EXPERIMENT INDEX

Sr. No.	Experiment Name	Description	DOP	DOS	Marks (15)	Signature
1	Windows EC2	a) What is DevOps? b) What is AWS EC2? Why EC2 c) Launch one instance of AWS EC2. This instance should be Windows [Free Tier Available]. Get connected to instances using RDP. Explain each step of EC2 creation and launching with the help of screenshots. d) Open google.com from the instances, search your instance IP address.				
2	Unix EC2	a) What is IaaS? b) What is MobaXterm? Is MobaXterm the same as PuTTY? c) Launch one instance of AWS EC2. This instance should be Ubuntu [Free Tier Available]. Get connected to instances using MobaXterm Client software. Explain each step of EC2 creation and launching with the help of screenshots. d) Check the IP address of your EC2 Ubuntu server.				
3	AWS S3	a) What is S3? b) Explain Uses of S3. c) Deployment of static website on AWS S3 [Screenshots and steps are required]				
4	AWS Lambda	a) To create a Lambda function which will log “An Image has been added” once you add an object to a specific bucket in S3. Use AWS Lambda blueprint.				
5	AWS Lambda with DynamoDB	a) What is AWS Lambda? b) What is serverless computing? c) What languages does AWS Lambda support? d) What is AWS DynamoDB Table? e) Explain AWS IAM service f) To understand AWS Lambda, create your first Lambda functions using Python/Java/Nodejs. Create AWS Lambda function and configure a trigger for Amazon Simple Storage Service (Amazon S3). The trigger invokes your Lambda function every time that you add an object to your Amazon S3 bucket. Allow AWS Lambda to access Amazon DynamoDB Table. Create IAM role that allows full access to DynamoDB Table				

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6	AWS IAM	a) Complete AWS Academy Cloud Foundations Lab 1 on Introduction to AWS IAM				
7	Dynamo DB	a) What is NOSQL, key value Databases? b) Create a Table in DynamoDB, add items to the table (minimum 10 items). Query the table.				
8	Jenkins on AWS	a) Install and configure Jenkins on AWS EC2 Ubuntu instance				
9	Docker Nginx	a) What is Containerization/Docker? Explain Docker architecture with the help of diagram b) Compare Containers vs VMs c) Why are Containers lightweight? d) Deploy a containerized web application on AWS EC2 Linux. [Install Docker, pull Nginx image and run it]. Pull python images and run the command to list all the locally stored docker images.				
10	Docker	a) What is hub.docker.com? b) What is docker hub used for? c) Install docker on AWS EC2 – Ubuntu by using curl #curl -fsSL https://get.docker.com -o get-docker.sh #sh get-docker.sh d) Run hello-world from docker hub and explain the steps e) Pull 3 or 4 images, one of the python, run “Hello World” inside container. f) Demonstrate any 15 docker command and explain its uses				
11	Containerized web application using Nginx in Docker	a) Deploying an NGINX server in a Docker Container and Modifying the index.html from within the Running Container. [Install docker on AWS EC2 – Ubuntu by using curl #curl -fsSL https://get.docker.com -o get-docker.sh #sh get-docker.sh]				

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12	Flask app inside docker container	a) Install docker on AWS EC2 – Ubuntu by using curl #curl -fsSL https://get.docker.com -o get-docker.sh #sh get-docker.sh b) Run a Flask Application inside a Docker Container and explain the steps. c) What is Dockerfile? Explain all lines of your Dockerfile				
13	Nagios – Continuous Monitoring tool	a) What is Nagios? Comment on why we need Nagios tool? b) Perform an experiment, to understand Continuous monitoring and installation and configuration of Nagios core, Nagios Plugins on Linux Machine. c) Login to Nagios dashboard and just list any 5 services available on dashboard				
14	Terraform – Infrastructure as Code (IaC)	a) What is Terraform? b) What is Infrastructure as Code (IaC)? c) Perform an experiment, to understand Terraform lifecycle, core concepts/terminologies and install it on a Linux Machine. d) Using Terraform, create an EC2 instance on AWS cloud e) Explain following Terraform commands in one line 1. terraform init 2. terraform validate 3. terraform plan 4. terraform apply 5. terraform destroy				
Average (15)						

ASSIGNMENT INDEX

Sr. No.	Assignment Name	Description	DOP	DOS	Marks (5)	Signature
1	AWS Academy Cloud Foundations Knowledge Check	Knowledge check score of Module 1, Module 2 and Module 3				
2	AWS Academy Cloud Foundations Course Completion	Submit AWS Academy Cloud Foundations Badge and certificate issued by Amazon Web Services				
		Average (5)				

TERM WORK

EXPERIMENT (15)	ASSIGNMENT (5)	ATTENDANCE (5)	TOTAL (25)	Signature