

Module 1: Introduction Module

- What is AWS?
- AWS Global Infrastructure
Reference: <https://aws.amazon.com/about-aws/global-infrastructure/>
- Access through Console, CLI, SDK

Module 2: Compute Section

- What is an AMI?
- EC2 Features- User Data, Meta Data, Pricing Models, Placement Groups
Reference:
<https://explore.skillbuilder.aws/learn/course/external/view/elearning/12471/amazon-ec2-basics>
- Demo: Launching Linux, Windows EC2 instance

Lab 1: Creating EC2, Updating and Resizing, Accessing metadata

- EBS Volume Creation
- EBS Types
- EBS Use cases
Reference: <https://docs.aws.amazon.com/ebs/latest/userguide/ebs-volumes.html>
- EFS File System Use Cases
Reference: <https://aws.amazon.com/efs/when-to-choose-efs/>
- FSx for Windows
Reference: <https://aws.amazon.com/fsx/>

Lab 2: Creating EBS Volume, attaching and resizing the volume.

Module 3: Object Storage

- S3 Introduction
- S3 Features-Versioning, CRR, Storage Classes
- Glacier
- Choosing Regions
- Static Web Hosting

Reference: <https://aws.amazon.com/s3/>

Lab 3: S3 Object Upload, Versioning, Encryption and Bucket Policy

Module 4: Database Options

- RDS
- DynamoDB
- Aurora
- Comparison between DB Services

Reference: <https://explore.skillbuilder.aws/learn/course/internal/view/elearning/61/aws-database-offerings>

Lab 4: Creating a DB Instance and Accessing it from a Web application

Module 5: Cloud Networking

- Networking Basics
- CIDR
- VPC Patterns
- Public & Private Subnets
- Gateways & Route Tables
- NACLs and SGs

Reference: <https://docs.aws.amazon.com/vpc/latest/userguide/how-it-works.html>

Lab 5: Create a VPC with Public and Private Subnets and place a RDS instance in it.

Module 6: Advanced Networking

- VPC Peering & Endpoints
Reference: <https://docs.aws.amazon.com/vpc/latest/privatelink/concepts.html>
- VPN & Direct Connect
- DNS Records Explained
Reference: <https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/rrsets-working-with.html>
- Route53

Module 7: Security - AWS Identity and Access Management

- IAM
- Organizations
- Landing Zone on AWS
Reference: <https://docs.aws.amazon.com/prescriptive-guidance/latest/migration-aws-environment/understanding-landing-zones.html>
- Control Tower
- Service Catalog
Reference: <https://aws.amazon.com/servicecatalog/>
- Cognito
- Best Practices

Reference: <https://explore.skillbuilder.aws/learn/course/internal/view/elearning/48/aws-security-fundamentals-second-edition>

Module 8: Elasticity, High Availability and Monitoring

- CloudTrail
- CloudWatch
Reference:
<https://explore.skillbuilder.aws/learn/course/external/view/elearning/14688/aws-observability>
- CloudWatch Logs, Events, Metrics

Reference:
<https://explore.skillbuilder.aws/learn/course/external/view/elearning/13812/amazon-cloudwatch-troubleshooting>
- Auto Scaling Policies

Reference: <https://docs.aws.amazon.com/autoscaling/ec2/userguide/as-scaling-simple-step.html>

Lab 6: Creating a 3 Tier Web Application with Auto Scaling, Load Balancing

Module 9: Automation

- CloudFormation
- Elastic Beanstalk

Reference: <https://aws.amazon.com/cloudformation/>

Lab 7: Creating an infrastructure using CloudFormation

Module 10: Caching

- CloudFront
- ElastiCache
- Memcached vs Redis

Reference: <https://aws.amazon.com/elasticache/redis-vs-memcached/>

- Caching Strategies

Reference: <https://aws.amazon.com/caching/aws-caching/>

Module 11: Building Decoupled Architectures

- SNS
- SQS

Module 12: Microservices and Serverless Architectures

- Containers
Reference: <https://ecsworkshop.com/>
- ECS & EKS
- Lambda
- API Gateway

Reference: <https://aws.amazon.com/microservices/>

Lab 8: Image processing by triggering Lambda Functions from S3

Module 13 : Security on AWS

- Shared Responsibility Model
Reference: <https://aws.amazon.com/compliance/shared-responsibility-model/>
- AWS WAF
- AWS Shield
Reference: <https://docs.aws.amazon.com/waf/latest/developerguide/what-is-aws-waf.html>
- Guardduty
Reference: <https://aws.amazon.com/guardduty/features/>
- Encryption Options – KMS, CloudHSM
Reference: <https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html>

Module 14: Devops on AWS

- SDLC Life Cycle
- Version Control with CodeCommit
- CodeBuild
- CodeDeploy Deployment Strategies
- CodePipeline

Reference: <https://aws.amazon.com/devops/>

Lab 9: Setting up a CI/CD Pipeline on AWS

Module 15: Cost Optimization

- EC2 Pricing Comparison
Reference:
<https://explore.skillbuilder.aws/learn/course/external/view/elearning/14765/right-size-your-amazon-ec2-workload>
- S3 Storage Classes Pricing
Reference: <https://aws.amazon.com/s3/pricing/>
- General AWS Pricing
- AWS Cost Management
Reference: <https://aws.amazon.com/aws-cost-management/>
- Cost Explorer
- Billing Management

Reference: <https://aws.amazon.com/aws-cost-management/aws-billing/>

Module 16: AWS Cloud Practitioner Exam Preparation