The Idea behind this Training is to demonstrate **A**mazon **W**eb **S**ervices knowledge with hands-on to all sort of students like non-technical, technical and different technical track backgrounds, and also to highly IT experienced Techies.

The Course will start from basic and then will go into deep-dive of real time scenarios. Every session is a combination of theoretical, practical and production use cases.

Mandatory knowledge to get starting AWS

No previous knowledge is mandate to start learning AWS, although having a basic IT infrastructure knowledge is value added to become an AWS Solutions Architect.

Lab setup Requirements

- 'Amazon Web Services' Account (We will be creating on Day 1 if you don't have)
- For MS Windows Machines: PuTTY, PuTTY KeyGen (https://putty.org/) or MobaXterm
- For Linux and mac Operating Systems: Terminal (default)
- Internet connection

Course Outline

- Fundamentals of Cloud Computing
- Introduction to Amazon Web Services
- Course Target by illustrating a real-time scenarios
- Network & Content Delivery (VPC, VPN, CloudFront and Route53)
- Compute (EC2 and Lambda)
- Storage (S3, EFS, FSx, S3 Glacier and Storage Gateway)
- Security, Identity & Compliance (IAM, Key Management System, AWS Single Sign-on and Inspector)
- Database (RDS, DynamoDB and Redshift)
- Management & Governance (CloudWatch, AWS Auto Scaling, CloudFormation, CloudTrail, OpsWorks, Systems Manager, AWS Organization and Trusted Advisor)
- Application Integration (SNS and SQS)
- Containers (ECS, ECR and EKS)
- Resource Groups (Tag Editor)
- AWS Cost management
- Guidelines for SysOps Administrator and Solution Architect Certification
- Evaluation of your Resume
- Enablement for Technical Interviews (Mock Interviews)

AWS Course Content

1. Create an AWS Account (Signup)
    a. Personnel Account Type
    b. Professional Account Type
2. Overview of AWS Free Tier (12 Months of Free Tier Access)
    a. AWS Cost Explore
    b. AWS Budgets
3. **Cloud Computing**
    a. Physical Vs Virtual Vs Cloud Architectures
    b. Private, Public and Hybrid Cloud
    c. AWS Vs GCP Vs Azure
4. AWS MGT Console Kick-Start
    a. AWS **Region**
    b. AWS Availability Zone (**AZ**)
5. Illustration of Cloud Architecture
6. Default Services offerings from AWS
    a. VPC
    b. Subnet
    c. Main Route Table
    d. DHCP Options Set
    e. Network ACL
7. Introductions to Classless Inter-Domain Routing (**CIDR**)
    a. Online Calculator
    b. Offline Calculation
8. Launch Virtual Private Cloud (**VPC**)
    a. Create Subnet (Private/Public)
    b. Create Route Table (Private/Public) and attach to Subnets
    c. Create an internet Gateway (IGW) and attach to VPC
    d. Create a NAT (Network Address Translation) Gateway
    e. VPN (Virtual Private Network)
    f. VPC Peering (Cross Region and Cross Account Level)
    g. Secondary CIDR
    h. Transit Gateway
    i. VPC Endpoints
9. Launching an **EC2** Instance
    a. Amazon Machine Image (AMI)
    b. EC2 (Elastic Compute Cloud) Instance Types
    c. Public IP, Private IP and Elastic IP
    d. AWS Tagging Strategies
    e. Privacy Enhanced Mail (.pem) file and PuTTY Private Key (.ppk)
10. Managing **Linux** Instance
    a. Launch Linux EC2 (Elastic Compute Cloud) Instance
    b. SSH to Linux EC2 (Elastic Compute Cloud) Instance

c. Manage Linux EC2 (Elastic Compute Cloud) storage
d. Managing Tagging Strategies for your Linux Instance
e. Basic OS Administration of Linux
f. Security of Windows EC2 Instance

11. Managing **Windows** Instance
    a. Launch Windows EC2 (Elastic Compute Cloud) Instance
    b. RDP to Windows EC2 (Elastic Compute Cloud) Instance
    c. Manage Windows EC2 (Elastic Compute Cloud) storage
    d. Managing Tagging Strategies for your Windows Instance
    e. Basic OS Administration of MS Windows
    f. Security of Windows EC2 Instance
12. Managing **EBS** (Elastic Block Storage)
    a. Create/Attach/Delete EBS Volumes
    b. Mount/Unmount EBS Volumes
    c. Backup and Restore
13. EBS Snapshots and Instance **AMI**
    a. Create EBS Volume Snapshots
    b. Deploy Volume from Snapshots
    c. Create Custom Image of EC2
    d. Launch Instance through Custom AMI (My AMI)
14. EC2 **Auto Scaling**
    a. Amazon Machine Image
    b. Launch Configuration
    c. Auto Scaling Groups
15. EC2 **Image Builder**
    a. Image Pipelines
    b. Recipes
16. Load Balancer and Target Groups **(ELB)**
    a. Create Application Load Balancer (ALB)
    b. Overview Network Load Balancer (NLB)
    c. Overview Classic Load Balancer (CLB)
17. Storage – File System
    a. Elastic File System (**EFS**)
    b. Amazon **FSx**
18. **IAM** (Identity Access Management)
    a. IAM users and Groups
    b. Roles and Policies
    c. Multi Factor Authentication (MFA)
    d. IAM Cross Account Role
    e. Single Sign On (SSO)
    f. Key Management System
    g. Secrets Manger
    h. Directory Service
    i. AWS Inspector
    j. WAF

19. Managing **S3** (Simple Storage Service)
    a. Create a Bucket in S3 (Simple Storage Service)
    b. Storage Classes
    c. Versioning
    d. Life Cycle management
    e. Cross Region or Same Region Bucket Replication
    f. Backup and Restore
    g. S3 Bucket Policies Vs IAM Policies
    h. Security and Encryption
    i. Monitoring using Cloudwatch in in S3 (Simple Storage Service)
    j. Glacier
    k. Storage Gateway
    l. Durability and Availability
20. Database (**DB**)
    a. Relational Data Base (**RDS**)
    b. DynamoDB (**No SQL**)
    c. Redshift (**Data warehouse**)
    d. Backup and Restore
21. AWS **Analytics**
    a. Export DynamoDB Tables into S3 using **Datapipeline**
    b. **EMR** (Elastic Map Reduce)
22. AWS advanced **Management Tools**
    a. AWS Organizations
    b. CloudTrail
    c. Trusted Advisor
    d. Systems Manger
    e. AWS Organizations
    f. CloudWatch
    g. AWS Auto Scaling
    h. AWS Well Architected Tool
    i. AWS Compute Optimizer
23. AWS **Migration Tools**
    a. Snowball (Export/Import)
    b. Database Migration Service
    c. Server Migration Service
24. Infrastructure as a Code (IaC)
    a. CloudFormation
    b. Deployment of Infrastructure using CloudFormation
    c. JSON and YAML
25. AWS Notification System
    a. Simple Notification Service (**SNS**)
    b. Simple Email Service (**SES**)
26. AWS Serverless Computing platform
    a. Lambda
    b. Functions

27. Overview of AWS Native DevOps Tools
    a. CodeStar
    b. CodeCommit
    c. CodeBuild
    d. Codedeploy
    e. CodePipeline
28. AWS Native Container Tools
    a. **ECS** (Elastic Container Service)
    b. **EKS** (Elastic Kubernetes Service)
    c. **ECR** (Elastic Container Registry
29. Infrastructure as a Code
    a. Automate AWS Cloud Infrastructure using **CloudFormation**
    b. Using **Terraform** launch infrastructure in AWS
30. Summery
    a. Scenario based Question and Answers
    b. Handbooks and lab manuals
    c. Resume Evolution
    d. Certification Guidelines and required notes.

Happy Learning!
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