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AWS Course Content

AmazonWeb Services(AWS)

# Global Infrastructure

* Backbone Network
* Regions
* Availability Zones
* Points of Presence
* Custom Hardware

# Networking

**Architecture Principles and Methodologies**

* Well-Architected Framework
* Shared Responsibility Model
* Terminologies
* Elasticity
* High Availably
* Fault Tolerance
* Disaster Recovery
* Data Persistence
* Encrypt at rest and Encrypt during transit

**Virtual Private Cloud (VPC)**

* VPC
* VPC Essentials
* Subnets
* Network ACLs and Security Groups
* Elastic Network Interfaces (ENI)
* Internet Gateways and Egress Only Internet Gateways
* NAT Gateway
* VPC Peering
* Elastic IPs
* DHCP Option Sets
* DNS in a VPC
* Endpoints
* Virtual Private Networks
* Transit Gateways
* Traffic Mirroring
* Network Monitoring using Flow logs
* IPv6 within AWS
* Operating Modes:

o Console

o CLI

o CloudFormation

**Load Balancing**

* Basics

o OSI Network Layer

o Load Balancing

* Classic Load Balancer
* Application Load Balancer
* Network Load Balancer
* Auto Scaling Groups
* Target Groups
* Health Checks
* Using third party load balancers in AWS like F5
* Direct Connect Architecture
* Operating Modes:

o Console

o CLI

o CloudFormation

**Identity and Access Control**

**IAM**

* Overview
* Users
* Groups
* Roles
* Policies
* Custom Policies
* Multi Factor Authentication
* API Keys
* Key Management Service
* Federation and Single Sign On
* AWS Inspector and Cognito
* AWS Organizations and Service Control Policies
* AWS Cross-Account Permissions
* Operation Modes
* Console
* CLI

**AWS Directory Services**

* Create managed directory
* Manage Access
* SSO with AD Credentials
* Domain Join EC2 instances

**Compute**

**EC2**

* Virtualization in AWS
* Virtualization Types
* EC2 Instance Types
* EC2 Instance Families
* EC2 Purchasing Options
* OnDemand
* Spot
* Reserved
* Dedicated
* Capacity Reservations
* Creating AMI Images
* High Performance Compute and Placement Groups
* Horizontal and Vertical Scaling
* Auto Scaling Groups
* Key Value Pairs
* EC2 Status Checks
* Tags and Its Importance
* User Data
* EC2 Rescue
* Operating Modes
* Console
* CLI
* CloudFormation
* Troubleshooting

**Operations (OPS)**

**CloudWatch**

* Monitoring and logging basics
* CloudWatch Metrics
* Predefined
* Custom Cloud Watch Metrics
* CloudWatch Alarms
* CloudWatch Billing Alarms
* CloudWatch Free tier Billing Alerts
* CloudWatch Logs
* CloudWatch Log Agent
* CloudWatch Log Insights
* CloudWatch Events
* CloudWatch and Simple Notification Services Integration

**CloudTrail**

* CloudTrail Workflow
* Concepts
* CloudTrail Log Files
* CloudTrail Events

**Simple Notification Service (SNS)**

* Introduction
* SNS Topics
* SNS Subscriptions and SNS Subscription Protocols
* SNS Push Notifications

**Service Catalog**

* Overview and Limits
* Product and Portfolio
* Authentication and Access Control
* Managing Catalogs
* Managing Provisioned Products
* Managing Tags
* Product and Service Integrations

**Systems Manager**

* Purpose
* Capabilities of Systems Manager
* Operations Management
* CloudWatch Dashboards
* OpsCenter
* Resource Groups
* Trusted Advisor & Personal Health Dashboard
* Actions & Change
* Automation
* Maintenance Windows
* Instance & Nodes
* Configuration Compliance
* Inventory Management
* Managed Instances
* Activations
* Sessions Manager
* Run Command
* State Management
* Patch Management
* Shared Resources
* SSM Document
* Parameter Store

**AWS Cost Optimizations**

* Right Size
* Increase Elasticity
* Leverage the right pricing model
* Optimize Storage
* Measure, monitor & improve
* AWS Account Structure Considerations
* AWS Tools for Reporting and Cost Optimization

**Databases**

**Amazon Relational Database Services**

* Overview of Relational Databases
* RDS Instances and RDS Instance Sizes
* Supported Databases
* Option Groups
* Subnet Groups
* Parameter Groups
* Why Aurora Database?
* Snapshots
* Automated Backups
* Reserved Instances
* Replications
* Encryption
* Limits
* Operating Modes
* CLI
* Console
* CloudFormation

**DynamoDB**

* NoSQL Overview
* DynamoDB Concepts
* Tables
* Backups
* Reserved Capacity
* Indexes
* Transactions
* DAX
* Dashboard
* Clusters
* Subnet groups
* Parameter groups
* Events

**DocumentDB**

* Overview
* Clusters
* Instances
* Snapshots

**Elastic Cache**

* Caching Overview
* Memcached
* Redis
* Clusters
* Backups

**Storage**

**Simple Storage Service (S3)**

* Architectural Overview
* Buckets
* Objects and Folders
* Storage Tiers
* Lifecycle policies
* Versioning
* Locking
* Access to S3 Buckets
* Static Website Hosting
* S3 Cross Region Replications
* S3 Bucket Policies
* Troubleshooting
* Operating Modes
* Console
* CLI
* CloudFormation

**CloudFront**

* Overview
* Understanding Points of Presence
* Content Delivery Network Basics
* Creating & Working with Distributions
* Custom Origins
* Security
* Optimizations

**Glacier**

* Archival Basics
* Data Model
* Working with Vaults
* Working with Archives
* Querying Archives with Glacier Select
* Data Retrieval Policies

**Elastic Block Storage**

* Hard disk Basics
* EBS Types
* AWS Course Content
* QUALITY THOUGHT \* www.facebook.com/qtworld \* www.qualitythought.in
* PH: 9963799240, 8142193750 \* Location: Ameerpet \* Email: info@qualitythought.in
* EBS vs Instance Storage
* Volume
* EBS Snapshots
* Backups & Replications
* Mounting EBS Volumes
* Troubleshooting
* Operating Modes
* Console
* CLI
* CloudFormation

**Elastic File Storage**

* Network File System
* Creating Resources for Amazon EFS
* Managing EFS File Systems
* Mounting EFS File Systems
* Performance Limits
* Troubleshooting
* Operating Modes
* Console
* CLI
* CloudFormation

**AWS Storage Gateway**

* What is Storage Gateway
* How Storage Gateway Works
* Creating & Managing Storage Gateway
* Troubleshooting

**Cloud Formation**

* Concepts
* How CloudFormation Works
* Templating Basics
* Json/YAML
* Template Anatomy
* Resources
* Intrinsic Functions
* Helper Scripts
* Template Macros
* Expressions
* Stacks
* StackSets

**Server Migration Service**

* Overview
* How Server Migrations Work
* Server Migrations
* From Azure
* Form VMWare
* From Hyper-V

**Database Migration Service**

* How AWS DMS Works
* Security Setup
* Replication Instance
* Endpoints
* Tasks
* Migrating
* Mysql
* Microsoft SQL Server

**Developer**

**Elastic Beanstalk**

* Concepts
* Permissions
* Platforms
* Application Management
* Environment Management & Configuration
* Advanced Configuration
* Monitoring
* Working with Docker
* Working with Python
* Working with Java
* Working with .NET

**API Gateway**

* Concepts
* Use cases
* Deploying & Invoking a REST API
* Deploying & Invoking a WebSocket API
* Publishing & Monitoring API’s

**Simple Queue Service**

* What is Amazon SQS
* Creating Queues
* Adding Permissions to Queue
* Sending, Receiving and Deleting a Message
* Subscribing a Queue
* Purging a Queue
* Configuring Queues

**AWS Architecture Principles**

* AWS Well-Architected Framework
* Cloud Design Patterns
* Case studies

**Security**

* Key Management Service
* Cognito
* WAF & Shield
* Certificate Manager

**Foundation Course for DevOps, AWS & AZURE**

**Linux**

* Overview
* Understanding Linux Architecture
* Shell and Kernel Overview
* Linux Distributions
* Using Shell
* Exploring Filesystems
* Working with Text Files
* Process Management
* Package Management
* RPM
* DEB
* YUM
* APT
* SNAP
* Managing User Accounts
* Disk & Filesystem management
* Disk Storage
* Partitions
* LVM
* Mounts
* Linux Networking
* Service Management in Linux
* Init
* systemd
* Server Configurations in Linux
* Web Server
* Application Server
* Syslog
* Database Servers
* Troubleshooting in Linux

**Networking**

* Basic Networking Concepts
* Computer Network
* Terminology
* Network Protocol
* Ping & Traceroute
* What is IP address
* Network Categories and Components
* Domain Naming System
* OSI Model
* Layers
* Application Layer
* resentation Layer
* Session Layer
* Transport & Other lower layers
* TCP vs OSI Model
* Binary Compute Basics
* Hexadecimal Compute Basics
* IP Addressing
* Overview & Demonstration
* IPV4 Address Format
* Network vs Host portion
* Class A, B,C,D,E address
* Classless Inter-Domain Routing (CIDR) Notation
* IP Subnetting
* Routing
* Switching
* NAT Server
* DNS
* DHCP Server