

Senior Academy - IT training center

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ArgoCD Labs

Lab 11

Deploying an NGINX Application with ArgoCD on Kubernetes

Lab Objectives

- Installing and Configuring ArgoCD on a Kubernetes Cluster
- Accessing and Managing the ArgoCD Web Interface
- Creating and Managing Applications in ArgoCD
- Synchronizing Applications Between GitHub and Kubernetes
- Verifying Application Deployment and Health Status
- Monitoring Deployments via the ArgoCD Dashboard

Objective:

Install **ArgoCD** on a Kubernetes cluster and deploy an **NGINX application** using YAML manifests from the GitHub repository:

□ <https://github.com/abdelrahmanonline4/lab-senior>

Lab Requirements:

- A running **Kubernetes cluster** (Minikube or any other environment)
 - **kubectl** installed and configured
 - A **web browser** to access the ArgoCD GUI
 - Active **internet connection**
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Lab Tasks:

Task 1 - Install ArgoCD

- Create a **namespace** for ArgoCD.
 - Deploy the **official ArgoCD manifests** inside the namespace.
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Task 2 - Access ArgoCD Web UI

- Forward the **argocd-server** service port.
 - Open the **ArgoCD web interface** in your browser.
 - Log in using the **admin credentials** retrieved from the cluster.
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Task 3 - Create an Application (GUI Only)

- From the **ArgoCD dashboard**, click “**NEW APP**”.
 - Configure the app to point to the provided GitHub repository.
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Task 4 - Sync the Application

- From the **ArgoCD dashboard**, select your application.
 - Click **Sync** to deploy the manifests to the Kubernetes cluster.
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Task 5 - Verify the Deployment

- View **resources** in the GUI (Deployment and Service).
 - Check that the **NGINX service** is accessible through the exposed port.
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Expected Deliverables:

- A **working ArgoCD dashboard** showing the deployed NGINX application.
- Application state marked as **Synced** and **Healthy**.

You are Welcome