

**Oracle® Virtual Desktop Infrastructure**  
VDI Demo (Microsoft Hyper-V) for Version 3.2

April 2011

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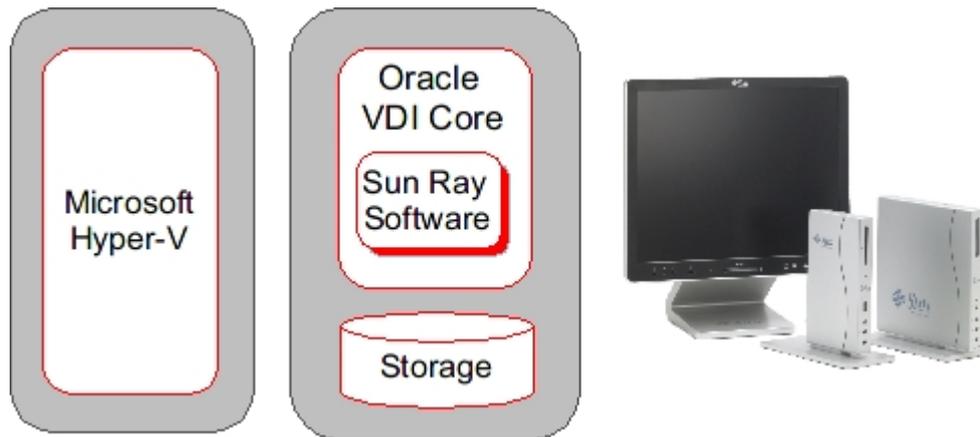
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# Oracle Virtual Desktop Infrastructure Demo (Microsoft Hyper-V)

## Oracle Virtual Desktop Infrastructure Demo (Microsoft Hyper-V)

The following information describes how to install and configure the Oracle Virtual Desktop Infrastructure components (Oracle VDI Core and virtualization platform). You will need two separate hosts to be able to perform this install.



**i** The VDI Demos are not supported production environment configurations. For more information about supported production environment VDI configurations, please see the [Configurations](#) page.

## System Requirements

You must perform the installation on physical machines (bare metal). Installing the VDI Core software in a virtual machine will not work.

- 1 Hyper-V server - this can be any of the following:  
Microsoft Windows Server 2008 with Service Pack 2 installed  
Microsoft Windows Server 2008 R2  
Microsoft Hyper-V Server 2008

Information on system requirements is available from the following product pages:

[Microsoft Windows Server 2008](#)

[Microsoft Hyper-V Server 2008](#)

- 1 host for VDI Core  
At least one 2.0GHz x86 CPU  
At least 4GB RAM  
At least 32GB disk space

Refer to the [Oracle Virtual Desktop Infrastructure 3.2.1 Release Notes](#) for more details.

## 1. Install and Configure Microsoft Hyper-V

Use the following information to install and configure Microsoft Hyper-V for your VDI Demo. It assumes you have referred to the

Microsoft documentation for installing and configuring a Windows Server. For general information about how Hyper-V works with VDI, see the [About Microsoft Hyper-V Virtualization Platforms](#) section.

## How to Install Microsoft Hyper-V

Microsoft Hyper-V can be installed either as a (free) standalone product, or it can be enabled as a role in Windows Server 2008.

- To install the standalone product, please refer to the [Microsoft Hyper-V Server 2008 site](#).
- To install the Hyper-V role, please refer to the [Microsoft Hyper-V Getting Started Guide](#).



Errors will be seen if the Hyper-V host is running a locale other than English. For more information refer to Bug ID 6918323 in the VDI 3.2 Release Notes.

The page How to Prepare a Windows Server for VDI does not exist.



Be Sure

- WinRM is enabled on the server and the firewall is configured appropriately.
- A Virtual Network has been created on the server. Note, there may be problems managing the Hyper-V server from VDI if the Virtual Network uses the same network device that is used for WinRM.

## 2. How to Install and Configure the Oracle VDI Core (Demo)

The page How to Install and Configure the VDI Core Software (Demo) does not exist.

## 3. Set Up a User Directory

### How to Set Up a User Directory for a Demo

Typically the user information is already stored in an Active Directory or LDAP server. Before you can assign users to desktops, you must configure the desired Active Directory/LDAP server and the Oracle VDI Core.



If you do not have a directory already installed, you may use [OpenDS](#) as explained in this [blog entry](#).



If you would like more details about setting up Active Directory with Kerberos authentication, refer to the new [How to Set Up Active Directory and Kerberos for a Demo](#) page.

#### Oracle VDI Manager Steps

1. Select the Settings category in the left sidebar.
2. Select the Company subcategory, and click New in the Companies table.  
This will activate the New Company wizard.
3. Choose between Active Directory and LDAP user directory types. You can also choose 'none' if you only require token assignments.
  - LDAP directory that supports Anonymous Authentication



Active Directory does not support Anonymous Authentication.

- a. Select LDAP Type, and click Next.
  - b. Select Anonymous Authentication.
  - c. Enter the hostname or IP address, and port number, of the LDAP server. 389 is the default port number used by most LDAP servers.
  - d. Enter the base DN of the LDAP server. Specifying a base DN is optional. It allows you to restrict the part of the LDAP directory used to search for the users. In most cases it is not necessary to provide the base DN.  
For example: `cn=Users,dc=my,dc=company,dc=com`
- Active Directory or other type of LDAP directory that does not support Anonymous Authentication
    - a. Select LDAP Type, and click Next.
    - b. Select Simple Authentication.
    - c. Enter the hostname or IP address, and port number, of the LDAP server. 389 is the default port number used by most LDAP servers.
    - d. Enter the base DN of the LDAP server. Specifying a base DN is optional. It allows you to restrict the part of the LDAP directory used to search for the users. In most cases it is not necessary to provide the base DN.  
For example: `cn=Users,dc=my,dc=company,dc=com`
    - e. Enter the user name. It must be the fully distinguished name (DN) of a user that has sufficient privileges to search the LDAP directory.  
For example: `cn=super-user,cn=Users,dc=my,dc=company,dc=com.`
    - f. Enter the password for the user.

## 4. Set Up Desktop Providers and Pools

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### How to Create Desktop Providers

Desktop providers encapsulate the details of the underlying virtualization platform. At a minimum, you must configure one desktop provider before you can continue with the creation of pools. There is no limitation to the number of providers the system can manage. At any time, you can configure additional providers.

Desktop providers can also be configured to run a specified number of synchronous desktop cloning and recycling jobs during and outside of specified peak hours. To specify peak times, go to the Peak Times tab of the desktop provider's profile.

#### Oracle VDI Manager Steps

1. [Sign into the Oracle VDI Manager.](#)
2. Select the Desktop Providers category, and click New in the Desktop Providers table.  
This will activate the New Desktop Provider wizard that enables you to add multiple hosts and multiple storages in a loop.
3. The New Desktop Provider wizard will require different information depending on the virtualization platform in use. For instance, all desktop providers require a host IP address and administrator credentials. Oracle VDI or Microsoft Hyper-V desktop providers require a host and a storage.
4. Once you click Finish, the new desktop provider will appear in the Oracle VDI Manager.
  - Oracle VDI and Microsoft Hyper-V desktop providers - You can now view the details, including CPU and memory use. It is also possible to add or remove additional host or storages as needed.  
For Microsoft Hyper-V desktop providers, you should also check the Network tab of the desktop provider to verify that the virtual network you created on your Microsoft Hyper-V machine has been detected correctly.
  - VMware vCenter desktop providers  
You can now view the VMware vCenter resource details, including datacenters, VMware clusters, and datastores.
  - Microsoft Remote Desktop providers  
You can now view the provider details, including CPU and memory use. It is possible to add or remove additional Microsoft Remote Desktop Services hosts as needed, provided they all belong to the same cluster.
  - Generic desktop providers  
Refer to the [How to Import Individual Windows PCs](#) for information about importing individual Windows PCs.

## How to Create Desktop Pools

Oracle Virtual Desktop Infrastructure organizes desktops in pools. A pool is a collection (or container) of desktops. Typically you will create different pools for different types of users. For example, the engineering team in your company might have different desktop requirements than the marketing department.



### Oracle VDI Desktop Providers Only

When changing pool settings from NAT networking to Host Networking + Windows RDP, existing desktops that are running must be stopped and restarted or else subsequent user requests for these desktops will fail. This issue occurs because existing, running desktops will be using NAT and will not have a public IP address. After the pools settings have been changed, subsequent requests for that desktop will attempt to access the desktop via the private (and unaccessible) NAT IP.



### Microsoft Remote Desktop Providers Only

Only one pool can be created per Microsoft Remote Desktop provider.

### Oracle VDI Manager Steps

1. Sign into the Oracle VDI Manager.
2. Select a Company in the Pools category.
3. Click New in the Pools table.  
A New Pool wizard is displayed.
  - a. For Oracle VDI and Microsoft Hyper-V desktop providers, choose one of the following pool types:
    - Dynamic pools are filled with cloned flexible desktops. If you choose the Dynamic Pool type, the desktops in the pool will be temporarily assigned to users. They will be recycled each time the user logs out. This pool type is considered dynamic because the user-desktop assignments are often changing.
    - Growing pools are filled with cloned personal desktops. If you choose the Growing Pool type, the desktops in the pool will be permanently assigned to users. Users can log in and out without losing their desktop settings. The desktops are not recycled.
    - Manual pools are initially empty. They are filled manually by importing personal desktops. The Manual Pool type should be used if cloned desktop assignment is not an option.



For Microsoft Remote Desktop providers, pool types do not apply.

## 5. Create, Import, and Clone Virtual Machines

### How to Create Virtual Machines (Microsoft Hyper-V)

Oracle VDI presents users with easy access to their virtual desktops, typically instances of Microsoft Windows XP executed in a virtual machine. You can manually create virtual machines, or you can configure Oracle VDI to create or clone additional virtual machines automatically from a template.

#### Steps

1. Create a virtual machine with Microsoft Windows.  
Use your standard process for creating virtual machines. For information on how to create a virtual machine in Microsoft Hyper-V, refer to the [Microsoft documentation](#).  
Follow these recommendations:
  - The license must be a volume license.
  - Define one disk. It should be as small as possible. The size impacts system performance and overall storage consumption. RAM also should be as small as possible, for example, 384 MB.
    - a. Windows Vista and Windows 7 - minimum of 1024 MB RAM and 5723 MB hard disk are recommended.
    - b. Windows 2000 and Windows XP - minimum of 384 MB RAM and 4 GB hard disk are recommended.

## 2. Install the Microsoft Hyper-V Integration Components.

Once you have created a virtual machine with Microsoft Windows XP installed on it, install the Hyper-V Integration Components. The Integration Components allow Microsoft Hyper-V and Oracle VDI to interoperate with the virtual machine. Installing the Integration Components in the guest operating system is vital.

The installation can be easily triggered from within the Hyper-V Management Console: Connect to the virtual machine from the console and select the Insert Integration Services Setup Disk option from the Action menu.

## 3. Enable remote desktop access.

RDP is the main access method to the Microsoft Windows XP desktop. By default, this access method is disabled and rejected through the firewall. To enable remote desktop access, connect to the virtual machine from the Hyper-V Management Console and follow these steps:

- a. In the console, click the virtual machine's Start button.
- b. Right-click on My Computer in the start menu, and select Properties.
- c. In the System Properties window, select the Remote tab.
- d. Under Remote Desktop, check the box marked Enable Remote Desktop on this computer so that this item is selected.
- e. Make sure that the desired users have been granted remote access rights.
- f. Click OK to save the settings and close the dialog.

Before you try to connect to a virtual desktop remotely, ensure that no firewall blocks the remote access: Make sure that port 3389 is enabled in any firewall that may be active on the system.

## 4. Install the Oracle VDI Tools.

Oracle VDI has a tools component that notifies the VDI service when a desktop is in use and handles RDP connections when the guest OS initiates Standby. The VDI Tools must be installed on the guest operating system for recycling to work correctly and so that the RDP connection is correctly closed when the virtual machine goes into Standby or Suspend mode.

- a. Locate the installer file, `vda-tools-x86.msi` for 32bit platforms or `vda-tools-x64.msi` for 64bit platforms, in the directory where you unzipped the VDI archive.  
The installer is located in the `vda_3.2.2/Windows/Packages` subdirectory. Copy the installer to the desired VM.
- b. Within the VM's console double-click the installer and follow the prompts to complete installation.  
The default target location for the VDI Tools on Windows is `C:\Program Files\Oracle\Virtual Desktop Access\Tools`.
- c. The VM services list should now contain a new service named Oracle VDI Tools, running and set to start automatically.

## 5. Install additional software, and optimize the desktop image.

Refer to the [Best Practices for Desktop Images](#) for more information.

# How to Import Desktops (Microsoft Hyper-V)

A pool is empty and has no desktops after initial creation. After you create virtual machines, you must import them into the Oracle VDI Core database.



Importing snapshots of virtual machines is not supported.

## Before You Begin

A virtual machine must be created in Microsoft Hyper-V before it can be imported into the Oracle VDI Core database. Refer to the [How to Create Virtual Machines \(Microsoft Hyper-V\)](#) page for detailed information.

### 1. Export the virtual machine from the Hyper-V server.

- a. In the Hyper-V management console, select the Hyper-V virtual machine.
- b. Select Export from the Actions menu and choose a directory on the Hyper-V server to which you want to export the virtual machine.

After the export has completed, you will have a directory containing a number of files and subdirectories. Copy the entire directory from the Hyper-V server to a directory on your VDI server or to a shared directory on a remote server (the shared directory must be accessible to the VDI server).

## Oracle VDI Manager Steps

1. Sign into the Oracle VDI Manager.
  - a. Go to `http://<server name>:1800` (or `http://localhost:1800` if remote administration has been disabled), and use root user credentials. For a multi-host configuration, use one of the Oracle VDI Secondary hosts.
  - b. You will be re-directed to `https` and the browser will ask you to accept the security certificate. After confirmation, you should get the login screen.
2. Import the desktop into the Oracle VDI Core.
  - a. Open the Pools tab, then select the previously created empty pool.
  - b. Select the Desktops tab, and click Import. An import dialog will be displayed.
  - c. In the Server property, select the server you copied the Microsoft Hyper-V desktop directories to (if you copied them to your Oracle VDI Core server then choose the Host '<servername>' option otherwise if you copied them to a shared directory on a remote server then choose the Other Server option and enter the remote server name where the shared directory resides).
  - d. In the Path property, enter the path to the directory that contains the Microsoft Hyper-V desktop directories.
  - e. Select the correct desktop name from the Desktop dropdown, and click OK.

After the desktop has been imported successfully, it will display in the Desktops tab of the Pools page. A page refresh might be necessary.

## How to Clone Desktops (Microsoft Hyper-V)

Cloning is the fastest and most efficient way to populate a pool. Use the steps below to enable cloning in a pool.

### Before You Begin

A virtual machine must be imported before a template can be cloned. Refer to the [How to Import Desktops \(Microsoft Hyper-V\)](#) page for detailed information.

### VDI Manager Steps

1. Sign into the VDI Manager.
  - a. Go to `http://<server name>:1800` (or `http://localhost:1800` if remote administration has been disabled), and use root user credentials. For a multi-host configuration, use one of the VDI Secondary hosts.
  - b. You will be re-directed to `https` and the browser will ask you to accept the security certificate. After confirmation, you should get the login screen.
2. Enable cloning in a desktop pool.
  - If you would like to enable cloning in an existing pool, it can be done on the pool's Cloning tab.
    - a. In the VDI Manager, open the Pools tab, then select the previously created pool.
    - b. Select the Cloning tab, and specify the cloning parameters.
    - c. At a minimum, define a desktop template to clone from, and select Enable Automatic Cloning.
  - Alternatively, you can enable cloning during pool creation in the New Pool wizard.
    - a. Choose the desktop template and select Enable Automatic Cloning.
    - b. Click Finish to finalize the pool creation, and begin the automatic cloning.

Cloning can take up to a minute to start, after which you will see clone jobs beginning to display in the Jobs window. To access the Jobs window, click the Jobs Running link in the top left of the VDI Manager. After a clone job has been finished successfully, the new desktop will display in the Desktops tab of the Pool page. A page refresh might be necessary.

### CLI Steps

1. Open a terminal window and sign into the server with root credentials.  
For a multi-host configuration, use one of the VDI Secondary hosts.
2. Start automatic cloning in a pool.

```
# /opt/SUNWvda/sbin/vda pool-start <pool name>
```

- Example – Starting automatic cloning in a pool

```
example% /opt/SUNWvda/sbin/vda pool-start MyPool
```

## 6. Add Users to Pools, and Assign Tokens to Users

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### How to Assign Users to Pools or Desktops

You can either assign a user to a specific desktop, or you can assign a user (or user group) to a desktop pool. If a user is assigned to a pool and requests a desktop, the Oracle VDI Core will automatically deliver any available desktop from the pool.

For Microsoft Remote Desktop providers, users cannot be directly assigned to desktops. Instead, users or groups are assigned to Remote Desktop Services pools.

#### Oracle VDI Manager Steps

1. [Sign into the Oracle VDI Manager.](#)
2. Select a Company in the Users category.
  - To assign a user or a group, select the Users and Groups tab in the Company's profile.
    - a. Search for users and groups in the user directory.  
You can specify user name or user ID.
    - b. Click on the user name, and click the Assignment tab in their profile.
    - c. Select Add in the Assigned Desktops or Assigned Pools table, depending on your preference.
  - To assign a custom group, select the Custom Groups tab in the Company's profile.
    - a. Click the Assignment tab in the custom group's profile.
    - b. In the Assigned Pools table, select Add.
3. Select the checkbox for the desktop or pool assignment, and click OK.

You can always see which pools and desktops are associated with a user by clicking the Summary tab of the user or group's profile.

### How to Assign Tokens to Users

In a Sun Ray environment, users may take advantage of smart cards (tokens) to initiate a session on a Sun Ray Thin Client (DTU). With Oracle Virtual Desktop Infrastructure, you can assign a token to a user. It is also possible to assign desktops directly to specific tokens. Once tokens have been created, they can be assigned to pools and desktops.

#### Oracle VDI Manager Steps

1. [Sign into the Oracle VDI Manager.](#)
2. Select a Company in the Users category, and the Users and Groups tab in the Company's profile.
3. Search for a user in the user directory.
4. Click on the user name, and click the Token tab in their profile.
5. Assign the token.
  - If you are assigning a new token, click New in the Tokens table. Then Enter the ID of the new token (e.g. Payflex.500d9b8900130200).
  - If you are assigning an existing token, select Add in the Tokens table. Then search for the desired token.

 Token IDs can be copied directly from the SRSS Admin GUI (see the Tokens tab and display Currently Used Tokens).

## CLI Steps

1. Open a terminal window and sign in to the server with root credentials.  
For a multi-host configuration, use one of the Oracle VDI Core Secondary hosts.
2. Assign a token.
  - Assign a new token to a user.

```
# /opt/SUNWvda/sbin/vda token-create -p token-id=<token ID>,user=<user ID>
```

- Example – Creating a new token and assigning it to a user

```
# /opt/SUNWvda/sbin/vda token-create -p
token-id=Payflex.600a7c5600130200,user=jd123456
Token Payflex.600a7c5600130200 created
```

- Assign an existing token to a user.

```
# /opt/SUNWvda/sbin/vda token-create -p token-id=<token ID>,user=<user ID>
```

- Example – Assigning an existing token to a user

```
# /opt/SUNWvda/sbin/vda token-setprops -p user=jd123456
Payflex.600a7c5600130200
Token properties updated
```

## 7. Access a Virtual Desktop

The page Accessing a Virtual Desktop (Demo) does not exist.