

LINUXWORLD INFORMATICS PVT LTD

#1 Awarded Summer Internship Industrial Training Program in India & Asia

CERTIFICATE OF TRAINING

This is to certify that

Yash Gupta

has successfully completed
Research Based Summer Industrial Internship training on

**Develop your OWN High-End Next Generation
End-to-End DevOps Pipeline Managed Service on a
High-Performance Cloud Platform
under the mentorship of Mr. Vimal Daga.**

Technologies Covered

DevOps | IaC | Jenkins | Ansible | Terraform | AWS Cloud | RHEL v9
Virtualization | Storage | Networking | Python | JavaScript
Dart | Git | GitHub | Docker | Kubernetes | HTML | CSS | Flask/Node.js
REST API | Flutter | MongoDB



Certificate No. : LWIPL-2025-101

Date : 23rd June – 01st August, 2025

Authorized Signatory

LinuxWorld Informatics Pvt. Ltd.





LinuxWorld Informatics Pvt. Ltd.

CIN: U72900RJ2012PTC039171

Ref : LW/IPR/2025/260

Date: 2nd Sept, 2025

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the project work and report entitled during the Summer Internship on **"Develop your OWN Generative AIOps Platform with Cloud, AI, ML/DL, DevOps, and Generative AI"** embodies the original work of **Mr. Yash Gupta** from **Shri Ram Murti Smarak College of Engineering and Technology, Bareilly** at LinuxWorld Informatics Pvt Ltd.

The duration of the project undergone as mentioned above, under the mentorship of Mr. Vimal Daga, Technical Head was from 23rd June 2025 – 1st August 2025.

Project Discription :

This report details the successful design, implementation, and management of a comprehensive, end-to-end automated software delivery pipeline, undertaken as part of an internship program. The project addresses the critical industry challenge of overcoming the inefficiencies, high error rates, and slow time-to-market inherent in traditional, manual software development and deployment methodologies.1 The primary objective was to construct a state-of-the-art managed service for a web application, simulating a realistic enterprise environment where agility, reliability, and speed are paramount.

Key Achievements

- Full automation of the **Software Development Lifecycle (SDLC)** with minimal manual intervention.
- Reproducible, auditable infrastructure through **IaC principles**.
- Resolution of the "works on my machine" issue via **containerization**.
- Faster, more reliable, and enterprise-ready application delivery.

Programming Language:

The automated pipeline was built using a suite of industry-leading tools, each with a clear role in ensuring seamless workflow:

Cloud Platform (AWS): Provided secure, scalable infrastructure for hosting the CI/CD pipeline and application.

Infrastructure as Code (Terraform): Automated provisioning and lifecycle management of AWS resources.

Configuration Management (Ansible): Handled software installation and system configuration on EC2 instances.



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CI/CD Orchestration (Jenkins): Served as the central automation server, managing the workflow from code commit to deployment.

Containerization (Docker): Packaged the Flask application into portable, consistent containers.

Container Orchestration (Kubernetes): Automated deployment, scaling, and management of containers in a clustered environment.

Application & Development Tools: Python Flask for web application development, with VS Code as the primary editor and Git Bash/Linux Terminal for CLI operations.

Conclusion:

This internship resulted in the successful design and deployment of a **fully automated DevOps pipeline** for a cloud-based web application. The project demonstrated the power of automation in modern software delivery, creating an efficient, scalable, and repeatable process.

Future Scope

The pipeline built during this internship provides a strong foundation but can be further enhanced to achieve enterprise-grade maturity. Key areas of improvement include:

DevSecOps Integration: Embed security into the CI/CD process, shifting it left for early and continuous protection.

Monitoring & Observability: Extend beyond AWS CloudWatch by adopting tools like **Prometheus and Grafana** for application-level insights.

Resilience & Scalability: Strengthen the system to handle production-scale workloads and ensure high availability.

Advanced Tooling: Introduce enterprise-grade practices and modular approaches to support larger, more complex environments.

We wish him all the success for his future

Regards

LinuxWorld Informatics Pvt Ltd



Mr. Vimal Daga – Technical Head



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