

Hiện Trạng Ứng Dụng Demo

Đề tài:

**XÂY DỰNG QUY TRÌNH CI/CD PIPELINE DEVSECOPS  
VỚI DOCKER, GITLAB, KUBERNETES**

21521997 - Lê Văn Duy

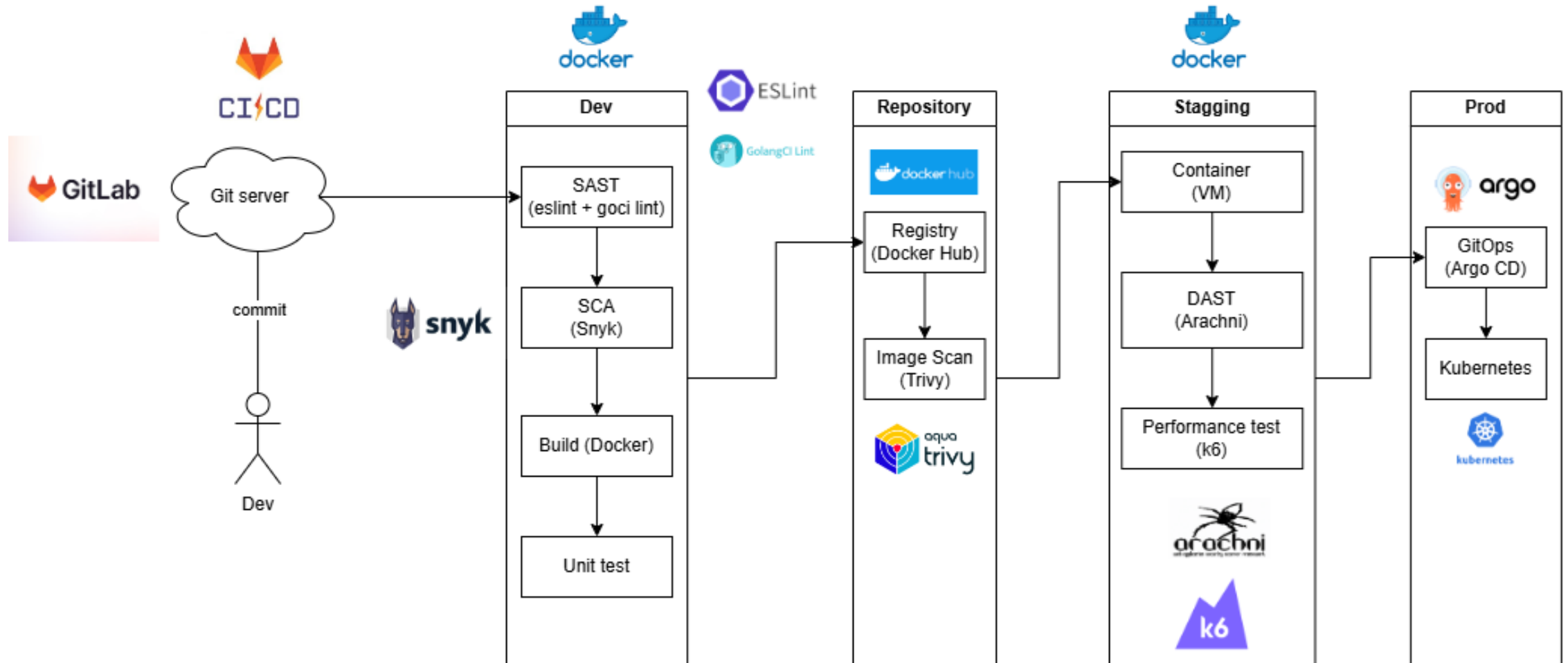
## Tiến độ của dự án:

- Hoàn thành phần cơ sở lý thuyết.
- Hoàn thành 90% demo:
  - Dựng được server gitlab, môi trường stagging, cụm Kubernetes, ArgoCD, cài đặt gitlab runner để chạy pipeline, docker.
  - Chọn được các công cụ test SAST, Image Scan, DAST,... để tích hợp vào pipeline
  - Viết được cấu hình cho pipeline gitlab CI và chạy thành công pipeline
  - Chạy được ứng dụng demo trên cả môi trường stagging và kubernetes

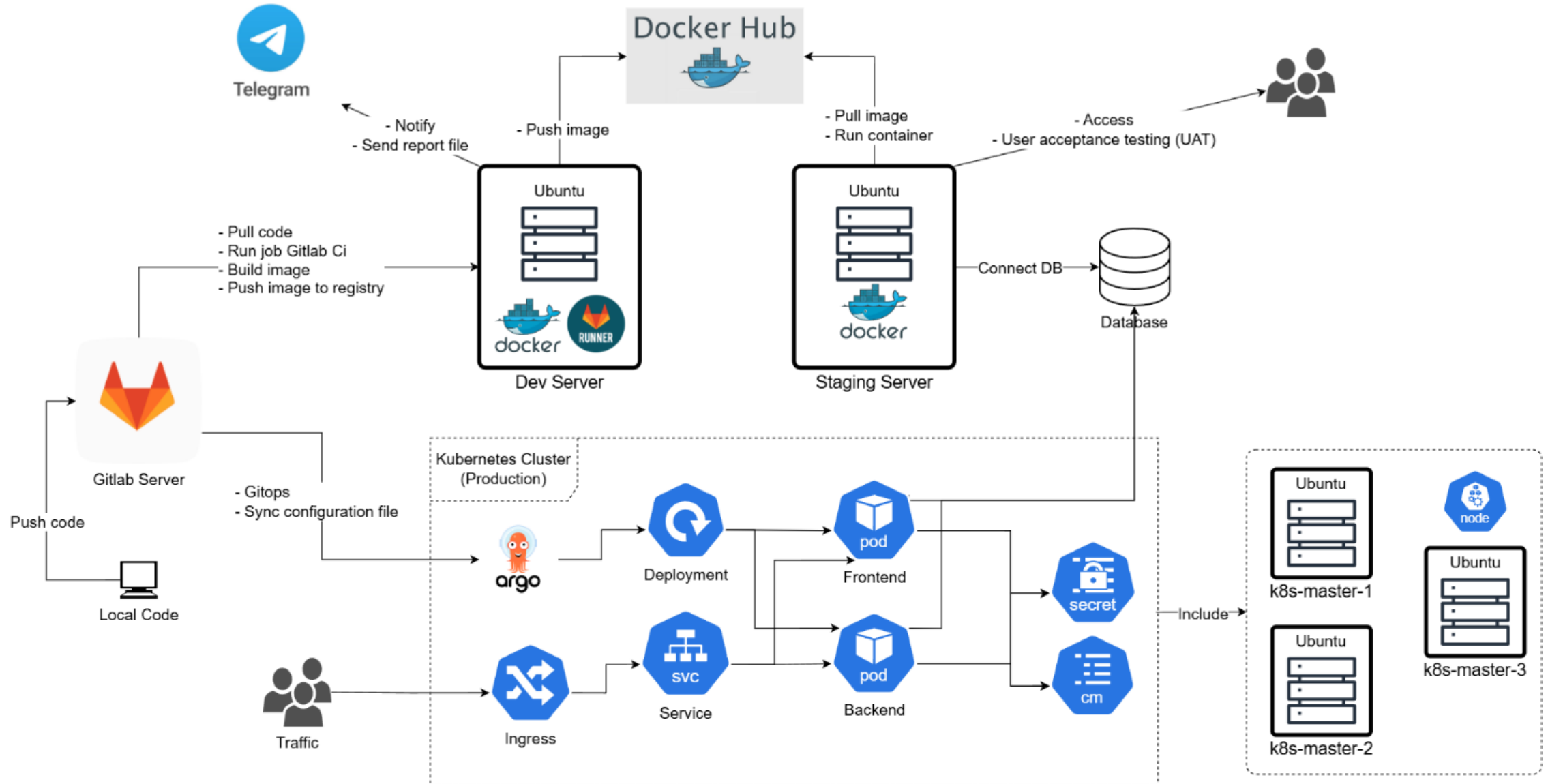
## Những việc cần làm còn lại:

- Thực hiện mô tả demo trong file báo cáo (xây dựng quy trình các bước)
- Tổ chức lại cấu trúc của cấu hình pipeline, đảm bảo các job vẫn hoạt động ổn
- Hoàn thiện quy trình sau khi chạy ổn định ở stagging và tạo merge request tại repo git chứa cấu hình của k8s cho ứng dụng demo
- Kiểm tra lại các máy ảo môi trường đảm bảo hoạt động bình thường
- Chuyển các cấu hình và source code từ Gitlab qua Github









# Sơ đồ mô tả quy trình CI/CD devsecops



# Sơ đồ mô tả cơ sở hạ tầng của dự án



## Các Server sử dụng trong demo

Name	Status
 Build server	Powered on
 Dev server	Powered on
 Gitlab server	Powered on
 k8s-master-1	Powered off
 k8s-master-2	Powered off
 k8s-master-3	Powered off
 Loadbalancing k8s	Powered off
 Ubuntu-2004	Powered off
 Ubuntu-2404	Powered off

# Dựng server Gitlab

←

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⚠ Not secure


gitlab.mixiyady.vn

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 GitLab

☰ Menu

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Search GitLab

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## Projects

New project

Your projects 5

Starred projects 0

Explore projects

Explore topics

Filter by name...

Name

AllPersonal

P	config / pipeline 🔒 Owner	★ 0 🍷 0 🔗 0 📄 0	Updated 1 month ago
T	manifest / todolist backend 🌐 Owner	★ 0 🍷 0 🔗 0 📄 0	Updated 4 weeks ago
T	todolist / todolist backend 🔒 Owner	★ 0 🍷 0 🔗 0 📄 0	Updated 2 weeks ago
T	manifest / todolist frontend 🌐 Owner	★ 0 🍷 0 🔗 0 📄 0	Updated 4 weeks ago
T	todolist / todolist frontend 🔒 Owner	★ 0 🍷 0 🔗 0 📄 0	Updated 3 weeks ago

# Cài đặt các runner

← → ↺

Not secure gitlab.mixiyady.vn/groups/todolist/-/settings/ci\_cd

☆

GitLab

Menu

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T todolist

Group information

Issues 0

Merge requests 0

Kubernetes

Packages & Registries

Settings

General

Integrations

Access Tokens

Projects

Repository

CI/CD

Applications

Packages & Registries

Webhooks

And this registration token:  
GR1348941s4JzXMRz3YNBNxLcnJtc

Reset registration token

Show runner installation instructions

Enable shared runners for all projects and subgroups in this group.

Available runners: 4

Recent searches ▾ Search or filter results... Created date ▾ Runners currently online: 1

Type/State	Runner	Version	IP Address	Projects	Jobs	Tags	Last contact	
group	#5 (EuXtYFAV) todolist-runner-build-docker	17.4.0	192.168.2...	-	0	todolist...	14 hours ago	<div></div> <div></div> <div></div>
group	#4 (SUx1aTZt) k8s-master-1-runner-shell	17.4.0	192.168.2...	-	4	k8s-mas...	39 minutes ago	<div></div> <div></div> <div></div>
group	#3 (pfUiZwzj) todolist-runner-build-shell	17.4.0	192.168.2...	-	46	todolist...	14 hours ago	<div></div> <div></div> <div></div>
group	#2 (zws9Cshs) todolist-runner-dev-shell	17.4.0	192.168.2...	-	125	todolist...	14 hours ago	<div></div> <div></div> <div></div>

Auto DevOps

Expand

# Source code Backend

The screenshot shows the GitLab web interface for a project named 'todolist-backend'. The browser address bar shows 'gitlab.mixiyady.vn/todolist/todolist-backend'. The GitLab logo and 'Menu' are in the top left. A search bar and user profile icons are in the top right. A left sidebar contains navigation links: Project information, Repository, Issues (0), Merge requests (0), CI/CD, Security & Compliance, Deployments, Monitor, Infrastructure, Packages & Registries, Analytics, Wiki, Snippets, and Settings. The main content area shows the project name 'todolist-backend' with a lock icon and 'Project ID: 2'. It includes statistics: 19 Commits, 9 Branches, 19 Tags, 184 KB Files, and 8.7 MB Storage. Below these are buttons for 'History', 'Find file', 'Web IDE', a download icon, and a 'Clone' button. A commit entry is shown: 'config(pipeline): update Jenkinsfile' by 'Le Van Duy' 1 month ago, with commit hash '02a6bd1f'. Below the commit are buttons for 'Upload File', 'CI/CD configuration', 'Add README', 'Add LICENSE', 'Add CHANGELOG', 'Add CONTRIBUTING', 'Add Kubernetes cluster', and 'Configure Integrations'. At the bottom is a table of files and their commit history.

Name	Last commit	Last update
common	feat: create project	1 month ago
middleware	feat: create project	1 month ago
modules/item	feat: create project	1 month ago
.gitignore	chore: remove env file	1 month ago
.gitlab-ci.yml	config(pipeline): update .gitlab-ci.yml file	1 month ago
Dockerfile	config(Dockerfile): add new	1 month ago



# Source code Frontend

← → ↺

Not secure gitlab.mixiyady.vn/todolist/todolist-frontend

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GitLab

Menu

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Search GitLab

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T todolist frontend

📁 Project information

📄 Repository

📄 Issues 0

🔗 Merge requests 0

🚀 CI/CD

🛡 Security & Compliance

📦 Deployments

📺 Monitor

🔌 Infrastructure

📦 Packages & Registries

📊 Analytics

📖 Wiki

✂ Snippets

⚙ Settings

⏪ Collapse sidebar

todolist > todolist frontend

T todolist frontend 🔒

Project ID: 4 📄

🔗

🔔 ▾

☆ Star 0

🔗 Fork 0

🔗 3 Commits

🔗 8 Branches

🔗 6 Tags

📄 369 KB Files

📦 68 MB Storage

develop ▾

todolist-frontend / + ▾

History

Find file

Web IDE

📄 ▾

Clone ▾

👤

Update package.json

Le Van Duy authored 3 weeks ago

c6d71a68 📄

📄 Upload File

📄 README

📄 Add LICENSE

📄 Add CHANGELOG

📄 Add CONTRIBUTING

📄 Add Kubernetes cluster

📄 Set up CI/CD

🔌 Configure Integrations

Name	Last commit	Last update
📁 public	feat: create project	1 month ago
📁 src	chore: delete env file	1 month ago
📄 .eslintignore	feat: create project	1 month ago
📄 .eslintrc.cjs	feat: create project	1 month ago
📄 .gitignore	chore: delete env file	1 month ago
📄 .prettierrignore	feat: create project	1 month ago

# File cấu hình Gitlab CI cho Frontend

The screenshot displays the GitLab web interface for the repository 'todolist-frontent'. The left sidebar contains navigation links: Project information, Repository, Files, Commits, Branches, Tags, Contributors, Graph, Compare, Issues (0), Merge requests (0), CI/CD, Security & Compliance, Deployments, Monitor, Infrastructure, Packages & Registries, Analytics, Wiki, and a Collapse sidebar button. The top header shows the GitLab logo, a menu icon, and a search bar. The main content area shows the 'pipeline-fe-7' branch of the '.gitlab-ci.yml' file. A commit by 'Le Van Duy' is shown with a SHA of '23bc1f3e'. A message indicates the GitLab CI configuration is valid. The file content is as follows:

```
1 variables:
2   USER_PROJECT: "todolist"
3   PATH_PROJECT: "/home/${USER_PROJECT}/${CI_PROJECT_NAME}"
4   IMAGE_VERSION: "${CI_PROJECT_NAME}:${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}"
5   CODECLIMATE_REPORT: "codeclimate_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
6   ESLINT_REPORT: "eslint_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
7   SNYKSCAN_REPORT: "snyk_scan_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
8   TRIVYFS_REPORT: "trivyfs_scan_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
9   TRIVY_IMAGE_REPORT: "security_scan_image_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
10  ARACHNI_WEBSITE_REPORT: "arachni_scan_website_image_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
11  K6_PERFORMANCE_TEST_REPORT: "performance_test_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
12
13 stages:
14   - build
15   - test source code
16   - security scan image
17   - deploy
18   - security scan website
19   - performance testing
20
21 lint:
22   stage: test source code
```

# File cấu hình Gitlab CI cho Backend

The screenshot shows the GitLab web interface for the repository 'todolist-backend'. The left sidebar contains navigation links: 'todolist backend', 'Project information', 'Repository', 'Files', 'Commits', 'Branches', 'Tags', 'Contributors', 'Graph', 'Compare', 'Issues' (0), 'Merge requests' (0), 'CI/CD', 'Security & Compliance', 'Deployments', 'Monitor', 'Infrastructure', 'Packages & Registries', 'Analytics', 'Wiki', and 'Collapse sidebar'. The main content area shows the file 'pipeline-be-6 / .gitlab-ci.yml' with a commit by 'Le Van Duy' 3 weeks ago. Below the commit information, there is a confirmation message: 'This GitLab CI configuration is valid. [Learn more](#)'. The file content is displayed in a code editor, showing the following configuration:

```
1 variables:
2   USER_PROJECT: "todolist"
3   PATH_PROJECT: "/home/${USER_PROJECT}/${CI_PROJECT_NAME}"
4   COMMIT_URL: "${CI_PROJECT_URL}/-/commit/${CI_COMMIT_SHORT_SHA}"
5   TAG_URL: "${CI_PROJECT_URL}/-/tags/${CI_COMMIT_REF_NAME}"
6   IMAGE_VERSION: "${CI_PROJECT_NAME}:${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}"
7   GOLANGLINT_REPORT: "golanglint_scan_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
8   SNYKSCAN_REPORT: "snyk_scan_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
9   TRIVYFS_REPORT: "trivyfs_scan_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
10  TRIVY_IMAGE_REPORT: "security_scan_image_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
11  K6_PERFORMANCE_TEST_REPORT: "performance_test_${CI_PROJECT_NAME}_${CI_COMMIT_REF_NAME}_${CI_COMMIT_SHORT_SHA}_report"
12
13 stages:
14   - test source code
15   - build
16   - security scan image
17   - deploy
18   - performance testing
19   - send report
20
21 golang lint scan:
22   stage: test source code
```

# Chạy thành công 1 pipeline

The screenshot shows the GitLab web interface for a pipeline. The browser address bar indicates the URL is `gitlab.mixiyady.vn/todolist/todolist-backend/-/pipelines/87`. The left sidebar contains navigation links for 'todolist backend', 'Project information', 'Repository', 'Issues', 'Merge requests', 'CI/CD', 'Pipelines', 'Editor', 'Jobs', 'Schedules', 'Security & Compliance', 'Deployments', 'Monitor', 'Infrastructure', 'Packages & Registries', 'Analytics', 'Wiki', 'Snippets', and 'Settings'. The main content area shows the pipeline details for 'Pipeline #87', which was triggered 3 weeks ago by 'Le Van Duy'. The pipeline status is 'passed'. The pipeline configuration is 'update send file report to telegram'. It shows 7 jobs for 'pipeline-be-6-v2' in 1 minute and 40 seconds. The pipeline is linked to the 'latest' commit 'b1142a37'. Below the pipeline details, there is a section for 'Pipeline' with tabs for 'Needs', 'Jobs', 'Tests', and '0'. The 'Jobs' tab is active, showing a list of jobs: 'Test source code' (golang lint scan, snyk scan), 'Build' (build), 'Security scan image' (trivy scan image), 'Deploy' (deploy), 'Performance testing' (performance testing), and 'Send' (send). Each job has a green checkmark indicating it passed.

← → ↻ Not secure gitlab.mixiyady.vn/todolist/todolist-backend/-/pipelines/87

GitLab Menu

Search GitLab

todolist > todolist backend > Pipelines > #87

passed Pipeline #87 triggered 3 weeks ago by Le Van Duy Delete

config(pipeline): update send file report to telegram

7 jobs for pipeline-be-6-v2 in 1 minute and 40 seconds (queued for 3 seconds)

latest

b1142a37

No related merge requests found.

Pipeline Needs Jobs 7 Tests 0

Test source code Build Security scan image Deploy Performance testing Send

golang lint scan build trivy scan image deploy performance testing send

snyk scan

Collapse sidebar

# Các job chạy thành công trong pipeline

The screenshot displays the GitLab web interface for a pipeline job. The left sidebar shows the project structure with 'Jobs' selected. The main area shows the terminal output of the 'build' job, which has completed successfully. The right sidebar provides job details such as duration, finish time, timeout, runner, and tags. Below the details, a dropdown menu shows the job name 'build'.

**GitLab** Menu Search GitLab

**todoist backend**

- Project information
- Repository
- Issues 0
- Merge requests 0
- CI/CD
  - Pipelines
  - Editor
  - Jobs**
  - Schedules
- Security & Compliance
- Deployments
- Monitor
- Infrastructure
- Packages & Registries
- Analytics
- Wiki
- Snippets
- Settings

« Collapse sidebar

```
37 #4 DONE 0.0s
38 #5 [build 1/6] FROM docker.io/library/golang:1.23-alpine@sha256:9dd2625a1ff2859b8d8b01d8f7822c0f528942fe56cfe7a1e7c38d3b8d72d679
39 #5 DONE 0.0s
40 #6 [run 1/3] FROM docker.io/library/alpine:latest@sha256:beefdbd8a1da6d2915566fde36db9db0b524eb737fc57cd1367effd16dc0d06d
41 #6 DONE 0.0s
42 #7 [internal] load build context
43 #7 transferring context: 135.26kB 0.0s done
44 #7 DONE 0.0s
45 #8 [build 3/6] COPY go.mod go.sum ./
46 #8 CACHED
47 #9 [build 2/6] WORKDIR /app
48 #9 CACHED
49 #10 [build 4/6] RUN go mod download
50 #10 CACHED
51 #11 [build 5/6] COPY . .
52 #11 DONE 0.1s
53 #12 [build 6/6] RUN CGO_ENABLED=0 GOOS=linux GOARCH=amd64 go build -o server
54 #12 DONE 37.2s
55 #13 [run 2/3] COPY --from=build /app/server /app/server
56 #13 CACHED
57 #14 [run 3/3] WORKDIR /app
58 #14 CACHED
59 #15 exporting to image
60 #15 exporting layers done
61 #15 writing image sha256:8fecf3e7f3f1b8565a96a4af582153d7de125a5ac157e431db147f78f47804b2 done
62 #15 naming to docker.io/library/todoist-backend:pipeline-be-6-v2_b1142a37 done
63 #15 DONE 0.0s
64 Job succeeded
```

**build**

Duration: 40 seconds  
Finished: 3 weeks ago  
Timeout: 1h (from project)  
Runner: #2 (zws9Cshs) todoist-runner-dev-shell  
Tags: todoist-runner-dev-shell

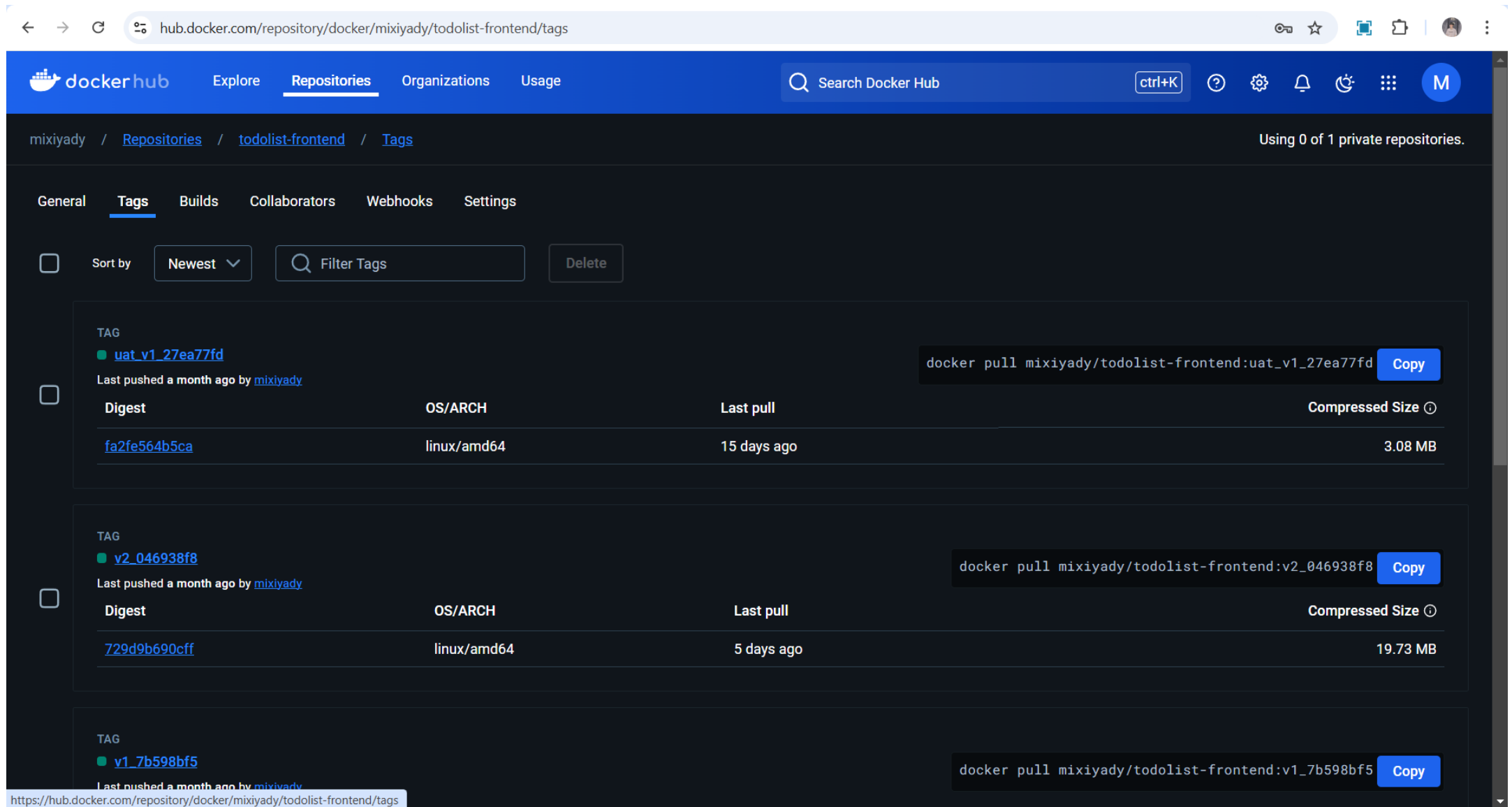
Commit [b1142a37](#)  
config(pipeline): update send file report to telegram

✓ Pipeline #87 for pipeline-be-6-v2

build

→ ✓ build

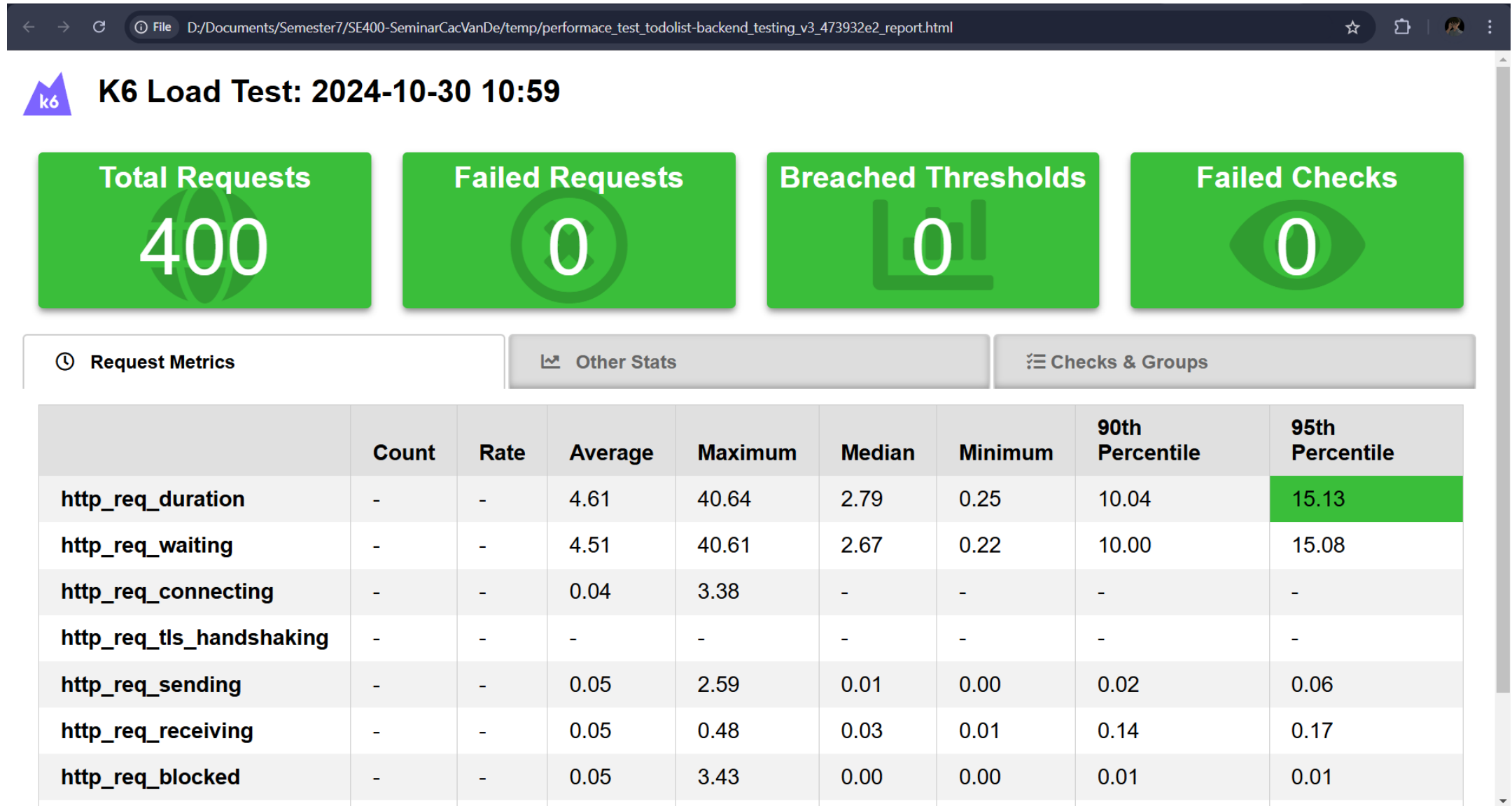
# Image được đẩy và lưu trữ trên DockerHub



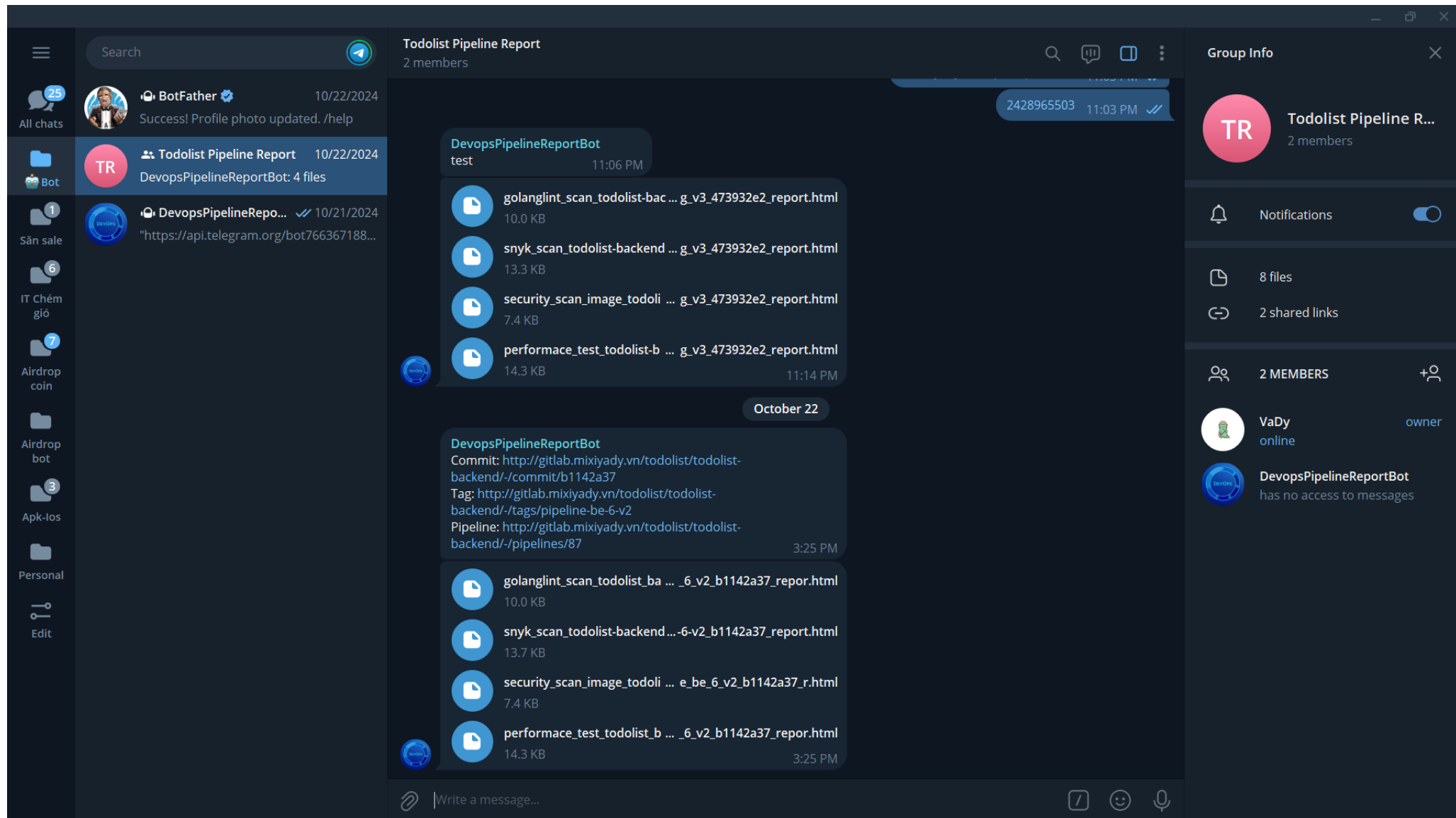
The screenshot shows the Docker Hub interface for the repository `mixiyady/todolist-frontend`. The page is viewed on a desktop browser, and the URL in the address bar is `hub.docker.com/repository/docker/mixiyady/todolist-frontend/tags`. The navigation bar at the top includes links for `Explore`, `Repositories` (which is active), `Organizations`, and `Usage`. A search bar is also present. The breadcrumb trail shows the path: `mixiyady / Repositories / todolist-frontend / Tags`. The main content area has tabs for `General`, `Tags` (selected), `Builds`, `Collaborators`, `Webhooks`, and `Settings`. Below the tabs, there are controls for sorting (set to `Newest`), a filter box, and a `Delete` button. The tags are listed in a table with columns for `Digest`, `OS/ARCH`, `Last pull`, and `Compressed Size`. Each tag entry includes a `docker pull` command and a `Copy` button. The first tag is `uat_v1_27ea77fd` with a digest of `fa2fe564b5ca`, pushed a month ago, and pulled 15 days ago. The second tag is `v2_046938f8` with a digest of `729d9b690cff`, pushed a month ago, and pulled 5 days ago. The third tag is `v1_7b598bf5`.

TAG	Digest	OS/ARCH	Last pull	Compressed Size
<code>uat_v1_27ea77fd</code> Last pushed a month ago by <code>mixiyady</code>	<code>fa2fe564b5ca</code>	linux/amd64	15 days ago	3.08 MB
<code>v2_046938f8</code> Last pushed a month ago by <code>mixiyady</code>	<code>729d9b690cff</code>	linux/amd64	5 days ago	19.73 MB
<code>v1_7b598bf5</code> Last pushed a month ago by <code>mixiyady</code>				

# File report được tạo ra sau khi chạy test thành công



# Thông báo kết quả chạy được về telegram





# Ứng dụng được deploy lên server staging

Not secure 192.168.239.102

☆

Todo List

Enter your task

Enter your task description

High

Medium

Low

To Do

+ Add Task

To do

4

Doing

5

Done

5

Global Factors Coordinator

Doloremque dolor id et repellendus non et ab reiciendis v...

Medium

Chief Brand Associate

Cupiditate itaque quos amet itaque quia sunt.

Medium

Principal Identity Representative

Ut ducimus voluptas dolores nulla.

High

Human Branding Officer

Quo ab iste fugiat nulla.

Low

Chief Interactions Coordinator

Commodi eligendi quo aut quas rerum odio est voluptate...

Medium

Dynamic Creative Developer

Voluptas omnis voluptatem dignissimos assumenda susci...

High

Corporate Research Analyst

Dignissimos qui cum doloribus ratione aliquid distinctio p...

Medium

Chief Factors Orchestrator

Sunt earum eligendi commodi illo.

Low

Future Creative Executive

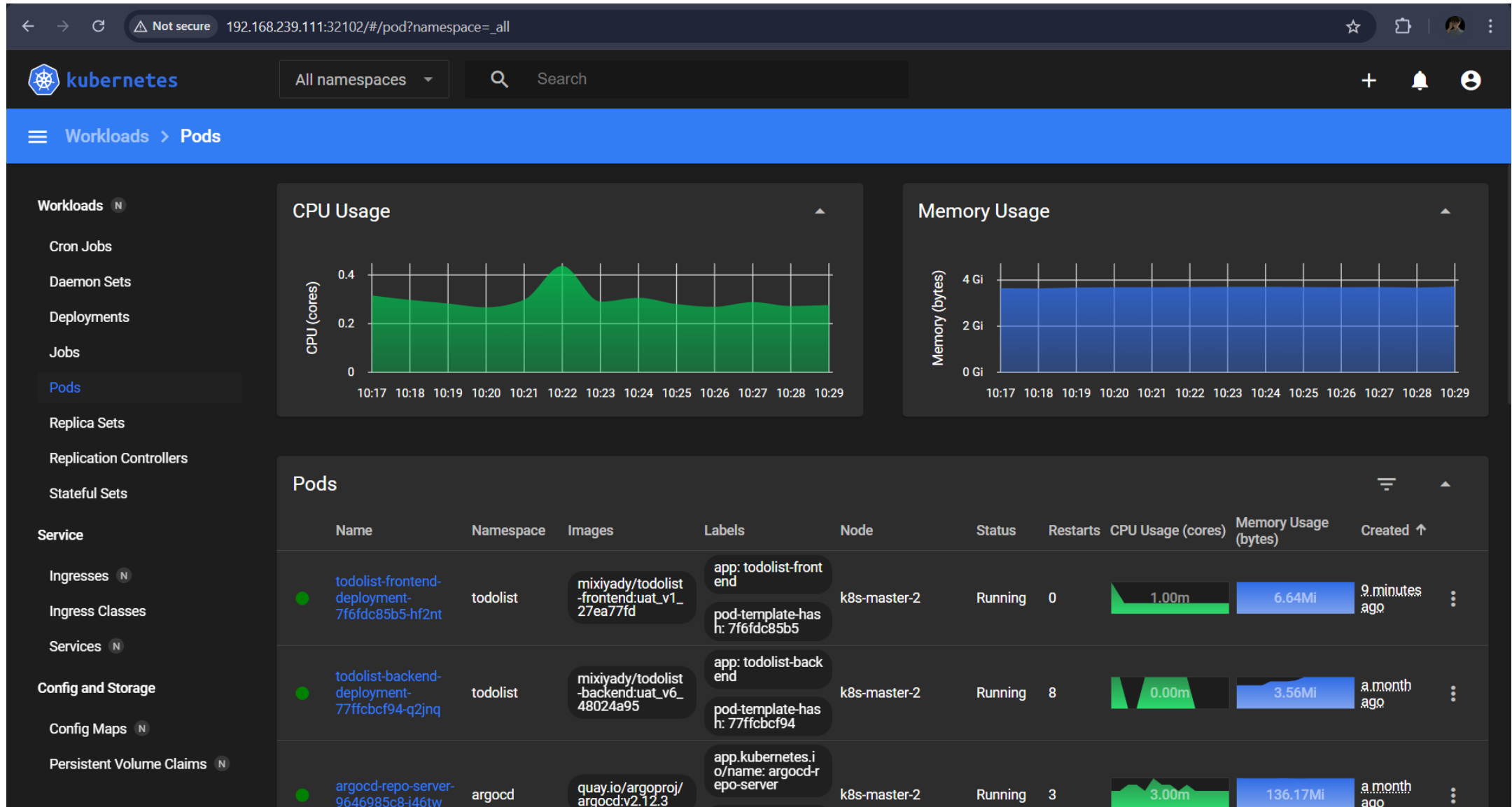
Itaque nostrum quam optio quisquam atque.

High

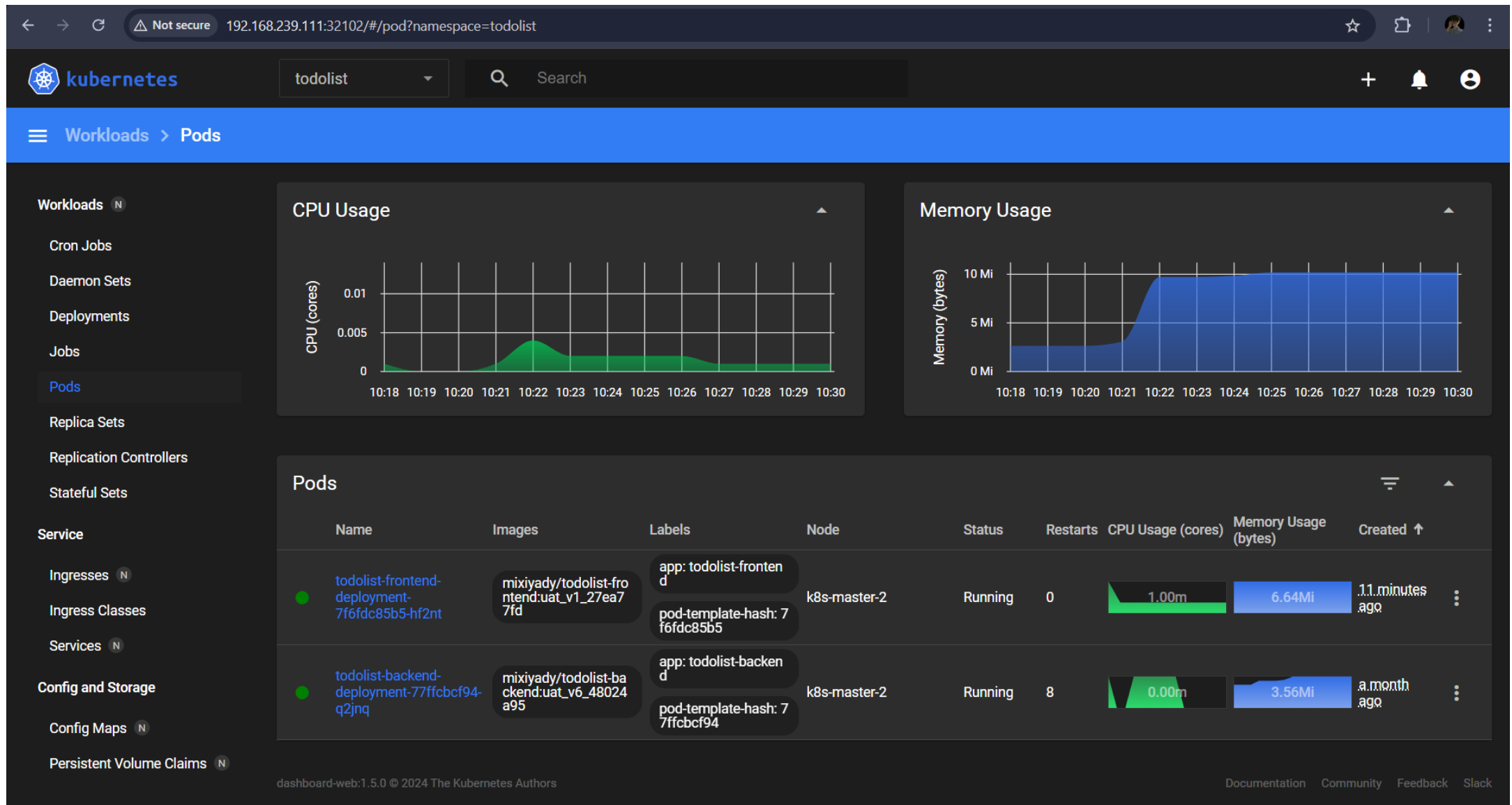
# Dựng cụm Kubernetes

```
root@k8s-master-1: ~  
+  
argocd      argocd-application-controller-0      1/1      Running      3 (29m ago)      30d  
argocd      argocd-applicationset-controller-587b5c864b-sp84m 1/1      Running      3 (29m ago)      30d  
argocd      argocd-dex-server-6958d7dcf4-4wdsr      1/1      Running      3 (28m ago)      30d  
argocd      argocd-notifications-controller-6847bd5c98-drg5w 1/1      Running      3 (28m ago)      30d  
argocd      argocd-redis-bfcfd667f-67lfg      1/1      Running      3 (29m ago)      30d  
argocd      argocd-repo-server-9646985c8-j46tw      1/1      Running      3 (28m ago)      30d  
argocd      argocd-server-9d6c97757-4vvvh      1/1      Running      3 (28m ago)      30d  
ingress-nginx      ingress-nginx-controller-6dfcb8658d-p7nwl      1/1      Running      6 (28m ago)      31d  
kube-system      calico-kube-controllers-648dffd99-2l8r4      1/1      Running      6 (28m ago)      31d  
kube-system      calico-node-5p5xp      1/1      Running      6 (28m ago)      31d  
kube-system      calico-node-dsqxh      1/1      Running      6 (29m ago)      31d  
kube-system      calico-node-s7h6j      1/1      Running      6 (28m ago)      31d  
kube-system      coredns-6b78b585c4-gmnfl      1/1      Running      6 (28m ago)      31d  
kube-system      coredns-6b78b585c4-wd9j9      1/1      Running      6 (28m ago)      31d  
kube-system      dns-autoscaler-8576bb9f5b-pg9vp      1/1      Running      6 (29m ago)      31d  
kube-system      kube-apiserver-k8s-master-1      1/1      Running      6 (29m ago)      31d  
kube-system      kube-apiserver-k8s-master-2      1/1      Running      6 (28m ago)      31d  
kube-system      kube-apiserver-k8s-master-3      1/1      Running      6 (28m ago)      31d  
kube-system      kube-controller-manager-k8s-master-1      1/1      Running      7 (29m ago)      31d  
kube-system      kube-controller-manager-k8s-master-2      1/1      Running      7 (28m ago)      31d  
kube-system      kube-controller-manager-k8s-master-3      1/1      Running      8 (28m ago)      31d  
kube-system      kube-proxy-ct5d7      1/1      Running      6 (28m ago)      31d  
kube-system      kube-proxy-kl7pf      1/1      Running      6 (29m ago)      31d  
kube-system      kube-proxy-m57v7      1/1      Running      6 (28m ago)      31d  
kube-system      kube-scheduler-k8s-master-1      1/1      Running      7 (29m ago)      31d  
kube-system      kube-scheduler-k8s-master-2      1/1      Running      7 (28m ago)      31d  
kube-system      kube-scheduler-k8s-master-3      1/1      Running      7 (28m ago)      31d  
kube-system      metrics-server-7fbb949984-ttlkb      1/1      Running      4 (28m ago)      30d  
kube-system      nodelocaldns-j9dpv      1/1      Running      7 (28m ago)      31d  
kube-system      nodelocaldns-lwkkw      1/1      Running      8 (28m ago)      31d  
kube-system      nodelocaldns-xgdlk      1/1      Running      6 (29m ago)      31d  
kubernetes-dashboard      kubernetes-dashboard-api-589779b9fb-qddnj      1/1      Running      6 (28m ago)      31d  
kubernetes-dashboard      kubernetes-dashboard-auth-bbdfb5447-f8gb5      1/1      Running      6 (28m ago)      31d  
kubernetes-dashboard      kubernetes-dashboard-kong-5898bcfc4b-dppq4      1/1      Running      6 (29m ago)      31d  
kubernetes-dashboard      kubernetes-dashboard-metrics-scraper-644d6878fd-q9vxx      1/1      Running      6 (28m ago)      31d  
kubernetes-dashboard      kubernetes-dashboard-web-5756db495c-wm7c4      1/1      Running      6 (29m ago)      31d  
todolist      todolist-backend-deployment-77ffc9cf94-q2jng      1/1      Running      8 (25m ago)      30d  
todolist      todolist-frontend-deployment-7f6fdc85b5-hf2nt      1/1      Running      0      8m42s  
root@k8s-master-1:~# kubectl get nodes  
NAME           STATUS    ROLES    AGE   VERSION  
k8s-master-1   Ready     control-plane   31d   v1.28.6  
k8s-master-2   Ready     control-plane   31d   v1.28.6  
k8s-master-3   Ready     control-plane   31d   v1.28.6  
root@k8s-master-1:~#
```

# Cài đặt Kubernetes Dashboard



# Triển khai ứng dụng Todolist lên K8s



# Ứng dụng Todolist được chạy trên K8s thành công

← → ↺

Not secure todolist.mixiyady.vn

☆

Todo List

Enter your task

Enter your task description

HighMediumLow

To Do

+ Add Task

To do4

Global Factors Coordinator

Doloremque dolor id et repellendus non et ab reiciendis v...

Medium

Human Branding Officer

Quo ab iste fugiat nulla.

Low

Corporate Research Analyst

Dignissimos qui cum doloribus ratione aliquid distinctio p...

Medium

Doing5

Chief Brand Associate

Cupiditate itaque quos amet itaque quia sunt.

Medium

Chief Interactions Coordinator

Commodi eligendi quo aut quas rerum odio est voluptate...

Medium

Chief Factors Orchestrator

Sunt earum eligendi commodi illo.

Low

Done5

Principal Identity Representative

Ut ducimus voluptas dolores nulla.

High

Dynamic Creative Developer

Voluptas omnis voluptatem dignissimos assumenda susci...

High

Future Creative Executive

Itaque nostrum quam optio quisquam atque.


High

# Theo dõi log của dự án Todolist Fe trên k8s

← → ↺

⚠ Not secure 192.168.239.111:32102/#/log/todolist/todolist-frontend-deployment-7f6fdc85b5-hf2nt/pod?namespace=todolist&container=todolist-frontend

☆ 📁 👤 ⋮

 **kubernetes**

todolist ▾

🔍 Search

+ 🔔 👤 ⋮

☰ Workloads > Pods > todolist-frontend-deployment-7f6fdc85b5-hf2nt > Logs

Workloads <sup>N</sup>

Cron Jobs

Daemon Sets

Deployments

Jobs

Pods

Replica Sets

Replication Controllers

Stateful Sets

Service

Ingresses <sup>N</sup>

Ingress Classes

Services <sup>N</sup>

Config and Storage

Config Maps <sup>N</sup>

Persistent Volume Claims <sup>N</sup>

Logs from todolist-frontend ▾ in todolist-fronten... ▾

📄 ⋮

```
10.233.118.106 - - [13/Nov/2024:03:35:44 +0000] "GET / HTTP/1.1" 304 0 "-"
"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36" "192.168.239.112"
10.233.118.106 - - [13/Nov/2024:03:35:45 +0000] "GET / HTTP/1.1" 304 0 "-"
"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36" "10.233.91.128"
10.233.118.106 - - [13/Nov/2024:03:35:45 +0000] "GET / HTTP/1.1" 304 0 "-"
"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36" "10.233.104.0"
10.233.118.106 - - [13/Nov/2024:03:35:45 +0000] "GET / HTTP/1.1" 304 0 "-"
"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36" "192.168.239.112"
10.233.118.106 - - [13/Nov/2024:03:35:46 +0000] "GET / HTTP/1.1" 304 0 "-"
"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36" "10.233.91.128"
10.233.118.106 - - [13/Nov/2024:03:35:46 +0000] "GET / HTTP/1.1" 304 0 "-"
"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36" "10.233.104.0"
10.233.118.106 - - [13/Nov/2024:03:35:46 +0000] "GET / HTTP/1.1" 304 0 "-"
"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36" "192.168.239.112"
```

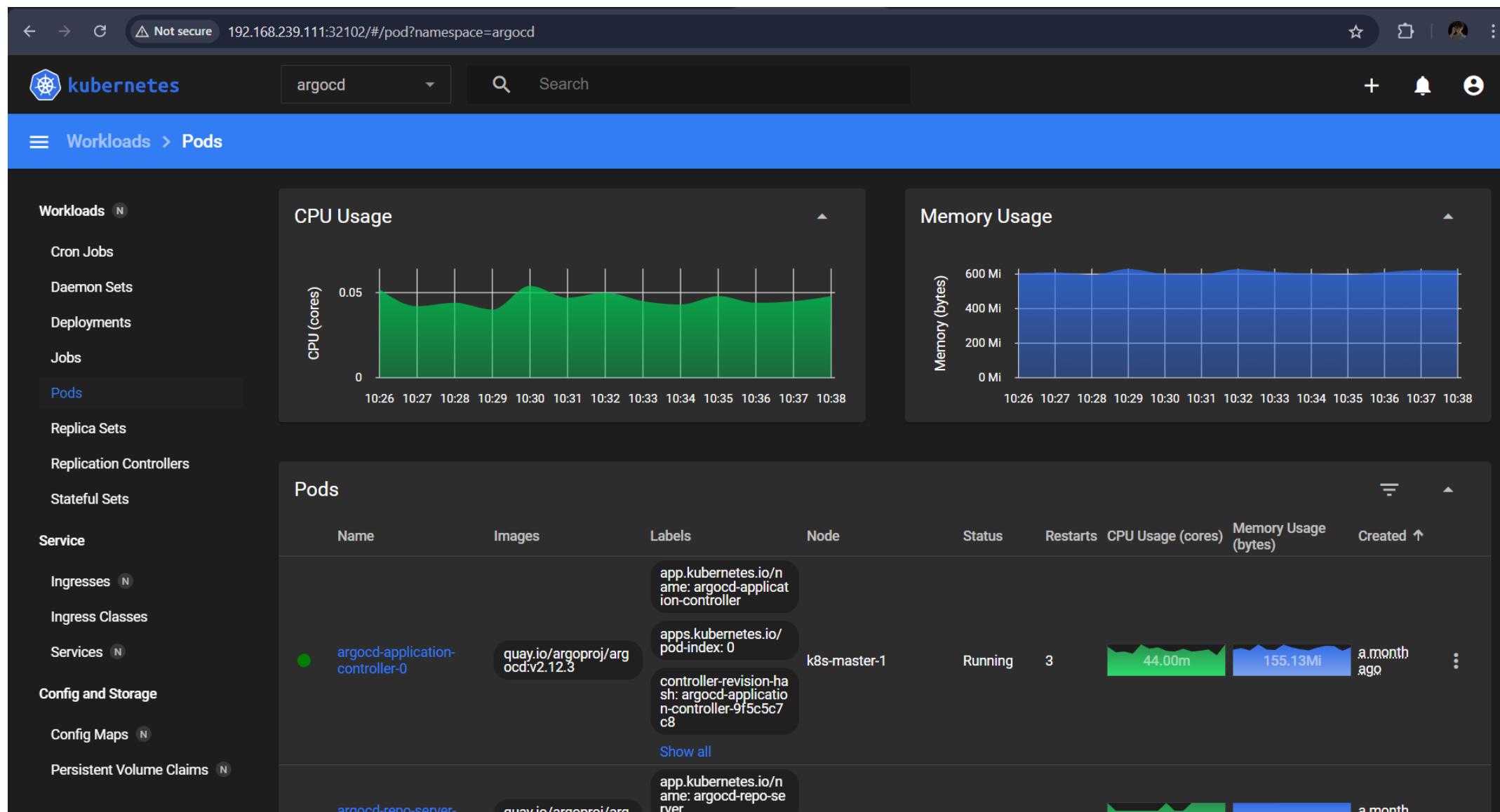
Logs from Nov.13, 2024 to Nov.13, 2024

⏪ ⏴ ⏵ ⏩

dashboard-web:1.5.0 © 2024 The Kubernetes Authors

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# Cài đặt ArgoCD trên k8s



# Giao diện của ArgoCD

The screenshot displays the ArgoCD web interface. The left sidebar contains navigation links for Applications, Settings, User Info, and Documentation. Below these are filters for Favorites Only, SYNC STATUS (Unknown, Synced, OutOfSync), and HEALTH STATUS (Unknown, Progressing, Suspended, Healthy, Degraded, Missing). The main content area shows a list of applications. Two applications are visible: 'todolist-backend' and 'todolist-frontend'. Each application card displays its project, labels, status, repository, target, path, destination, namespace, creation time, and last sync time. Action buttons for SYNC, REFRESH, and DELETE are provided for each application.

**Applications**

Sort: name ▼ Items per page: 10 ▼



Application	Project	Labels	Status	Repository	Target R...	Path	Destinati...	Namesp...	Created ...	Last Sync
<b>todolist-backend</b>	default		Healthy OutOfSync	http://192.168.239.100/manifest/todoli...	main	./	in-cluster		10/13/2024 20:47:54 (a month ago)	11/13/2024 10:42:01 (a few seconds a...
<b>todolist-frontend</b>	default		Healthy Synced	http://192.168.239.100/manifest/todoli...	main	./	in-cluster		10/13/2024 21:22:26 (a month ago)	10/13/2024 22:05:47 (a month ago)



# Tạo repo lưu trữ các file cấu hình k8s cho todolist frontend

The screenshot shows a GitLab repository page for 'todolist frontend' on the domain 'gitlab.mixiyady.vn'. The browser address bar shows 'gitlab.mixiyady.vn/manifest/todolist-frontend'. The repository is located at 'manifest > todolist frontend'. It has a Project ID of 7, 2 commits, 1 branch, 0 tags, 113 KB of files, and 113 KB of storage. The main branch is 'main'. The repository was created by 'docs(k8s): add autoscale manifest' by Le Van Duy 1 month ago. The repository contains four files: 'todolist-frontend-autoscale.yaml', 'todolist-frontend-deployment.yaml', 'todolist-frontend-ingress.yaml', and 'todolist-frontend-service.yaml'. The sidebar on the left lists various project features like Project information, Repository, Issues, Merge requests, CI/CD, Security & Compliance, Deployments, Monitor, Infrastructure, Packages & Registries, Analytics, Wiki, Snippets, and Settings. The bottom of the sidebar has a 'Collapse sidebar' button.



manifest > todolist frontend

**todolist frontend**  Project ID: 7 

🔗 2 Commits 🌿 1 Branch 🏷 0 Tags 📄 113 KB Files 💾 113 KB Storage





main todolist-frontend / +

History Find file Web IDE Clone

 **docs(k8s): add autoscale manifest** 762342df   
Le Van Duy authored 1 month ago

Upload File Add README Add LICENSE Add CHANGELOG Add CONTRIBUTING Enable Auto DevOps

Add Kubernetes cluster Set up CI/CD Configure Integrations

Name	Last commit	Last update
 todolist-frontend-autoscale.yaml	docs(k8s): add autoscale manifest	1 month ago
 todolist-frontend-deployment.ya...	docs(k8s): add new manifest	1 month ago
 todolist-frontend-ingress.yaml	docs(k8s): add new manifest	1 month ago
 todolist-frontend-service.yaml	docs(k8s): add new manifest	1 month ago

« Collapse sidebar

# Tạo repo lưu trữ các file cấu hình k8s cho todolist backend

The screenshot shows a GitLab repository page for 'todolist backend'. The left sidebar contains navigation links: Project information, Repository, Issues (0), Merge requests (0), CI/CD, Security & Compliance, Deployments, Monitor, Infrastructure, Packages & Registries, Analytics, Wiki, Snippets, and Settings. The main content area shows the repository details: 'todolist backend' with Project ID 6, 4 Commits, 1 Branch, 0 Tags, 164 KB Files, and 164 KB Storage. The current branch is 'main'. Below this, a commit by 'docs(k8s): add autoscale manifest' by Le Van Duy is shown. A table lists the files in the repository:

Name	Last commit	Last update
todolist-backend-autoscale.yaml	docs(k8s): add autoscale manifest	1 month ago
todolist-backend-deployment.ya...	docs(k8s): update image version in deploym...	1 month ago
todolist-backend-ingress.yaml	docs(k8s): add new manifest	1 month ago
todolist-backend-secret.yaml	docs(k8s): add new manifest	1 month ago
todolist-backend-service.yaml	docs(k8s): add new manifest	1 month ago

# Kết nối ArgoCD với repo chứa file cấu hình trên gitlab

The screenshot displays the ArgoCD web interface. On the left is a sidebar with navigation links: Applications, Settings, User Info, and Documentation. Below these are filters for NAME, KINDS, SYNC STATUS, and HEALTH STATUS. The main content area shows the 'SUMMARY' tab for the application 'todolist-backend'. The application is in a 'Healthy' state, indicated by a green heart icon. The configuration details are as follows:

Field	Value
PROJECT	default
ANNOTATIONS	
CLUSTER	in-cluster (https://kubernetes.default.svc)
NAMESPACE	
CREATED AT	10/13/2024 20:47:54 (a month ago)
REPO URL	http://192.168.239.100/manifest/todolist-backend.git
TARGET REVISION	main
PATH	./
SYNC OPTIONS	
RETRY OPTIONS	Retry disabled
STATUS	OutOfSync from main (65bb14f)
HEALTH	Healthy



# Theo dõi log và các event trực tiếp thông qua ArgoCD

The screenshot displays the ArgoCD web interface. The sidebar on the left contains navigation links: Applications, Settings, User Info, and Documentation. The main content area shows the 'todolist-backend-deployment-77fcbcf94-q2jnj' application. The 'EVENTS' tab is selected, showing a table of events. The table has columns for REASON, MESSAGE, COUNT, FIRST OCCURRED, and LAST OCCURRED. The events listed are BackOff, Pulled, Created, Started, SandboxChanged, and Started.

REASON	MESSAGE	COUNT	FIRST OCCURRED	LAST OCCURRED
BackOff	Back-off restarting failed container todolist-backend in pod todolist-backend-deployment-77fcbcf94-q2jnj_todolist(2e3d792a-2f15-4725-ac00-bbbb8c8d65e4)	22	44m ago Today at 10:02 AM	40m ago Today at 10:07 AM
Pulled	Container image "mixiyady/todolist-backend:uat_v6_48024a95" already present on machine	4	44m ago Today at 10:02 AM	43m ago Today at 10:03 AM
Created	Created container todolist-backend	4	44m ago Today at 10:02 AM	43m ago Today at 10:03 AM
Started	Started container todolist-backend	4	44m ago Today at 10:02 AM	43m ago Today at 10:03 AM
SandboxChanged	Pod sandbox changed, it will be killed and re-created.	2	45m ago Today at 10:02 AM	44m ago Today at 10:02 AM
Started	Started container todolist-backend	1	22d ago 10/21/2024	22d ago 10/21/2024