java Keystore.

Generating Self-Signed Certificates on Linux

Use this procedure to generate self-signed certificates on Linux.

1. Log into Provisioning Server.
2. Run the following commands (where each bulleted item is one contiguous line):
   - `sudo -i`
   - `mv /u01/jde920/.vm_unconfigured /u01/jde920/vm_unconfigured`
   - `/u01/jdk1.8.0/jre/bin/keytool -delete -alias cert -keystore "/u01/jdk1.8.0/jre/lib/security/cacerts" -storepass *****`
   - `/u01/CertGen/ConfigureCertKey_CC.sh`
   - `/u01/CertGen/ConfigureCertKey_SMC.sh <WebLogic Admin Password>`
   - `mv /u01/jde920/vm_unconfigured /u01/jde920/.vm_unconfigured`

> **Note:**
> - The `storepass` value ***** in above commands is the WebLogic Admin password.
> - The `generated cert.pem` file is located in: `/u01/E1CloudConsole/keys`
> - The log file path is: `/var/log`

Importing the Self-Signed Certificate into Target Machines on Linux

The self-signed certificate file that you generated in the previous steps must be imported into these target machines that were deployed by JD Edwards EnterpriseOne One-Click Provisioning:

- HTML Server
- Enterprise Server
- Oracle Database Server

HTML Server

Use this procedure to import the self-signed certificate into the HTML Server.

1. Run this command:

   ```
   sudo -i
   ```
2. Get the `cert.pem` file from Provisioning Server, which you generated in the previous procedure in this section entitled: "Generating Self-Signed Certificates on Linux".

3. Use this command is determine if a certificate with an alias of **smcert** is already imported to `jdk/jre/lib/security/cacerts`, where this command is a single contiguous line:
   ```
   /u01/jde_home/SCFHA/jdk/jre/bin/keytool -list -v -alias smcert -keystore "/u01/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```
   If the results of the above command indicate that an alias of **smcert** certificate is already imported to the JDK/JRE lib location, use this command to remove it, where this command is a single contiguous line:
   ```
   /u01/jde_home/SCFHA/jdk/jre/bin/keytool -delete -file cert.pem -alias smcert -keystore "/u01/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```
   > **Note:** The storepass value ***** in above commands is the default password for Java trustStore.

4. Use these commands to import the certificate that you generated in the previous procedure of this section entitled: "Generate Self-Signed Certificates" to `/u01/jde_home/SCFHA/jdk`, where each command is a single contiguous line:
   ```
   /u01/jde_home/SCFHA/jdk/jre/bin/keytool -import -file cert.pem -alias smcert -keystore "/u01/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   /u01/jde_home/SCFHA/jdk/jre/bin/keytool -list -v -alias smcert -keystore "/u01/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```
   > **Note:** The storepass value ***** in above commands is the default password for Java trustStore.

5. Use this command is determine if a certificate with an alias of **smcert** is already imported for the JDK path:
   ```
   /u01/oracleJDE/jdk_path/jre/bin/keytool -list -v -alias smcert -keystore "/u01/oracleJDE/jdk_path/jre/lib/security/cacerts" -storepass *****
   ```
   If the results of the above command indicate that an alias of **smcert** certificate is already imported, use this command to remove it, where this command is a single contiguous line:
   ```
   /u01/oracleJDE/jdk_path/jre/bin/keytool -delete -alias smcert -keystore "/u01/oracleJDE/jdk_path/jre/lib/security/cacerts" -storepass *****
   ```
   > **Note:** The storepass value ***** in above commands is the WebLogic Admin password.

6. Use these commands to import the certificate that you generated in the previous procedure of this document entitled: "Generate Self-Signed Certificates" to /u01/oracleJDE/jdk_path, where each command is a single contiguous line:
   ```
   /u01/oracleJDE/jdk_path/jre/bin/keytool -import -file cert.pem -alias smcert -keystore "/u01/oracleJDE/jdk_path/jre/lib/security/cacerts" -storepass *****
   /u01/oracleJDE/jdk_path/jre/bin/keytool -list -v -alias smcert -keystore "/u01/oracleJDE/jdk_path/jre/lib/security/cacerts" -storepass *****
   ```
   > **Note:** The storepass value ***** in above commands is the WebLogic Admin password.

Enterprise Server

Use this procedure to import the self-signed certificate into the HTML Server.

1. Run this command:

`sudo -i`

2. Get the `cert.pem` file from Provisioning Server, which you generated in the previous procedure in this section entitled: "Generating Self-Signed Certificates on Linux".
3. Use this command is determine if a certificate with an alias of **smcert** is already imported to `jdk/jre/lib/security/cacerts`, where this command is a single contiguous line:

   ```
   /u01/jde920/jde_home/SCFHA/jdk/jre/bin/keytool -list -v -alias smcert -keystore "/u01/jde920/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```

   If the results of the above command indicate that an alias of **smcert** certificate is already imported, use this command to remove it, where this command is a single contiguous line:

   ```
   /u01/jde920/jde_home/SCFHA/jdk/jre/bin/keytool -delete -alias smcert -keystore "/u01/jde920/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```

   Note: The storepass value ***** in above commands is the default password for Java trustStore.

4. Use these commands to import the certificate that you generated in the previous procedure of this section entitled: ***Generate Self-Signed Certificates*** to `/u01/jde920/jde_home/SCFHA/jdk`, where each command is a single contiguous line:

   ```
   /u01/jde920/jde_home/SCFHA/jdk/jre/bin/keytool -import -file cert.pem -alias smcert -keystore "/u01/jde920/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```

   ```
   /u01/jde920/jde_home/SCFHA/jdk/jre/bin/keytool -list -v -alias smcert -keystore "/u01/jde920/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```

   Note: The storepass value ***** in above commands is the default password for Java trustStore.

5. Use this command is determine if a certificate with an alias of **smcert** is already imported for the JDK path:

   ```
   /u01/jdk8_32/jre/bin/keytool -list -v -alias smcert -keystore "/u01/jdk8_32/jre/lib/security/cacerts" -storepass *****
   ```

   If the results of the above command indicate that an alias of smcert certificate is already imported, use this command to remove it, where this command is a single contiguous line:

   ```
   /u01/jdk8_32/jre/bin/keytool -delete -alias smcert -keystore "/u01/jdk8_32/jre/lib/security/cacerts" -storepass *****
   ```

   Note: The storepass value ***** in above commands is the Site Key password.

6. Use these commands to import the certificate that you generated in the previous procedure of this section entitled: "Generate Self-Signed Certificates" to `/u01/jdk8_32`, where each command is a single contiguous line:

   ```
   /u01/jdk8_32/jre/bin/keytool -import -file cert.pem -alias smcert -keystore "/u01/jdk8_32/jre/lib/security/cacerts" -storepass *****
   ```

   ```
   /u01/jdk8_32/jre/bin/keytool -list -v -alias smcert -keystore "/u01/jdk8_32/jre/lib/security/cacerts" -storepass *****
   ```

   Note: The storepass value ***** in above commands is the Site Key password.

Database Server

Use this procedure to import the self-signed certificate into the Oracle Database Server. Note that is only applicable if you are using Oracle Compute service for your Database Server; it not applicable if you are using the Oracle Database Service (DBS).

1. Log into the Oracle Compute Database Server.
2. Get the cert.pem file from Provisioning Server, which you generated in the previous procedure in this section entitled: "Generating Self-Signed Certificates on Linux".
3. Run this command:

   ```
   sudo -i
   ```
4. Use this command is determine if a certificate with an alias of **smcert** is already imported to jdk/jre/lib/security/cacerts, where this command is a single contiguous line:

   ```
   /u01/jde_home/SCFHA/jdk/jre/bin/keytool -list -v -alias smcert -keystore "/u01/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```

   If the results of the above command indicate that an alias of **smcert** certificate is already imported, use this command to remove it, where this command is a single contiguous line:

   ```
   /u01/jde_home/SCFHA/jdk/jre/bin/keytool -delete -alias smcert -keystore "/u01/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```

   Note: The storepass value ***** in above commands is the default password for Java trustStore.
5. Use these commands to import the certificate that you generated in the previous procedure of this document entitled: "Generate Self-Signed Certificates" to /u01/jde_home/SCFHA/jdk, where each command is a single contiguous line:

   ```
   /u01/jde_home/SCFHA/jdk/jre/bin/keytool -import -file cert.pem -alias smcert -keystore "/u01/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****

   /u01/jde_home/SCFHA/jdk/jre/bin/keytool -list -v -alias smcert -keystore "/u01/jde_home/SCFHA/jdk/jre/lib/security/cacerts" -storepass *****
   ```

   Note: The storepass value ***** in above commands is the default password for Java trustStore.

Generating Self-Signed Certificates on Microsoft Windows

Use this procedure to generate self-signed certificates on Microsoft Windows.

1. Log into Provisioning Server.
2. Open Windows Powershell **As Administrator**.

3. Run the following commands, where each command is a single contiguous line:

```
ren <drive>\JDE\PP\jde920\.vm_unconfigured <drive>\JDE\PP\jde920\vm_unconfigured

<drive>\JDE\jdk1.8_64\jre\bin\keytool -delete -alias cert -keystore "<drive>\JDE\jdk1.8_64\jre\lib
\security\cacerts" -storepass *****
```

> **Note:** The storepass value ***** in above command is the WebLogic Admin password.

```
$env:OPENSSL_CONF += "C:\JDE\bin\openssl.cnf"

<drive>\JDE\PP\CertGen\ConfigureCertKey_CC.ps1

<drive>\JDE\PP\CertGen\ConfigureCertKey_SMC.ps1 <WebLogic Admin Password>

ren <drive>\JDE\PP\jde920\vm_unconfigured <drive>\JDE\PP\jde920\.vm_unconfigured
```

Importing the Self-Signed Certificate into Target Machines on Microsoft Windows

The self-signed certificate file that you generated in the previous steps must be imported into these target machines that were delivered by JD Edwards EnterpriseOne One-Click Provisioning:

- All Servers
- HTML Server
- Enterprise Server

All Servers

Use this procedure to import the self-signed certificate into all Microsoft Windows servers.

1. Log into the each Microsoft Windows server.
2. Get the `cert.pem` file that is located on the Provisioning Server. You generated this key using the previous procedure in this section entitled: "Generating Self-Signed Certificates on Microsoft Windows".

   On the Provisioning Server, this file is located at this location:

   ```
   <drive>\JDE\PP\E1CloudConsole\keys
   ```
3. On each machine, use this command is determine if a certificate with an alias of **smcert** is already imported to `<drive>\JDE\jde_home\SCFHA\jdk`, where this command is a single contiguous line:

   ```
   <drive>\JDE\jde_home\SCFHA\jdk\jre\bin\keytool -list -v -alias smcert -keystore

   "<drive>\JDE\jde_home\SCFHA\jdk\jre\lib\security\cacerts" -storepass *****
   ```

   If the results of the above command indicate that an alias of **smcert** certificate is already imported, use this command to remove it, where this command is a single contiguous line:

   ```
   <drive>\JDE\jde_home\SCFHA\jdk\jre\bin\keytool -delete -alias smcert -keystore "<drive>\JDE\jde_home
   \SCFHA\jdk\jre\lib\security\cacerts" -storepass *****
   ```

   > **Note:** The storepass value ***** in above commands is the default password for Java trustStore.

4. On each machine, use these commands to import the certificate that you generated in the previous procedure of this section entitled: "Generate Self-Signed Certificates" to `<drive>\JDE\jde_home\SCFHA\jdk`, where each command is a single contiguous line:

```
<drive>\JDE\jde_home\SCFHA\jdk\jre\bin\keytool -import -file cert.pem -alias smcert -keystore "

<drive>\JDE\jde_home\SCFHA\jdk\jre\lib\security\cacerts" -storepass *****

<drive>\JDE\jde_home\SCFHA\jdk\jre\bin\keytool -list -v -alias smcert -keystore

"<drive>\JDE\jde_home\SCFHA\jdk\jre\lib\security\cacerts" -storepass *****
```

> **Note:** The storepass value ***** in above commands is the default password for Java trustStore.

HTML Server

Use this procedure to import the self-signed certificate into the HTML Server.

1. Log into the HTML server.
2. Get the `cert.pem` file that is located on the Provisioning Server. You generated this key using the previous procedure in this section entitled: "Generating Self-Signed Certificates on Microsoft Windows".

   On the Provisioning Server, this file is located at this location:

   ```
   <drive>\JDE\PP\E1CloudConsole\keys
   ```
3. Use this command is determine if a certificate with an alias of **smcert** is already imported to `C:\Program Files\Java\jdk1.8.0_201`, where this command is a single contiguous line:

   ```
   <JDK_path>\jre\bin\keytool -list -v -alias smcert -keystore "

   <JDK_path>\jre\lib\security\cacerts" -storepass *****
   ```

   If the results of the above command indicate that an alias of **smcert** certificate is already imported, use this command to remove it, where this command is a single contiguous line:

   ```
   <JDK_path>\jre\bin\keytool -delete -alias smcert -keystore "

   <JDK_path>\jre\lib\security\cacerts" -storepass *****
   ```

   > **Note:** The storepass value ***** in above commands is the WebLogic Admin password.
4. Use these commands to import the certificate that you generated in the previous procedure of this document entitled: "Generate Self-Signed Certificates" to C:\Program Files\Java\jdk1.8.0_201 , where each command is a single contiguous line:

   ```
   <JDK_path>\jre\bin\keytool -import -file cert.pem -alias smcert -keystore "<JDK_path>\jre\lib\security
   \cacerts" -storepass *****

   <JDK_path>\jre\bin\keytool -list -v -alias smcert -keystore "<JDK_path>\jre\lib\security\cacerts" -
   storepass *****
   ```

   > **Note:** The storepass value ***** in above commands is the WebLogic Admin password.

Enterprise Server

Use this procedure to import the self-signed certificate into the HTML Server.

1. Log into the Enterprise Server.
2. Get the `cert.pem` file that is located on the Provisioning Server. You generated this key using the previous procedure in this section entitled: "Generating Self-Signed Certificates on Microsoft Windows".

   On the Provisioning Server, this file is located at this location:

   ```
   <drive>\JDE\PP\E1CloudConsole\keys
   ```
3. Use this command is determine if a certificate with an alias of smcert is already imported to <drive>\JDE \jdk8_32, where this command is a single contiguous line:

   ```
   <drive>\JDE\jdk8_32\jre\bin\keytool -list -v -alias smcert -keystore "

   <drive>\JDE\jdk8_32\jre\lib\security\cacerts" -storepass *****
   ```

   If the results of the above command indicate that an alias of **smcert** certificate is already imported, use this command to remove it, where this command is a single contiguous line:

   ```
   <drive>\JDE\jdk8_32\jre\bin\keytool -delete -alias smcert -keystore

   "<drive>\JDE\jdk8_32\jre\lib\security\cacerts" -storepass *****
   ```

   Note: The storepass value ***** in above commands is the Site Key password.
4. Use these commands to import the certificate that you generated in the previous procedure of this document entitled: "Generate Self-Signed Certificates" to <drive>\JDE\jdk8_32, where each command is a single contiguous line:

   ```
   <drive>\JDE\jdk8_32\jre\bin\keytool -import -file cert.pem -alias smcert -keystore"

   <drive>\JDE\jdk8_32\jre\lib\security\cacerts" -storepass *****

   <drive>\JDE\jdk8_32\jre\bin\keytool -list -v -alias smcert -keystore "

   <drive>\JDE\jdk8_32\jre\lib\security\cacerts" -storepass *****
   ```

   Note: The storepass value ***** in above commands is the Site Key password.

16 Performing Basic Administration

Starting and Stopping Services on Windows

This section shows you how to start or stop services on Microsoft Windows.

In general you should use Server Manager to start or stop services, or to check the status of services, for all JD Edwards EnterpriseOne servers.

Prerequisite

- A deployment of JD Edwards EnterpriseOne.

Starting and Stopping Services

You can use these commands to manually start, stop, or check the status of the **jde-sm** service for the Server Manager Console Server.

As Administrator, open PowerShell and run the following commands:

```
cd \JDE\bin
.\jde-sm.ps1 start
.\jde-sm.ps1 stop
.\jde-sm.ps1 status
```

Configuring the Public IP Address as an Internal Hostname on Client Machine

This section shows you how to configure the public IP address as an internal hostname on client machine.

Without this step, the JD Edwards EnterpriseOne application websites can only be accessed using the Public IP Address in a browser.

Prerequisite

A deployment of JD Edwards EnterpriseOne.

Configuring the Public IP Address

As a convenience, in addition to access using a Public IP address, you can also access JD Edwards EnterpriseOne application websites using the hostname. The steps given below assume that you have not configured a public web entry point for the JD Edwards EnterpriseOne application tier. In that case you need to manually add the public IP address and internal DNS hostname of the JD Edwards EnterpriseOne application tier in the hosts file of the client machine.

Alternatively, these steps can be replaced by contacting your site's network administrator and having the address and hostname setup in DNS.

Access from a UNIX Host

Modify the `/etc/hosts` file as shown below. For example:

- public IP: **123.456.789.999**
- public hostname: **demo.company.com**
- Using the above example values, the `/etc/hosts` file must contain this line:

  123.456.789.999 demo demo.company.com

Access from a Microsoft Windows System

Modify the `C:\Windows\System32\drivers\etc\hosts` file as shown below. For example:

- public IP: **123.456.789.999**

17 Considering Optional Administrative Tasks

Understanding JD Edwards EnterpriseOne Security

This section provides an overview of the JD Edwards EnterpriseOne security.

A minimal JD Edwards EnterpriseOne security definition has been shipped with your Database Server.

Prerequisite

A deployment of JD Edwards EnterpriseOne.

JD Edwards EnterpriseOne Security

Follow the instructions in the *JD Edwards EnterpriseOne Applications Release 9.2 Installation Guide for Oracle on UNIX* (in the chapter entitled: Performing Post Installation Tasks, in the section entitled: Working With Signon Security and Table Creation Security to change the passwords within EnterpriseOne for JDE and PS920 so they match any changes you make to the passwords for the Oracle Database users.

Additionally, for table creation security you should use the Datasource Master application using the Database Privilege row exit. For further details refer to the *JD Edwards EnterpriseOne Tools Security Administration Guide Release 9.2.*

JD Edwards One-Click Provisioning provides a preconfigured environment with sample data, user-defined content, roles, and security permissions. The JDE user id you used to sign on is associated with the SYSADMIN role, which has a very broad set of permissions. As such, the JDE user will have access to a large number of applications, EnterpriseOne pages, and other content. UDO View Security has been enabled for 9.2.1.0. It may be necessary to adjust security accordingly. To modify or set up the permissions for the JDE user or other users that you add to this environment, refer to *Provisioning User and Role Profiles* in the JD Edwards EnterpriseOne Tools Security Administration Guide Release 9.2.

Configuring AIS Server Depending on How You Manage Users

This section shows you how to configure the AIS Server depending on how you manage users.

REST services on the JD Edwards EnterpriseOne AIS Server can use HTTP Basic Authentication for access. Support for HTTP Basic Authentication is enabled out of the box and is required to run the EnterpriseOne Orchestrator Client, create custom Java calls from orchestrations, and use the AIS client Java API (versions 1.2.1.x and higher).

Prerequisite

A deployment of JD Edwards EnterpriseOne.

Configuring AIS Server

When the AIS Server is deployed on Oracle WebLogic Server, the Oracle WebLogic Server may require the following additional configuration depending on how you manage users:

- If you are maintaining a user registry in Oracle WebLogic Server that matches the user registry in EnterpriseOne, with identical sets of user names and passwords in each system, you do NOT need to modify your configuration.
- If you are NOT maintaining identical sets of users in Oracle WebLogic Server and EnterpriseOne, then you need to perform the following steps to modify your Oracle WebLogic Server configuration. This ensures that Oracle WebLogic Server will not intercept HTTP Basic Authentication credentials passed from the REST service.

1. In the WebLogic Server domain for your AIS Server, in the Config directory, find the `config.xml` file.
2. Add this configuration as the last line within the `<security-configuration>` element, just before the `</security-configuration>` tag:

   ```
   <enforce-valid-basic-auth-credentials>false</enforce-valid-basic-auth-credentials>
   ```
3. Restart the AIS Server for the changes to take effect.

The following is an example of this configuration in the `<security-configuration>` element:

```
<node-manager-password-encrypted>{AES}tzAokzTHACTNNmkuutLPQEpP8bfk7Ble24vmoycooic=</node-manager-password-encrypted>

<enforce-valid-basic-auth-credentials>false</enforce-valid-basic-auth-credentials>

</security-configuration>

<server>
```

Updating the Java.security File (Optional)

This section provides a description of an optional procedure that describes how to edit the **Java.security** file in a JDK to restore certain settings in server instances that were deployed by One-Click Provisioning.

Prerequisite

A deployment of JD Edwards EnterpriseOne.

Editing the Java.security File

The deployment of a JDK to servers using JD Edwards EnterpriseOne One-Click Provisioning removes the string **anon**, **NULL** from the property **jdk.tls.disabledAlgorithms** in this file:

```
\jre\lib\security\Java.security
```

Optionally, after the One-Click deployment is complete, you can add the string back in the JDK for each deployed server. For example, you can append the string **anon, NULL** in the Java.security file in the **jdk.tls.disabledAlgorithms** section as shown in the **bolded** string below:

```
jdk.tls.disabledAlgorithms=SSLv3, RC4, DES, MD5withRSA, DH keySize < 1024, \ EC keySize < 224, 3DES-EDE-CBC, anon, NULL
```

For additional details, refer to *Java.security File* in the Server Manager Guide.

18 Upgrading your One-Click Provisioned Environment

Upgrade Learning Path

Learning paths are available to guide you through the upgrade process for your One-Click provisioned environment.

- *Upgrading EnterpriseOne on Windows Using Interactive Mode to Import an Oracle Database*
- *Upgrading JD Edwards EnterpriseOne on Microsoft Windows Using Silent Mode to Import an Oracle Database*