

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

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**Abstract**

This paper contains an introduction to Windows Server "8" Beta Remote Desktop Services and step-by-step instructions for extending the Windows Server "8" Beta Test Lab Guide Base Configuration to demonstrate Remote Desktop Services Session 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 session 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. RDS 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 using four server computers and one client computer. The resulting Remote Desktop Services test lab demonstrates Session Virtualization functionality.

Important

The following instructions are for configuring a Remote Desktop Services 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 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 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 and supporting infrastructure servers.

## Test lab overview

In this test lab, Remote Desktop Services 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).

 Two intranet member servers running Windows Server "8" Beta named RDSH1 and RDSH2 that are configured as Remote Desktop Session Host servers.

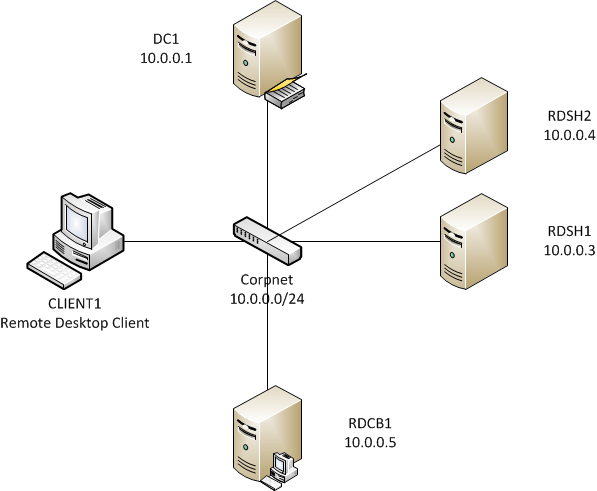
 One intranet member server running Windows Server "8" Beta named RDCB1 that is configured as a RD Connection Broker Server, RD Management Server, and RD Web Access server.

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

The Remote Desktop Services test lab consists of one subnets 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 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 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.

 Computers that meet the minimum hardware requirements for Windows Server "8" Beta and Windows 8 Consumer Preview.

# Steps for Configuring the Remote Desktop Services Test Lab

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

1. Set up the Base Configuration test lab.

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

1. Install and Configure RDSH1 and RDSH2.

RDSH1 and RDSH2 are Windows Server "8" Beta computers that are used as the RD Session Host computers.

1. Install and Configure RDCB1.

RDCB1 is a Windows Server "8" Beta computer that is used as the RD Connection Broker computer, RD Management Server, and RD Web Access server.

1. Deploy Session Virtualization

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

1. Create and configure a Session Collection

A Session Collection is created by using Server Manager. After the collection is created, RemoteApps are published to the collection and organized into a RDWeb folder.

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 Session Collection created by the Session 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 test lab, configuring Remote Desktop Services, and demonstrating Session Virtualization. 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 RDSH1 and RDSH2

Installation and configuration of the servers that will be used for Remote Desktop Session Host servers consists of the following procedures:

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

The following sections explain these procedures in detail.

### Install the Operating System

Install the operating system on RDSH1 and RDSH2.

To install Windows Server "8" Beta on RDSH1 and RDSH2

|  |
| --- |
| 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. 11. Repeat steps 1-10 above for the computer RDSH2. |

### Rename RDSH1 and RDSH2

Rename RDSH1 and RDSH2 prior to joining the CORP domain.

To Rename RDSH1 and RDSH2

|  |
| --- |
| 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 **RDSH1** and then click **OK** two times. 6. Click **Close**, and then click **Restart Now**. 7. Repeat steps 1-6 for the RDSH2 computer. |

|  |
| --- |
| 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 rdsh1**    **restart-computer** |

### Join RDSH1 and RDSH2 to the CORP Domain

After the session host servers have been renamed, join them to the CORP domain.

To join RDSH1 and RDSH2 to the CORP domain

|  |
| --- |
| 1. Logon to RDSH1 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 OK. 8. Repeat steps 1-8 for the RDSH2 computer. |

|  |
| --- |
| 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 RDSH1**  **restart-computer** |

## Step 3: Install and Configure RDCB1

Installation and configuration of the server that will be used for Remote Desktop Connection Broker and Remote Desktop Management 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 RDCB1.

To Install Windows Server "8" Beta on RDCB1

|  |
| --- |
| 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 RDCB1

Rename RDCB1 prior to joining the CORP domain.

To Rename RDCB1

|  |
| --- |
| 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 **RDSH1** and then click **OK** two times. 6. Click **Close**, and then click **Restart Now**. |

|  |
| --- |
| 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 rdcb1**    **restart-computer** |

### Join RDCB1 to the Domain

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

To join RDCB1 to the CORP domain

|  |
| --- |
| 1. Logon to RDCB1 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. Restart RDCB1. |

|  |
| --- |
| 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 RDCB1**  **restart-computer** |

## Step 4: Deploy Session Virtualization

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

* Add RDSH1, RDSH2, and RDCB1 to the server pool.
* Deploy Session Virtualization

The following sections explain these procedures in detail.

### Add RDSH1, RDSH2, and RDCB1 to the server pool

Using Server Manager, add each server that will have Remote Desktop Services role services deployed to the Server Manager server pool.

To add RDSH1, RDSH2, and RDCB1 to the server pool

|  |
| --- |
| 1. Logon to RDCB1 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 Servers**. 4. In the Name text box, type **RDSH** and then click the **Find Now** button. 5. Hold down CTRL on the keyboard and then click RDSH1 and RDSH2, then click the right arrow button to add each server to the Selected window. 6. In the Name text box, type **RDCB** and then click the **Find Now** button. 7. Click RDCB1, click the right arrow to add the server to the Selected window, and then click **OK**. 8. Verify that each server shows as **Online** in the **SERVERS** tile before proceeding. |

### Deploy Session Virtualization using a Standard Deployment

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

To deploy Session Virtualization

|  |
| --- |
| 1. Using Server Manager on RDCB1, click **All Servers** in the navigation pane. 2. Click Manage in the menu bar, and then click Add Roles and Features. 3. Click **Next**, select Remote Desktop Services scenario-based installation, and then click **Next** again. 4. On the **Select deployment type** screen, select **Standard Deployment** as the deployment type, and then click **Next**. 5. On the **Select deployment scenario** screen, select **Session Virtualization deployment**. 6. Review the Overview page and then click **Next**. 7. On the **RD Connection Broker** screen, select **RDCB1** to install the Remote Desktop Connection Broker and Remote Desktop Management Service plug-in on and then click **Next**. 8. Check the box labeled **Install RD Web Access role service on the RD Connection Broker server** to install the RD Web Access on RDCB1. 9. Select RDSH1 and RDSH2 to install the Remote Desktop Session Host role service to and then click **Next**. 10. 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, click **Deploy**. 11. Wait for the installation of all role services to complete on each server and for **REMOTE DESKTOP SERVICES** to appear in the navigation pane of Server Manager on RDCB1. |

## Step 5: Create and Manage a Session Collection

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

* Create a Session Collection
* Publish RemoteApps to the Collection
* Add Published RemoteApps to a RDWeb Folder

The following section explains this procedure in detail.

### Create a Session Collection

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

To create a session collection

|  |
| --- |
| 1. Logon to RDCB1 using the CORP\Administrator account. 2. Server Manager should open automatically. Click **REMOTE DESKTOP SERVICES** in the navigation pane. 3. Click **Collections**, and then in the Collections tile, click on the Tasks Menu and then click on **Create Session Collection**. 4. Click **Next** after reviewing the prerequisites information for a Session collection. 5. Type **RemoteApps** as the name for the collection, and then click **Next**. 6. Select the Remote Desktop Session Host servers that will be a part of this collection by clicking on **RDSH1** and **RDSH2**, and then clicking the arrow to move each server into the Selected list, and then click **Next**. 7. Verify that **CORP\Domain Users** is listed in the User Groups and then click **Next**. 8. Uncheck **Enable User Disks** and then click **Next**. 9. Click **Create** and wait for the Status to display Succeeded, and then click **Close**. |

### Publish RemoteApps to the Collection

After a Session Virtualization Collection is created, publish RemoteApps to the collection using Server Manager and the Remote Desktop Management plug-in.

To create a session collection

|  |
| --- |
| 1. Logon to RDCB1 using the CORP\Administrator account. 2. Server Manager should open automatically. Click **REMOTE DESKTOP SERVICES** in the navigation pane. 3. Click **Collections**, and then the collection named **RemoteApps**. 4. In the **REMOTEAPP PROGRAM**S tile, click the link **Publish RemoteApp Programs for the collection**. 5. Check the box next to **Calculator**, **Internet Explorer**, **Paint**, and **WordPad**, and then click **Next**. 6. Confirm the settings and then click **Publish**. 7. When the publishing status shows **Published**, click **Close**. |

### Add Published RemoteApps to a RDWeb Folder

Once RemoteApps are published to the collection, organize them into folders on the RDWeb site.

To organize RemoteApps into RDWeb Folders

|  |
| --- |
| 1. Logon to RDCB1 using the CORP\Administrator account. 2. Server Manager should open automatically. Click **REMOTE DESKTOP SERVICES** in the navigation pane. 3. Click **Collections**, and then the collection named **RemoteApps**. 4. In the REMOTEAPP PROGRAMS tile, right click on Calculator and select Edit Properties. 5. Type User Apps next to Folder: to create an RDWeb folder, and then click OK. 6. Edit the properties of Internet Explorer, Paint, and Wordpad but select the User Apps folder from the dropdown list. |

## Step 6: Test Remote Desktop Services Connectivity and Functionality

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

* Connect to RemoteApps using RDWeb
* Connect to RemoteApps using the RDWeb Feed
* Demonstrate Remote Desktop Load Balancing

The following sections explain these procedures in detail.

### Connect to RemoteApps using RDWeb

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

To logon to the RDWeb site and run a RemoteApp

|  |
| --- |
| 1. Logon to CLIENT1 using the CORP\User1 account. 2. Open Internet Explorer and type **https://rdcb1.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 **User Apps** folder and then click **WordPad**. 5. Click **Connect** to run the WordPad RemoteApp. |

### Connect to RemoteApps 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 run a RemoteApp

|  |
| --- |
| 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://rdcb1.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. |

### Demonstrate Remote Desktop Load Balancing

Use the CLIENT1 machine to make two connections to the Session Virtualization collection and demonstrate load balancing.

To demonstrate Remote Desktop Load Balancing

|  |
| --- |
| 1. Logon to CLIENT1 using the CORP\User1 account. 2. Open Internet Explorer and type **https://rdcb1.corp.contoso.com/RDWeb** in the address bar. 3. Click the **User Apps** folder and then click **WordPad**. 4. Click **Connect** to run the WordPad RemoteApp. 5. Logon to RDCB1 using the CORP\administrator account. 6. Open Internet Explorer and type **https://rdcb1.corp.contoso.com/RDWeb** in the address bar. 7. Click the **User Apps** folder and then click **Paint**. 8. Click **Connect** to run the Paint RemoteApp. 9. On RDCB1, click on **REMOTE DESKTOP SERVICES** in the navigation pane of Server Manager. 10. Click the **Collections** node, and then verify that the **Connections** tile displays two Active sessions, one on RDSH1 and one on RDSH2. |

# 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 Session 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](mailto:tlgfb@microsoft.com).