

## AWS SYSOPS Course Content:

### Lesson 1 - Monitoring and Metrics

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- 1.1 Overview of Cloud Monitoring
- 1.2 CloudWatch: key concepts
- 1.3 CloudWatch: Logs
- 1.4 AWS CloudTrail overview
- 1.5 Third-party Monitoring apps
- 1.6 Cloudwatch metrics
- 1.7 CloudWatch Log analysis
- 1.8 Cloudtrail logs
- 1.9 Monitoring and Security
- 1.10 Troubleshooting

### Lesson 2 - High Availability

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- 2.1 Scaling: overview
- 2.2 Elastic Load Balancing overview
- 2.3 Auto Scaling overview
- 2.4 Route 53 overview
- 2.5 Scaling Examples
- 2.6 ELB: Creating, How it Works, Cross Zone load balancing, Connection Draining, Sticky Sessions, ELB and databases
- 2.7 AS: Main parts, Instance Health, Termination policies, Steady Group, Typical lifecycle, Alarm sustain and cooldown, Event hooks
- 2.8 Route53: Concepts, Record types, Features, Latency Based Routing
- 2.9 Route53 and ELB
- 2.10 Troubleshooting Scalability

## Lesson 3 - Analysis

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- 3.1 Cost reduction opportunities
- 3.2 Tagging: overview: What tags are
- 3.3 Tagging: CLI commands, Parameters and Restrictions, Examples of tags, Cost management, Billing (Demo included)
- 3.4 Cloudwatch: Billing alarms
- 3.5 Cost Explorer (Demo included)
- 3.6 AWS Trusted Advisor
- 3.7 Lab

## Lesson 4 - Deployment and Provisioning

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- 4.1 Cloud Deployments Overview
- 4.2 Deployment with Auto Scaling
- 4.3 Blue / Green Deployment
- 4.4 Version Updates with Auto Scaling
- 4.5 Overview of the technologies for automated deployment
- 4.6 CloudFormation: Terminology
- 4.7 CloudFormation: Structure of the template, Maintaining Templates, Working with Stacks, Ref functions
- 4.8 CloudFormation: Parameters, Mappings, Resources, Init, Init and User Data
- 4.9 CloudFormation: WaitCondition, Outputs, Errors, Demo, Creating Base templates
- 4.10 CloudFormation: Troubleshooting templates
- 4.11 Lab

## Lesson 5 - Data Management

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- 5.1 Introduction to the section
- 5.2 EC2 volume/storage types

- 5.3 EC2 EBS snapshots overview
- 5.4 S3 overview
- 5.5 Glacier overview
- 5.6 Concepts of Data lifecycle on AWS
- 5.7 Some storage limits important to know
- 5.8 How to work with EBS volumes
- 5.9 EBS RAID
- 5.10 EBS Snapshots in details
- 5.11 Using Amazon S3 in details
- 5.12 S3 access (with console demo)
- 5.13 Demo #2: create IAM group policy with Policy Generator
- 5.14 S3: versioning, CORS, Reduced Redundancy storage
- 5.15 Using Amazon Glacier (with demo #3)
- 5.16 Storage Security
- 5.17 EBS and encryption
- 5.18 S3 and encryption
- 5.19 Storage troubleshooting
- 5.20 Storage Pricing
- 5.21 Lab

## Lesson 6 - Security

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- 6.1 IAM Overview
- 6.2 IAM User Administration
- 6.3 IAM Groups
- 6.4 IAM User Permissions
- 6.5 MFA
- 6.6 Securing AWS Master Account

## Lesson 7 - Networking

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- 7.1 Section overview
- 7.2 Cloud Networking Basics
- 7.3 VPC, CIDR Notation

- 7.4 Private IP Ranges and Limits for VPC
- 7.5 VPC and Subnets
- 7.6 VPC Custom Route Tables
- 7.7 Default VPC, VPC peering, Connecting VPC and on-premises datacenter,
- 7.8 Public and Private Subnets, Configuring Subnets, Bastion Host and security groups for it
- 7.9 NAT: basic principles, NAT: route tables, NAT server and NAT Gateway, High Availability design, Port forwarding
- 7.10 Security Groups limits
- 7.11 VPC and DNS
- 7.12 ENI
- 7.13 Security: overview
- 7.14 Security: Security Groups and network ACL's
- 7.15 Placement groups
- 7.16 Troubleshooting
- 7.17 Lab