Vidyavardhini's College of Engineering & Technology
Department of Information Technology

Open Source Lab

Academic Year	2022-23 (Odd Sem)
Subject	Advance DevOps Lab
Subject In-charge	Ms. Snehal R. Mhatre

Lab Outcomes

At the end of the course students will be able to:	
LO1	To understand the fundamentals of Cloud Computing and be fully proficient with Cloud based DevOps solution deployment options to meet your business requirements
LO2	To deploy single and multiple container applications and manage application deployments with rollouts in Kubernetes
LO3	To apply best practices for managing infrastructure as code environments and use terraform to define and deploy cloud infrastructure
LO4	To identify and remediate application vulnerabilities earlier and help integrate security in the development process using SAST Techniques.
LO5	To use Continuous Monitoring Tools to resolve any system errors (low memory, unreachable server etc.) before they have any negative impact on the business productivity
LO6	To engineer a composition of nano services using AWS Lambda and Step Functions with the Serverless Framework

List of Experiments

Sr. No.	Title of Experiment	CO
1	To create AWS EC2 instance (VMs)	LO1
2	To create bucket using S3	LO1
3	To understand the benefits of Cloud Infrastructure and Setup AWS Cloud9 IDE.	LO1
4	To create repository using AWS CodeCommit	LO1
5	To understand the Kubernetes Cluster Architecture, install and deploy Kubernetes on Windows	LO2
6	To understand terraform lifecycle, core concepts/terminologies and install it on a Windows Machine.	LO3
7	To Build, change, and destroy AWS infrastructure Using Terraform.	LO3
8	To understand Static Analysis SAST process and learn to integrate Jenkins SAST to SonarQube.	LO4
9	Create a Jenkins CICD Pipeline with SonarQube to perform a static analysis of the code to detect bugs, code smells, and security vulnerabilities on a sample Web / Java / Python application.	LO4
10	To install and deploy Nagios	LO5

11	To understand continues monitoring and installation and Configuration of Nagios	LO5
12	To understand AWS lambda and its workflow	LO6
13	To create serverless applications using AWS Lambda	LO6

Mr. Sainath Patil
Lab In-charge

Dr. Thaksen Parvat
HOD - IT