This handout is for the AZ-900 Azure Fundamentals Certification Course by John Savill hosted at https://onboardtoazure.com on the playlist https://www.youtube.com/playlist?list=PLlVtbbG169nED0_vMEniWBQjSoxTsBYS3.

The most current version of this document lives at https://github.com/johnthebrit/AZ900CertCourse, the repository for this course.

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Introduction

Links

- John's YouTube Channel - https://onboardtoazure.com
- Microsoft AZ-900 Certification Page - https://docs.microsoft.com/en-us/learn/certifications/exams/az-900
- Microsoft Certification Poster - http://aka.ms/traincertposter
- Free Azure Subscription - https://azure.microsoft.com/en-us/free/
- Curated Azure Learning Path - https://learn.onboardtoazure.com

Describe Cloud Concepts

Identify the Benefits of Cloud Computing

Links

- Azure Regions - https://infrastructuremap.microsoft.com/

Differences Between Cloud Service Categories

Differences Between Types of Cloud Computing

Describe Core Azure Services

Benefits and Usage of Regions and Region Pairs

Links

- Regional pairings - https://docs.microsoft.com/en-us/azure/availability-zones/cross-region-replication-azure#azure-cross-region-replication-pairings-for-all-geographies

Code

```
Get-AzEnvironment #List environments
Get-AzLocation | ft #get regions in current environment
```

Benefits and Usage of Resource Groups

Links

- Azure Subscription Limits - https://docs.microsoft.com/azure/azure-resource-manager/management/azure-subscription-service-limits

Benefits and Usage of Azure Resource Manager

Code

```
Get-AzResourceProvider
Get-AzResourceProvider -ProviderNamespace microsoft.compute | ft
ResourceTypes
```

Benefits and Usage of Core Compute Resources

Links

- VM SKUs - https://docs.microsoft.com/azure/virtual-machines/sizes

Benefits and Usage of Core Network Resources

Benefits and Usage of Storage Account Resources

Links

- Managed Disks - https://azure.microsoft.com/pricing/details/managed-disks/

Benefits and Usage of Database Resources

Links

- SQL Feature Comparison - https://docs.microsoft.com/azure/azure-sql/database/features-comparison

Describe Core Solutions and Management Tools on Azure

Benefits and Usage of Azure IoT Services

Benefits and Usage of Big Data and Analytics Services

Benefits and Usage of AI Services

AI SERVICES

AZURE MACHINE LEARNING

PLATFORM FOR PREDICTIONS

DATA SCIENTISTS
- TOTAL CONTROL
- HOW TO GET DATA
- TRAIN + EVALUATE MODELS
- PIPELINE EXPERIMENTS
- DEPLOY ALGORITHM → API → ENDPOINT ← APP

AZURE COGNITIVE SERVICES

- PREBUILT MODELS
  - LANGUAGE
  - SPEECH
  - VISION
  - DECISION

AZURE BOT SERVICE

- CHAT / TEXT / SPEECH
- VIRTUAL AGENTS

- KNOWLEDGE BASE

Benefits and Usage of Serverless Technologies

SERVERLESS

CONSUMPTION BASED

EVENT DRIVEN

- AZURE FUNCTIONS
  - CODE
  - STATELESS
  - [DURABLE]
- AZURE LOGIC APPS
  - NO/LOW CODE
  - AUTHORING

Benefits and Usage of DevOps Technologies

DevOps

Azure DevOps
- Repos
  - Version Control
    - Git
    - [TFVC]
- Boards
- Pipelines
  CI/CD
- Artifact

GitHub
- Repos
  - Git
- Actions
  - CI/CD + much more
  - Environments
- Projects

Azure DevTest Labs
- Create → ARM Template
  Test
- Delete

Functionality of Azure Management Solutions

Functionality and Usage of ARM Templates

Links

- Sample ARM template - https://github.com/johnthebrit/AzureMasterClass/blob/master/Part11IaCandDevOps/StorageRepo/ARMTemplates/StorageAccount.json

Functionality and Usage of Azure Monitor

Describe General Security and Network Security Features

Functionality and Usage of Key Vault

Functionality and Usage of Microsoft Sentinel

Functionality and Usage of Azure Dedicated Hosts

Links

- Azure Dedicated Host - https://azure.microsoft.com/pricing/details/virtual-machines/dedicated-host/
- Azure Isolated VMs - https://docs.microsoft.com/azure/virtual-machines/isolation

Concept of Defense in Depth

Functionality and Usage of NSGs

Functionality and Usage of Azure Firewall

Functionality and Usage of Azure DDoS Protection

Links

- DDoS Overview - https://docs.microsoft.com/azure/ddos-protection/ddos-protection-overview

Describe Identity, Governance, Privacy, and Compliance Features

Explain Authentication and Authorization

AUTHENTICATION (AUTHN)

VALIDATING IDENTITY

WE KNOW (PASSWORD)

WE ARE (BIOMETRIC)

WE HAVE (TOKEN, PC)

AUTHORIZATION (AUTHZ)

WHAT WE CAN DO

RBAC

Functionality and Usage of Azure AD

Functionality of Conditional Access, MFA and SSO

CONDITIONAL ACCESS,
MFA + SSO

Functionality and Usage of RBAC

Functionality and Usage of Resource Locks

Functionality and Usage of Tags

Functionality and Usage of Azure Policy

Functionality and Usage of Azure Blueprints

Describe Cloud Adoption Framework

Links

- CAF Overview - https://docs.microsoft.com/azure/cloud-adoption-framework/overview

Describe Microsoft Privacy Statement, Online Services Terms (OST) and Data Protection Amendment (DPA)

Links

- Microsoft Privacy Statement - https://privacy.microsoft.com/privacystatement
- OST - https://www.microsoft.com/licensing/terms/product/ForallOnlineServices?azure-portal=true
- DPA - https://www.microsoft.com/licensing/docs/view/Microsoft-Products-and-Services-Data-Protection-Addendum-DPA

Purpose of Trust Center and Azure Compliance Documentation

Links

- Trust Center - https://www.microsoft.com/trust-center

Purpose of Azure Sovereign Regions

Links

- Gov CIJS - https://docs.microsoft.com/compliance/regulatory/offering-cjis

Describe Azure Cost Management and Service Level Agreements

Factors That Affect Costs

Factors to Reduce Cost

Links

- https://azure.microsoft.com/pricing/calculator/
- Pricing Calculator Deep Dive - https://youtu.be/rMKmbZ1SYQg
- Azure Reservations Deep Dive - https://youtu.be/vpTDXenagcM

Functionality and Usage of Pricing and TCO Calculators

Links

- Azure Pricing Calculator - https://azure.microsoft.com/pricing/calculator/
- Azure TCO Calculator - https://azure.microsoft.com/pricing/tco/calculator/

Purpose of Service Level Agreements

- Azure SLAs - https://azure.microsoft.com/support/legal/sla/
- Azure Status - https://status.azure.com/status
- Composite SLA documentation - https://docs.microsoft.com/azure/architecture/framework/resiliency/business-metrics#understand-service-level-agreements
- Composite SLA Deep Dive - https://youtu.be/_a3LPSZmkqY

Describe Service Lifecycle in Azure

Links

- Azure preview portal - https://preview.portal.azure.com
- Azure updates - https://azure.microsoft.com/updates/
- Azure weekly update playlist channel - https://onboardtoazure.com

Closing Thoughts

Appreciate you watching this course.

Please subscribe and help support the channel.

Please watch the various videos and crams I have over at my channel and see you on another course soon!

https://onboardtoazure.com
https://learn.onboardtoazure.com