

DevOps Intern Assessment R1

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Project: Directus Deployment using Docker on AWS EC2 + GitLab CI/CD Validation

Directus URL: <http://13.232.23.3:8055>

GitLab Repo: <https://gitlab.com/hspr2227/directus-assessment.git>

✓ 1. Objective

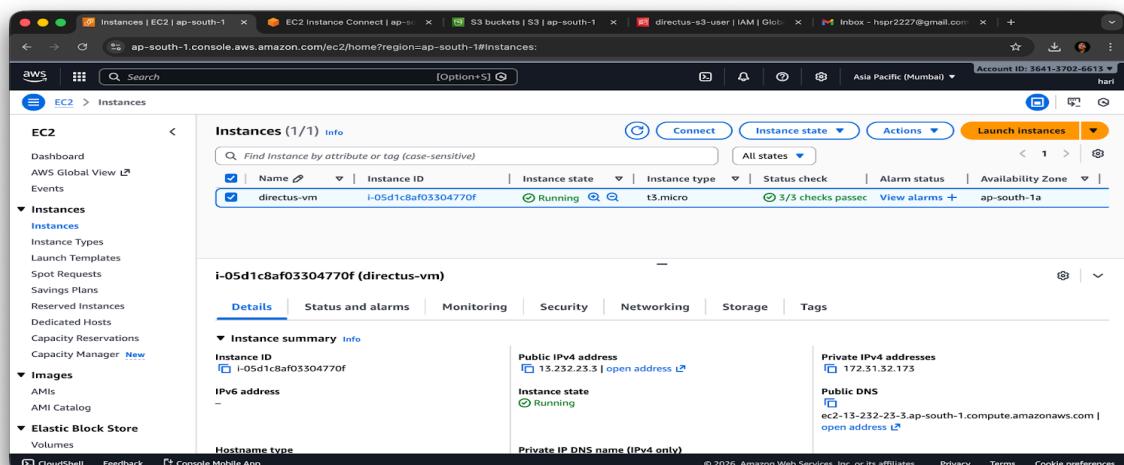
The goal of this assessment is to deploy **Directus (Headless CMS)** on a cloud VM using **Docker + PostgreSQL**, make it publicly accessible via **HTTP**, and validate the deployment using a **GitLab CI/CD pipeline** that performs health checks using `curl` and generates artifacts like homepage HTML and a deployment report.

✓ 2. Cloud Setup (AWS EC2)

✓ 2.1 EC2 Instance Creation

- **Cloud provider:** AWS
- **OS:** Ubuntu 22.04 LTS
- **Instance type:** t3.micro (Free Tier eligible)
- **Region:** ap-south-1 (Mumbai)
- **Instance name:** directus-vm

📌 Screenshot: EC2 Instance

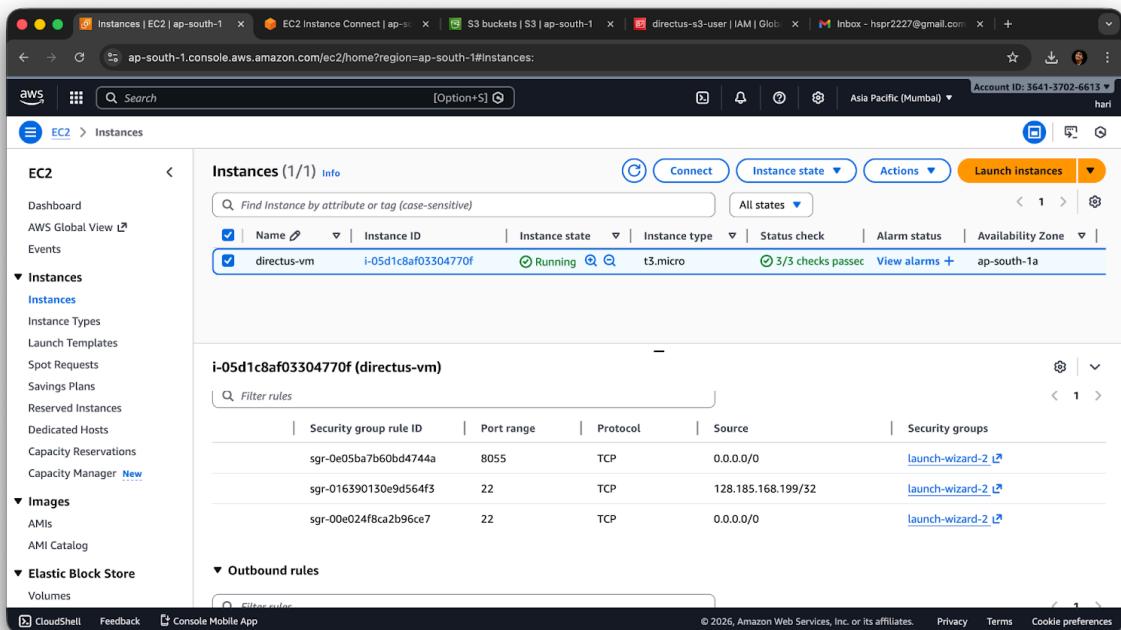


✓ 2.2 Security Group Configuration

Inbound rules configured:

- **22 / SSH** → My IP
- **8055 / TCP** → **0.0.0.0/0** (public access for Directus)

📌 Screenshot: security group



✓ 3. Docker + Directus Deployment (Using Docker Compose)

✓ 3.1 Install Docker and Docker Compose

Installed Docker and Docker Compose on the EC2 Ubuntu instance.

Commands used:

```
sudo apt update
sudo apt install -y docker.io docker-compose
sudo systemctl enable docker
sudo systemctl start docker
docker --version
```

```
docker-compose --version
```

✓ 3.2 Project Structure

Created the following directory:

```
mkdir ~/directus  
cd ~/directus
```

✓ 3.3 Docker Compose Deployment

Created a `docker-compose.yml` which includes:

- PostgreSQL database container
- Directus container connected to PostgreSQL
- Directus exposed on port **8055**

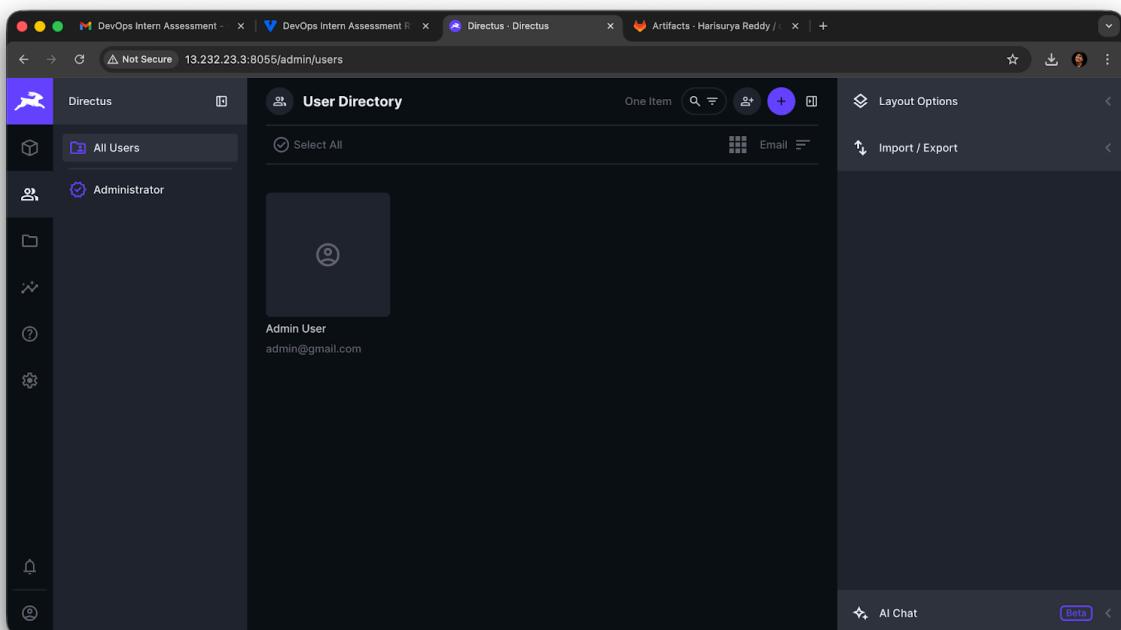
Started deployment:

```
docker-compose up -d  
docker ps
```

Verified Directus is running publicly:

✓ <http://13.232.23.3:8055>

📌 Screenshot: Directus running



✓ 4. S3 Storage Setup (AWS S3)

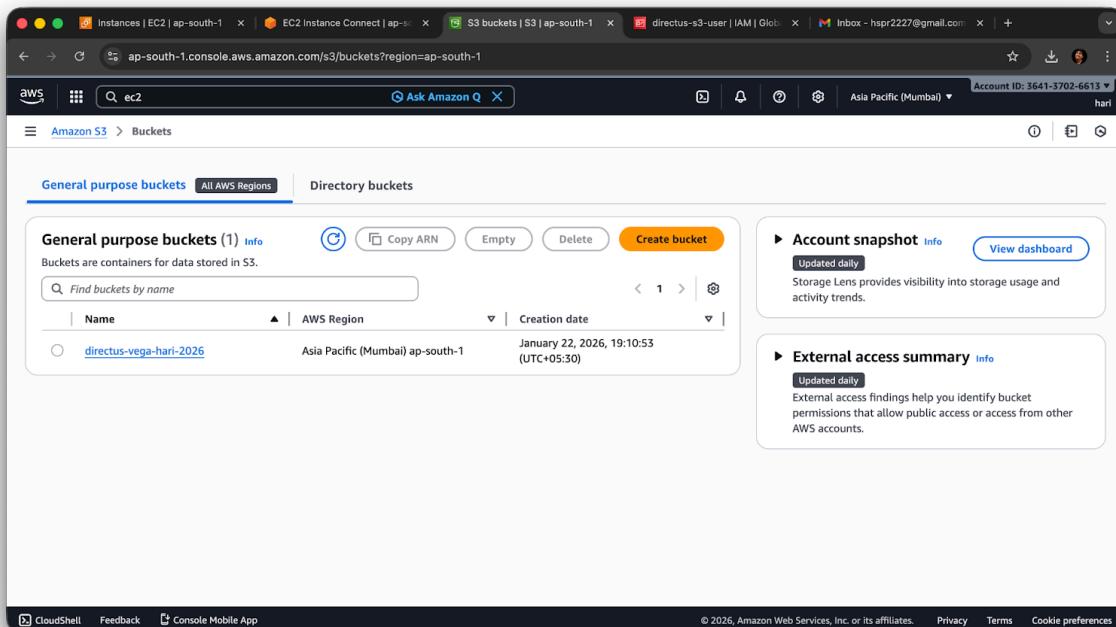
Created an S3 bucket:

- **Bucket name:** directus-vega-hari-2026
- **Region:** ap-south-1

IAM User created for Directus S3 access:

- **User:** directus-s3-user
- **Permissions:** S3 access policy attached
- Generated **Access Key + Secret Key** for Directus Storage

📌 Screenshot: S3 bucket



✓ 5. GitLab Repository Setup

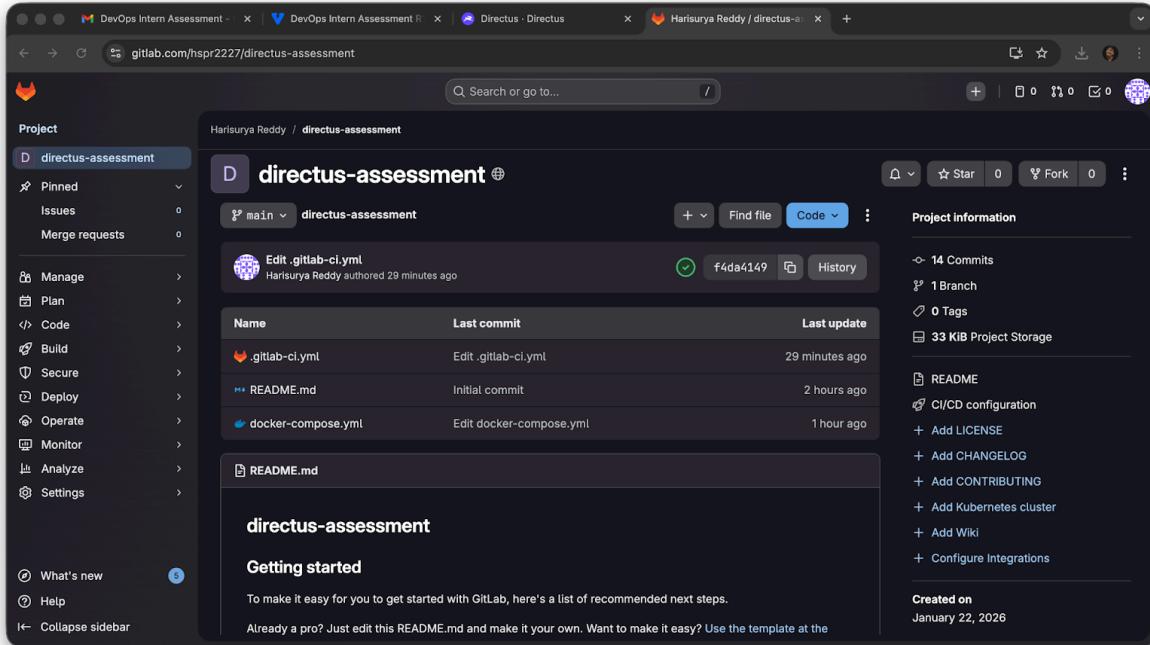
Created a public GitLab project:

- **Repo name:** directus-assessment
- **Repo link:** <https://gitlab.com/hspri2227/directus-assessment.git>

Added required files:

- `docker-compose.yml`
- `.gitlab-ci.yml`

📌 Screenshot: gitlab repo



✓ 6. GitLab CI/CD Pipeline Setup

✓ 6.1 Pipeline Stages

Pipeline contains 3 stages:

1. **Validate** → validate configuration files
2. **Test** → curl Directus deployment + download homepage
3. **Report** → generate deployment summary report

✓ 6.2 Jobs Included

Jobs configured in `.gitlab-ci.yml`:

✓ validate_config

- Validates Docker Compose file

✓ health_check

- Checks Directus URL using `curl -I`

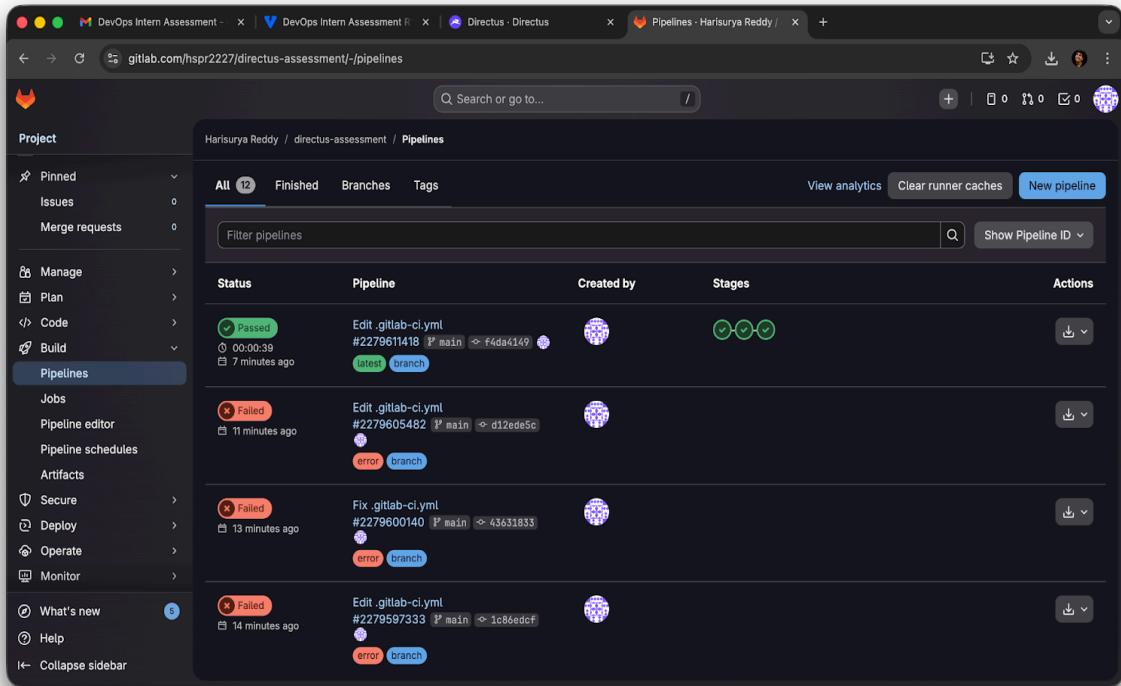
capture_homepage

- Downloads homepage HTML
- Artifact generated: `directus_homepage.html`

generate_report

- Generates report
- Artifact generated: `deployment_report.md`

Screenshot: pipelines



📌 Screenshot: jobs

The screenshot shows the Directus application running on a Mac OS X desktop. The window title is "Jobs - Harisurya Reddy". The sidebar on the left is collapsed. The main content area displays a table of completed CI/CD jobs. The columns are Status, Job, Pipeline, and Coverage. There are four rows, each representing a job that passed:

Status	Job	Pipeline	Coverage
Passed	#12823619677: generate_report	#2279611418 created by Harisurya Reddy	Stage: report
Passed	#12823619663: capture_homepage	#2279611418 created by Harisurya Reddy	Stage: test
Passed	#12823619660: health_check	#2279611418 created by Harisurya Reddy	Stage: test
Passed	#12823619648: validate_config	#2279611418 created by Harisurya Reddy	Stage: validate

📌 Screenshot: artifacts

The screenshot shows the Directus application running on a Mac OS X desktop. The window title is "Artifacts - Harisurya Reddy". The sidebar on the left is collapsed. The main content area displays a table of generated artifacts. The columns are Artifacts, Job, Size, and Created. There are four rows, each representing an artifact from a different job:

Artifacts	Job	Size	Created
3 files	generate_report archive	5.22 KIB	3 minutes ago
3 files	capture_homepage archive	6.23 KIB	3 minutes ago
1 file	health_check trace	5.26 KIB	3 minutes ago
1 file	validate_config trace	6.48 KIB	3 minutes ago

✓ 7. Final Verification

✓ Directus is reachable publicly at:
<http://13.232.23.3:8055>

✓ GitLab CI/CD pipeline passes successfully and validates the deployment.

✓ 8. Challenges Faced & Fixes

✗ Issue:

Initially, GitLab pipeline failed due to YAML errors (indentation and script format issues), especially around:

```
jobs:generate_report:script config should be a string or nested array
```

✓ Fix:

- Simplified the `.gitlab-ci.yml`
- Corrected YAML indentation
- Validated in **GitLab Pipeline Editor**
- Re-ran and confirmed pipeline passed successfully

✓ After fixing, the pipeline ran and generated required artifacts.

✓ 9. Submission Links

✓ Directus URL: <http://13.232.23.3:8055>

✓ GitLab Project URL: <https://gitlab.com/hspr2227/directus-assessment.git>

✓ Google Doc URL:

<https://docs.google.com/document/d/12al7qAf2XRNvcnNhpWfrSC4OinwEs4Z5Q2bYrPZOcPM/edit?usp=sharing>