Contents

1 AZ-020: Microsoft Azure solutions for AWS developers

AZ-020 Lab instructions

1.1 Note on use of AZ-204 Labs in this course

This course, AZ-020: Microsoft Azure solutions for AWS developers, is a subset of the AZ-204 course materials, adapted to fit a 3 day course for experienced AWS developers.

AZ-020 labs are a subset of the AZ-204 labs and are taken directly from the AZ-204 lab repository.

The **mapping** of AZ-020 course module numbers to the AZ-204 lab numbers is found in the `../Instructions/labs` folder readme file.

1.2 What are we doing?

- To support this course, we will need to make frequent updates to the AZ-204 source content at https://github.com/MicrosoftLearning/AZ-204-DevelopingSolutionsforMicrosoftAzure to keep it current with the Azure services used in the course. We are publishing the lab instructions and lab files on GitHub to allow for open contributions between the course authors and MCTs to keep the content current with changes in the Azure platform.
- We hope that this brings a sense of collaboration to the labs like we've never had before - when Azure changes and you find it first during a live delivery, go ahead and make an enhancement right in the lab source. Help your fellow MCTs.

1.3 How should I use these files relative to the released MOC files?

- The instructor handbook and PowerPoints are still going to be your primary source for teaching the course content.
- These files on GitHub are designed to be used in conjunction with the student handbook, but are in GitHub as a central repository so MCTs and course authors can have a shared source for the latest lab files.

- It will be recommended that for every delivery, trainers check GitHub for any changes that may have been made to support the latest Azure services, and get the latest files for their delivery.

1.4 What about changes to the student handbook?

- We will review the student handbook on a quarterly basis and update through the normal MOC release channels as needed.

1.5 How do I contribute?

- Any MCT can submit a pull request to the code or content in the GitHub repro, Microsoft and the course author will triage and include content and lab code changes as needed.
- You can submit bugs, changes, improvement and ideas. Find a new Azure feature before we have? Submit a new demo!

1.6 Notes

1.6.1 Classroom Materials

1.7 It is strongly recommended that MCTs and Partners access these materials and in turn, provide them separately to students. Pointing students directly to GitHub to access Lab steps as part of an ongoing class will require them to access yet another UI as part of the course, contributing to a confusing experience for the student. An explanation to the student regarding why they are receiving separate Lab instructions can highlight the nature of an always-changing cloud-based interface and platform. Microsoft Learning support for accessing files on GitHub and support for navigation of the GitHub site is limited to MCTs teaching this course only.

1.8 title: Online Hosted Instructions permalink: index.html layout: home

1.9 Content Directory

Hyperlinks to each of the lab exercises and demos are listed below.

1.10 Labs

AZ-020 Module	Lab
Module 01: Creating Azure App Service Web Apps	Lab: Building a web application on Azure App Service
Module 01: Creating Azure App Service Web Apps	Lab: Building a web application on Azure App Service - An
Module 02: Implement Azure Functions	Lab: Implement task processing logic by using Azure Funct
Module 02: Implement Azure Functions	Lab: Implement task processing logic by using Azure Funct
Module 03: Develop solutions that use blob storage	Lab: Retrieving Azure Storage resources and metadata by
Module 03: Develop solutions that use blob storage	Lab: Retrieving Azure Storage resources and metadata by
Module 04: Develop solutions that use Cosmos DB storage	Lab: Constructing a NoSQL data solution by using Azure C
Module 04: Develop solutions that use Cosmos DB storage	Lab: Constructing a NoSQL data solution by using Azure C
Module 05: Azure Resource Manager (ARM) Templates	*No lab*
Module 05: Azure Resource Manager (ARM) Templates	*No lab answer key*
Module 06: Implement user authentication and authorization	Lab: Authenticating to and querying Microsoft Graph by u
Module 06: Implement user authentication and authorization	Lab: Authenticating to and querying Microsoft Graph by u
Module 07: Implement secure cloud solutions	Lab: Access resource secrets more securely across services
Module 07: Implement secure cloud solutions	Lab: Access resource secrets more securely across services -
Module 08: Implement API Management	Lab: Creating a multi-tier API by using Azure API Manag
Module 08: Implement API Management	Lab: Creating a multi-tier API by using Azure API Manag
Module 09: Develop event-based solutions	Lab: Publishing and subscribing to Event Grid events
Module 09: Develop event-based solutions	Lab: Publishing and subscribing to Event Grid events - An
Module 10: Develop message-based solutions	Lab: Asynchronously processing messages by using Azure C
Module 10: Develop message-based solutions	Lab: Asynchronously processing messages by using Azure C
Module 11: Monitor and optimize Azure solutions	Lab: Monitoring services that are deployed to Azure
Module 11: Monitor and optimize Azure solutions	Lab: Monitoring services that are deployed to Azure - Answ

Note: Visit the mapping page to review the mapping from AZ-204 labs to AZ-020 labs.

2 Lab Virtual Machine Setup

2.1 Installed Software

Software	Link
Windows 10 (Build 2004)	https://www.microsoft.com/software-download/windows10
Visual Studio Code	https://code.visualstudio.com
Visual Studio Code Azure Account Extension	https://marketplace.visualstudio.com/items?itemName=m
Visual Studio Code Azure Functions Extension	https://marketplace.visualstudio.com/items?itemName=m
Visual Studio Code Azure Resource Manager Tools Extension	https://marketplace.visualstudio.com/items?itemName=m
Visual Studio Code Azure CLI Tools Extension	https://marketplace.visualstudio.com/items?itemName=m
Visual Studio Code PowerShell Extension	https://marketplace.visualstudio.com/items?itemName=m
Visual Studio Code C# Extension	https://marketplace.visualstudio.com/items?itemName=m
PowerShell 7	https://github.com/PowerShell/PowerShell/releases/tag/v
.NET Core 3.1 SDK	https://dotnet.microsoft.com/download/dotnet-core/3.1
Azure PowerShell	https://docs.microsoft.com/powershell/azure/install-az-ps
Azure CLI	https://docs.microsoft.com/cli/azure/install-azure-cli
Azure Storage Explorer	https://azure.microsoft.com/features/storage-explorer
.NET Tool - HttpRepl	https://github.com/dotnet/HttpRepl
Azure Functions Core Tools	https://docs.microsoft.com/azure/azure-functions/function
Windows Terminal	https://aka.ms/terminal
Edge (Chromium)	https://www.microsoft.com/edge

2.2 Additional Configuration

- Enable ClearType
- Configure Microsoft Edge as the default browser
- Update VSCode configuration

```
{
  "editor.fontFamily": "'Cascadia Code', Consolas, 'Courier New', monospace",
  "update.enableWindowsBackgroundUpdates": false,
  "update.mode": "manual",
  "terminal.integrated.shell.windows": "C:\\Program Files\\PowerShell\\7\\pwsh.exe",
  "workbench.startupEditor": "none",
  "terminal.integrated.rendererType": "dom",
  "csharp.suppressDotnetInstallWarning": true,
  "csharp.suppressDotnetRestoreNotification": true,
  "csharp.supressBuildAssetsNotification": true,
  "azureFunctions.showProjectWarning": false
}
```

- Update Windows Terminal configuration

```
{
  "$schema": "https://aka.ms/terminal-profiles-schema",
  "defaultProfile": "{574e775e-4f2a-5b96-ac1e-a2962a402336}",
  "profiles": [
    {
      "guid": "{574e775e-4f2a-5b96-ac1e-a2962a402336}",
      "useAcrylic": true,
      "acrylicOpacity": 0.85,
      "colorScheme": "Campbell",
      "fontFace": "Cascadia Code",
      "hidden": false,
      "name": "PowerShell",
      "source": "Windows.Terminal.PowershellCore"
```

```
    },
    {
      "guid": "{b453ae62-4e3d-5e58-b989-0a998ec441b8}",
      "hidden": false,
      "name": "Azure Cloud Shell",
      "source": "Windows.Terminal.Azure"
    }
  ],
  "schemes": [],
  "keybindings": []
}
```

- Configure Start Menu & Taskbar to only include the following icons:
  - File Explorer
  - Edge
  - Windows Terminal
  - Visual Studio Code
  - Azure Storage Explorer
- Disable PowerShell 7 update notifications
  1. Create an environment variable named `POWERSHELL_UPDATECHECK`
  2. Set the value of the environment variable to `Off` (case-sensitive)
- Run Azure Functions Core Tools atleast once to configure Windows Firewall

```
func init test --worker-runtime dotnet
cd test
func new --template 'HTTP trigger' --name web
func start --build
```

3 AZ-020 to AZ-204 lab mapping

This course, AZ-020: Microsoft Azure solutions for AWS developers, is a subset of the AZ-204 course materials that have been adapted to fit a 3 day course for experienced AWS developers.

AZ-020 labs are a subset of the AZ-204 labs and are taken directly from the AZ-204 lab repository.

> Note: There is no lab for AZ-020 Module 5. See course content for demonstrations.

3.1 AZ-020 module mapping to AZ-204 labs

The subset of 10 AZ-204 labs used in this course are mapped per module as follows

AZ-020 Lab #	AZ-204 Lab #	Topic
1	1	App Services
2	2	Azure Functions
3	3	Azure Blob Storage
4	4	Azure Cosmos DB
5 (*no lab*)	-	Azure Resource Manager (ARM) Templates
6	6	Authentication and Identity
7	7	Cloud Service[s] Security
8	8	API Management
9	9	Event-Based Messaging
10	10	Asynchronous Messaging
11	11	Azure Monitor