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Purpose of this document
This study guide should help you understand what to expect on Exam AZ-140: Configuring and Operating Microsoft Azure Virtual Desktop, 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.

Certification

Certification journey
For an overview of attaining Microsoft Certification, including prerequisites (if any) and additional resources, explore The journey to Microsoft Certified: Azure Virtual Desktop Specialty.

Certification renewal
Once you earn your certification, don’t let it expire. When you have an active certification that’s expiring within six months, you should renew it—at no cost—by passing a renewal assessment on Microsoft Learn. Remember to renew your certification annually, if you want to retain it.

To identify which certifications are available for you to renew, visit your Certifications in your Microsoft Learn profile:

- Ensure your certification profile is connected to your Microsoft Learn profile.
- Expect an email that directs you to the applicable assessment that you must pass on Microsoft Learn. You’ll receive this email as soon as you have a certification that you’re eligible to renew.
- When you pass an online assessment, your certification will extend by one year from the current expiration date.
- To help prepare for the assessment, explore the collection of free modules on the certification renewal page.

About the exam
Exam AZ-140: Configuring and Operating Microsoft Azure Virtual Desktop is required to earn the Azure Virtual Desktop Specialty certification.

This exam measures your ability to accomplish the following technical tasks: plan a Microsoft Azure Virtual Desktop architecture; implement an Azure Virtual Desktop infrastructure; manage access and security; manage user environments and apps; and monitor and maintain an Azure Virtual Desktop infrastructure.

As an exam candidate, you should be a server or desktop administrator with subject matter expertise in designing, implementing, managing, and maintaining Azure Virtual Desktop experiences and remote apps for any device.
Passing score
A passing score is 700. Learn more about exam scoring and score reports.

What to expect on the exam
Are you new to Microsoft certification exams? You can explore the exam environment by visiting our exam sandbox. We created the sandbox so you have an opportunity to experience an exam before you take it. In the sandbox, you can interact with different question types, such as build list, case studies, and others that you might encounter in the user interface when you take an exam. Additionally, it includes the introductory screens, instructions, and help topics related to the different types of questions that your exam might include. It also includes the non-disclosure agreement that you must accept before you can launch the exam.

Prepare to take the exam
There are several points to consider, or pursue, as you prepare for an exam. The following sections detail those points.

Request accommodations
We’re committed to ensuring all learners are set up for success. If you use assistive devices, require extra time, or need modification to any part of the exam experience, you can request an accommodation. We encourage you to learn more about available accommodations and how to obtain them by visiting this page.

Take practice tests
Taking a practice test is a great way to know whether you’re ready to take the exam or if you need to study a bit more. Subject-matter experts write the Microsoft Official Practice Tests, which are designed to assess all exam objectives. Take the AZ-140: Configuring and Operating Microsoft Azure Virtual Desktop Microsoft Official Practice Test.

Objective domain: skills the exam measures
The English language version of this exam was updated on August 4, 2022.

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

- 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%)

Functional groups

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 requirements for Active Directory Domain Services (AD DS), Azure Active Directory Domain Services (Azure AD DS), and Azure AD for Azure Virtual Desktop
- 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
- 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

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

Corresponding learning paths and modules

The design of learning paths and modules should teach you how to perform a role and will help you study for the applicable exam. However, learning paths aren’t always in the same order as an exam’s “skills measured” list. Therefore, we’ve created a convenient table that links the skills measured to specific paths and modules.

<table>
<thead>
<tr>
<th>Exam skills measured</th>
<th>Links to learning paths</th>
</tr>
</thead>
</table>
| Plan and implement an Azure Virtual Desktop infrastructure (40-45%) | Plan an Azure Virtual Desktop implementation  
  • 1-Azure Virtual Desktop Architecture  
  • 2-Design the Azure Virtual Desktop architecture  
  • 3-Design for user identities and profiles  
  Implement an Azure Virtual Desktop infrastructure  
  • 1-Implement and manage networking for Azure Virtual Desktop  
  • 2-Implement and manage storage for Azure Virtual Desktop  
  • 3-Create and configure host pools and session hosts for Azure Virtual Desktop  
  • 4-Create and manage session host image for Azure Virtual Desktop |
| Plan and implement identity and security (15-20%)          | Manage access and security for Azure Virtual Desktop  
  • 1-Manage access for Azure Virtual Desktop  
  • 2-Manage security for Azure Virtual Desktop |
Exam AZ-140: Configuring and Operating Microsoft Azure Virtual Desktop

### Exam skills measured

<table>
<thead>
<tr>
<th>Plan and implement user environments and apps (20-25%)</th>
<th>Links to learning paths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage user environments and apps for Azure Virtual Desktop</td>
<td></td>
</tr>
<tr>
<td>• 1-Implement and manage FSLogix</td>
<td></td>
</tr>
<tr>
<td>• 2-Configure user experience settings</td>
<td></td>
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<tr>
<td>• 3-Install and configure apps on a session host</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitor and maintain an Azure Virtual Desktop infrastructure (10-15%)</th>
<th>Links to learning paths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor and maintain an Azure Virtual Desktop infrastructure</td>
<td></td>
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<tr>
<td>• 1-Plan for disaster recovery</td>
<td></td>
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<tr>
<td>• 2-Automate Azure Virtual Desktop management tasks</td>
<td></td>
</tr>
<tr>
<td>• 3-Monitor and manage performance and health</td>
<td></td>
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</tbody>
</table>

### Additional study resources

We offer several resources to help you prepare for the exam and stay current and engaged with the Microsoft Azure community. These resources range from formal training to blogs and even interviews with Microsoft team members.

<table>
<thead>
<tr>
<th>Study resource link</th>
<th>Resource description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course AZ-140T00: Configuring and Operating Microsoft Azure Virtual Desktop</strong></td>
<td>Take an instructor-led course that details how to plan, deliver, and manage virtual desktop experiences and remote apps, for any device, on Azure.</td>
</tr>
<tr>
<td><strong>Azure documentation</strong></td>
<td>Stay informed on the latest products, tools, and features, and get information on pricing, partners, support, solutions, and more.</td>
</tr>
<tr>
<td><strong>Azure Community Support</strong></td>
<td>Ask questions, get answers, and connect with Microsoft engineers and Azure community experts.</td>
</tr>
<tr>
<td><strong>Microsoft Learn Community Blog</strong></td>
<td>Get the latest information about certification tests and exam study groups.</td>
</tr>
<tr>
<td><strong>Azure Fridays</strong></td>
<td>Scott Hanselman, Partner Program Manager, speaks with Azure engineers as they demo capabilities and share insights.</td>
</tr>
<tr>
<td><strong>Microsoft Azure Blog</strong></td>
<td>Keep current on what’s happening in Azure, including what’s in preview and what’s generally available, along with Azure news, updates, and much more.</td>
</tr>
</tbody>
</table>