## Purpose

This document is for Microsoft Certified Trainers teaching the AZ-203 Azure Developer courses. Information about specific courses is included in the student content and the instructor PowerPoint Notes.

## Azure Developer Role

A Job Task Analysis (JTA) was conducted for the Azure Developer role in November 2018. The results of that JTA identified the main tasks for an Azure Developer. Those tasks formed the basis for the AZ-203: Developing Solutions for Microsoft Azure exam and the topics covered in the AZ-203 courses.

## AZ-203 certification exam

This exam measures your ability to accomplish the technical tasks listed below. The percentages indicate the relative weight of each major topic area on the exam. The higher the percentage, the more questions you are likely to see on that content area on the exam.

|  |  |
| --- | --- |
| AZ-203 Study Areas | Percentage |
| Develop Azure Infrastructure as a Service compute solutions | 10-15% |
| Develop Azure Platform as a Service compute solutions | 20-25% |
| Develop for Azure storage | 15-20% |
| Implement Azure security | 10-15% |
| Monitor, troubleshoot, and optimize Azure solutions | 15-20% |
| Connect to and consume Azure, and third-party, services | 20-25% |

## Azure Developer Courses

The Azure Developer courses are aligned with the certification exams and the areas of study. For example, exam AZ-203 has six areas of study and there are six Azure Developer courses.

* AZ-203T01: Develop Azure Infrastructure as a Service compute solutions
* AZ-203T02: Develop Azure Platform as a Service compute solutions
* AZ-203T03: Develop for Azure storage
* AZ-203T04: Implement Azure security
* AZ-203T05: Monitor, troubleshoot, and optimize Azure solutions
* AZ-204T06: Connect to and consume Azure, and third-party, services

## Program Offerings

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

* **Individually**. The courses are designed so they can be taught standalone.
* **Certification preparation**. The courses can be bundled to support preparing for the certification exam.
* **Deep dive**. The courses can be combined to provide a more complete deep dive into an area.
* **Custom**. The course modules can be grouped to create an entirely new course or workshop.

## Course Design

These courses are designed to support the certification study areas, but other content is occasionally included to provide context and job skills.

## Preparing to Teach

In the next sections we will cover the main course components and how they can 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 the best learning experience for your students.

## PowerPoint Slides

PowerPoint slides are provided to help you teach the course. But if you simply read the slide you will not have enough content to fill the scheduled time. Be sure to go through the materials in the main content for the course to ensure you’re covering things fully.

* There is a Module 00 PowerPoint file. 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, you could add an introduction slide and an overview of the classroom facilities.
* Additionally, each module within the course has a separate file. These 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.
* The PowerPoint files will include slides that are designated as potential demonstration opportunities. The course includes a good deal of hands-on guidance that is combined with additional information to create a richer learning experience for the student. These are not labeled as demonstrations or labs in the course since they combine learning with the steps. When reviewing the slides look for opportunities to use them as demonstrations for your class.

## Videos

Videos are included sparingly in the courses. Your PPT deck includes links to videos which provide conceptual information about a topic area. Some videos are demonstrations, and this video content is optional. In other words, you must decide how to use the videos. 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 in line 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.
* We have curated the videos in the course to align with the content, but there are many other videos to choose from. [Channel 9](https://channel9.msdn.com) is a great source for videos. We recommend [Azure Friday](https://azure.microsoft.com/en-us/resources/videos/azure-friday/) with Scott Hanselman. Also, the [Tuesdays with Corey](https://channel9.msdn.com/Shows/Tuesdays-With-Corey) Sanders series.

## Module Review Questions

Module review questions are provided at the end of the module. 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:

* 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.
* Let students know they can use the reference links after the course to review and confirm what they learned.

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?

## Azure Subscriptions

To complete the labs and any additional practice 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](http://aka.ms/mocazurepass) 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](http://azure.microsoft.com/en-us/pricing/free-trial/). This means there are limitations on what you can do with the pass.

## Labs

There is a lab provided for each course. The lab guides and images are available in the [Microsoft Learning GitHub](https://github.com/MicrosoftLearning) repository. In addition to the lab guide any supplemental files, like scripts and templates, are also provided. In GitHub there is a single repository (<https://github.com/MicrosoftLearning/AZ-203-DevelopingSolutionsforMicrosoftAzure>) that supports all six courses. Materials are organized by course.

To complete the labs, you will need an internet connection to the Azure portal. If you prefer a hosted environment, any machine that meets the above requirements can be used.

For each course, you need to decide where to offer the lab during the course. You can have students do the lab at the end of the course or wherever you determine it makes the most sense to do the individual exercises.

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

Throughout the course there are many examples and instructions that rely on using the Portal, Cloud Shell, PowerShell and the Azure CLI. If you’re having your students follow along with any of the demonstrations, you can have your students access those tools through the Portal. Or, 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](https://docs.microsoft.com/en-us/powershell/azure/install-azurerm-ps?view=azurermps-6.7.0) (preferred)
* [Install Azure PowerShell on Windows with MSI](https://docs.microsoft.com/en-us/powershell/azure/other-install?view=azurermps-6.7.0)
* [Install Azure CLI 2.0 on Windows](https://docs.microsoft.com/en-us/cli/azure/install-azure-cli-windows?view=azure-cli-latest)

Other things to think about:

* Ask the students which command line tool they prefer, so you can offer the appropriate exercises.
* You may want to ensure your instructor machine has the tools installed locally. This way you can use them to view any scripts and show students how to construct the commands.

## Additional Practice Exercises

This course includes numerous potential practice exercises that are tutorials that combine step-by-step and contextual information. As mentioned in the PowerPoint section above, these are not purely practice exercises or demonstrations. But they include all the information you need to use them in either way. Read the prerequisites closely and personally try each to evaluate how you might want to use them. Here are a few suggested ways to use that content:

* 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.

## Course Content Overlap

Because the courses can be taught individually there is some overlap in content, but that overlap is limited. Effort was taken in both the objective domain creation, and in the course outlines, to make the content and topics as compartmentalized as possible. It is important to take this into account, so you can properly estimate how long it will take to teach the courses.

## Course Timing

The course content is designed to approximately one day to complete. This will depend on how you teach the course. However, if you combine all the courses as an offering you could deliver all of them within a 5-day offering. For example, do you have the students complete all exercises? Do you have students complete them in PowerShell/CLI/etc.? You have flexibility in presenting the content and determining the balance of instruction and hands-on activities.

## 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](https://social.msdn.microsoft.com/Forums/en-US/home?category=windowsazureplatform). 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.
* [Microsoft Learning Community Blog](https://www.microsoft.com/en-us/learning/community-blog.aspx). Get the latest information about the certification tests and exam study groups.
* [Channel 9](https://channel9.msdn.com). Channel 9 provides a wealth of informational videos, shows, and events.
* [Azure Tuesdays with Corey](https://channel9.msdn.com/Shows/Tuesdays-With-Corey/). Corey Sanders answers your questions about Microsoft Azure - Virtual Machines, Web Sites, Mobile Services, Dev/Test etc.
* [Azure Fridays](https://channel9.msdn.com/Shows/Azure-Friday). 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](https://azure.microsoft.com/en-us/blog/). Keep current on what's happening in Azure, including what's now in preview, generally available, news & updates, and more.
* [Azure Newsletter](https://azure.microsoft.com/en-us/community/newsletter/2018/june/). 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](http://aka.ms/mctcentral) – Your one stop for all things MCT. 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](https://na01.safelinks.protection.outlook.com/?url=https%3A%2F%2Ftrainingsupport.microsoft.com%2Fen-us%2Ftcmct%2Fforum%2Ftcmct_moc&data=02%7C01%7C%7C51fca57fcefe426937e308d60783da54%7C72f988bf86f141af91ab2d7cd011db47%7C1%7C0%7C636704660217358867&sdata=Q9EXBLc2Ch%2Bl42MqxD74hriL3NSIPp74lpiBKlU2bAs%3D&reserved=0) – 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.

## Feedback

These courses are different from the traditional MOC courses that have been provided in the past. We have provided a framework for you to work with. Take time to prepare and think about the value that only an instructor can bring to training. We hope to partner with you to provide an exceptional student experience and we welcome your feedback.

Happy learning!

Azure Developer Courseware Development Team