

First pipeline - check version

First, we install the necessary components in the setup directory:

```
cd /home/user/kubernetes-devops-security/setup/vm-install-script/  
bash install-script.sh
```

Check k8s resource:

```
kubectl get node -o wide  
kubectl run nginx-pod --image nginx  
kubectl expose po nginx-pod --port 80 --type NodePort  
kubectl get svc
```

Check file config

```
[[ ! -z "$KUBECONFIG" ]] && echo "$KUBECONFIG" | | echo "$HOME/.kube/config"
```

Install jenkins:

```
nano /etc/apt/sources.list.d/jenkins.list  
sudo apt-key del FCEF32E745F2C3D5  
  
curl -fsSLhttps://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee \usr/share/keyrings/jenkins-keyring.asc >/dev/null  
echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \https://pkg.jenkins.io/debian binary/ | sudo tee  
\etc/apt/sources.list.d/jenkins.list >/dev/null  
  
sudo apt-get update  
sudo apt-get install jenkins
```

k8s credential

Export file kubeconfig:

```
cat /root/.kube/config
```

Go to Manage Jenkins - Credentials System - Global credentials
Create kubeconfig and add file config above

New credentials

Kind

Secret file

Scope ?

Global (Jenkins, nodes, items, all child items, etc)

File

Chọn tệp Không có tệp nào được chọn

ID ?

kubeconfig

 This ID is already in use

Description ?

kubeconfig

Create

This is can fix error: Unable to connect to the server: x509: certificate signed by unknown authority.

Now, we can create an example of a file pipeline for version checking:

```
pipeline {
  agent any
  stages {
    stage('git version') {
      steps {
        sh "git version"
      }
    }
    stage('maven version') {
      steps {
        sh "mvn -v"
      }
    }
    stage('docker version') {
      steps {
        sh "docker -v"
      }
    }
    stage('kubernetes version') {
      steps {
        withKubeConfig([credentialsId: 'kubeconfig']) {
          sh "kubectl version"
        }
      }
    }
  }
}
```



Command `withKubeConfig([credentialsId: 'kubeconfig'])` in pipeline will check credential to logic k8s, if you don't use this command, you cannot run command about k8s because pipeline run with jenkins user and it is not have permission access k8s api by default. And to perform this command, you need install k8s cli plugins in jenkins. Now, run build pipeline.

Dashboard > Manage Jenkins > Plugin Manager

Search plugin updates

This plugin is up for adoption! We are looking for new maintainers. Visit our [Adopt a Plugin](#)

- ☐ JUnit 1177.v90374a_ef4d09
[Build Reports](#)
Allows JUnit-format test results to be published.
Applying this update will address security vulnerabilities in the currently installed version.
- ☐ JWT for Blue Ocean 1.27.1
[External Site/Tool Integrations](#) [User Interface](#)
BlueOcean JWT plugin: Enables JWT based BlueOcean API authentication
- ☐ **Kubernetes CLI** 1.12.0
[kubernetes](#)
Configure **kubectl** for **Kubernetes**
- ☐ **Kubernetes Client API** 6.4.1-208.vfe09a_9362c2c
[kubernetes](#) [Library plugins \(for use by other plugins\)](#)
Kubernetes Client API plugin for use by other Jenkins plugins.
- ☐ **Kubernetes Credentials** 0.10.0
[kubernetes](#)
Common classes for **Kubernetes** credentials
- ☐ LDAP 659.v8ca_b_a_fe79fa_d
[Authentication and User Management](#)
Adds LDAP authentication to Jenkins
- ☐ Mailer 448.v5b_97805e3767

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