Study guide for Exam AZ-140: Configuring and Operating Microsoft Azure Virtual Desktop

Purpose of this document

This study guide should help you understand what to expect on the exam and includes a summary of the topics the exam might cover and links to additional resources. The information and materials in this document should help you focus your studies as you prepare for the exam.

Useful links	Description
Review the skills measured as of October 27, 2022	This list represents the skills measured AFTER the date provided. Study this list if you plan to take the exam AFTER that date.
Review the skills measured prior to October 27, 2022	Study this list of skills if you take your exam PRIOR to the date provided.
Change log	You can go directly to the change log if you want to see the changes that will be made on the date provided.
How to earn the certification	Some certifications only require passing one exam, while others require passing multiple exams.
Certification renewal	Microsoft associate, expert, and specialty certifications expire annually. You can renew by passing a **free** online assessment on Microsoft Learn.
Your Microsoft Learn profile	Connecting your certification profile to Learn allows you to schedule and renew exams and share and print certificates.
Passing score	A score of 700 or greater is required to pass.
Exam sandbox	You can explore the exam environment by visiting our exam sandbox.

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Useful links	Description
Request accommodations	If you use assistive devices, require extra time, or need modification to any part of the exam experience, you can request an accommodation.
Take a practice test	Are you ready to take the exam or do you need to study a bit more?

Updates to the exam

Our exams are updated periodically to reflect skills that are required to perform a role. We have included two versions of the Skills Measured objectives depending on when you are taking the exam.

We always update the English language version of the exam first. Some exams are localized into other languages, and those are updated approximately eight weeks after the English version is updated. Other available languages are listed in the **Schedule Exam** section of the **Exam Details** webpage. If the exam isn't available in your preferred language, you can request an additional 30 minutes to complete the exam.

Note

The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. Related topics may be covered in the exam.

Note

Most questions cover features that are general availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Skills measured as of October 27, 2022

Audience Profile

Candidates for this exam are server or desktop administrators with subject matter expertise in designing, implementing, managing, and maintaining Microsoft Azure Virtual Desktop experiences and remote apps for any device.

To deliver these experiences, they work closely with Azure administrators, Azure architects, Microsoft 365 administrators, and Azure security engineers.

Candidates for this exam should have experience with Azure technologies, including virtualization, networking, identity, storage, and resiliency. They should be able to manage end-user desktop environments, including delivering applications and configuring user settings. These professionals use the Azure portal, templates, scripting, and command-line tools to manage an Azure Virtual Desktop deployment.

Microsoft

- Plan and implement an Azure Virtual Desktop infrastructure (40–45%)
- Plan and implement identity and security (15–20%)
- Plan and implement user environments and apps (20–25%)
- Monitor and maintain an Azure Virtual Desktop infrastructure (10–15%)

Plan and implement an Azure Virtual Desktop infrastructure (40–45%)

Plan, implement, and manage networking for Azure Virtual Desktop

- Assess network capacity and speed requirements for Azure Virtual Desktop
- Calculate and recommend a configuration for network requirements
- Plan and implement Azure virtual network connectivity
- Manage connectivity to the internet and on-premises networks
- Plan and implement RDP Shortpath and quality of service (QoS) policies
- Plan and implement name resolution for Azure Virtual Desktop
- Monitor and troubleshoot network connectivity

Plan and implement storage for Azure Virtual Desktop user data

- Plan storage for Azure Virtual Desktop user data
- Implement storage for FSLogix components
- Implement storage accounts
- Implement file shares
- Implement Azure NetApp Files

Plan host pools and session hosts

- Recommend resource groups, subscriptions, and management groups
- Recommend an operating system (OS) for an Azure Virtual Desktop implementation
- Recommend an appropriate licensing model for Azure Virtual Desktop based on requirements
- Plan a host pools architecture
- Calculate and recommend a configuration for performance requirements
- Calculate and recommend a configuration for Azure Virtual Machines capacity requirements

Implement host pools and session hosts

- Create host pools and session hosts by using the Azure portal
- Automate creation of Azure Virtual Desktop hosts and host pools by using PowerShell, Azure CLI, Azure Resource Manager templates (ARM templates), and Bicep
- Configure host pool and session host settings
- Apply a Windows client or Windows Server license to a session host

Create and manage session host images

- Create a golden image manually

- Create a golden image by using Azure VM Image Builder
- Modify a session host image
- Plan and implement lifecycle management for images
- Apply OS and application updates to an image
- Create a session host by using a golden image
- Plan and implement image storage
- Create and manage Azure Compute Gallery

Plan and implement identity and security (15–20%)

Plan and implement identity integration

- Choose an identity management and authentication method
- Identify Azure Virtual Desktop requirements for Active Directory Domain Services (AD DS), Azure Active Directory Domain Services (Azure AD DS), and Microsoft Azure Active Directory (Azure AD), part of Microsoft Entra
- Plan and implement Azure roles and role-based access control (RBAC) for Azure Virtual Desktop
- Plan and implement Azure AD Conditional Access policies for connections to Azure Virtual Desktop
- Plan and implement multifactor authentication in Azure Virtual Desktop
- Manage roles, groups, and rights assignments on Azure Virtual Desktop session hosts

Plan and implement security

- Plan, implement, and manage security for Azure Virtual Desktop session hosts by using Microsoft Defender for Cloud
- Configure Microsoft Defender Antivirus for session hosts
- Implement and manage network security for connections to Azure Virtual Desktop
- Configure Azure Bastion or just-in-time (JIT) for administrative access to session hosts
- Plan and implement Windows Threat Protection features on Azure Virtual Desktop session hosts, including Windows Defender Application Control

Plan and implement user environments and apps (20–25%)

Plan and implement FSLogix

- Recommend FSLogix configuration
- Install and configure FSLogix
- Configure Profile Containers
- Configure Office Containers
- Configure Cloud Cache

Plan and implement user experience and client settings

- Choose an Azure Virtual Desktop client and deployment method
- Deploy and troubleshoot Azure Virtual Desktop clients

Microsoft

- Configure printing and device redirection
- Configure user settings through Group Policy and Microsoft Endpoint Manager policies
- Configure Remote Desktop Protocol (RDP) properties on a host pool
- Configure session timeout properties
- Implement the Start Virtual Machine on Connect feature
- Assign and unassign personal desktops for users

Install and configure apps on a session host

- Choose a method for deploying an app to Azure Virtual Desktop
- Configure dynamic application delivery by using MSIX app attach
- Publish an application as a RemoteApp
- Implement FSLogix application masking
- Implement and manage OneDrive, including multisession environments
- Implement and manage Microsoft Teams, including AV redirect
- Implement and manage Microsoft 365 apps on Azure Virtual Desktop session hosts
- Implement and manage browsers for Azure Virtual Desktop sessions
- Create and configure an application group
- Assign users to application groups

Monitor and maintain an Azure Virtual Desktop infrastructure (10–15%)

Monitor and manage Azure Virtual Desktop services

- Configure log collection and analysis for Azure Virtual Desktop session hosts
- Configure Azure Virtual Desktop monitoring by using Azure Monitor
- Monitor Azure Virtual Desktop by using Azure Monitor
- Customize Azure Monitor workbooks for Azure Virtual Desktop monitoring
- Monitor Azure Virtual Desktop by using Azure Advisor
- Optimize session host capacity and performance
- Implement autoscaling in host pools
- Monitor and manage active sessions and application groups
- Configure automation for Azure Virtual Desktop
- Automate management of host pools, session hosts, and user sessions by using PowerShell and Azure CLI

Plan, implement, and maintain business continuity

- Recommend an update strategy for session hosts
- Plan and implement a disaster recovery plan for Azure Virtual Desktop
- Plan for multi-region implementation
- Design a backup strategy for Azure Virtual Desktop

Microsoft

- Configure backup and restore for FSLogix user profiles, personal virtual desktop infrastructures (VDIs), and golden images

Study Resources

We recommend that you train and get hands-on experience before you take the exam. We offer self-study options and classroom training as well as links to documentation, community sites, and videos.

Study resources	Links to learning and documentation
Get trained	Choose from self-paced learning paths and modules or take an instructor-led course
Find documentation	Azure documentation Azure Virtual Desktop documentation FSLogix for the enterprise - Azure Architecture Guide Azure Virtual Desktop FSLogix profile containers files
Ask a question	Microsoft Q&A | Microsoft Docs
Get community support	Azure Community Support
Follow Microsoft Learn	Microsoft Learn - Microsoft Tech Community
Find a video	Exam Readiness Zone Azure Fridays Browse other Microsoft Learn shows

Change log

Key to understanding the table: The topic groups (also known as functional groups) are in bold typeface followed by the objectives within each group. The table is a comparison between the two versions of the exam skills measured and the third column describes the extent of the changes.

Skill area prior to October 27, 2022	Skill area as of October 27, 2022	Change
Audience profile		No change
Plan and implement an Azure Virtual Desktop infrastructure	**Plan and implement an Azure Virtual Desktop infrastructure**	No change

Skill area prior to October 27, 2022	Skill area as of October 27, 2022	Change
Plan, implement, and manage networking for Azure Virtual Desktop	Plan, implement, and manage networking for Azure Virtual Desktop	No change
Plan and implement storage for Azure Virtual Desktop user data	Plan and implement storage for Azure Virtual Desktop user data	No change
Plan host pools and session hosts	Plan host pools and session hosts	No change
Implement host pools and session hosts	Implement host pools and session hosts	No change
Create and manage session host images	Create and manage session host images	No change
Plan and implement identity and security	**Plan and implement identity and security**	No change
Plan and implement identity integration	Plan and implement identity integration	Minor
Plan and implement security	Plan and implement security	No change
Plan and implement user environments and apps	**Plan and implement user environments and apps**	No change
Plan and implement FSLogix	Plan and implement FSLogix	No change
Plan and implement user experience and client settings	Plan and implement user experience and client settings	Minor
Install and configure apps on a session host	Install and configure apps on a session host	No change
Monitor and maintain an Azure Virtual Desktop infrastructure	**Monitor and maintain an Azure Virtual Desktop infrastructure**	No change
Monitor and manage Azure Virtual Desktop services	Monitor and manage Azure Virtual Desktop services	No change
Plan, implement, and maintain business continuity	Plan, implement, and maintain business continuity	No change

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