

## About Institute

Guru Nanak Dev Engineering College (GNDEC), Ludhiana, established in 1956, is one of the oldest and a premier Engineering Institute of India. The Institute is set up on 88 acres of sprawling pristine land along Gill Road (Ludhiana-Malerkotla Highway). The foundation stone of the college was laid by Honorable Dr. Rajendra Prasad Ji, President of India on April 8, 1956. GNDEC is now an autonomous college under UGC Act 1956 [2(f) and 12(B)] and also accredited by NAAC with 'A' grade. The Institute has six Under-Graduate (UG) programmes, thirteen Post-Graduate (PG) programmes, besides being a QIP Centre for Ph.D.

## About Department

**Computer Science and Engineering Department** was established in 1997. Department is currently offering undergraduate and postgraduate programmes with an intake of 360 and 12 respectively. Ph.D. programme is also being offered in the department. The department has various laboratories equipped with state-of-the-art computing facilities to support the research and teaching activities. The research activities in the department involve fields like Natural Language Processing, Image Processing, Big Data, Cloud Computing, Software Engineering, Network Security, etc.

## Objective

This 4/6-week training program provides a practical foundation in Cloud Computing and DevOps by progressing from core concepts to production-ready deployment practices. It begins with Linux fundamentals, shell scripting, networking basics, and virtualization setup. Learners then explore cloud platforms with hands-on experience in AWS services such as EC2, S3, and IAM for deploying basic applications. The program advances to version control using Git, CI/CD concepts, and Jenkins pipeline automation. Participants gain containerization skills through Docker and implement deployment workflows using GitHub, Docker, and AWS. Which is a complete real-world DevOps solution.

## Who can apply?

It is an Interdisciplinary training. So the students of B.Tech (CSE/IT/ME/Civil/EE/ECE) – from both 2nd Year and 3rd Year as well as from BCA and MCA can apply for this training programme. Students from other Engineering / Polytechnic colleges can also join this training.

## Four Weeks Summer Training Program

On

## Master Class Program on Cloud Computing and DevOps

Tentative (3<sup>rd</sup> week of June – 3<sup>rd</sup> week of July 2026)



**Dr. Kiran Jyoti**  
(Head, Department of CSE)

**Pf. Jaswant Singh Taur, Dr. Satindpal Singh and Dr. Amit Jain**  
(Training Coordinators)

**Organized by:**

**Testing and Consultancy Cell**

*in collaboration with*

**Department of Computer Science and Engineering**  
**Guru Nanak Dev Engineering College, Ludhiana, Punjab – 141006**

[An Autonomous College under UGC Act. 1956]

## Master Class Program on Cloud Computing and DevOps

**Duration:** 4/6 Weeks

**Mode:** Offline

### Contents to be covered

#### **Week 1: Linux + Networking + Basics**

- Introduction to Cloud Computing & DevOps concepts
- Linux fundamentals (file system, permissions, users)
- Shell scripting (basic automation),
- Networking basics (IP, DNS, ports, HTTP/HTTPS)
- Introduction to virtualization (VM setup)
- Install Ubuntu VM, Basic shell scripts
- Network commands (ping, netstat, curl)

#### **Week 2: Cloud Platform (AWS Basics)**

- Introduction to cloud providers (AWS/Azure/GCP overview)
- Core services (EC2-Virtual Server, S3-Storage, IAM-Users & Roles)
- Launching and managing instances, Key pairs & security groups
- Basic cloud architecture, Launch EC2 instance
- Host a simple website, Upload files to S3

#### **Week 3: DevOps Tools (Git + CI/CD Basics)**

- Version control using Git, Create GitHub repo
- GitHub workflow (clone, commit, push, pull request)
- Introduction to CI/CD, Jenkins basics (pipeline concept)
- Setup Jenkins pipeline
- Automate build process

#### **Week 4: Advanced Topics and Interdisciplinary Applications**

- Introduction to Docker, Docker images & containers
- Dockerfile basics, Container deployment
- Intro to DevOps lifecycle
- Deploy a web app using GitHub + Docker + AWS
- Basic CI/CD pipeline

#### **Week 5: Container Orchestration + Infrastructure Automation**

#### **Week 6: Monitoring DevSecOps + Capstone Project**

**Important: The training sessions will include daily Quiz, Hands on Practice on daily tasks, Weekly Assignment – with Practical Problems, Project Submission – Within One Week after completion of the course.**

## Registration Form

Name (in block letters): \_\_\_\_\_

University Roll Number: \_\_\_\_\_

College Roll Number: \_\_\_\_\_

Department: \_\_\_\_\_

Institution: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

\_\_\_\_\_

Age: \_\_\_\_\_ Gender (M/F): \_\_\_\_\_

Mobile No.: \_\_\_\_\_

Email: \_\_\_\_\_

**4 Week Registration Fee: Rs. 5000/- (Including GST)**

**6 Week Registration Fee: Rs. 6500/- (Including GST)**

Receipt No. (Cash Payment): \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Applicant: \_\_\_\_\_

### **Important Note:**

The participants should send through e-mail the scanned copy of the filled and duly signed registration form to the training coordinator on or before **30<sup>th</sup> May, 2026**. The hard copy of the registration form must be submitted on the first day of the program at the registration desk.

### **Contact Details of Resource Persons:**

Pf. Jaswant Singh Taur (+91 96468-63063, jaswant@gndec.ac.in)

Dr. Satinderpal Singh (+91 82890-33132, satinder@gndec.ac.in)

Dr. Amit Jain (+91 70099-33496, amitaiincse@gndec.ac.in)