

AWS Engineer Job Role Required Services & Full Course Content (2025 India)

Module 1: AWS Fundamentals

- Cloud computing concepts (IaaS, PaaS, SaaS)
- AWS Global Infrastructure (Regions, AZs, Edge Locations)
- AWS Free Tier & Billing Overview
- AWS Management Console & CLI
- AWS Shared Responsibility Model
- Introduction to IAM: Users, Groups, Policies, Roles

Module 2: Core Compute Services

- EC2 Instances: Types, AMIs, Key Pairs, SSH
- Auto Scaling Groups & Launch Templates
- Load Balancing with ELB (ALB/NLB)
- AWS Lambda: Serverless functions & integrations
- AWS Elastic Beanstalk for quick deployment
- AWS Lightsail (simple VPS hosting)

Module 3: Storage Services

- Amazon S3: Buckets, Permissions, Lifecycle Rules, Static Hosting
- Amazon Glacier & Deep Archive
- EBS (Elastic Block Store): Volumes, Snapshots
- EFS (Elastic File System) for shared storage
- AWS Backup Service
- AWS Storage Gateway (Hybrid)

Module 4: Networking

- Amazon VPC: Subnets, Route Tables, IGWs, NAT Gateway
- Network ACLs vs Security Groups
- VPC Peering & Endpoints
- Elastic IP, DHCP, DNS options
- AWS Direct Connect
- Amazon Route 53 (DNS Management)

Module 5: Database Services

- Amazon RDS: Setup for MySQL, PostgreSQL, etc.
- Amazon Aurora (High-performance RDS engine)
- Amazon DynamoDB: NoSQL
- Amazon ElastiCache (Redis, Memcached)
- Amazon Redshift (for basic DW concepts)
- Database Migration Service (DMS)

Module 6: Monitoring & Logging

- Amazon CloudWatch: Logs, Metrics, Alarms, Dashboards
- AWS CloudTrail: API tracking
- AWS Config: Change tracking & compliance
- AWS X-Ray: App-level tracing
- VPC Flow Logs

Module 7: DevOps & Infrastructure as Code

- AWS CloudFormation (IaC)
- AWS CDK (Cloud Development Kit)
- Terraform (optional but common)
- AWS CodeCommit, CodeBuild, CodeDeploy, CodePipeline
- CI/CD Pipelines & Deployment Strategies (Blue/Green, Canary)

Module 8: Containers & Orchestration

- Docker Basics
- Amazon ECS: Cluster, Task Definitions, IAM
- Amazon EKS: Kubernetes basics, Node Groups
- AWS Fargate: Serverless container deployment

Module 11: Cost Management

- AWS Pricing Calculator
- AWS Budgets & Alerts
- AWS Cost Explorer
- Resource Tagging Best Practices
- Understanding Reserved vs Spot vs On-Demand pricing

Module 13: Final Projects & Hands-On

- Host a dynamic web app with EC2 + RDS + S3 + ELB
- CI/CD pipeline using CodePipeline + Lambda + GitHub
- Create a fully provisioned VPC with public/private subnets
- Deploy infrastructure using CloudFormation/CDK

Recommended Certifications

- AWS Certified Solutions Architect Associate
- AWS Certified SysOps Administrator Associate
- AWS Certified DevOps Engineer Professional