

Microsoft Azure: Remote Desktop Session Host Farm Deployment

Desktop Hosting with Higher Availability and Scale

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This document provides guidance for deploying a Remote Desktop Session Host (RDSH) farm to improve the availability and scale of a desktop hosting solution based on the [Microsoft Azure Desktop Hosting Reference Architecture Guide](http://msdn.microsoft.com/en-us/library/windowsazure/dn451351.aspx). This document assumes, as a starting point, a basic RDS deployment based on the [Microsoft Azure Desktop Hosting Deployment Guide](http://msdn.microsoft.com/en-us/library/windowsazure/dn451351.aspx).

The scope of this document is limited to:

* Deployment guidance for adding a second RDSH virtual machine to a collection in a desktop hosting deployment.  
  For higher scale, additional RDSH virtual machines can be added by repeating the steps in this document for the same collection and other collections.

After reading this document, the reader should understand:

* How to deploy a second RDSH virtual machine within a basic desktop hosting deployment in Microsoft Azure.

There are multiple ways to deploy a desktop hosting solution. Throughout the document, specific examples are given that can be used as a starting point for a basic deployment. These examples are identified with the *e.g.* notation.

# Prerequisites

This document assumes that the reader has already performed the following tasks.

1. Create a Microsoft Azure subscription. See [Microsoft Azure Free Trial](http://www.windowsazure.com/en-us/pricing/free-trial/).
2. Launch and sign in to the [Microsoft Azure Management Portal](https://manage.windowsazure.com/).
3. Create a storage account. See [How to Create a Storage Account](http://www.windowsazure.com/en-us/manage/services/storage/how-to-create-a-storage-account/).
4. Create a basic desktop hosting service deployment in Azure Infrastructure Services. See [Microsoft Azure Desktop Hosting Reference Architecture Guide](http://msdn.microsoft.com/en-us/library/windowsazure/dn451351.aspx) and the [Microsoft Azure Desktop Hosting Deployment Guide](http://msdn.microsoft.com/en-us/library/windowsazure/dn451351.aspx).
5. Recommended: Create a customized RDSH virtual machine image using one of the following methods.
   1. Install the operating system, roles, features, and programs in a Hyper-V virtual machine and then upload the VHD file into Azure, as described [here](http://www.windowsazure.com/en-us/documentation/articles/virtual-machines-create-upload-vhd-windows-server/).
   2. Create an Azure virtual machine using an image from the Gallery, install the roles, features, and programs, and then capture an image, as described [here](http://azure.microsoft.com/en-us/documentation/articles/virtual-machines-capture-image-windows-server/).

# Create an availability set for the current RDSH virtual machine

1. Create an availability set for the RDSH farm
   1. In the Microsoft Azure Management Portal select **VIRTUAL MACHINES**, an RDSH virtual machine currently in the deployment (e.g. Contoso-RDSHd1), and **CONFIGURE**
   2. In the **AVAILABILITY SET** drop down, select **Create an availability set** and enter an appropriate name, e.g. RDSHdAvSet
   3. Select **SAVE**

# Create a new RDSH virtual machine

1. Create a virtual machine to host the RDSH role service
   1. In the Microsoft Azure Management Portal select **VIRTUAL MACHINES**, **+NEW, COMPUTE, VIRTUAL MACHINE,** and **FROM GALLERY**
   2. Select the image that will be used for all the RDSH servers in this collection farm
   3. Enter a **VIRTUAL MACHINE NAME**, e.g. Contoso-RDSHd2
   4. Select the **SIZE,** e.g. **Small**
   5. Enter a **NEW USER NAME** and a **NEW PASSWORD** to be added to the local administrators group
   6. Select the **CLOUD SERVICE** created in the prerequisites for the basic deployment
   7. For the **VIRTUAL NETWORK SUBNETS,** select the virtual network subnet created in the prerequisites for the basic deployment
   8. For the **AVAILABILITY SET** select the availability set created above for the initial RDSH server in the farm (e.g. RDSHdAvSet)
   9. Accept the default **ENDPOINTS**, i.e. Remote Desktop and PowerShell.

# Prepare RDSH virtual machine for RDS deployment

1. Connect to the virtual machine using Remote Desktop Connection (RDC) client
   1. In the Microsoft Azure Management Portal select **VIRTUAL MACHINES**
   2. Select the newly created RDSH virtual machine, e.g. Contoso-RDSHd2
   3. Select **DASHBOARD, CONNECT,** and **OPEN** to open the Remote Desktop Connect client
   4. On the RDC client, select **Connect**, **Use another user account**, and enter the user name and password for the local administrator account.
   5. Select **Yes** when warned about the certificate.
2. Enable Remote Management
   1. Launch **Server Manager** and select **Local Server**
   2. Select the **Remote management** current setting (disabled).
   3. Check the box to **Enable remote management for this server**
   4. Select **OK**
3. Optional: Temporarily set Windows Update to not automatically download and install updates to avoid changes and reboots while deploying the RDSH server.
   1. Launch **Server Manager** and select **Local Server**
   2. Select the **Windows Update** current setting
   3. In the **Windows Update** dialog select **Change Settings** and **Check for updates but let me choose whether to download and install them**
4. Add the RDSH server to the domain
   1. Launch **Server Manager** and select **Local Server**
   2. Select the **Workgroup** current setting
   3. In the **System Properties** dialog, select **Change…** , **Domain**, and enter the domain name, e.g. Contoso.com
   4. Enter domain administrator credentials
   5. Restart the RDSH server

# Add the RDSH Server to the collection farm

1. Connect to the RD Connection Broker virtual machine using Remote Desktop Connection (RDC) client
   1. In the Microsoft Azure Management Portal select **VIRTUAL MACHINES**
   2. Select the RD Connection Broker virtual machine
   3. Select **DASHBOARD, CONNECT,** and **OPEN** to open the Remote Desktop Connect client
   4. On the RDC client, select **Connect**, **Use another user account**, and enter the user name and password for a domain administrator account
   5. Select **Yes** when warned about the certificate
2. Add the new RDSH server to Server Manager
   1. Launch **Server Manager**
   2. Select **Manage** and **Add Servers**
   3. In the **Add Servers** dialog select **Find Now**
   4. Select the newly created RDSH server and **OK**
3. Add RDSH server to the deployment
   1. Launch **Server Manager**
   2. Select **Remote Desktop Services**, **Overview, DEPLOYMENT SERVERS, TASKS,** and **Add RD Session Host Servers**
   3. In the **Add RD Session Host Servers** wizard, select the newly created server, e.g. Contoso-RDSHd2
   4. Select **Next**
   5. On the **Confirmation** page, check the box **Restart remote computers as needed** andselect **Add**
   6. Wait for the RDSH server to be successfully added to the deployment
4. Add RDSH server to the collection farm
   1. Launch **Server Manager**
   2. Select **Remote Desktop Services** and the collection to which you want to add the newly created RDSH server (e.g. ContosoApps)
   3. Under **HOST SERVERS**, select **TASKS** and **Add RD Session Host Servers**
   4. In the **Add RD Servers to Collection** wizard, select the newly created server, e.g. Contoso-RDSHd2
   5. Select **Next**
   6. On the **Confirmation** page, select **Add**
   7. Wait for the RDSH server to be successfully added to the collection

# Connect to deployment from the client computer over the Internet

1. Connect to the deployment through RD Web Access and RD Gateway

Note: There are multiple ways to connect from a client computer to the desktop hosting deployment. These are described in the TechNet Wiki article titled [Distribution of Remote Apps and Desktops in Windows Server 2012](http://social.technet.microsoft.com/wiki/contents/articles/14488.distribution-of-remote-apps-and-desktops-in-windows-server-2012.aspx). The steps in this section connect using the RD Web Access site.

* 1. Launch **Internet Explorer**
  2. In the address field, enter the FQDN of the cloud service, e.g. https://Contoso-CS1.cloudapp.net/RDWeb
  3. Sign in with a domain user account, e.g. Contoso\u1
  4. Under **RemoteApp and Desktops** select one of the collections created for this deployment, e.g. ContosoDesktop
  5. Select **Connect**

# Secure the deployment

1. Delete the endpoints for the new RDSH virtual machine
   1. In the Microsoft Azure Management Portal, select **VIRTUAL MACHINES**, the newly created virtual machine for this deployment (e.g. Contoso-RDSHd2), **ENDPOINTS**
   2. Select an endpoint and **DELETE**
   3. Wait for the endpoints to delete successfully.
   4. Repeat steps b and c for each endpoint