



CLOUD AND DEVOPS SYLLABUS

OCTOBER 12, 2022

Legal Notice: This document contains privileged and/or confidential information and may not be disclosed, distributed or reproduced without the prior written permission of EPAM Systems.

	Topic
Fundamentals	Network Fundamentals
	Storage Fundamentals
	Databases fundamentals
	Web Servers (NGINX)
Linux	Linux Introduction
	Essential Commands
	Operation of Running Systems
	User and Group Management
	Networking
	Service Configuration
	Storage Management
Shell Scripting	Basics
	Filtering
	String Operation
	Input and Output
	Arithmetic & Logical Operations
	Cron
	Loops
	SED
AWS	Cloud Fundamentals
	Course Fundamentals and AWS Accounts
	AWS Fundamentals
	IAM, ACCOUNTS AND AWS ORGANISATIONS
	Simple Storage Service (S3)
	Security
	VIRTUAL PRIVATE CLOUD (VPC) BASICS
	ELASTIC COMPUTE CLOUD (EC2) BASICS
	Monitoring, Logging & Auditing
	CONTAINERS, ECS & ECR
	Advanced EC2
	Infrastructure as Code (CloudFormation)
	Global Service Discovery and Content Delivery (R53 and CloudFront)
	DATABASES (SQL)
	Advanced Storage

	Scaling, Load Balancing & High-Availability
	Advanced Networking
	Systems Manager
	Application Services, Event-Driven & Serverless
Terraform	Introduction
	Understand Terraform's purpose (vs other IaC)
	Understand Terraform basics
	Deploying Your First Terraform Configuration
	Implement and maintain state
	Using Input Variables and Outputs
	Updating Your Configuration with More Resources
	Adding a New Provider to Your Configuration
	Using Functions and Looping in Your Configuration
	Using a Module for Common Configurations
	Using Workspaces for Multiple Environments
	Assignment - Deploying 3 Tier Architecture with modular approach
Ansible	YAML
	Introduction
	Architecture
	Playbook Concepts
	Ansible Inventory and Configuration
	Ansible Modules
	Roles
	Advanced Execution
	Troubleshooting, Testing and Validation
Docker	Virtuallization Fundamentals
	Docker Introduction
	Docker Image Management
	Docker Engine – Security=
	Docker Engine - Networking
	Docker Engine - Storage

	Docker Compose
	Docker Swarm
	Docker EE Section Introduction
	Docker Trusted Registry
Kubernetes	Kubernetes Architecture
	Scheduling
	Logging & Monitoring
	Application Lifecycle Management
	Application Lifecycle Management
	Cluster Maintenance
	Security
	Storage
	Networking
	Design and Install a Kubernetes Cluster
	Troubleshooting
	Helm
Python	Python Setup
	Introduction to Python Data Types
	Comparison Operators
	Python Statements
	Methods and Functions
	Modules and Packages
	Error Handling
	Working with PDF, Spreadsheet, CSV
	Intro to Boto3
	Boto3 Documentataion
	Practice with EC2
	AWS Lambda functions with Python
DevOps Foundations	Methodologies
	DevOps Foundations (self-paced)
	Automation Testing (self-paced)
	Strategies for Application Deployment (self-paced)
	Monitoring (self-paced)
	GIT
	Maven
	Jenkins