

## Azure Architect Role

A Job Task Analysis (JTA) was conducted for the Azure Solutions Architect role in May 2018. The results of that JTA identified the main tasks for an Azure Solutions Architect. These tasks are based on the definition of the Azure Solutions Architect role.

When students ask why some areas are being covered for this role and other areas are not, refer them to this role definition. Remember there are other roles, such as Azure DevOps, Azure Developer, and Azure Administrator.

An Azure Solution Architect advises stakeholders and translates business requirements into secure, scalable, and reliable solutions.

Azure Solution Architects have advanced experience and knowledge across various aspects of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data management, budgeting, and governance. This role requires managing how decisions in each area affects an overall solution.

Azure Solution Architects must be proficient in Azure administration, Azure development, and DevOps, and have expert-level skills in at least one of those domains.

## Certification Exams

Certification exams measure your ability to accomplish certain technical tasks for a job role. The study areas are based on the JTA that was conducted for the role.

Each study area has a percentage indicating the relative weight of the area on the exam. The higher the percentage, the more questions you are likely to see in that area.

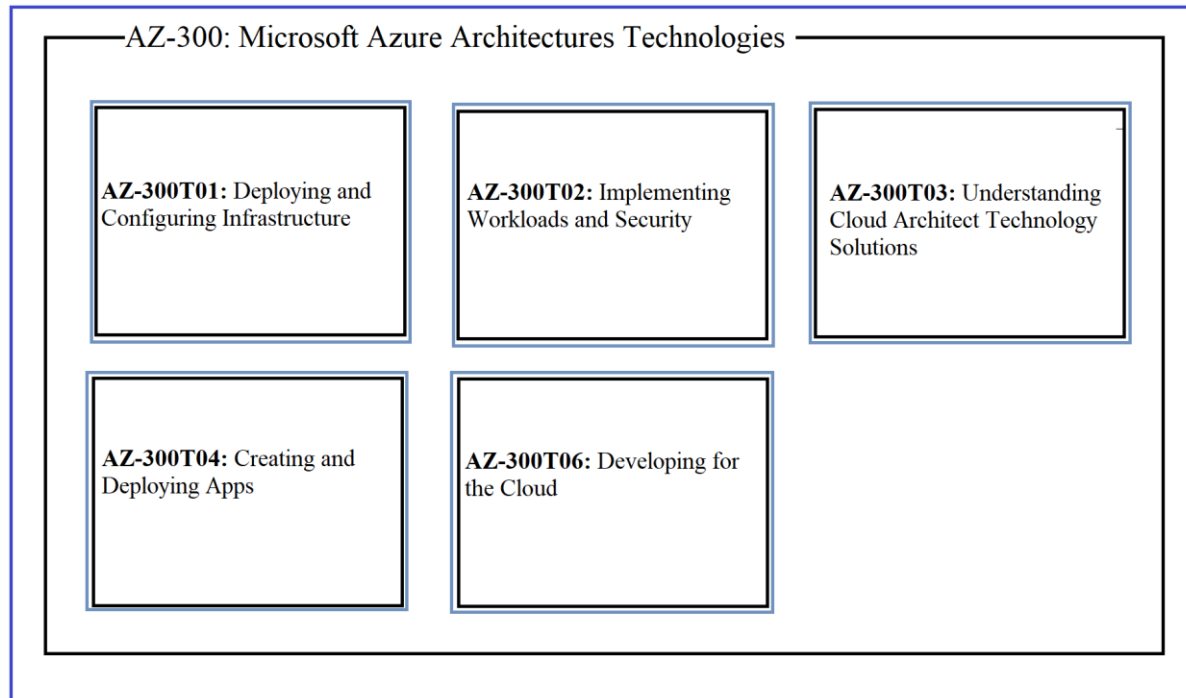
There is one certification exam with the following study areas and percentage weighting.

### **AZ-300:** Microsoft Azure Architecture Technologies

Study Area	Percentage
Deploy and Configure Infrastructure	20-25%
Implement Workloads and Security	20-25%
Architect Cloud Technology Solutions	5-10%
Create and Deploy Apps	5-10%
Implement Authentication and Secure Data	5-10%
Develop for the Cloud	20-25%

## Azure Solutions Architect Technology Courses

The six Azure Architect Technology courses are aligned with the certification exam and the areas of study. For example, AZ-300 has six areas of study and there are five Azure Architect courses. Note: There is not an AZ-300T05 course. The courses area as follows:



## Program Offerings

The Azure Architect courses can be offered in a variety of ways.

- **Individually.** The courses can be taught standalone; however, a certain amount of foundational information about Azure is required. This information can be found in the *Subscriptions and Resources* course.
- **Certification preparation.** The courses can be bundled to support preparing for each certification exam.
- **Deep dive.** The courses can be combined to provide a more complete deep dive into an area. For example, you could combine *Configure and Manage Virtual Networks* with *Implement Advanced Virtual Networking*. Another example is combining *Manage Identities* with *Secure Identities*.

- **Custom.** The course modules can be grouped to create an entirely new course or workshop. For example, you could create a Troubleshooting course from the Azure Monitor module in *Subscription and Resources* with the troubleshooting content in the other courses.

## Course Design

These courses are designed to support the certification study areas, but other content is provided to give context and job skills. For example, unstructured storage like tables and queues are included even though they are not in the testing domain. This is because Azure Solutions Architects should know about these features.

These Course is organized into the following study areas:

- Study Area: *Deploying and Configuring Infrastructure*
- Study Area: *Implementing Workloads and Security*
- Study Area: *Cloud Architect Technology Solutions*
- Study Area: *Creating and Deploying Apps*
- Study Area: *Developing for the Cloud*

Below is a summary of the course modules contained in each of the five courses.

### **Study Area: Deploying and Configuring Infrastructure (AZ-300t01)**

This topic area includes the following modules:

- Module 1 - Managing Azure Subscriptions and Resources
- Module 2 - Implementing and Managing Storage
- Module 3 - Deploying and Managing Virtual Machines (VMs)
- Module 4 - Configuring and Managing Virtual Networks
- Module 5 - Managing Identities

Labs:

- Module 1 Online Lab - Exploring Monitoring Capabilities in Azure
- Module 3 Online Lab - Implementing Custom Azure VM Images
- Module 5 Online Lab - Implementing User-Assigned Managed Identities for Azure Resources

### **Study Area: Implementing Workloads and Security (AZ-300t02)**

This topic area includes the following modules:

- Module 1 - Evaluating and Performing Server Migration to Azure
- Module 2 - Implementing and Managing Application Services
- Module 3 - Implementing Advanced Virtual Networking
- Module 4 - Determining Azure Workload Requirements

Labs:

- Module 1 Online Lab - Implementing Azure to Azure Migration
- Module 3 Online Lab - Configuring VNet Peering and Service Chaining

### **Study Area: Foundational Cloud Architect Technology Solutions and Implement Authentication and Secure Data (AZ-300t03)**

This topic area includes the following modules:

- Module 1 - Selecting Compute and Storage Solutions
- Module 2 – Hybrid Networking
- Module 3 – Measuring Throughput and Structure of Data Access
- Module 4 - Implementing Authentication
- Module 5 - Implementing Secure Data
- Module 6 - Business Continuity and Resiliency in Azure

Labs:

- Module 1 Online Lab - Implementing Azure Storage Access Controls
- Module 3 Online Lab - Implementing Azure Load Balancer Standard
- Module 4 Online Lab - Implementing Custom Role Based Access Control (RBAC) Roles

### **Study Area: Creating and Deploying Apps (AZ-300t04)**

This topic area includes the following modules:

- Module 1 - Creating Web Applications using PaaS
- Module 2 - Creating Apps and Services Running on Service Fabric
- Module 3 - Using Azure Kubernetes Service

- Module 4 - Understanding Azure Functions

Lab:

- Module 1 Online Lab - Implementing Azure Logic Apps

## **Study Area: Developing for the Cloud (AZ-300t06)**

This topic area includes the following modules:

- Module 1 - Developing Long-Running Tasks and Distributed Transactions
- Module 2 - Configuring a Message-Based Integration Architecture
- Module 3 - Develop an App Service Logic App
- Module 4 - Developing for Autoscaling
- Module 5 - Manage APIs by using API Management
- Module 5 - Developing Azure Cognitive Services Solutions
- Module 6 - Develop for Azure Storage

Lab:

- Module 1 Online Lab - Configuring a Message-Based Integration Architecture

## **Azure Subscriptions**

To complete the practical exercises in this course, students need an Azure Subscription. The recommended way to give students access to Azure is by requesting Microsoft Learning Azure Passes.

You can [request Microsoft Learning Azure Passes](#) for yourself and your students. Ensure that you request these passes at least two weeks before the class starts. After receiving the passes each student will need to activate their pass.

✓ It is very important you ensure students activate their passes before class. You don't want to lose time configuring the passes.

✓ It is also important you ensure the Azure pass can be used for the practice exercises. The pass effectively functions in the same way as the [publicly available Microsoft Azure Trial Subscription](#). This means there are limitations on what you can do with the pass.

## Preparing to Teach

In the next sections we will cover the main course components and how they can be used in class. This includes PowerPoint slides, videos, module review questions, reference links, and practice exercises. There is a lot of flexibility in how you use this content to create a great learning experience for your students.

## Content

The content for your courses has been chunked into small topics. Each topic/slide focuses on a single concept. For example, action groups, resource locks, and log query language. Use the topic and reference links to fully cover the concept. If you simply read the slide you will not have enough content to fill the scheduled time.

## PowerPoint Slides

PowerPoint slides are provided to help you teach the course.

- There is a Module 00 PowerPoint file. The filename is <course#>\_00.pptx. This includes an agenda listing modules and lessons for the course. It also includes the mapping from the certification study areas to the modules in the course. We recommend you customize this file for your specific situation. For example, introductions and facilities.
- Additionally, each module, within the course, has a separate file. For example, <course#>\_01.pptx is for Module 01. Slides were designed to supplement the student materials. You should review how the topics are presented to the student versus how the slides are organized. You can customize the slides to make your presentation more interesting.

## Videos

Your PPT deck includes links to videos which provide conceptual information about a topic area. Some videos are marked as Demonstrations. These videos walk through how to do something. There are many ways to use this media in your course.

- You can play the videos and demonstrations during the course or use them as review or homework. We recommend a short review or discussion after each video. Many video and demonstration slides include a screenshot or graphic to help you with the review.

- The videos are inserted inline with the content topics. You may wish to rearrange the videos. For example, you could play the videos first to introduce the content. Or, you could play the videos last as a review.
- You can create your own demonstrations from the walk throughs and do that instead of playing the video.
- Note that depending on the student's subscription, some things can only be shown through the video demonstrations. For example, in the Securing Identities course, MFA requires a Premium account. In the Subscriptions and Resources course, the students may not be able to create an administrator account.
- We have curated the videos in the course to align with the content, but there are many other videos to choose from. [Channel 9](#) is a great source for videos. We recommend [Azure Friday](#) with Scott Hanselman. Also, the [Tuesdays with Corey Sanders](#) series.
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## Module Review Questions

Module review questions are provided at the end of the module. You can expect 2-4 questions. Note these questions are not at the level of the certification exam. You may wish to supplement with questions of your own choosing.

You can use these review questions in several ways:

- Have the students pre-test before the course starts and then at the end to see what they have learned.
- As a group, go through the questions before moving on to another section.
- Sprinkle the questions into the content as you cover the appropriate material.

## Reference Links

The course content includes many reference links. The main reason for this is the Azure documentation is constantly being updated.

- Before you teach the course, use the reference links to validate the content is still current. Pay attention to capabilities and limits. For example, preview features and virtual machine sizes.
- Reference links have been added to your PowerPoint slides/notes to make it easy for you to access more detailed information. Use these links to walk through details that are not covered in the content. For example, specific licensing and

pricing options. Also, lengthy steps that have only been summarized in the content.

You will need to decide how to use the documentation and the reference links. Teaching from the documentation is a new concept in this series of courses. When you leave the slide deck how will you get students focused back on the course?

## Practice Exercises

This course has two ways for the students to practice what they are learning: The Azure documentation and Microsoft Online Labs.

- **Azure documentation.** Most of the practical exercises in these courses link to the Azure documentation tutorials and Quickstarts. The Azure documentation steps are well written and very comprehensive. Read the prerequisites closely and personally try each lab.
- **Microsoft Labs online.** A few of the practice exercises link to [Microsoft Labs Online](#). Microsoft employees, partners, and customer can register and get access to these hosted self-paced labs. Simply log in and then search for the labs of interest. These labs do not require an Azure subscription and are also well documented. However, be sure to check frequently for the lab's availability. The labs periodically go offline for maintenance or updates.

There are a variety of ways to use the practice exercises:

- You could walk through the practice as a class demonstration.
- You could schedule time for the students to go through the practices.
- You could invite students to demonstrate different parts of the practice and go through as a group.

Also, note:

- There may be several practices to choose from in a lesson. Do them all, select the ones most appropriate to your audience, or find/write some of your own.
- The practices show all the steps to accomplish and learn something. However, in their day-to-day job architects will often use the Azure QuickStart templates. Be sure to round out your instruction with some of these templates.



## Portal, Cloud Shell, PowerShell, and the CLI

The practice exercises are initially shown in the portal. The portal provides the easiest way to demonstrate most tasks. However, where available, reference links are provided to complete the tasks with Azure PowerShell or the CLI.

We recommend you use the Cloud Shell to access Azure PowerShell or the Azure CLI. The Cloud Shell automatically connects to Azure and configures the necessary components. The newer tutorials and Quickstarts start with the Cloud Shell.

If you would rather have students use PowerShell or the CLI locally, be sure to take time at the start of the class to ensure they have installed the correct components.

- [Install Azure PowerShell on Windows with PowerShellGet](#) (preferred)
- [Install Azure PowerShell on Windows with MSI](#)
- [Install Azure CLI 2.0 on Windows](#)

Other things to think about:

- Ask the students which command line tool they prefer, so you can offer the appropriate practical exercise.
  - If you are helping students prepare for the certification exam they should always do the PowerShell examples. The certification exam will only have a minimal number of CLI questions.
- ✓ The *Subscriptions and Resource* course has an excellent overview of common Azure Architect tools. This includes the Azure portal, Azure PowerShell, Cloud Shell, Azure CLI, and ARM templates.

## Group Discussions

Included throughout the content are questions designed to help students reflect on what they have learned or emphasize some important point. When you see a green checkmark, you have a chance to interact with your students and engage them in discussion. This information is included in the PowerPoint notes area. For example,

- ✓ Has your organization implemented MFA? Which authentication methods are they using?

## Course Content Overlap

Because the courses can be taught individually there is some overlap in content. It is important to take this into account, so you can properly estimate how long it will take to teach the courses.

For example, RBAC concepts initially appear in the *Subscriptions and Resources* course. This is so a student can understand administrator accounts. However, RBAC is also discussed in the *Securing Identities* course. This is the more comprehensive coverage of the content.

Here are some other examples:

Study Area	Courses
Resource Manager templates	<i>Implement and Manage Virtual Networks</i> (primary) and <i>Subscriptions and Resources</i> (introduced)
Azure Monitor	<i>Subscriptions and Resources</i> (primary) and other courses specific to that area.
Self-Service Password Reset	<i>Manage Identities</i> (primary) and <i>Securing Identities</i> (as a comparison to MFA).

## Course Timing

The course content is designed to take a day to complete. This will depend on how you teach the course. For example, do the students do all the practical exercises in both the portal and PowerShell? Do you play every video during the day or are the videos supplemental to the instruction? You have flexibility in presenting the content and determining the balance of instruction and hands-on activities. Try to spend at least half your time doing practical exercises.

Deploying and Configuring Infrastructure	AZ-300T01	1-Day
Implementing Workloads and Security	AZ-300T02	1-Day
Understanding Cloud Architect Technology Solutions	AZ-300T03	1-Day
Creating and Deploying Apps	AZ-300T04	1-Day
Developing for the Cloud	AZ-300T06	1.0-Day

## Resources

There are a lot of resources to help you and the student learn about Azure. We recommend you bookmark these pages and offer the list to your students.

- [Azure forums](#). The Azure forums are very active. You can search the threads for a specific area of interest. You can also browse categories like Azure Storage, Pricing and Billing, Azure Virtual Machines, and Azure Migrate.
- [Azure Architecture Center](#). Gain access to the Azure Application Architecture Guide, Azure Reference Architectures, and the Cloud Design Patterns.
- [Microsoft Learning Community Blog](#). Get the latest information the certification tests and exam study groups.
- [Channel 9](#). Channel 9 provides a wealth of informational videos, shows, and events.
- [Azure Tuesdays with Corey](#). Corey Sanders answers your questions about Microsoft Azure - Virtual Machines, Web Sites, Mobile Services, Dev/Test etc.
- [Azure Fridays](#). Join Scott Hanselman as he engages one-on-one with the engineers who build the services that power Microsoft Azure as they demo capabilities, answer Scott's questions, and share their insights.
- [Microsoft Azure Blog](#). Keep current on what's happening in Azure, including what's now in preview, generally available, news & updates, and more.
- [Azure Newsletter](#). Stay informed on the latest Azure features, events, and community activities. Browse through past newsletters or subscribe and get the latest Azure news delivered to your inbox.

## Connect with others

[MCT Central](#) – Your one stop for all things MCTs. Stay up to date with the latest MCT news, learn about upcoming events, find job opportunities, or connect with other MCTs around the world. You can also ask questions and discuss a variety of topics including courseware and certification with Microsoft and other MCTs through the MCT Central Forums.

[MOC Courseware Support](#) – If there are problems with a course or you need to log a support ticket, contact the Official Support channel for MOC courses. This channel is monitored by support agents and is the quickest way to log your course support issue. should be directed to This is the official support channel for courseware.

## What's New in this Release of AZ-300

### AZ-300T01

- ✓ Module 1 Online Lab - Managing Azure Subscriptions and Resources
  - Topic: Exploring Monitoring Capabilities in Azure
- ✓ Module 3 Online Lab - Deploying and Managing Virtual Machines (VMs)
  - Topic: Implementing Custom Azure VM Images
- ✓ Module 5 Online Lab - Managing Identities
  - Topic: Implementing user-assigned managed identities for Azure resources

### AZ-300T02

- ✓ New Module 1 Online Lab - Online Lab - Evaluating and Performing Server Migration to Azure
  - Topic: Implementing Azure to Azure migration
- ✓ New Module 3 Online Lab - Configuring and Managing Virtual Networks
  - Topic: Configuring VNet peering and service chaining
- ✓ New Module 4 - Determining Azure Workload Requirements

Case Study: Contoso is a US-based financial company based in Boston. There are three additional local branches across the United States. The main datacenter is connected to the internet with a fiber metro Ethernet connection (500 Mbps). Each branch is connected locally to the internet using business class connections, with IPSec VPN tunnels back to the main datacenter. This allows the entire network to be permanently connected and optimizes internet connectivity.

This case study includes:

- Assessment Goals
- Assessment Tools
- Assessment Architecture
- Step-by-Step: Determining Azure Workload Requirements (8 Steps)
- Checklist of Assessment Goals

**AZ-300T03**

✓ New Module 1 Online Lab - Online Lab - Implementing and Managing Storage

Topic: Implementing Azure Storage access controls

✓ Module 3 Online Lab - Online Lab - Implementing Advanced Virtual Networking

Topic: Implementing Azure Load Balancer Standard

✓ New Module 4 - Implementing Authentication

Topics include:

- Implementing authentication in applications
- Implement multi-factor authentication
- Role-based access control (RBAC) authorization
- Implement OAuth2 authentication

✓ New Module 4 Online Lab - Securing Identities

Topic: Implementing custom Role Based Access Control (RBAC) roles

✓ New Module 5 - Implementing Secure Data

Topics include:

- End-to-end encryption
- Implement Azure confidential computing
- Implement SSL and TLS communications
- Manage cryptographic keys in Azure Key Vault

✓ New Module 6 - Business Continuity and Resiliency in Azure

Topics include:

- Business Continuity
- High Availability and Disaster Recovery
- Application Design
- Testing, Deployment, and Maintenance
- Monitoring and Disaster Recovery

**AZ-300T04**

✓ Module 1 Online Lab - Implementing and Managing Application Services

- Topic: Implementing Azure Logic Apps

✓ Module 4 - Understanding Azure Function

Topics include:

- Introduction to Azure Functions
- Develop Azure Functions using Visual Studio
- Implement Durable Functions

**AZ-300T06**

✓ New Module 3 - Develop an App Service Logic App

Topics include:

- Creating Logic Apps by using Visual Studio
- Creating custom connectors for Logic Apps
- Creating a custom template for a Logic App

✓ New Module 5 - Manage APIs by using API Management

Topics include:

- Analyze recommendations in Security Center
- Create an API Management instance
- Create an API gateway
- Define policies for APIs

**NOTE:** AZ-300T05 has been removed in this release. The previous topics in AZ-300T05 have been included in the updated version of AZ-300T03 in this release.