

Provisioning Microsoft Azure Virtual Machines

INTRODUCTION AND UNDERSTANDING AZURE FUNDAMENTALS



Anthony E. Nocentino

ENTERPRISE ARCHITECT @ CENTINO SYSTEMS

@nocentino www.centinosystems.com

Course Overview



Introduction and Azure Fundamentals

Provisioning Virtual Machines with the Microsoft Azure Portal, Azure CLI, and PowerShell

Building and Deploying Custom Virtual Machine Images

Managing Virtual Machine Disks

Designing and Implementing Azure DevTest Labs

Overview

Understanding Azure Fundamentals

- **Subscription Basics**
- **Resource Manager Concepts**
- **Placing Resources in Azure Regions**

Lab Environment

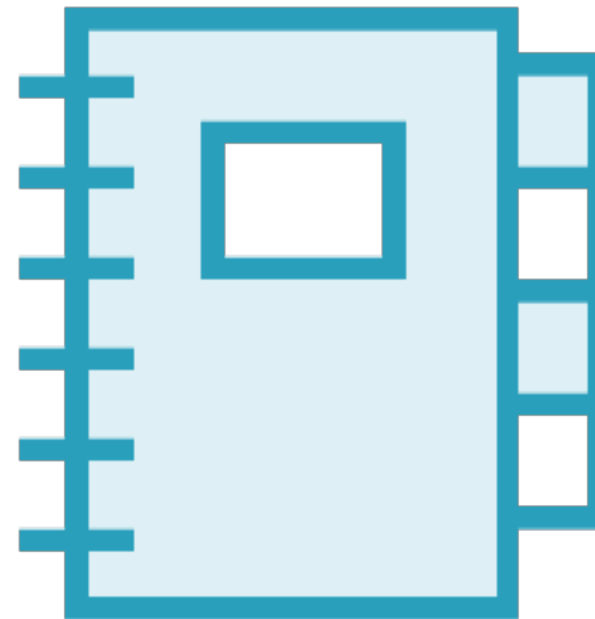
Microsoft Azure



**Cloud-based
Services**



Account



Subscription



Resources

Azure Account



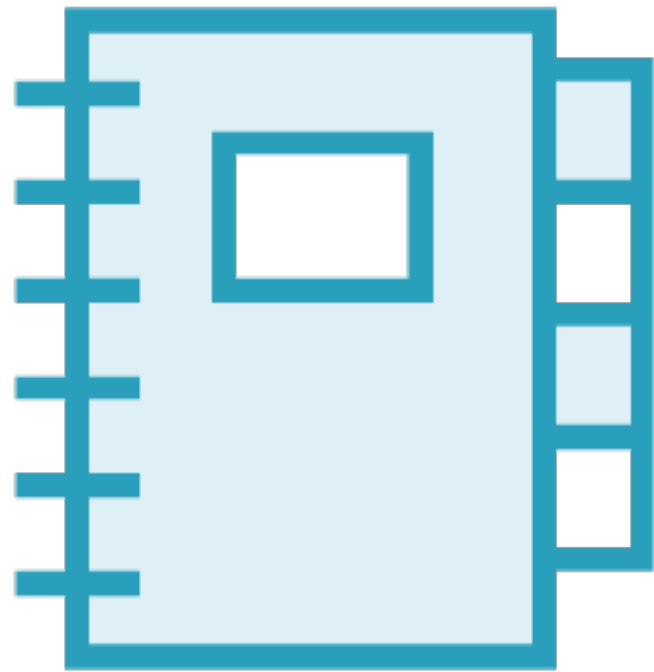
Your access into Microsoft Azure

Uniquely identifies you in Azure

Security policy

Subscription access

Azure Subscription



Subscriptions grant you access to Microsoft Azure resources

You can have several Subscriptions associated with an Account

Types of Azure Subscriptions

Azure free account

Pay-As-You-Go

Visual Studio

Enterprise Agreements

Azure Resources



Manageable item that is available in Azure

Virtual machine

Networking

Database

So on...

Resources are assigned to a Subscription

<https://azure.microsoft.com/en-us/services/>

Resource Manager

**Resource Groups
elements of a
solution**

**Build template
deployments**

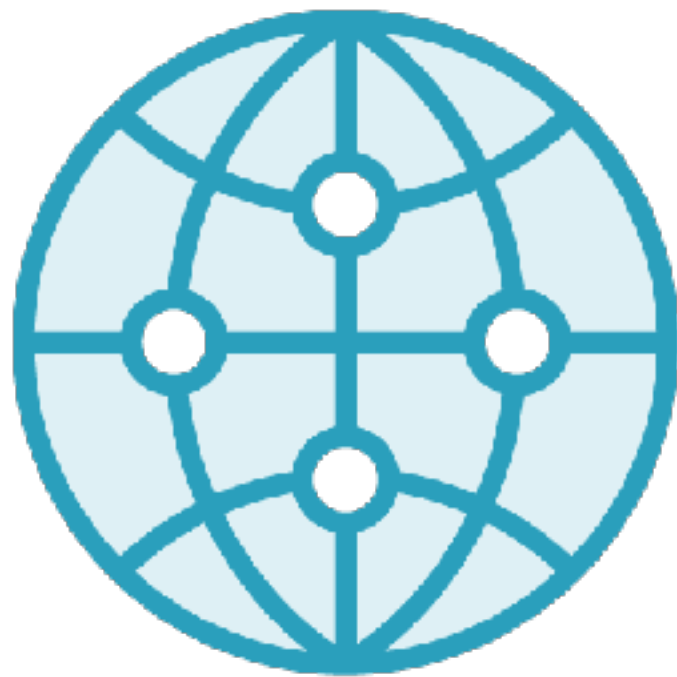
**Consistent
management layer
and tooling**

**Security boundary
for role-based
access controls**

Billing grouping

**For this course...one
Resource Manager
Group**

Placing Resources in Azure Regions



A Region is a set of data centers deployed within a latency-defined perimeter

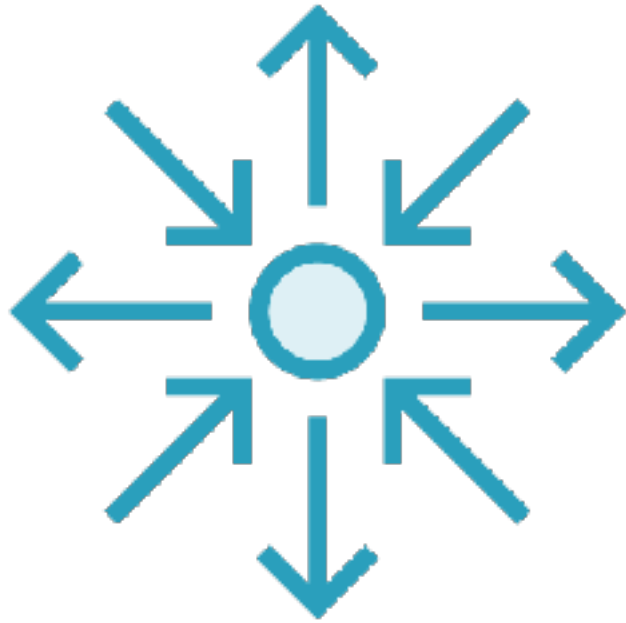
Many Regions to choose from

42 Regions around the world with plans announced for 12 additional regions

List of Regions

<https://azure.microsoft.com/en-us/global-infrastructure/regions>

Availability Zones



Physically Separate



**Redundant and
Independant**



**Mission Critical,
Low Latency**

Placing Resources in Regions and Availability Zones



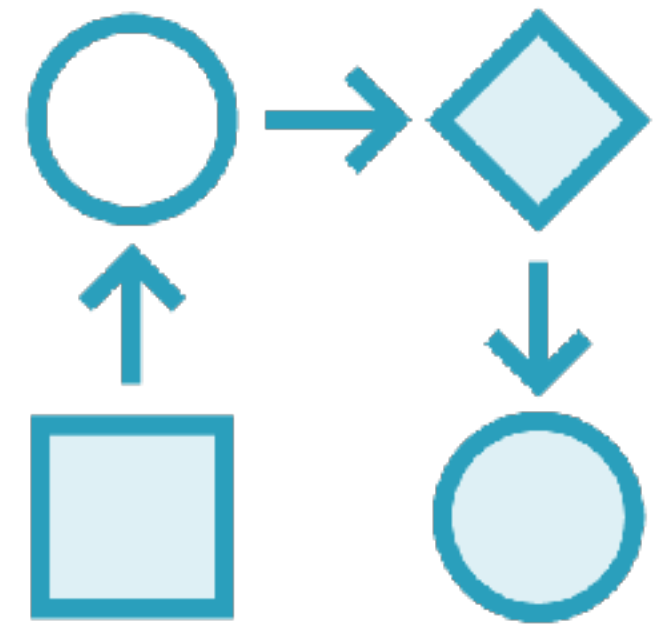
**Services
Availability**



Redundancy



Latency



**Producer/
Consumer**

Azure Services



**Infrastructure as a Service
(IaaS)**



**Platform as a Service
(PaaS)**

Azure Compute



IaaS - Infrastructure as a Service

Virtual Machines

Scaleable compute resource in Azure

You get to consume the VM and the operating system with it

Why use a Virtual Machine?



Patching



Version Control



Instrumentation



**Security/
Compliance**

Virtual Machine Images



Azure Marketplace Images

Collection of pre-packaged platforms and/or services

Operating systems

Windows Server, Windows 7/8

RedHat Linux, Ubuntu Linux and more...

Application infrastructure

Custom images

Lab Environment



Azure Account

<https://azure.microsoft.com/en-us/account/>

Subscription

Ability to create resources in Azure

Resource Groups

Virtual Machines

Storage Accounts

Networking Elements

Demo

Logging into Azure

- **Portal**

Create a Resource Group

Summary

Understanding Azure Fundamentals

- **Subscription Basics**
- **Resource Manager Concepts**
- **Placing Resources in Azure Regions**

Lab Environment

What's Next!

**Provisioning Virtual Machines with the Microsoft Azure
Portal, Azure CLI and PowerShell**