

Lab - Deploy host pools and session hosts by using the Azure portal (Entra ID)

Student lab manual

Lab dependencies

- An Azure subscription you will be using in this lab.
- A Microsoft Entra user account with the Owner role in the Azure subscription you will be using in this lab and with the permissions sufficient to join devices to the Entra tenant associated with that Azure subscription.

Estimated Time

30 minutes

Lab scenario

You have a Microsoft Azure subscription. You need to deploy Azure Virtual Desktop environment that uses Microsoft Entra joined session hosts.

Objectives

After completing this lab, you will be able to:

- deploy Microsoft Entra joined Azure Virtual Desktop session hosts

Lab files

- None

Instructions

Exercise 1: Implement an Azure Virtual Desktop environment using Microsoft Entra joined session hosts

The main tasks for this exercise are as follows:

1. Prepare the Azure subscription for deployment of an Azure Virtual Desktop host pool
2. Deploy an Azure Virtual Desktop host pool
3. Create an Azure Virtual Desktop application group
4. Create an Azure Virtual Desktop workspace
5. Grant access to Azure Virtual Desktop host pools

Task 1: Prepare the Azure subscription for deployment of an Azure Virtual Desktop host pool

1. From the lab computer, start a web browser, navigate to the Azure portal at <https://portal.azure.com> and sign in by providing the credentials of a user account with the Owner role in the subscription you will be using in this lab.

Note: Use the credentials of the **User1-** account listed on the Resources tab on the right side of the lab session window.

2. In the Azure portal, start a PowerShell session in the Azure Cloud Shell.

Note: If prompted, in the **Getting started** pane, in the **Subscription** drop-down list, select the name of the Azure subscription you are using in this lab and then select **Apply**.

3. In the PowerShell session in the Azure Cloud Shell pane, run the following command to register the **Microsoft.DesktopVirtualization** resource provider:

```
Register-AzResourceProvider -ProviderNamespace  
Microsoft.DesktopVirtualization
```

Note: Do not wait for the registration to complete. This might take a couple of minutes.

4. Close the Cloud Shell pane.
5. In the web browser displaying the Azure portal, search for and select **Virtual networks** and, on the **Virtual networks** page, select **Create +**
6. On the **Basics** tab of the **Create virtual network** page, specify the following settings and select **Next**:

Setting	Value
Subscription	the name of the Azure subscription you are using in this lab
Resource group	the name of a new resource group az140-11e-RG
Virtual network name	az140-vnet11e
Region	the name of the Azure region where you want to deploy the Azure Virtual Desktop environment

7. On the **Security** tab, accept the default settings and select **Next**.
8. On the **IP addresses** tab, specify the following settings:

Setting	Value
IP address space	10.20.0.0/16

9. Select the edit (pencil) icon next to the **default** subnet entry, in the **Edit** pane, specify the following settings (leave others with their existing values) and select **Save**:

Setting	Value
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Setting	Value
Name	hp1-Subnet
Starting address	10.20.1.0
Enable private subnet (no default outbound access)	disabled

10. Back on the **IP addresses** tab, select **Review + create** and then, on the **Review + create** tab, select **Create**.

Note: Do not wait for the provisioning process to complete. This typically takes less than 1 minute.

11. In the web browser displaying the Azure portal, search for and select **Microsoft Entra ID**.
12. On the **Overview** page of the Microsoft Entra tenant associated with your subscription, in the **Manage** section of the vertical navigation menu, select **Users**.
13. On the **Users** page, in the **Search** text box, enter the name of the **User1-** account listed on the **Resources** tab on the right side of the lab session window.
14. In the list of results of the search, select the user account entry with the matching name.
15. On the page displaying the proerties of the user account, in the **Manage** section of the vertical navigation menu, select **Groups**.
16. On the **Groups** page, record the name of the group starting with **AVD-DAG** prefix (you will need it later in this lab).
17. Navigate back to the **Users** page, in the **Search** text box, enter the name of the **User2-** account listed on the **Resources** tab on the right side of the lab session window.
18. In the list of results of the search, select the user account entry with the matching name.
19. On the page displaying the proerties of the user account, in the **Manage** section of the vertical navigation menu, select **Groups**.
20. On the **Groups** page, record the name of the group starting with **AVD-RemoteApp** prefix (you will need it later in this lab).

Task 2: Deploy an Azure Virtual Desktop host pool

1. From the lab computer, in the web browser displaying the Azure portal, search for and select **Azure Virtual Desktop**, on the **Azure Virtual Desktop** page, in the **Manage** section of the vertical navigation menu, select **Host pools** and, on the **Azure Virtual Desktop | Host pools** page, select **+ Create**.
2. On the **Basics** tab of the **Create a host pool** page, specify the following settings and select **Next: Virtual Machines** > (leave other settings with their default values):

Setting	Value
Subscription	the name of the Azure subscription you are using in this lab

Setting	Value
Resource group	the name of a new resource group az140-21e-RG
Host pool name	az140-21-hp1
Location	the name of the Azure region where you want to deploy your Azure Virtual Desktop environment
Validation environment	No
Preferred app group type	Desktop
Host pool type	Pooled
Load balancing algorithm	Breadth-first

Note: When using the Breadth-first load balancing algorithm, the max session limit parameter is optional.

3. On the **Virtual machines** tab of the **Create a host pool** page, specify the following settings and select **Next: Workspace** > (leave other settings with their default values):

Note: When setting the **Name prefix** value, switch to the Resources tab on the right side of the lab session window and identify the string of characters between *User1-* and the @ character. Use this string to replace the *random* placeholder.

Setting	Value
Add virtual machines	Yes
Resource group	Defaulted to same as host pool
Name prefix	sh-random
Virtual machine type	Azure virtual machine
Virtual machine location	the name of the Azure region where you want to deploy your Azure Virtual Desktop environment
Availability options	No infrastructure redundancy required
Security type	Trusted launch virtual machines
Image	Windows 11 Enterprise multi-session, Version 23H2 + Microsoft 365 Apps - Gen2
Virtual machine size	Standard DC2s_v3
Number of VMs	2
OS disk type	Standard SSD

Setting	Value
OS disk size	Default size (128GiB)
Boot Diagnostics	Enable with managed storage account (recommended)
Virtual network	az140-vnet11e
Subnet	hp1-Subnet
Network security group	Basic
Public inbound ports	No
Select which directory you would like to join	Microsoft Entra ID
Enroll VM with Intune	No
User name	Student
Password	any sufficiently complex string of characters that will be used as the password for the built-in administrator account
Confirm password	the same string of characters you specified previously

Note: The password should be at least 12 characters in length and consist of a combination of lower-case characters, upper-case characters, digits, and special characters. For details, refer to the information about [the password requirements when creating an Azure VM](#).

4. On the **Workspace** tab of the **Create a host pool** page, confirm the following setting and select **Review + create**:

Setting	Value
Register desktop app group	No

5. On the **Review + create** tab of the **Create a host pool** page, select **Create**.

Note: Wait for the deployment to complete. This might take about 20 minutes.

Task 3: Create an Azure Virtual Desktop application group

1. From the lab computer, in the web browser displaying the Azure portal, search for and select **Azure Virtual Desktop** and, on the **Azure Virtual Desktop** page, select **Application groups**.
2. On the **Azure Virtual Desktop | Application groups** page, note the existing, auto-generated **az140-21-hp1-DAG** desktop application group, and select it.
3. On the **az140-21-hp1-DAG** page, in the **Manage** section of the vertical navigation menu, select **Assignments**.
4. On the **az140-21-hp1-DAG | Assignments** page, select **+ Add**.

5. On the **Select Microsoft Entra users or user groups** page, select **Groups**, in the search box, type the full name of the **AVD-DAG** group you identified in the first task of this exercise, select the checkbox next to the group name, and click **Select**.
6. Navigate back to the **Azure Virtual Desktop | Application groups** page, select **+ Create**.
7. On the **Basics** tab of the **Create an application group** page, specify the following settings and select **Next: Applications >**:

Setting	Value
Subscription	the name of the Azure subscription you are using in this lab
Resource group	az140-21e-RG
Host pool	az140-21-hp1
Application group type	Remote App
Application group name	az140-21-hp1-Office365-RAG

8. On the **Applications** tab of the **Create an application group** page, select **+ Add applications**.
9. On the **Add application** page, specify the following settings and select **Review + add**, then select **Add**:

Setting	Value
Application source	Start menu
Application	Word
Display name	Microsoft Word
Description	Microsoft Word
Require command line	No

10. Back on the **Applications** tab of the **Create an application group** page, select **+ Add applications**.
11. On the **Add application** page, specify the following settings and select **Review + add**, then select **Add**:

Setting	Value
Application source	Start menu
Application	Excel
Display name	Microsoft Excel
Description	Microsoft Excel
Require command line	No

12. Back on the **Applications** tab of the **Create an application group** page, select **+ Add applications**.
13. On the **Add application** page, specify the following settings and select **Review + add**, then select **Add**:

Setting	Value
Application source	Start menu
Application	PowerPoint
Display name	Microsoft PowerPoint
Description	Microsoft PowerPoint
Require command line	No

14. Back on the **Applications** tab of the **Create an application group** page, select **Next: Assignments >**.
15. On the **Assignments** tab of the **Create an application group** page, select **+ Add Microsoft Entra users or user groups**.
16. On the **Select Microsoft Entra users or user groups** page, select **Groups**, type the full name of the **AVD-RemoteApp** group you identified in the first task of this exercise, select the checkbox next to the group name, and click **Select**.
17. Back on the **Assignments** tab of the **Create an application group** page, select **Next: Workspace >**.
18. On the **Workspace** tab of the **Create a workspace** page, specify the following setting and select **Review + create**:

Setting	Value
Register application group	No

19. On the **Review + create** tab of the **Create an application group** page, select **Create**.

Note: Wait for the Application Group to be created. This should take less than 1 minute.

Note: Next you will create an application group based on file path as the application source.

20. Within the Bastion session to **az140-dc-vm11**, search for and select **Azure Virtual Desktop** and, on the **Azure Virtual Desktop** page, select **Application groups**.
21. On the **Azure Virtual Desktop | Application groups** page, select **+ Create**.
22. On the **Basics** tab of the **Create an application group** page, specify the following settings and select **Next: Applications >**:

Setting	Value
Subscription	the name of the Azure subscription you are using in this lab
Resource group	az140-21e-RG
Host pool	az140-21-hp1
Application group type	RemoteApp
Application group name	az140-21-hp1-Utilities-RAG

23. On the **Applications** tab of the **Create an application group** page, select **+ Add applications**.

24. On the **Add application** page, on the **Basics** tab, specify the following settings and select **Next**:

Setting	Value
Application source	File path
Application path	C:\Windows\system32\cmd.exe
Application identifier	Command Prompt
Display name	Command Prompt
Description	Windows Command Prompt
Require command line	No

25. On the **Icon** tab, specify the following settings and select **Review + add**, then select **Add**:

Setting	Value
Icon path	C:\Windows\system32\cmd.exe
Icon index	0

26. Back on the **Applications** tab of the **Create an application group** page, select **Next: Assignments >**.

27. On the **Assignments** tab of the **Create an application group** page, select **+ Add Microsoft Entra users or user groups**.

28. On the **Select Microsoft Entra users or user groups** page, select **Groups**, type the full name of the **AVD-RemoteApp** group you identified in the first task of this exercise, select the checkbox next to the group name, and click **Select**.

29. Back on the **Assignments** tab of the **Create an application group** page, select **Next: Workspace >**.

30. On the **Workspace** tab of the **Create a workspace** page, specify the following setting and select **Review + create**:

Setting	Value
Register application group	No

31. On the **Review + create** tab of the **Create an application group** page, select **Create**.

Note: Wait for the Application Group to be created. This should take less than 1 minute.

Task 4: Create an Azure Virtual Desktop workspace

1. From the lab computer, in the web browser displaying the Azure portal, search for and select **Azure Virtual Desktop** and, on the **Azure Virtual Desktop** page, select **Workspaces**.

2. On the **Azure Virtual Desktop | Workspaces** page, select **+ Create**.

3. On the **Basics** tab of the **Create a workspace** page, specify the following settings and select **Next: Application groups** >:

Setting	Value
Subscription	the name of the Azure subscription you are using in this lab
Resource group	az140-21e-RG
Workspace name	az140-21-ws1
Friendly name	az140-21-ws1
Location	the name of the Azure region into which you deployed resources in the first exercise of this lab or a region close to it

4. On the **Application groups** tab of the **Create a workspace** page, specify the following settings:

Setting	Value
Register application groups	Yes

5. On the **Workspace** tab of the **Create a workspace** page, select **+ Register application groups**.
6. On the **Add application groups** page, select the plus sign next to the **az140-21-hp1-DAG**, **az140-21-hp1-Office365-RAG**, and **az140-21-hp1-Utilities-RAG** entries and click **Select**.
7. Back on the **Application groups** tab of the **Create a workspace** page, select **Review + create**.
8. On the **Review + create** tab of the **Create a workspace** page, select **Create**.

Task 5: Grant access to Azure Virtual Desktop host pools

Note: When using Microsoft Entra joined session hosts, you need to assign to Azure Virtual Desktop users and administrators appropriate Azure role-based access control (RBAC) roles. In particular, the *Virtual Machine User Login* role is required to sign in to session hosts and the *Virtual Machine Administrator Login* role is required for the local administrative privileges.

1. From the lab computer, in the web browser displaying the Azure portal, search for and select **Resource groups** and, on the **Resource groups** page, select **az140-21e-RG**.
2. On the **az140-21e-RG** page, in the vertical navigation menu, select **Access control (IAM)**.
3. On the **az140-21e-RG|Access control (IAM)** page, select **+ Add** and, in the drop-down menu, select **Add role assignment**.
4. On the **Role** tab of the **Add role assignment** page, ensure that the **Job function roles** tab is selected, in the search textbox, enter **Virtual Machine User Login**, in the list of results, select **Virtual Machine User Login**, and then select **Next**.
5. On the **Members** tab of the **Add role assignment** page, ensure that the **User, group, or service principal** option is selected, click **+ Select members**, in the **Select members** pane, locate the **AVD-RemoteApp** group you identified in the first task of this exercise, and click **Select**.

6. Back on the **Members** tab of the **Add role assignment** page, select **Review + assign** and then select **Review + assign**.
7. Back on the **az140-21e-RG|Access control (IAM)** page, select **+ Add** and, in the drop-down menu, select **Add role assignment**.
8. On the **Role** tab of the **Add role assignment** page, ensure that the **Job function roles** tab is selected, in the search textbox, enter **Virtual Machine Administrator Login**, in the list of results, select **Virtual Machine Administrator Login**, and then select **Next**.
9. On the **Members** tab of the **Add role assignment** page, ensure that the **User, group, or service principal** option is selected, click **+ Select members**, in the **Select members** pane, locate the **AVD-DAG** group you identified in the first task of this exercise, and click **Select**.
10. Back on the **Members** tab of the **Add role assignment** page, select **Review + assign** and then select **Review + assign**.