***6 Day Hands-on Workshop***

***On***

***“AWS & DevOps”***

***Detailed Schedule***

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| **Day** | **Time** | **Activity** | **Topics Covered** |
| Day 1 | 09:30AM – 10:00AM | **Inauguration** | |
| 10:00AM – 11:00AM | Theory Session | * Introduction to Cloud Computing and AWS * Introduction to VPC (Virtual Private Cloud) * Introduction to Private & Public Subnets * Route Table and Internet Gateway |
| 11:00AM – 11:15AM | BREAK | |
| 11:15AM – 01:00PM | Hands- On Session & Theory Session | * Signing up for a free account with AWS * Creating your own VPC with specified CIDRs * Setting up subnets and Routing Tables * Connecting internet Gateways for Internet Connectivity * Explanation about EC2 |
| 01:00PM – 02:00PM | LUNCH | |
| 02:0PM – 04:30PM | Hands- On Session | * Launching EC2 instance within a given VPC * Jump server/Bastion host with NAT gateway |

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| **Day** | **Time** | **Activity** | **Topics Covered** |
| Day 2 | 09:30AM – 10:30AM | Hands- On Session | * Aws **project 1**: Deploying a website on AWS EC2 Instance |
| 10:30AM – 10:45AM | BREAK | |
| 10:45AM – 01:00PM | Theory & Hands- On Session | * About S3 Buckets and storing data * Creating S3 Buckets * Aws **project 2**: Hosting a Static website using Amazon S3 Bucket |
| 01:00PM – 02:00PM | LUNCH | |
| 02:00PM – 03:00PM | Theory Session | * Creating Users on IAM * Adding/Modifying/Deleting permissions * Creating IAM Groups and adding users to groups |
| 03:00PM – 04:30PM | Hands- On Session | * Backup and Recovery using AMI (Amazon machine Images) * Aws **project 3**: How to create new EC2 Instance using AMI |

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| **Day** | **Time** | **Activity** | **Topics Covered** |
| Day 3 | 09:30AM – 11:00AM | Theory & Hands- On Session | * Launch Template features * Creation of Launch template form an EC2 instance |
| 11:00AM – 11:15AM | BREAK | |
| 11:15AM – 01:00PM | Hands- On Session | * Introduction ELB (Elastic Load Balancing) * Configuring ELB via AWS Management Console * Auto Scaling Features and How Auto Scaling works * AWS **project 4:** launching the website/application using load balancer and autoscaling in secure way. * Creation of VPC and Jump server |
| 01:00PM – 02:00PM | LUNCH | |
| 02:00PM – 04:30PM | Hands- On Session | * Creating AMI and Launch Template * Adding a load Balancer to manage traffic on Auto Scaling Group * Creating Target Group * Setting up an Auto Scaling Group * Setting up Notification service |

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| **Day** | **Time** | **Activity** | **Topics Covered** |
| Day 4 | 09:30AM – 10:30AM | Theory Session | * Introduction to GIT * Version Controllers basics * Installation & Configuration of Version Controllers * Cloning repositories * Git commands |
| 10:30AM – 10:45AM | BREAK | |
| 10:45AM – 01:00PM | Hands- On Session | * Signing up for an account on GitHub * Installing and initializing local Git repository on Linux * Configuring local git with credentials to connect to GitHub account * Connect local and remote repositories * DevOps **Project 5:** How to create a repo in GitHub |
| 01:00PM – 02:00PM | LUNCH | |
| 02:00PM – 04:30PM | Hands- On Session | * Creating Origin Master * Creating files, staging, committing, and pushing to the remote repository * Pulling from Remote repository * DevOps **Project 6:** How to Download and run project from GitHub |

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| **Day** | **Time** | **Activity** | **Topics Covered** |
| Day 5 | 09:30AM – 11:00AM | Hands- On Session | * Jenkins installation * Jenkins setup * Creating users * Managing permissions, Generating personal access token |
| 11:00AM – 11:15AM | BREAK | |
| 11:15AM – 01:00PM | Hands- On Session | * Creating Jobs using build trigger and poll SCM * DevOps **Project 7:** How to clone GitHub with Jenkins using poll SCM |
| 01:00PM – 02:00PM | LUNCH | |
| 02:00PM – 04:30PM | Hands- On Session | * Creating Pipelines with script * Creating pipeline with GitHub webhook trigger * DevOps **Project 8:** How to automatically trigger the job in Jekins using pipeline integrating with GitHub |

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| **Day** | **Time** | **Activity** | **Topics Covered** | |
| Day 6 | 09:30AM – 10:30AM | Hands- On Session | * Resume Building | |
| 10:30AM – 10:45AM | BREAK | | |
| 10:45AM – 11:45PM | Test | * AWS & DevOps Course Examination | |
| **COURSE OUTCOMES**   * Project 1: Deploying a website on AWS EC2 Instance * Project 2: Hosting a Static website using Amazon S3 Bucket * Project 3: How to create new EC2 Instance using AMI * Project 4: launching the website/application using load balancer * Project 5: How to create a repository in GitHub * Project 6: How to Download and run project from GitHub * Project 7: How to clone GitHub with Jenkins using poll SCM * Project 8: How to automatically trigger the job in Jekins using pipeline integrating with GitHub | | | | Course Instructor,  **Ms. Bhargavi K Rao**  DevOps Engineer- Consultant,  MicroDegree Education Pvt. Ltd., Mangalore. | |