

**Test Lab Guide: Demonstrate Remote Desktop Services Desktop Virtualization in Windows Server "8" Beta**

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**Abstract**

This paper contains an introduction to Windows Server "8" Beta Remote Desktop Services Desktop Virtualization and step-by-step instructions for extending the Windows Server "8" Beta Test Lab Guide Base Configuration to demonstrate Remote Desktop Services Desktop Virtualization.

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# Introduction

Remote Desktop Services (RDS) in Windows Server "8" Beta provides the ideal platform for companies to implement a centralized desktop strategy, helping organizations improve flexibility and compliance while improving data security and IT’s ability to manage desktops and applications.

RDS is a centralized desktop and application platform solution that uses Desktop Virtualization and VDI technologies, offering powerful opportunities for IT to deliver and manage corporate desktops and to respond to users’ needs in a flexible way. Remote Desktop Services is the new name for Terminal Services, and reflects the expanded role in Windows Server "8" Beta so that you can run the desktop or applications in the datacenter while your users can be anywhere.

## In this guide

This paper contains instructions for setting up a test lab based on the Test Lab Guide Base Configuration and deploying Remote Desktop Services Desktop Virtualization using four server computers and one client computer. The resulting Remote Desktop Services Desktop Virtualization test lab demonstrates Desktop Virtualization functionality.

Important

The following instructions are for configuring a Remote Desktop Services Desktop Virtualization test lab using the minimum number of computers. Individual computers are needed to separate the services provided on the network and to clearly show the desired functionality. This configuration is neither designed to reflect best practices nor does it reflect a desired or recommended configuration for a production network. The configuration, including IP addresses and all other configuration parameters, is designed only to work on a separate test lab network.

Attempting to adapt this Remote Desktop Services Desktop Virtualization test lab configuration to a pilot or production deployment can result in configuration or functionality issues. To ensure proper configuration and operation for your pilot or production Remote Desktop Services Desktop Virtualization deployment, use the information in the Remote Desktop Services Design Guide for planning and design decisions and the Remote Desktop Services Deployment Guide for the steps to properly configure the Remote Desktop Services Desktop Virtualization and supporting infrastructure servers.

## Test lab overview

In this test lab, Remote Desktop Services Desktop Virtualization is deployed with:

 One computer running Windows Server "8" Beta named DC1 that is configured as an intranet domain controller, Domain Name System (DNS) server, Dynamic Host Configuration Protocol (DHCP) server, and an enterprise root certification authority (CA).

 One intranet member server running Windows Server "8" Beta named RDVH1 that is configured as a Remote Desktop Virtualization Host server, RD Connection Broker Server, RD Management Server, and RD Web Access server.

 One roaming member client computer running Windows 8 Consumer Preview named CLIENT1 that is configured as a Remote Desktop client.

The Remote Desktop Services Desktop Virtualization test lab consists of one subnet that simulates the following:

* An intranet named Corpnet (10.0.0.0/24)

Computers on each subnet connect using a hub or switch. See the following figure.



The test lab instructions demonstrate the installation and configuration of Windows Server "8" Beta Remote Desktop Services Desktop Virtualization using Server Manager and the Remote Desktop Management Interface. Windows 8 Consumer Preview Remote Desktop Client functionality is also demonstrated by using a test client to connect to the Remote Desktop Services Desktop Virtualization deployment.

## Hardware and software requirements

The following are required components of the test lab:

* The product disc or files for Windows Server "8" Beta.
* The product disc or files for Windows 8 Consumer Preview.
* One client computer that meets the minimum hardware requirements for Windows 8 Consumer Preview.
* One Server computer that meets the minimum hardware requirements for Windows Server "8" Beta Hyper-V Server.

# Steps for Configuring the Remote Desktop Services Desktop Virtualization Test Lab

There are six steps to follow when setting up a Remote Desktop Services Desktop Virtualization test lab based on the Test Lab Guide Base Configuration.

1. Set up the Base Configuration test lab.

The Remote Desktop Services Desktop Virtualization test lab requires the Base Configuration test lab as its starting point.

1. Install and Configure RDVH1.

RDVH1 is a Windows Server "8" Beta computer that is used as the RD Virtualization Host server, RD Connection Broker server, RD Management Server, and RD Web Access server.

1. Deploy Desktop Virtualization

The Desktop Virtualization Standard deployment is deployed by using Server Manager.

1. Create and configure a Virtual Desktop Collection

A Virtual Desktop Collection is created by using the Remote Desktop Services plug-in.

1. Test Remote Desktop Services Connectivity and Functionality

CLIENT1 is a Windows 8 Consumer Preview computer that is used to test that you can successfully connect to the Virtual Desktop Collections created by the Desktop Virtualization Standard deployment.

**Note**

You must be logged on as a member of the Domain Admins group or a member of the Administrators group on each computer to complete the tasks described in this guide. If you cannot complete a task while you are logged on with an account that is a member of the Administrators group, try performing the task while you are logged on with an account that is a member of the Domain Admins group.

This guide provides steps for configuring the computers of the Remote Desktop Services Desktop Virtualization test lab, configuring Remote Desktop Services, and demonstrating user connections to Virtual Desktop collections. The following sections provide details about how to perform these tasks.

## Step 1: Set up the Base Configuration Test Lab

Set up the Base Configuration test lab for the Corpnet subnet using the procedures in the “Steps for Configuring the Corpnet Subnet” section of the Test Lab Guide: Base Configuration. Connect **DC1** and **CLIENT1** to the Corpnet subnet.

## Step 2: Install and Configure RDVH1

Installation and configuration of the server that will be used for Remote Desktop Connection Broker, Remote Desktop Management server, and Remote Desktop Virtualization host consists of the following procedures:

* Install the operating system
* Rename the computer
* Join the computer to the CORP domain

The following sections explain these procedures in detail.

### Install the Operating System

Install the operating system on RDVH11.

To Install Windows Server "8" Beta on RDVH1

|  |
| --- |
| 1. Start the installation of Windows Server "8" Beta.
2. When are you prompted to choose the **Language to install**, **Time and currency format**, and **Keyboard or input method**, accept the default selections, and then click **Next**.
3. Click **Install now**.
4. On the **Enter product key to activate windows** page, type your product key, and then click **Next**.
5. On the **Select the operating system you want to instal**l page, click **Windows Server "8" Beta Beta Datacenter (Server with a GUI)**, and then click **Next**.
6. Select the **I accept the license terms check box**, and then click **Next**.
7. On the **Which type of installation do you want?** page, select **Keep Nothing**.
8. On the **Where do you want to install Windows?** page, select the appropriate volume, and then click **Next**.
9. When you are prompted for a password, type a strong password twice, and then click the right arrow.
10. Click **OK** when the password has been changed.
 |

### Rename RDVH1

Rename RDVH1 prior to joining the CORP domain.

To Rename RDVH1

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| 1. Logon to the computer with the local Administrator user account.
2. In Server Manager, click on **Local Server** in the Navigation pane.
3. In the **PROPERTIES** tile, click on the name of the computer to the right of **Computer name**.
4. On the Computer Name tab, click **Change**.
5. In the Computer name box, type **RDVH1** and then click **OK** two times.
6. Click **Close**, and then click **Restart Now**.
 |

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| --- |
| Description: Description: Description: http://upload.wikimedia.org/wikipedia/en/7/7f/Windows_PowerShell_icon.png**PowerShell**  |
| The following PowerShell commands perform the same steps. **rename-computer rdvh1****restart-computer** |

### Join RDVH1 to the Domain

After the server has been renamed, join it to the CORP domain and disable Internet Explorer Enhanced Security Configuration.

To join RDVH1 to the CORP domain

|  |
| --- |
| 1. Logon to RDVH1 with the local Administrator user account.
2. In Server Manager, click on **Local Server** in the Navigation pane.
3. In the **PROPERTIES** tile, click on **WORKGROUP** to the right of **Domain**.
4. Click Change.
5. Select **Domain** under Member of and type **corp.contoso.com** and then click **OK**.
6. When you see a dialog box welcoming you to the corp.contoso.com domain, click OK.
7. When you are prompted that you must restart the computer, click Restart Later.
8. In Server Manager, click on **Local Server** in the Navigation pane.
9. Click to the right of **IE Enhanced Security Configuration** and select **Off** for both Administrators and Users, then click **OK**.
10. Create a folder on the C: drive named **VDICollections**.
11. Create a folder on the C: drive named **Userdisks** and share the folder as **Userdisks**.
12. Restart RDVH1.
 |

|  |
| --- |
| Description: Description: Description: http://upload.wikimedia.org/wikipedia/en/7/7f/Windows_PowerShell_icon.png**PowerShell**  |
| The following PowerShell commands perform the same steps: **add-computer -domainname corp.contoso.com -credential (get-credential) -newname RDVH1****restart-computer** |

## Step 3: Deploy Desktop Virtualization

Deploying the required role services for the Desktop Virtualization deployment consists of the following procedures:

* Deploy Desktop Virtualization

The following sections explain these procedures in detail.

### Deploy Desktop Virtualization using a Standard Deployment

Using Server Manager, create a Desktop Virtualization deployment using the Remote Desktop Services scenario-based installation wizard.

To deploy Desktop Virtualization

|  |
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| 1. Logon to RDVH1 using the CORP\Administrator account.
2. Server Manager should open automatically. Click **All Servers** in the navigation pane.
3. Click Manage in the menu bar, and then click Add Roles and Features.
4. Click **Next**, select Remote Desktop Services scenario-based installation, and then click **Next** again.
5. On the **Select deployment type** screen, select **Standard Deployment** as the deployment type, and then click **Next**.
6. On the **Select deployment scenario** screen, select **Virtual Desktop Infrastructure**.
7. Review the Overview page and then click **Next**.
8. On the **RD Connection Broker** screen, select **RDVH1** to install the Remote Desktop Connection Broker and Remote Desktop Management Service plug-in on and then click **Next**.
9. Check the box labeled **Install RD Web Access role service on the RD Connection Broker server** to install the RD Web Access on RDVH1.
10. Select RDVH1 as the Remote Desktop Virtualization Host server to and then click **Next**.
11. Server Manager will display a summary of the selections made using the Wizard. To install the role services to each server and create the deployment, check the box next to **Restart the destination server automatically if required** and then click **Deploy**.
12. Wait for the installation of all role services to complete on RDVH1 and for the server to reboot several times.
13. After the server has finished rebooting, logon with CORP\administrator and the installation progress will display automatically. Wait until Server Manager displays **Succeeded** for all three phases of the installation and then click **Close**.
14. After the installation has finished, **Remote Desktop Services** will appear in the navigation pane of Server Manager on RDVH1.
 |

## Step 4: Create and Manage a Virtual Desktop Collection

A Virtual Desktop Collection is created and configured by the Remote Desktop Services plug-in using the following procedure:

* Create and configure a Windows 8 Consumer Preview template VM
* Prepare template VM with SYSPREP
* Create a managed virtual desktop collection

The following section explains this procedure in detail.

### Create and configure a Windows 8 Consumer Preview template VM

Server Manager and the Remote Desktop services plug-in is used to create a Virtual Desktop Collection.

To create a template VM

|  |
| --- |
| 1. Logon to RDVH1 using the CORP\Administrator account.
2. Server Manager should open automatically. Click **Hyper-V** in the navigation pane.
3. In the Action pane of Hyper-V Manager, click **New**, and then **Virtual Machine**.
4. Click **Next** and then type **RefVM** as the name of the new virtual machine, and then click **Next**.
5. Type **1024** as the startup memory and then click **Next**.
6. Select RDS Virtual as the network connection and then click **Next**.
7. Click **Next** to create a virtual hard disk named RefVM.vhdx.
8. Select **Install an operating system from a boot CD/DVD-ROM**, select the Physical CD/DVD drive or an .iso image file that contains Windows 8 Consumer Preview, and then click **Next**.
9. Click **Finish** and then Start the virtual machine using Hyper-V Manager.
10. Connect to the RefVM virtual machine using Hyper-V Manager.
11. When are you prompted to choose the **Language to install**, **Time and currency format**, and **Keyboard or input method**, accept the default selections, and then click **Next**.
12. Click **Install now**.
13. On the **Enter product key to activate windows** page, type your product key, and then click **Next**.
14. Select the **I accept the license terms** check box and then click **Next**.
15. Click **Custom: Install Windows 8 Consumer Preview only (advanced)**.
16. Select the partition to install Windows and then click **Next**.
17. When the installation has finished, type **RefVM** as the PC name and then click **Next**.
18. Click **Use express settings**, and then click **Don't want to sign in with a Microsoft account?**
19. Click **Local account**, type **contoso-user** as the user name, and enter a Password and password hint, then click **Finish**.
 |

### Prepare Template VM with SYSPREP

After the template VM has been installed, use sysprep to prepare it to be used as a template VM for a virtual desktop collection.

To prepare the template VM with SYSPREP

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| --- |
| 1. At the Start screen of RefVM, type **Powershell** to search for Powershell.
2. Right-click on Windows Powershell and select **Run as administrator** in the app bar.
3. Change to the sysprep directory by typing **cd sysprep**.
4. Type **.\sysprep /generalize /oobe /shutdown /mode:vm** and then press **Enter**.
 |

### Create a managed virtual desktop collection

Using the template VM that was created in the previous procedure, create a managed desktop pool with the Remote Desktop Services plug-in for Server Manager.

To create a managed virtual desktop collection

|  |
| --- |
| 1. Logon to RDVH1 using the CORP\Administrator account.
2. Server Manager should open automatically. Click **Remote Desktop Services** in the navigation pane.
3. Click **Collections**, and in the Collections tile, click the Tasks bar and select **Create Virtual Desktop Collection**.
4. Type Virtual Desktops in the Name box and then click Next.
5. On the Specify the collection type page, click Next to select an automatically managed desktop pool collection.
6. On the Specify the virtual desktop template page click on RefVM and then click Next.
7. On the Specify the virtual desktop settings page click Next to provide unattended settings.
8. On the Specify the unattended settings page, enter a password for the local administrator account twice, select the correct time zone, and then click Next.
9. On the Specify users and collection size page, verify the default settings and then click Next.
10. On the Specify virtual desktop allocation page, click Next to install both virtual machines in the collection on RDVH1.
11. On the Specify virtual desktop storage page, select Use local storage and enter C:\VDICollections, and then click Next.
12. On the Specify user profile disks page, enter \\rdvh\Userdisks and then click Next.
13. Review the settings and then click Create to create the collection.
 |

## Step 5: Test Remote Desktop Services Connectivity and Functionality

Using the CLIENT1 machine, use the following procedures to show Remote Desktop Services functionality:

* Connect to Virtual Desktops using RDWeb
* Connect to Virtual Desktops using the RDWeb Feed

The following sections explain these procedures in detail.

### Connect to Virtual Desktops using RDWeb

Use the following procedure to logon to the RDWeb site and run a RemoteApp.

To logon to the RDWeb site and connect to the virtual desktops collection

|  |
| --- |
| 1. Logon to CLIENT1 using the CORP\User1 account.
2. Open Internet Explorer and type **https://rdvh1.corp.contoso.com/RDWeb** in the address bar.
3. Select **This is a private computer** and then logon to the site using the CORP\User1 account.
4. Click the **Virtual Desktops** icon and then click **Connect**.
 |

### Connect to Virtual Desktops using the RDWeb Feed

The following procedure will configure the CLIENT1 machine to subscribe to the RDWeb feed and run a RemoteApp.

To subscribe to the RDWeb feed and connect to virtual desktops

|  |
| --- |
| 1. Logon to CLIENT1 using the CORP\User1 account.
2. On the Start Screen, type **Remote** to search for and run the Remote Desktop application.
3. Click or touch **Access RemoteApp and Desktop Connections**.
4. Type **https://rdvh1.corp.contoso.com/RDWeb/Feed/webfeed.aspx** in the text box.
5. When the message **Do you want to access the remote apps and desktops at this URL?** displays, click **Yes**.
6. On the Start Screen of CLIENT1, click or touch the icon for **WordPad (Work Resources)**.
7. Click **Connect** to run the WordPad RemoteApp.
 |

# Snapshot the Configuration

This completes the Remote Desktop Services test lab. To save this configuration so that you can quickly return to a working Remote Desktop Services configuration from which you can test other Remote Desktop modular test lab guides (TLGs), TLG extensions, or for your own experimentation and learning, do the following:

1. On all physical computers or virtual machines in the test lab, close all windows and then perform a graceful shutdown.
2. If your lab is based on virtual machines, save a snapshot of each virtual machine and name the snapshots **RDS Desktop Virtualization**. If your lab uses physical computers, create disk images to save the Remote Desktop Services test lab configuration.

# Additional Resources

For a list of additional Microsoft TLGs, see [Test Lab Guides](http://go.microsoft.com/fwlink/?LinkID=202817) in the TechNet Wiki.

To provide the authors of this guide with feedback or suggestions for improvement, send an email message to tlgfb@microsoft.com.