

Post Graduate Certificate Program in **Cloud Computing**

Class Room & Online

Linux

AWS

DevOps

Microsoft Azure

Google Cloud





5000+ Trainees | 20+ Countries
200+ Batches | 500+ Success Stories

KEY HIGHLIGHTS



Training by Real Time Experts



Material, Case Studies & Assignments



One-On-One with Industry Mentors



Dedicated Student Manager



100% Assured Placement Assistance



Hands on Training



Doubt Clarification Sessions



Limited Strength



Resume & Interview Prep Guidance



Course is curated by subject matter experts in AWS Developer



CERTIFICATIONS



Certification From **JAINX**



Digital Nest Certificate



SAMPLE CERTIFICATE



CERTIFICATE of
ACHIEVEMENT

ENDORSED BY



This is to certify that

STUDENT ID:

Name of the Student

has successfully completed and received passing grades for a Verified Certificate in
POST GRADUATE PROGRAM IN CLOUD COMPUTING a Program
offered by Faculty of Sciences, JAIN (Deemed-to-be University) during the period
MM YYYY- MM YYYY.

GRADE:

SKILLING PARTNER

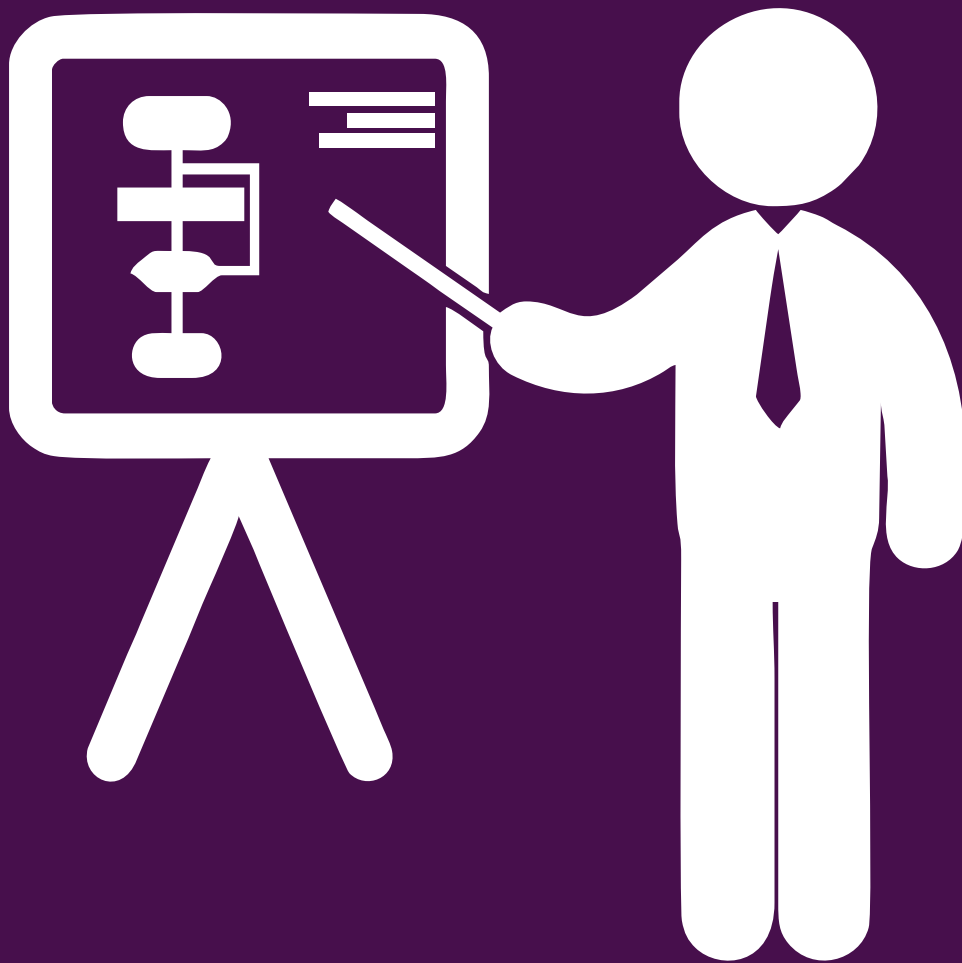


CERTIFICATION ID

Date:

Verified by

Dr. Rajasimha A M
Program Director



Program Curriculum

Linux

AWS

DevOps

Microsoft Azure

Google Cloud

MODULE - I

Introduction

- Introduction cloud computing world
- History
- Cloud business models
- Public, Private and Hybrid cloud models
- Advantages of cloud computing

MODULE - II

Linux

- Introduction to Virtualization
- VM vs Physical Machine
- User Management
- Introduction to BASH
- Basic Commands(ls,cd,cat,touch,mkdir)
- Text Editor(vi)
- Package Management(yum)
- Installing and Removing Software
- Configuring a Apache Web server
- Creating File System and mounting
- Volume Management

MODULE - III

AWS

AWS Overview

- AWS Regions and Availability zones.
- Tools to access services.
- Overview of the console.

AWS EC2(Elastic Compute Cloud)

- Introduction to EC2.
- Pricing models On-demand vs Reserved vs Spot instances.
- Using Amazon Machine Images (AMIs) to create the instances.

- Public vs Private Images.
- Sharing Images to other accounts.
- Logging into instances using key pairs.
- Converting PEM files to ppk.
- Assigning static IPs using Elastic IPs.
- Control access to instances using Security Groups.
- Backup and restore process of the EC2 instances.

EBS

- Volumes and types.
- Creating Volumes and attaching to Instances.
- Using snapshots for backup.
- Increasing the size of the volumes.
- Backup and restore process of the EBS Volumes.

Elastic File System

- Introduction to Network File System.
- Creating Resources for EFS.
- Managing EFS File Systems.
- Mounting EFS File Systems.
- Troubleshooting.

Elastic Load Balancer

- Introduction to Elastic Load Balancing.
- Creating ELB from Console.
- Attaching instances to ELB.
- Configuring Ports, Protocols
- Configuring health checks.
- Enabling sticky session.
- Connection draining.
- Troubleshooting.
- Enabling SSL Certificates for https transactions.

Cloud Watch

- Introduction to Cloudwatch monitoring service.
- Setting thresholds.
- Configuring Actions.
- Monitoring CPU, Memory and network utilization of different resources.
- Creating notifications.
- Integrating with Auto-scaling.

Cloud Watch Logs

- Introduction
- Need of Cloud Watch Logs.
- Business Use Cases.
- Example Scenarios.

Simple Notification Services

- Introduction to notifications
- Creating Topics
- Subscribing to Topic
- Publishing to SNS Topic
- Testing e-mail and SMS functionality.

Relational Database Service

- Introduction to Managed database.
- Creating RDS instances using AWS console.
- Choosing an RDS engine and version.
- Public vs Private database instances.
- Multi-AZ setup.
- Backup using snapshots and point in restore.
- Parameter Group.
- Options Group.
- Control access to instances using Security Groups.

Auto-Scaling

- Overview.
- Creating launch configuration.
- Creating auto-scaling group.
- Auto-scaling policies.

AWS S3(Simple Storage Service)

- Introduction to Simple Storage Server (S3).
- Storage options
(default vs reduced redundancy vs Glacier).
- Creating buckets using Console.
- Uploading and downloading data to S3.
- Building static websites using S3.
- Enable version control on S3.
- S3 access policies.

Storage(Glacier)

- Introduction to Glacier.
- Moving data from S3 to Glacier.
- Setting archiving policies on S3.

Cloud Front (Content Delivery Network)

- Introduction to Content Delivery Networks.
- Overview of Amazon CDN
- Origins and Edge locations
- Configure S3 backend for CloudFront.
- Configure ELB backend from CloudFront.

Elastic BeanStak

- Introduction to Elastic Beanstalk
- Creating Environment
- Deploying a Sample APP.

Identity Access Management (IAM)

- Introduction to IAM.
- Access controls using IAM.
- Creating users, groups and roles.
- Assigning policies.
- Inline vs. Custom vs. Managed policies.
- Multi factor Authentication (MFA).

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Virtual Private Cloud (VPC)

- Introduction.
- Choosing a network design and CIDR.
- Design a simple network.
- Creating Subnets and setup routing as per the design.
- Using IGW tenable internet access.
- Access controls using Network ACLs.
- Network ACLs vs Security Groups.
- Creating Private connections from data center to AWS.
- Enabling VPC peering between VPCs.

AWSCLI

- Installing AWSCLI
- Installing CLI tools using rpm or pip
- Configuring credentials
- AWS CLI syntax
- Creating and managing resource using CLI
- Examples

Cloud Formation

- Introduction.
- Understanding the template format.
- CloudFormation designer.
- Create a simple CloudFormation template.
- Managing dependencies.
- Updating the existing stacks.
- Intrinsic functions.
- Pseudo parameters.
- Updating CloudFormation stacks.
- Understanding event.
- Cloudformer.

Route 53(DNS Service)

- Creating Hosted Zones
- Hosting a Website
- Understanding Routing Policies.
- Weighted, Simple and Failover Policies.

Lambda

- Introduction.
- Need of Lambda service.
- Business Use Cases.
- High Level Overview using Python(BOTO3).

Cloud Trail

- Introduction.
- Cloud Trail Workflow.
- Cloud Trail Events & Logs.
- Business Use Cases.

Best Practices

- Cost optimization.
- Cloud migration Strategy.
- Other Useful Services for Migration.

MODULE -IV

DevOps

Introduction

- What is DevOps?
- What is SDLC?
- Why DevOps?
- DevOps principles.
- Waterfall vs Agile vs DevOps
- Infrastructure As A Code
- DevOps Tools
- Pre-Requisites for DevOps
- Configuration Management
- Continuous Integration and Deployment

Apache Tomcat

- Introduction to Webservers
- Installing and Configuring Apache
- Application Management
- App Deployment Methods

GIT

- Introduction to version control systems
- Centralized vs Distributed
- GIT advantages
- Installing GIT
- Creating repository
- Adding code and creating commits
- Creating GitHub account
- Push code to GitHub
- Cloning repo from GitHub
- Forking GitHub repo and working on it.

Maven(Build Management)

- Build Management
- Advantages of Build tool
- Build tools
- Architecture of Maven

- Maven build life-cycle
- Maven directory structure
- Maven repositories
- pom.xml
- Multi module project

Configure Management Systems

- Introduction
- What is Idempotency
- Abstract layers
- Ansible vs Chef vs Puppet
- Push or Pull modes

Ansible

- Installing Ansible using RPM or Python PIP
- Inventory
- Ansible Modules
- Running ansible ad-hoc commands
- Creating ansible playbooks
 - Variables
 - Loops
 - Conditional execution
- Using ansible facts for customization
- Creating ansible roles
- What is Ansible Galaxy
- How to download ansible roles from Ansible galaxy

Jenkins

- Overview
- Installation
- Setting up authentication
- Manage plugins from console
- Installing GitHub plugin from repository
- Adding Ant/Maven support
- Configuring email notifications
- Continuous deployments using Jenkins
- Explore Jenkins system configuration
- Analyzing system logs

Docker

- What is Docker
- Containers Vs Virtual Machines
- Docker platform overview and Terminology
- Docker engine
- Images
- Containers
- Registry
- Repositories
- Docker hub
- Docker orchestration tools

Kubernetes

- What is kubernetes
- Installation of kubernetes
- Features of kubernetes
- Architecture of kubernetes
- Kubernetes Master
- Kubernetes Nodes
- Kubernetes Components
- Kube-api server
- etcd(cluster store)
- kube-scheduler
- kube-proxy
- kubelet
- pods
- multicontainer pod
- pod limitations
- replica sets
- Deployments

Nagios

- Introduction
- Nagios Architecture
- Installing and Configuring Nagios
- How to Add Services to Nagios
- Monitoring with Nagios
- Using the Default Plugins
- How to configure Plugins on Remote Nodes

MODULE -V

Microsoft Azure

Azure Introduction

- Azure Introduction
- Creating Azure Free Account
- Understanding Azure Subscriptions and Roles
- Understanding Azure Portals
- ASM (Azure Service Manager) (Deprecated)
- ARM (Azure Resource Manager)

Building Blocks (IAAS) Compute

- Introduction to Virtual Machines
- Compute tiers
- pricing
- Different ways to deploy virtual machines
- Configuring and managing azure virtual machines
- Advanced concepts on Azure virtual machines
- Different types VM images
- Custom images
- VM disks
- Availability sets
- Availability Zones
- Azure Scale sets
- Assigning static Ips

Network

- Introduction to Azure Virtual Networks
- Creating and Managing Azure virtual networks
- Understanding Network ACLs and Network Security groups
- Understanding Azure DIP, VIP and PIP
- Azure VNET to VNET
- Azure Point to Site
- Azure Site to Site
- Azure ExpressRoute

Storage

- Introduction Azure Storage
- Understanding Different Azure Storage replication techniques
- LRS (Locally Redundant Storage)
- ZRS (Zone Redundant Storage)
- GRS (Geo Redundant Storage)
- RA-GRS (Read Only – Geo Redundant Storage)
- Different types of Azure Storage options
- Azure File Storage
- Azure Blob Storage
- Azure Queue Storage
- Azure Table Storage
- Advanced Concepts on Azure Storage
- Storage Access Keys
- Storage Access Signatures
- Use cases for Azure File, Table, Queue and Blob storage
- Different types of Blobs
- Understanding Azure Managed Storage

Identity and Access management (Azure Active Directory)

- Active Directory Fundamentals
- Understanding Azure Active Directory
- OAuth
- Multifactor Authentication
- Understanding Differences Between Traditional AD and Azure AD
- Understanding Azure AD integration
- Azure AD data Sync
- Role based Access Control

PAAS

Azure WebApps

- Introduction to Azure Web Apps
- Understanding Web App Tiers and Pricing
- Understanding App Service Plans

- Understanding Different Ways to deploy Web Apps
- Deployment pipeline
- Scaling Web Apps
- Supported Languages
- Security and Monitoring
- Understanding Web jobs
- Azure Logic Apps
- Azure API Apps

Azure SQL Database

- Introduction Azure SQL Database as a service
- Comparing Azure SQL and Traditional SQL
- Benefits of Azure SQL database
- Advanced capabilities
- Backup options
- Scaling Azure SQL Database
- Security
- Pricing

Azure Service Bus

- Introduction to Azure Service Bus
- Service Bus Queues
- Service Bus Topics
- Service Hub Relays
- Event Hubs

Azure Traffic Manager

- Introduction Azure Traffic Manager
- Understanding Different traffic routing methods
- Priority method (Failover method)
- Weighted method (Round-robin method)
- Performance method (Performance method)

Azure CDN

- Introduction Azure CDN
- Understanding Azure CDN
- Setting up Azure CDN

Other Azure Services

- Azure SAAS
- Azure Backup
- Azure Load balancer
- Azure Site Recovery
- Azure PowerShell
- Azure CLI
- Azure Cloud Services
- Azure Automation
- Azure Keyvault

MODULE - VI

Google Cloud

Designing and planning a cloud solution architecture

Designing a solution infrastructure

- Business use cases and product strategy
- Cost optimization
- Supporting the application design
- Integration with external systems
- Movement of data
- Design decision trade-offs
- Build, buy, or modify
- Success measurements
- Compliance and observability
- High availability and failover design
- Elasticity of cloud resources
- Scalability to meet growth requirements
- Performance and latency

Designing network, storage, and compute resources

- Integration with on-premises/multi-cloud environments
- Cloud-native networking (VPC, peering, firewalls, container networking)
- Choosing data processing technologies
- Choosing appropriate storage types
- Choosing compute resources
- Mapping compute needs to platform products

Creating a migration plan

- Integrating solution with existing systems
- Migrating systems and data to support the solution
- Licensing mapping
- Network planning
- Testing and proof of concept
- Dependency management planning

Envisioning future solution improvements

- Cloud and technology improvements
- Business needs evolution
- Evangelism and advocacy

Managing and provisioning a solution Infrastructure

Configuring network topologies

- Extending to on-premises (hybrid networking)
- Extending to a multi-cloud environment that may include GCP to GCP communication
- Security and data protection

Configuring individual storage systems

- Data storage allocation
- Data processing/compute provisioning
- Security and access management
- Network configuration for data transfer & latency
- Data retention and data life cycle management
- Data growth management

Configuring compute systems

- Compute system provisioning
- Compute volatility configuration (preemptible vs. standard)
- Network configuration for compute nodes
- Infrastructure provisioning technology configuration
 - Chef
 - Puppet
 - Ansible
 - Terraform
 - Deployment Manager
- Container orchestration with Kubernetes

Analyzing and optimizing technical and business processes

Analyzing and defining technical processes

- Software development life cycle plan (SDLC)
- Continuous integration / continuous deployment
- Troubleshooting / post mortem analysis culture
- Testing and validation
- Service catalog and provisioning
- Business continuity and disaster recovery

Analyzing and defining business processes

- Stakeholder management
- Change management
- Team assessment / skills readiness
- Decision-making process
- Customer success management
- Cost optimization / resource optimization (capex / opex)

Developing procedures to ensure resilience of solution in production

Managing implementation

Advising development/operation team(s) to ensure successful deployment of the solution. Considerations include

- Application development
- API best practices
- Testing frameworks (load/unit/integration)
- Data and system migration tooling

Interacting with Google Cloud using GCP SDK (gcloud, gsutil, and bq). Considerations include

- Local installation
- Google Cloud Shell

Ensuring solution and operations reliability

- Monitoring/logging/profiling/alerting solution
- Deployment and release management
- Assisting with the support of solutions in operation
- Evaluating quality control measures

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	 Accelerating Business Outcomes		 Ingenuity at work		
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PROGRAM FEE

PG CERTIFICATE PROGRAM IN CLOUD COMPUTING

Rs.1,50,000/- 18% GST

EMI Starts @ Rs. 6250/-

Post Graduate Certificate from



Fee Breakup

Application Fee	:	Rs.1000/-
Admission Fee	:	Rs.20,000/-
Tuition Fee	:	Rs.1,00,000/-
Examination & Certification Fee	:	Rs.30,000/-

Key Highlights :

- 100% placement assistance
- Learning modes include Classroom, Online & Self Learning
- Material, Case Studies & Assignments
- One-on-One with industry mentors
- Dedicated student manager
- Hands on training
- Resume & interview preparation guidance
- Course is curated by subject matter experts in cloud computing
- Learning using world class learning management system
- Dedicated placement manager for interview process
- Connect and network with alumni working with different organizations
- Unique job portal to access jobs and internships posted by HR's from various companies

Terms & Conditions:

- * Fee once paid is non-refundable
- * Avail EMI facility from top financial institutions
- * Accommodation charges for hostel will depend on the hostel representatives

LEARN *NOW*

PAY *LATER*

INTRODUCING

Flexible EMI Options*

at **0**% Interest

EDUCATION LOAN PARTNERS



*Terms and conditions apply

FAQ'S



DURATION

11 Months



ELIGIBILITY

Bachelor's degree (10+2+3/4) or equivalent qualification in any discipline from a recognized University with a minimum 55% score.

OR

Students who have appeared for their final year degree examination can also apply, however, their admission will be provisional and will be confirmed only after producing the results.



CERTIFICATIONS

Certification from **JAINX**

Certification from **Digital Nest**



LAPTOP CONFIGURATION

OS: Windows X, I5 7th generation Processor, Ram: 4GB, HDD: 1 TB



ROLES

Operational Support Engineer, Cloud Software Engineer, System Integrator - Cloud, Cloud Developer, DevOps Engineer, AWS Solutions Architect, AWS SysOps Administrator, Senior AWS Cloud Architect, Azure Administer, Google Cloud Practitioner, Azure Architector, VM Engineer.



PACKAGES

6-20 Lakh p.a.



PRE REQUISITE

There are no pre-requisites to learn Cloud Computing



WHO CAN LEARN

Any Graduate

Ready to get incubated in **Cloud Computing** Lets Start

Reach Us:

📍 1st Floor, SNR Towers,
Beside BVRIT
City Center bus stop,
PANJAGUTTA, Hyderabad.

📍 2nd Floor,
Above Karnataka Bank,
Silicon Valley Road,
HITECH-CITY, Hyderabad.

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