



AWS Certified Solutions Architect – Professional



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VEPSUN

Module 1: Overview of AWS Essentials



AWS Essentials

- AWS Accounts

- Regions, AZs, and Edge Infrastructure.

- High Availability, Fault Tolerance, and Disaster Recovery.

- Disaster Recovery: RPO and RTO.

- Data Persistence.

- The OSI 7-Layer Networking Model.

Accounts



Section Introduction

- Accounts Introduction.



AWS Identity Basics

- IAM Overview

- Identity and Resource Policies

- IAM Roles and Temporary Security Credentials

- Cross-Account Access: Resource Permissions vs.

- Cross-Account Roles

- Accessing S3 with AWS IAM Roles



Account Management

- AWS Accounts and AWS Organizations
- Service Control Policies
- AWS Account Limits
- AWS Support Tiers
- AWS Config
- AWS Service Catalog



Cost and Cost Optimization

- Resource Billing Modes: On-Demand, Reserved, and Spot



Advanced Identity in AWS

- Identity Federation
- IAM Permissions Boundaries
- Policy Evaluation Logic

Networking in AWS: Virtual Private Clouds (VPCs)



VPC Essentials

- VPC Basics
- AWS Resource Access Manager (RAM)
- VPC Routing
- Network Access Control Lists (NACLs)
- Security Groups (SGs)
- Public vs. Private Subnets, Internet Gateways, and
- IP Addressing
- Egress-Only Gateways
- DNS in a VPC
- VPC Flow Logs



Advanced and Hybrid VPC Networking

- Using VPC Endpoints
- Peering VPCs
- AWS Site-to-Site VPN
- AWS Direct Connect Architecture
- AWS Transit Gateway

Security



Account and Service Security

- AWS Key Management Service (KMS)
- AWS CloudHSM
- AWS Certificate Manager (ACM)
- AWS Directory Service



Network Security

- AWS WAF and Shield
- AWS GuardDuty

Compute



Elastic Compute Cloud (EC2)

- EC2 Concepts
- Creating and Using AMIs
- Virtualization and EC2 Instance Type: Deep Dive
- EC2 Storage and Snapshots
- EC2 Instance Profiles and Roles
- HPC and Placement Groups
- Custom Logging to CloudWatch



Containers

- Containers
- ECS Architecture
- ECS Security



Serverless

- Serverless and Event-Driven Architecture
- Lambda Architecture
- Lambda Layers
- API Gateway

Scaling and Resilience



Scaling Architectures

- AWS Service Resilience
- Stateless Architectures
- Deciding between Spot and Reserved Instances
- Implementing Auto Scaling Groups (ASGs)
- Multi-AZ Implementations
- Elastic Load Balancers - Essentials
- Elastic Load Balancers - Classic Load Balancers
- Elastic Load Balancers - Application Load Balancers
- Elastic Load Balancers - Network Load Balancers



CloudFront Essentials

- CloudFront Architecture
- Creating and Working with Distributions
- Working with Custom Origins
- CloudFront and Security
- Optimizing Caching
- Lambda@Edge
- Logging, Reporting, and Monitoring



Amazon Route 53 (R53)

- Route 53 Architecture

- Advanced Route 53 Concepts

Storage



Object Storage: Amazon Simple Storage Service (S3)

- Introduction

- S3 Architecture

- S3 Storage Tiers, Intelligent-Tiering, and Lifecycle

- Policies

- Versioning and Locking

- Controlling Access to S3 Buckets

- Cross-Region Replication

- Object Encryption

- Optimizing S3 Performance

- Glacier Architecture



Amazon Elastic File System (EFS)

- EFS Architecture



Amazon FSx

- FSx Architecture



AWS Storage Gateway

- File Gateways vs. Volume Gateways vs. Tape Gateway

Databases in AWS



Databases Introduction

- EC2 Self-Managed Databases
- Database Data Models and Engines



SQL Databases

- Amazon Relational Database Service (RDS)
- Amazon Aurora Architecture
- Aurora Global Database
- Aurora Serverless
- Amazon Athena



NoSQL Databases

- DynamoDB Architecture
- Advanced DynamoDB
- Amazon Neptune
- Amazon Quantum Ledger Database (QLDB)
- Amazon DocumentDB (with MongoDB Compatibility)



Amazon ElastiCache

- ElastiCache Architecture

Analytics, IoT, and Streaming



Amazon EMR

- MapReduce Essentials
- EMR Architecture
- EMR Cost and Performance Optimization



Amazon Kinesis

- What Is Kinesis?
- Data Firehose
- Data Analytics in Kinesis



AWS Redshift

- Redshift Architecture
- Disaster Recovery in Redshift



AWS IoT Platform

- AWS IoT Architecture



Amazon QuickSight

- QuickSight Basics



Search and Analytics Engines

- Elasticsearch

Deployment and Operations



Monitoring Your AWS Account

- AWS CloudWatch
- CloudWatch Logs
- AWS CloudTrail
- Route 53 Logging
- S3 Logging



AWS Systems Manager

- Systems Management with AWS Systems Manager
- Parameter Store



AWS CloudFormation

- CloudFormation Overview
- Stack Updates
- Template Portability and Reuse
- Stack References and Nested Stacks
- Stack Roles
- StackSets
- Using CloudFormation for Disaster Recovery
- Custom Resources



AWS Elastic Beanstalk

- Elastic Beanstalk Architecture



AWS OpsWorks

- OpsWorks Architecture

Migrations and Hybrid Architectures



AWS Data Pipeline

- Data Pipeline Essentials



AWS Migration Services



AWS Snow*

- Migrating Data to AWS with Snowball and Snowmobile

Application Integration



Simple Queue Service (SQS)

- SQS Architecture



Simple Notification Service (SNS)

Using SNS within AWS Architectures



Amazon MQ

Amazon MQ Essentials



Workflow Orchestration

Step Functions and Simple Workflow Service

Course Conclusion



Final Steps

How to Prepare for the Exam



Final Exam

AWS Certified Solutions Architect - Professional
(SAP-C01)

DURATION : - 40 HRS

Key Features

- Real TimeProjects
- ExamPreparation
- MockTest
- Job Assistance
- TrainingMaterial
- LabVideos
- Mock test forCertification
- ResumeUpdating
- InterviewPreparation

WHO SHOULD ATTEND

Azure Stack is an extension of Azure, bringing the agility and fast-paced innovation of cloud computing to on-premises environments.

PREREQUISITES

A basic knowledge of windows administration and networking knowledge.