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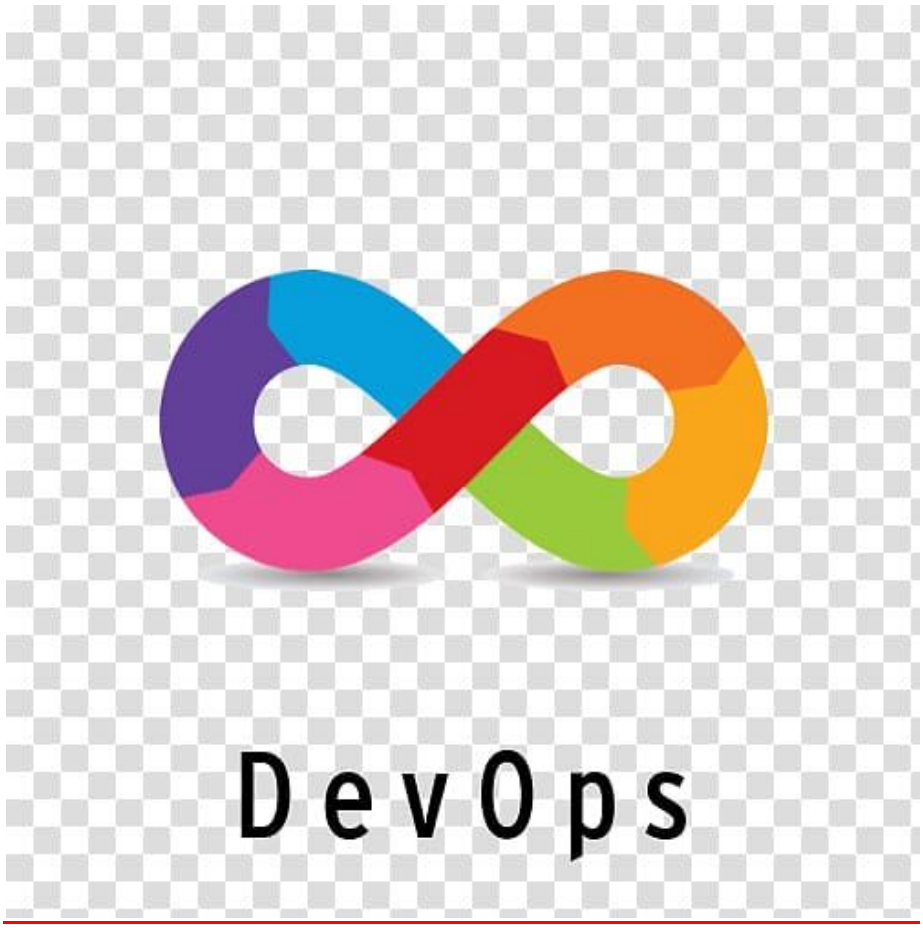
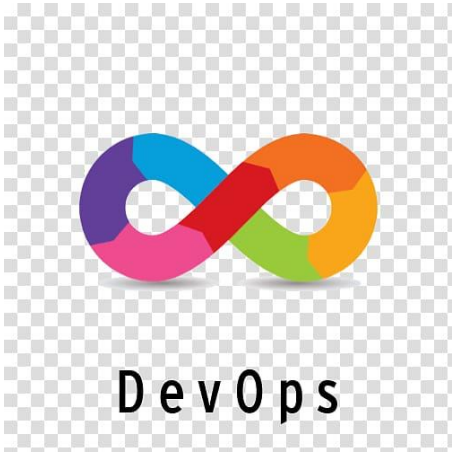
DevOps Engineer Diploma



DevOps Engineer Diploma



OpenShift Labs
Lab 13

Deploying Nginx on OpenShift with HTTPS Route using CLI

Lab Objectives

- Creating and Managing OpenShift Projects
- Applying Security Context Constraints (SCC) in OpenShift
- Deploying Containerized Nginx Applications
- Exposing Services Securely with HTTPS (Edge Termination)
- Verifying Resources in OpenShift
- Testing Application Availability via HTTPS Route

Objective

Set up a simple **Nginx web server** inside **OpenShift** using **CLI commands** with **HTTPS enabled**. The goal is to understand how to:

- Create and manage **OpenShift projects**
- Apply **Security Context Constraints (SCC)**
- Deploy a containerized **Nginx app**
- Expose the service with **TLS (edge termination)**

Environment Requirements

- **OpenShift cluster** (local CRC or remote)
- **oc CLI tool** installed and configured
- **Cluster-admin** or **project admin** privileges

Lab Steps

Step 1 — Create New Project

- Create a new **OpenShift project** for the lab.

Step 2 — Apply Security Policy (SCC anyuid)

- Assign the **anyuid SCC** policy to the new project.

Step 3 — Deploy Nginx Application

- Deploy the **Nginx container image** as an application inside the project.

Step 4 — Create HTTPS Route

- Expose the deployed **Nginx service** using an **HTTPS route** (edge termination).

Step 5 — Verify Resources

- List and confirm all resources created by the deployment.

Step 6 — Test Application

- Access the **HTTPS route** in a browser or CLI to verify application availability.

Step 7 — Verify Pods

- Confirm that the **Nginx Pod** is running and serving traffic properly.

Deliverables

Participants should provide:

- Project/namespace name
- All **CLI commands** used
- Outputs of commands
- Screenshot of the **Nginx HTTPS web page** in a browser

Notes

- Use a **self-signed certificate** for HTTPS testing (common in CRC/OpenShift local setups).
- If Pods are not running, recheck **image pull policy** and **SCC permissions**.
- **Optional**: Extend the lab by creating a **ConfigMap** to customize the default **Nginx page**.

Expected Outcome

Learners will understand how to:

- Deploy a basic **Nginx application** in **OpenShift**
- Apply **SCC permissions**
- Expose the application securely over **HTTPS**

You are Welcome