राष्ट्रीय इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी संस्थान, चेन्नई
National Institute of Electronics & Information Technology, Chennai

NIELIT
रा.इ.सू.प्रौ.सं

Ministry of Electronics & Information Technology
Government of India

नेशनल इंस्टीट्यूट ऑफ इलेक्ट्रॉनिक्स एंड इंफॉर्मेशन टेक्नोलॉजी, चेन्नई

National Institute of Electronics and Information Technology, Chennai

Autonomous Scientific Society of Ministry of Electronics & Information Technology (MeitY), Govt. of India

ISTE Complex, 25, Gandhi Mandapam Road, Chennai - 600025

<u>Course Prospectus</u>

Certificate Course in DevOps Engineer

Mode: ONLINE (Blended)

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Course Prospectus

Name of the Group: ISM

Course Name: Certificate course in DevOps Engineer

Course Code: IS901

Duration: 120 Hours, 6 Weeks

Last Date of Registration: 27-03-2023

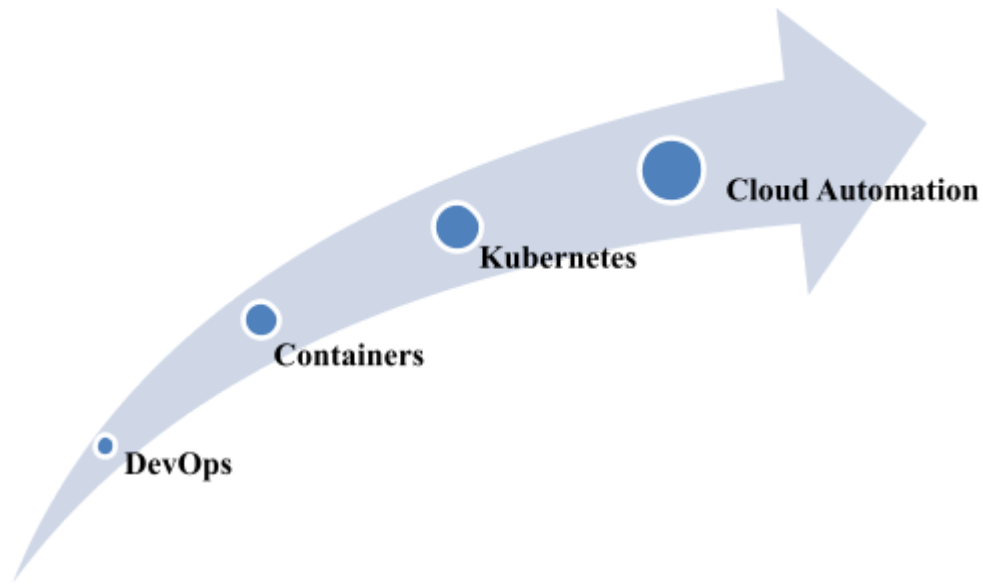**Display of Provisional Selection List:** 28-03-2023

Course Start Date: 29-03-2023

Preamble: The Course is designed to provide students with an understanding of the principles, practices, and tools that are used to design, implement, and manage IT systems in a DevOps environment. Containers are often compared to virtual machines (VMs) because both technologies enable significant compute efficiencies by allowing multiple types of software (Linux- or Windows-based) to be run in a single environment. However, container technology is proving to deliver significant benefits over and above those of virtualization and is quickly becoming the technology favoured by IT professionals. Docker container technology leveraged existing computing concepts around containers and specifically in the Linux world, primitives known as namespaces. Docker's technology is unique because it focuses on the requirements of developers and systems operators to separate application dependencies from infrastructure.

Objective of the Course: The Course is 120 Hrs. (6 Weeks) program aimed to equip students with the knowledge and skills they need to be able to work effectively with development and operations teams to deliver high-quality software products that meet the needs of the organization.

Outcome of the Course: This skill-oriented course provides candidates with information required for configure and administration of Linux Server, Container Deployment and to use key DevOps tools and techniques, such as version control, continuous integration, and automated testing, to improve the speed, reliability, and quality of software delivery.

Full Flow of Course:

Course Structure: This course contains a total of four modules. After successful completion of the four modules, the candidates will be awarded certification.

IS 901	Module Name	Duration (in Weeks)
1.	DevOps	1 Weeks
2.	Containers	2 Weeks
3.	Kubernetes	2 Weeks
4.	Cloud Automation	1 Weeks
Total Duration		6 Weeks

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Course Contents:

Module I DevOps

Module Duration: 30 Hours

1. Linux Server Administration (10 Hours)
   - Linux Commands
   - Server Installation
   - DNS and Web Server
2. DevOps (10 Hours)
   - Introduction to DevOps
   - Principles and Key Concepts
   - Implementation and Benefits
3. DevOps Tools (10 Hours)
   - Version control/ Branch Management
   - Virtualization Platforms
   - Monitoring and Altering
   - Configuration Management

Module II Containers

Module Duration: 40 Hours

1. Docker (15 Hours)
   - Introduction to Docker
   - Docker Terminologies
   - Installing Docker
   - Creating Container
   - Creating DockerFile
   - Creating customized Docker Images
   - Docker Registries
   - Storing and Managing Images
2. Docker Compose (15 Hours)
   - Introduction to Docker Compose
   - Installing Docker Compose

- Docker Compose YML file
- Docker Compose Commands
- Configuring a Reverse proxy with Nginx
3. Docker Swarm (10 Hours)
   - Docker Swarm Architecture
   - Installing Docker Swarm
   - Roles and Usage
   - Service and Stacks
   - Load Balancing and Scheduling

Module III Kubernetes

Module Duration: 40 Hours

1. Kubernetes (15 Hours)
   - Introduction to kubernetes
   - Kubernetes Architecture
   - Kubernetes Components
2. Kubernetes Cluster (15 Hours)
   - Minikube and Kubeadm
3. Kubernetes Pods (10 Hours)
   - Creating and Deploying Applications.

Module IV Cloud Automation

Module Duration: 10 Hours

1. Cloud Automation
   - Ansible
   - Puppet
   - Chef
   - Terraform

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Course Fees:

Course fee is Rs. 2500/- + GST as applicable

GST is Applicable as per Govt. Norms GST (currently it is 18%).

However, the above Course fee shall be refunded on few special cases as given below

✔ Course postponed and the new date is not convenient for the student.
✔ Course cancelled.

Eligibility:

✔ B.Sc/BCA/B.E/B.Tech (Computer Science/Electronics/IT) or any degree with PGDCA or equivalent.

Number of Seats: 100 (One Hundred) - Total

How to Apply

Candidates can apply online on our website http://reg.nielitchennai.edu.in. Payment towards non-refundable registration fee can be paid through any of the following modes:

✔ Online transaction: Account No: 31185720641 Branch: Kottur (Chennai), IFSC Code: SBIN0001669.

Note: *The Institute will not be responsible for any mistakes done by either the bank concerned or by the depositor while remitting the amount into our account*

Last date of Registration: 27th March, 2023

Registration Procedure

All interested candidates are required to fill the Registration form online with Course fees before **27th March, 2023** with all the necessary information.

Selection Criteria of candidates

The selection to the course shall be based on the following criteria:

Selection of candidates will be based on their marks in the qualifying examination subject to eligibility and availability of seats.

✔ The first list of Provisionally Selected Candidates will be published on NIELIT Chennai website (www.nielit.gov.in/chennai) on 28-03-2023 by **5:00 PM**. In case of vacancy, an additional selection list will be prepared and the selection will be intimated by email only.
✔ Provisionally selected candidates have to upload their documents on the registration portal for online verification.

Admission: All provisionally selected candidates whose documents are verified and paid the fees and verified by accounts section of NIELIT Chennai will get a welcome message in

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his login id provided during registration. The credential and url for the online portal will be shared through WhatsApp or email.

Discontinuing the course

✔ No fees under any circumstances, shall be refunded in the event of a student who has completed the process of admission or discontinuing the course in between. No certificate shall be issued for the classes attended.

Course Timings: This program is a practical oriented one and hence there shall be more lab than theory classes. The classes are online cloud based from 9.30 am to 5:30 pm and Monday to Friday.

Address:

National of Electronics and Information Technology

ISTE Complex, No. 25, Gandhi Mandapam Road, Chennai – 600025

E-mail: trng.chennai@nielit.gov.in/Phone: 044-24421445

Contact Person: Ramprasath S, Mobile: 8608565776

Contact Person: Yatish Kumar Appu P, Mobile: 9841535405

Course enquiries

Students can enquire about the various courses either on telephone or by personal contact between 9.15 A.M. to 5.15 P.M. (Lunch time 1.00 pm to 1.30 pm) Monday to Friday.

Placement: Placement assistance is provided to students who qualify our courses.

Important Dates

☐ **Last Date of Registration:27-03-2023**

☐ **Display of Provisional Selection List: 28-03-2023**

☐ **Course Start Date: 29-03-2023**

Certification

✔ Certification Body: Examination Section, NIELIT Chennai
✔ Certificates will be issued after successful completion of all the modules.