

Essentials Chapter 1 - AWS Foundations and Services

The Cloud

- Collections of managed services on the Internet
 - Unknown hardware
 - Unknown location
 - Unknown administrators

Why Should I Be an AWS Rock Star?

- Jobs, jobs, jobs
- Good salary
- Job security
 - Emerging technology
- Competitive advantage for businesses
- It's cool!

Why AWS?

- Jobs, jobs, jobs
- Good salary
- Job security
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Global Infrastructure



How Do I Get Started?

- Setup free AWS account
- Navigate AWS
- Learn a little about security
- Learn to build cloud solutions
- Learn AWS terminology

The Language of AWS

- Evolving
- WARNING: Sometimes inconsistent terminology
- Terminology will be explained throughout this course

Why AWS?

- Complete networks of storage, processing, and services in the cloud
- Most used cloud architecture provider in the enterprise market
- Largest data center deployment in the world

Scalable and Elastic

- Scalable
 - Grow as needed
- Elastic
 - Grow as needed
 - Shrink as needed
- AWS is elastic

Episode 1.02 – Rocking the AWS Cloud

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AWS Cloud Design Components

- Virtual Private Cloud (VPC)
- Storage
- Instances
- Services

Episode 1.03 – Rocking the AWS management console

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DEMO

- Creating an AWS Account

Episode 1.04 – Exploring the AWS Console

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- Show the Management Console

Episode 1.05 – Creating an S3 Bucket

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Widget Resellers, Inc.

- Sells widgets
- Wants to move to the cloud
- Needs storage, servers, databases
- Needs to be secure and flexible

DEMO

- Creating an S3 Bucket
 - What are we storing?
 - Free option (cost warning)
 - Only basic services

Episode 1.06 – Creating an EC2 Instance

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DEMO

- Creating an EC2 Instance
 - Virtual machines
 - Based on images (AMIs)
 - Computing power
 - Pick the storage (EBS)
 - Launch

Simple Storage Service (S3)

- Object storage in the cloud
 - Objects are files
 - Buckets contain objects
- Lifecycles used to manage data storage
 - Change storage type to reduce costs
- Permissions can be managed on S3 buckets

Elastic Compute Cloud (EC2)

- Virtual machines
- Based on images
 - Amazon Machine Images (AMIs)
 - Amazon-provided
 - Marketplace
 - Community
- Can access the Internet
- Can be accessed from the Internet

Elastic Block Store (EBS)

- Persistent storage for EC2 instances
- Like a hard drive in the cloud
- Connected to one EC2 instance at a time
- Called an EBS volume

Episode 1.07 – Rocking an AWS Database Services

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What is an AWS Database?

- Place to put your data in the cloud
 - Non-relational database
 - Example: Excel
 - AWS example: DynamoDB
 - Relational database
 - Examples: MySQL, SQL Server, Oracle
 - AWS examples: MySQL, SQL Server, Aurora, Redshift

DynamoDB

- Simple but fast
- Easy to use
- Can support millions of transactions

Relational Database System (RDS)

- Quickly and easily launch databases
- High availability
- Scalability
- Security

DEMO

- Creating database instances
 - DynamoDB for Widget Resellers
 - SQL Server for Widget Resellers

Episode 1.08 – Rocking an AWS Management Services

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Auto Scaling

- Grow-as-you-go
- Auto Scaling groups define how to grow and shrink
- Provides more resources when required
- Automatic

CloudWatch

- Monitors your cloud
- Provides dashboards, events, alarms, and metrics

Load Balancing

- Directing traffic to multiple servers
- AWS uses ELB (Elastic Load Balancing)
 - Instances can be placed in multiple AZs

DEMO

- Using the Trusted Advisor