1. Linux Commands

```
ls
cd
ls
pwd
cat > devops.txt
 ls
cat devops.txt
nano demo.java
cat demo.java
nano index.html
clear
nano index.html
nano ajay
ls
ls Desktop/
cp Desktop /tmp/
ls /tmp/
cp -r  Desktop /tmp/
ls /tmp/
ls
cp devops.txt /tmp/
ls /tmp/
ls /tmp/
ls
mv devops.txt /tmp/
ls
ls /tmp/
mv ansible-jan/ /tmp/
ls  /tmp/
mkdir devops-dir
pwd
ls
mv devops-dir/ /tmp/
mv index.html index1.html
ls
pwd

cp /tmp/devops.txt .
cp /tmp/devops.txt /home/ajaycshotmail/
```

$ - normal user (limited access)
# - root user (all access)

```
ajaycshotmail@ip-172-31-93-214:~$ apt-get update
Reading package lists... Done
W: chmod 0700 of directory /var/lib/apt/lists/partial failed -
SetupAPTPartialDirectory (1: Operation not permitted)
E: Could not open lock file /var/lib/apt/lists/lock - open (13: Permission
denied)
E: Unable to lock directory /var/lib/apt/lists/
W: Problem unlinking the file /var/cache/apt/pkgcache.bin - RemoveCaches
(13: Permission denied)
W: Problem unlinking the file /var/cache/apt/srcpkgcache.bin -
RemoveCaches (13: Permission denied)
ajaycshotmail@ip-172-31-93-214:~$
ajaycshotmail@ip-172-31-93-214:~$



ajaycshotmail@ip-172-31-93-214:~$ useradd  zook
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
```

sudo su -> became a root or switch to root account

apt-get update

useradd zook

id zook
o/p
uid=1002(zook) gid=1002(zook) groups=1002(zook)

apt install git

git --version
git version 2.7.4

exit - logout

sudo apt remove git

sudo userdel zook

id zook
id: ‘zook’: no such user

sudo useradd ravi
sudo passwd ravi

su ravi

exit

apt-get update
useradd zook
sudo su
apt remove git
sudo apt remove git
sudo userdel zook
id zook
su ravi
sudo useradd ravi
sudo passwd ravi
su ravi
sudo userdel ravi
id ravi
id ajaycshotmail
id zook
History

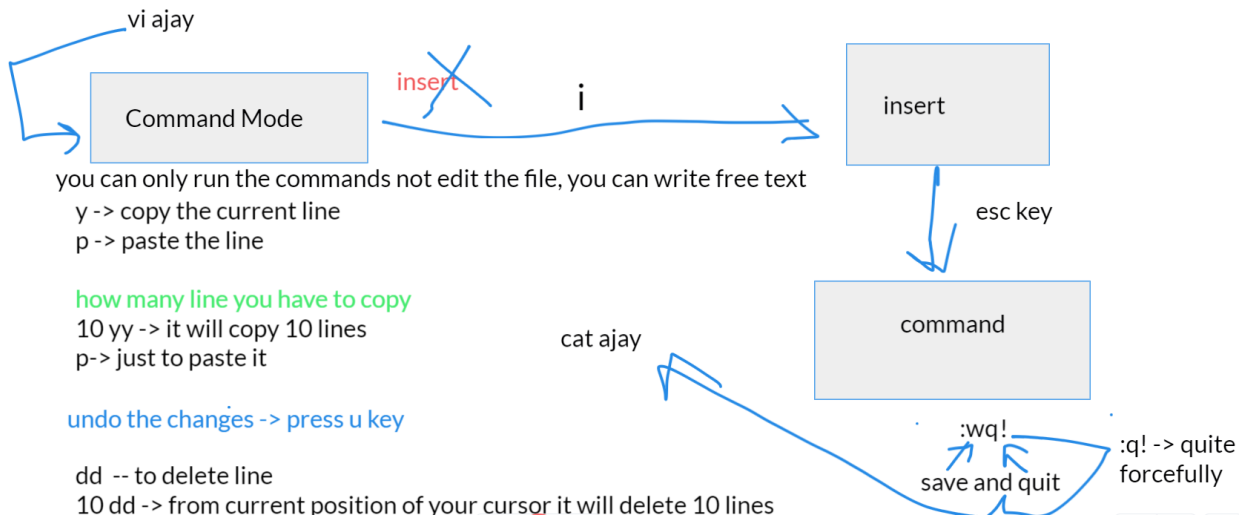
Manage service

systemctl status docker
sudo systemctl stop docker

sudo systemctl start docker
sudo systemctl restart docker

sudo apt install vim

vi ajay



Any file start with . (dot) is hidden file
Like vi .foo and you can see the hidden file using ls -a command

sudo useradd zook
sudo passwd zook

su zook

sudo apt install docker
[sudo] password for zook:
zook is not in the sudoers file. This incident will be reported.

sudo vi /etc/sudoers
zook ALL=(ALL) NOPASSWD: ALL, !PASSWD

su zook
sudo apt install docker

Then you can remove entry for zook from file /etc/sudoers

sudo kill -9 processID

In vim editor shift + G is come EOF and gg for begin of the file (in command mode)

madhav ALL=(root) /bin/systemctl restart docker

<username> <ALL>=<root> <command with path>,
<command with path>

GIT

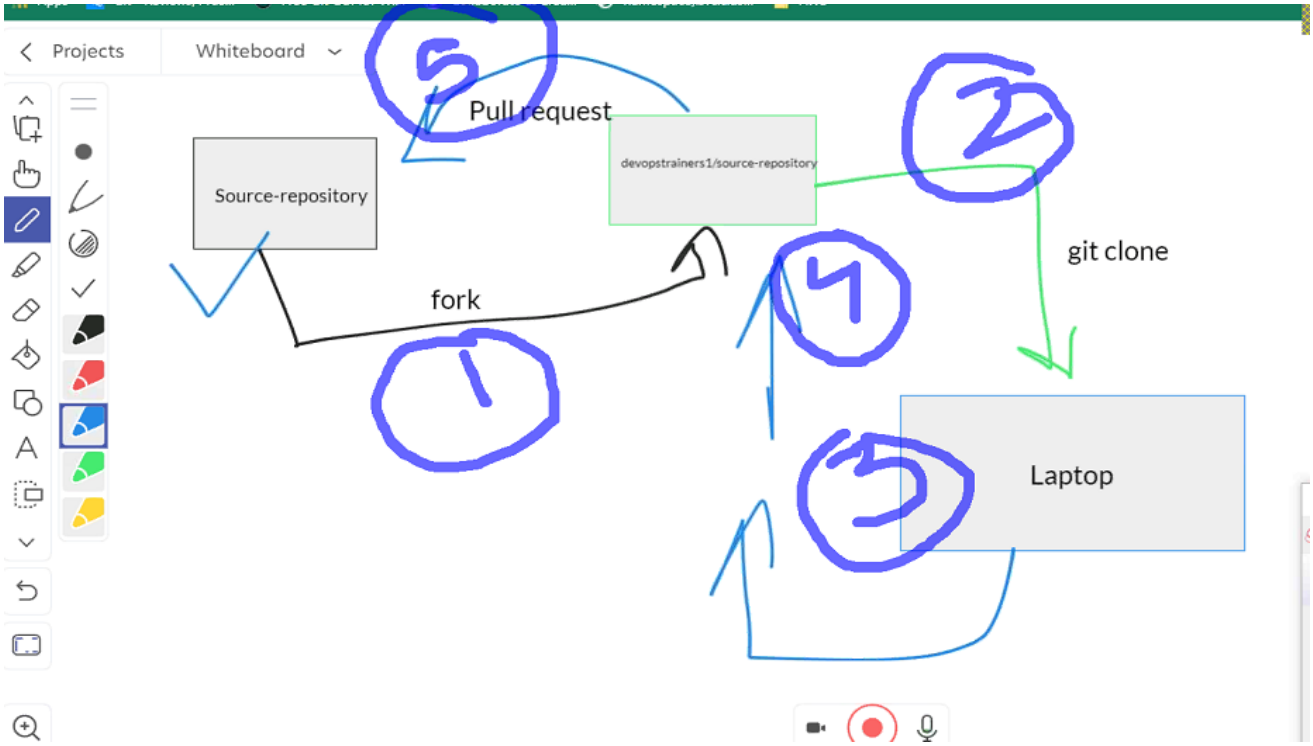
git --version
git version 2.7.4

git clone ~~https://github.com/devopstrainers1/devops-no-pg-jan.git~~

Pls user code URL not browser URL, the code URL always end with .git

Issue:
git: 'remote-https' is not a git command. See 'git --help'.

Solution:
sudo apt update
sudo apt install libcurl4-openssl-dev



git remote -v

echo "this is domo for pr" > ajay.txt

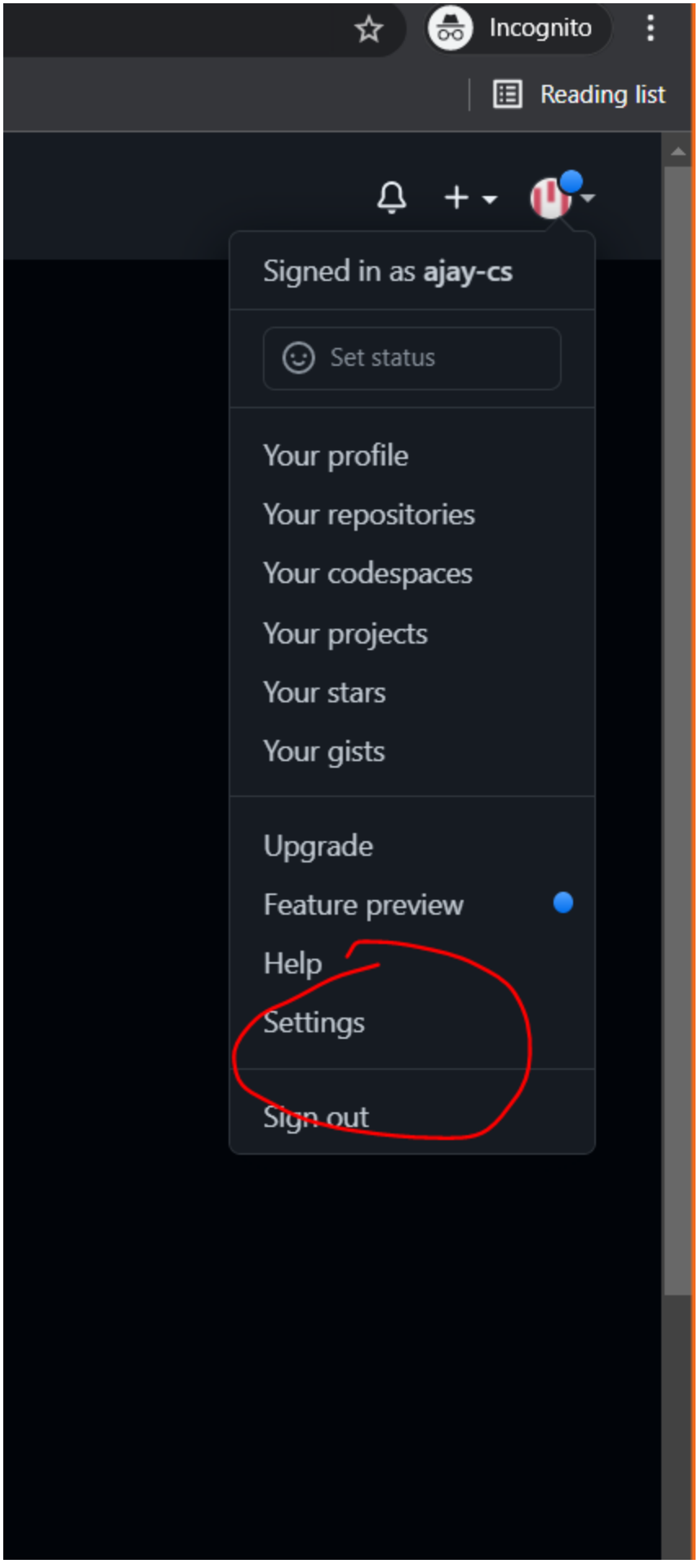
git add <file name>
git commit -m "inital commit"

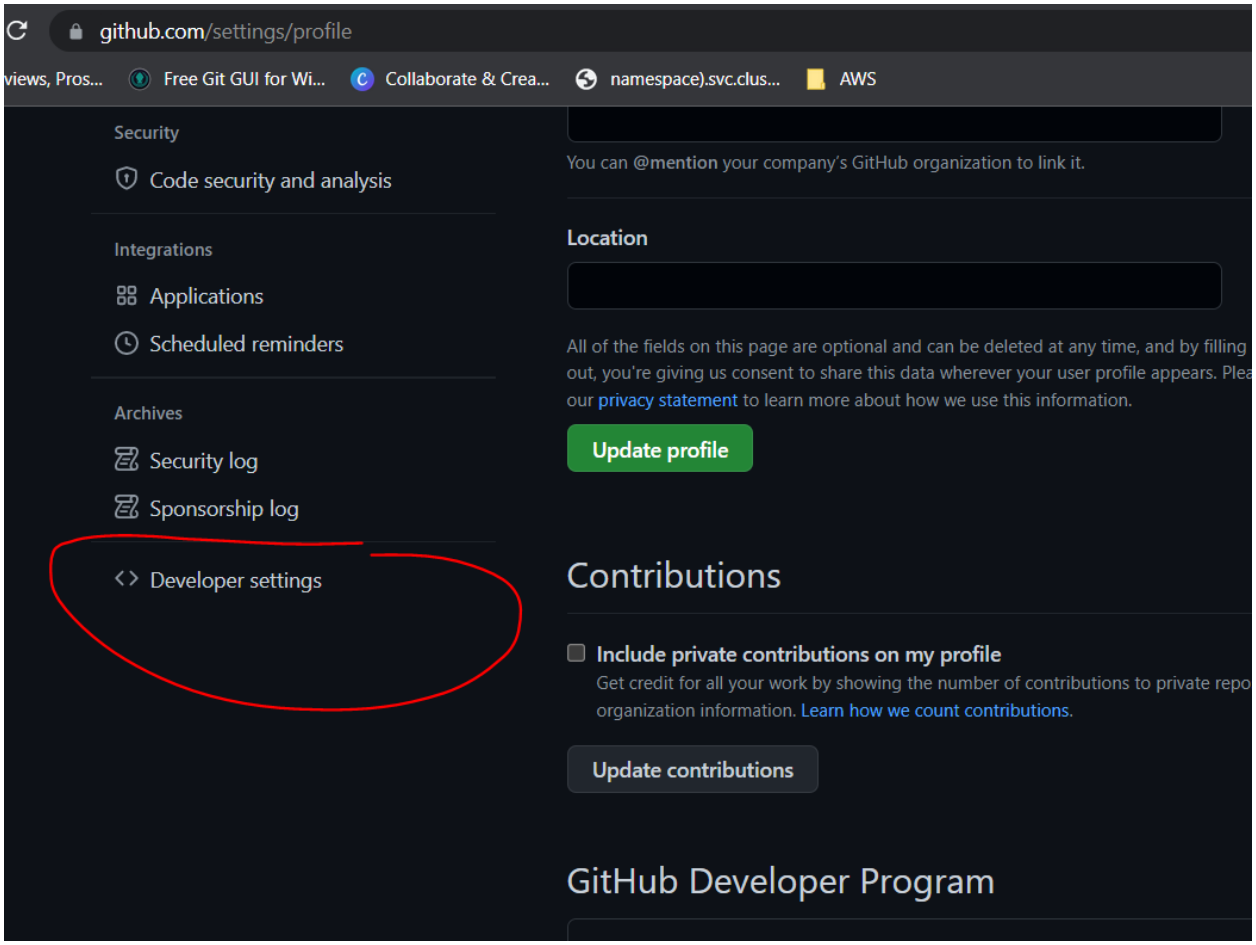
git log
git log --oneline

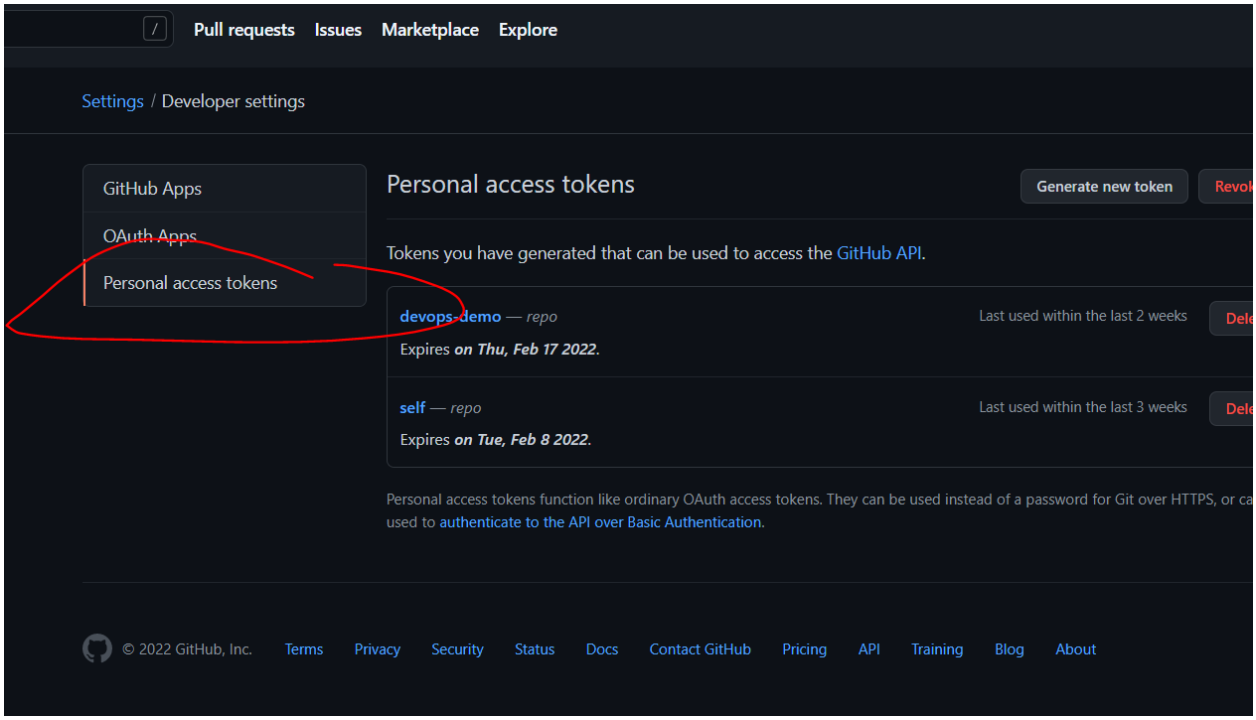
git status
nothing to commit, working directory clean

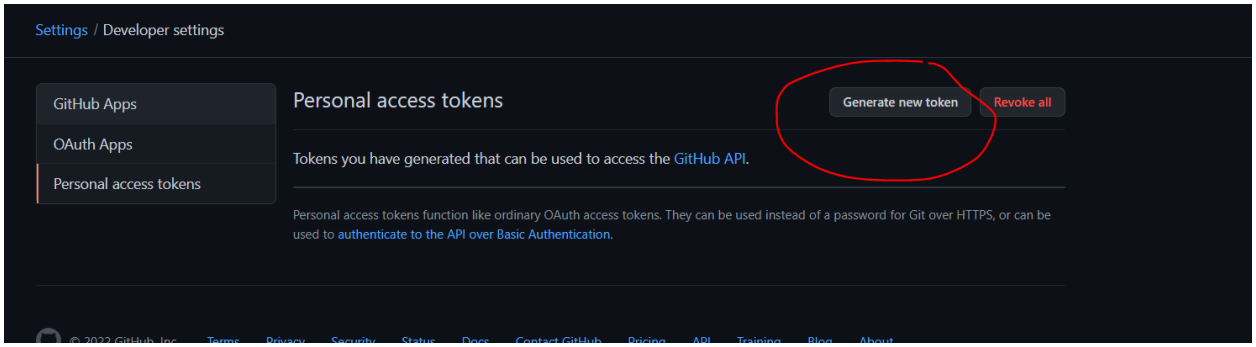
git add -A →> All all files

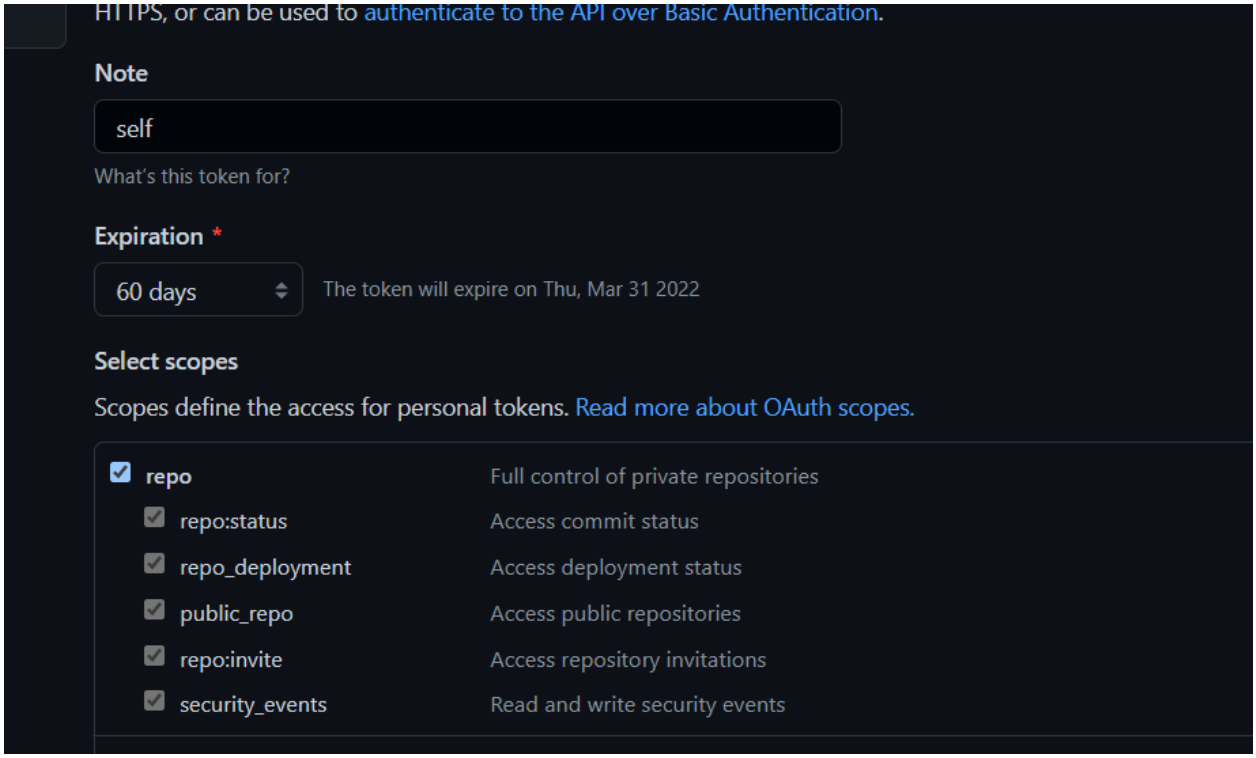
git reset HEAD <file> —> to unstage

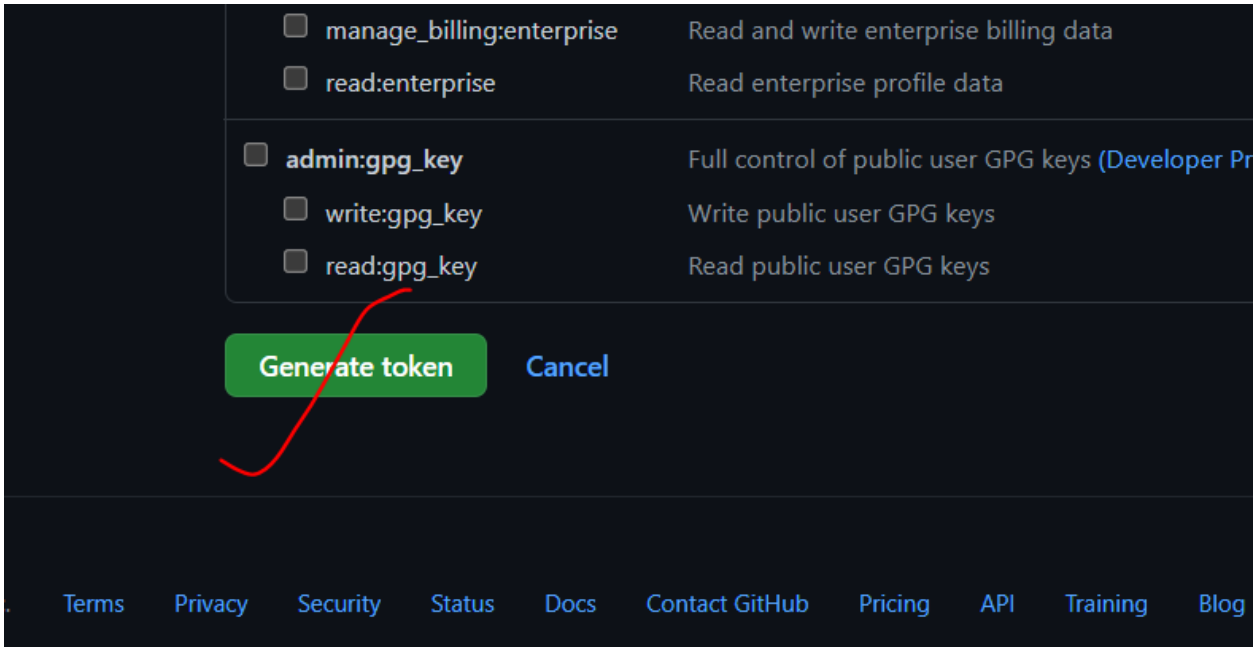

Incognito
Reading list
Signed in as ajay-cs
Set status
Your profile
Your repositories
Your codespaces
Your projects
Your stars
Your gists
Upgrade
Feature preview
Help
Settings
Sign out


github.com/settings/profile
views, Pros...
Free Git GUI for Wi...
Collaborate & Crea...
namespace).svc.clus...
AWS
Security
Code security and analysis
Integrations
Applications
Scheduled reminders
Archives
Security log
Sponsorship log
Developer settings
You can @mention your company's GitHub organization to link it.
Location
All of the fields on this page are optional and can be deleted at any time, and by filling
out, you're giving us consent to share this data wherever your user profile appears. Plea
our privacy statement to learn more about how we use this information.
Update profile
Contributions
Include private contributions on my profile
Get credit for all your work by showing the number of contributions to private repo
organization information. Learn how we count contributions.
Update contributions
GitHub Developer Program


/
Pull requests
Issues
Marketplace
Explore
Settings / Developer settings
GitHub Apps
OAuth Apps
Personal access tokens
Personal access tokens
Generate new token
Revok
Tokens you have generated that can be used to access the GitHub API.
devops-demo — repo
Last used within the last 2 weeks
Dele
Expires on Thu, Feb 17 2022.
self — repo
Last used within the last 3 weeks
Dele
Expires on Tue, Feb 8 2022.
Personal access tokens function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or ca
used to authenticate to the API over Basic Authentication.
© 2022 GitHub, Inc.
Terms
Privacy
Security
Status
Docs
Contact GitHub
Pricing
API
Training
Blog
About


Settings / Developer settings
GitHub Apps
OAuth Apps
Personal access tokens
Personal access tokens
Generate new token
Revoke all
Tokens you have generated that can be used to access the GitHub API.
Personal access tokens function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be
used to authenticate to the API over Basic Authentication.

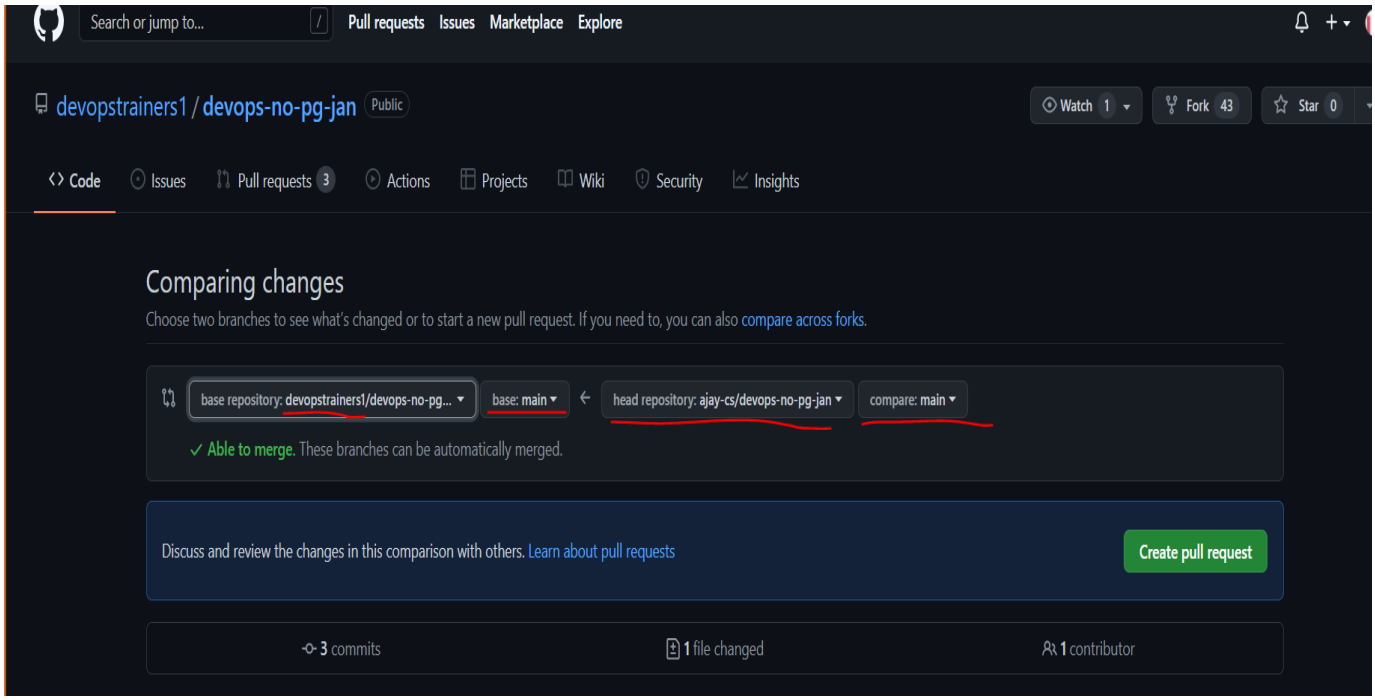

HTTPS, or can be used to authenticate to the API over Basic Authentication.
Note
self
What's this token for?
Expiration *
60 days
The token will expire on Thu, Mar 31 2022
Select scopes
Scopes define the access for personal tokens. Read more about OAuth scopes.
repo
Full control of private repositories
repo:status
Access commit status
repo_deployment
Access deployment status
public_repo
Access public repositories
repo:invite
Access repository invitations
security_events
Read and write security events


manage_billing:enterprise
Read and write enterprise billing data
read:enterprise
Read enterprise profile data
admin:gpg_key
Full control of public user GPG keys (Developer Pr
write:gpg_key
Write public user GPG keys
read:gpg_key
Read public user GPG keys
Generate token
Cancel
Terms
Privacy
Security
Status
Docs
Contact GitHub
Pricing
API
Training
Blog

ajaycshotmail@ip-172-31-93-214:~/demo-pr/devops-no-pg-jan$ git push -u origin main
Username for 'https://github.com': ajay-cs
Password for 'https://ajay-cs@github.com':
remote: Support for password authentication was removed on August 13, 2021. Please use a personal access token instead.
remote: Please see
https://github.blog/2020-12-15-token-authentication-requirements-for-git-operations/ for more information.
fatal: Authentication failed for 'https://github.com/ajay-cs/devops-no-pg-jan.git/"

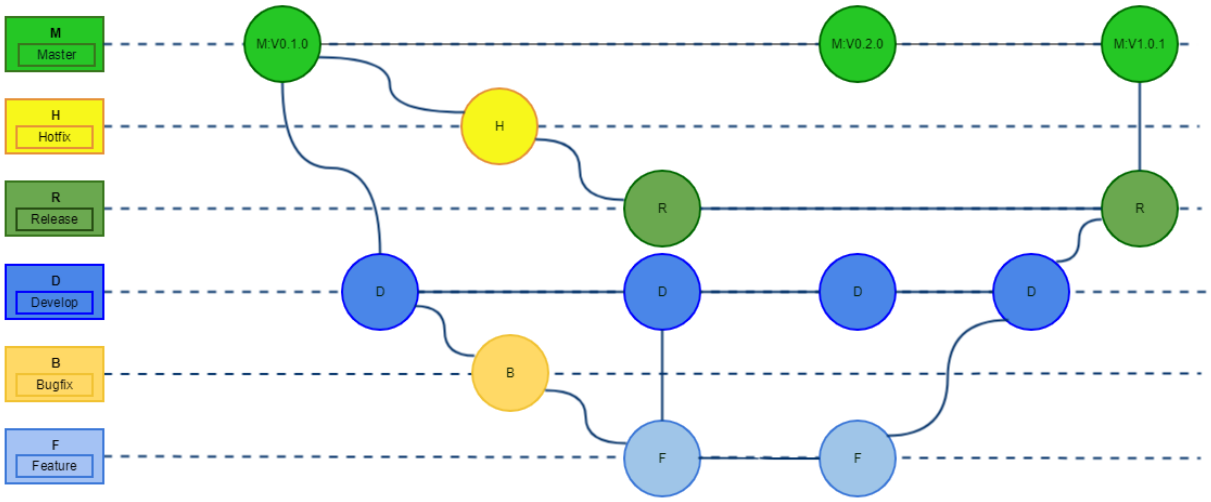
git push -u origin main

git push -u <remote URL alisa > <remot>



git branch -M main

This will rename the current branch with new name main



git checkout dev-ops-1

git branch

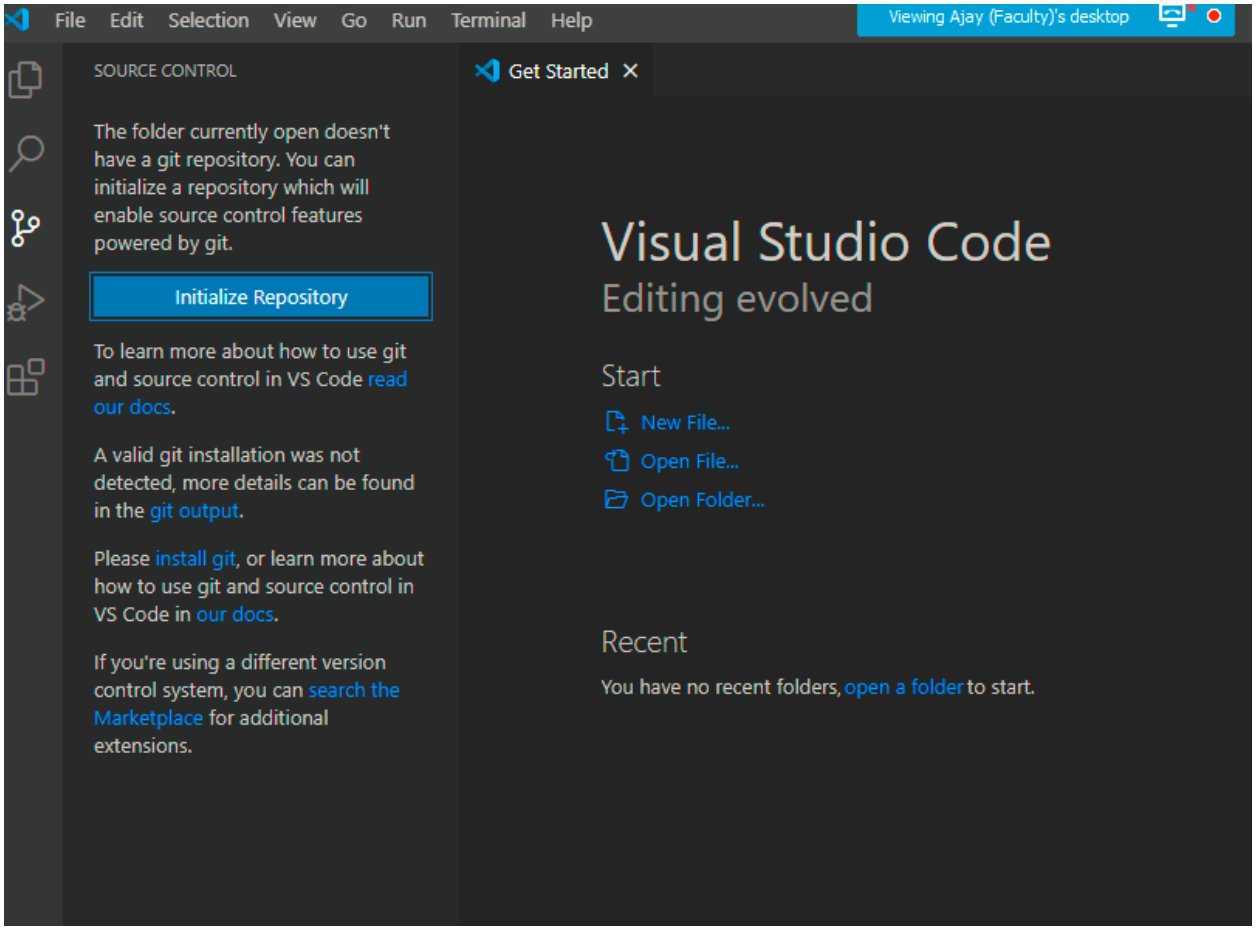
lgit clone https://github.com/devopstrainers1/demo-branch.git
cd demo-branch/
ls
git branch
git branch dev-ops
git branch
git branch -m dev-ops-1
git branch
ls
cd ..
ls
cd demo-branch
git branch
git checkout dev-ops
git branch
echo "this my branching demo" > foo.txt
ls
git add -A
git commit -m "demo"
ls
cat foo.txt
git branch

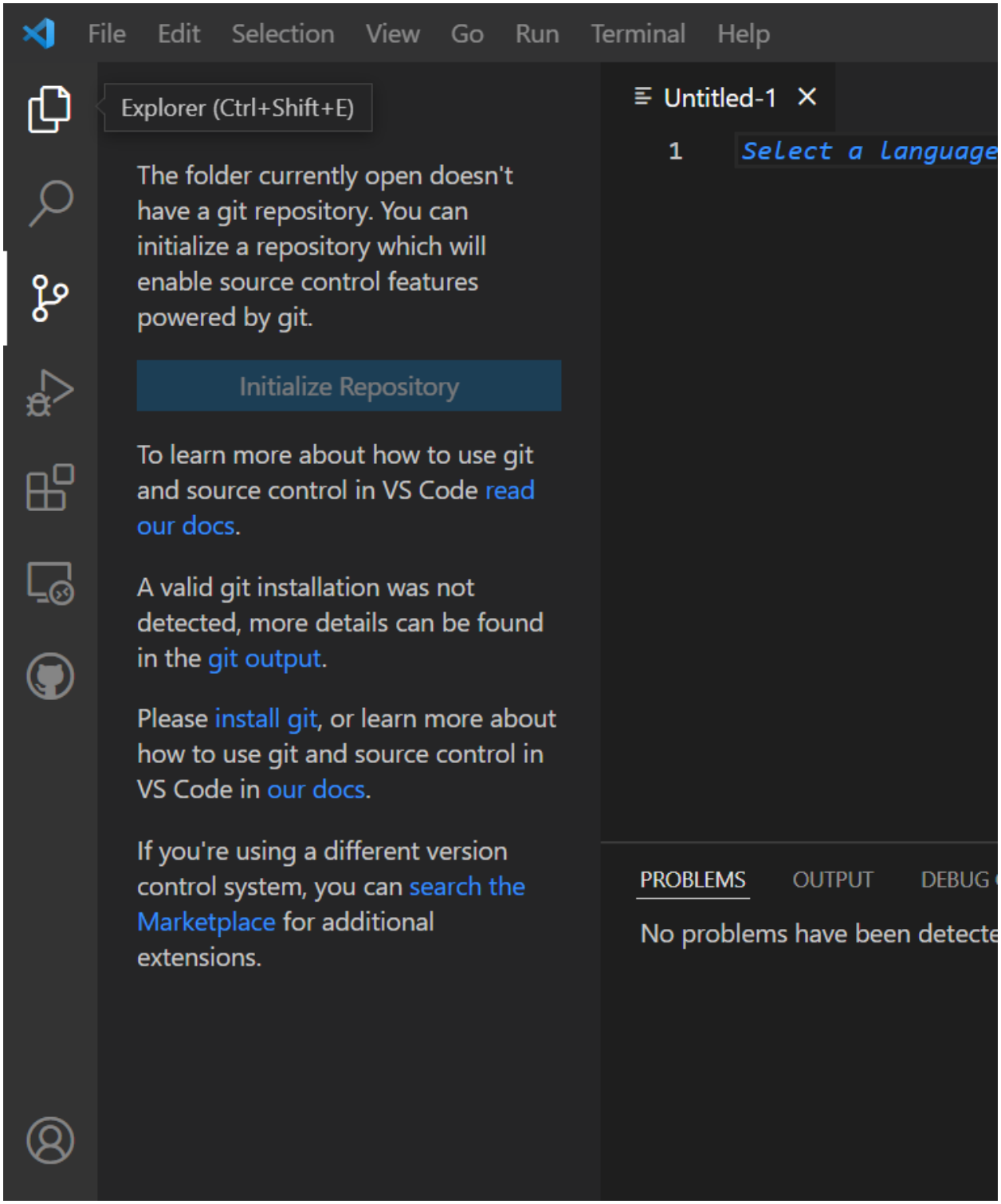
git checkout dev-ops-1
ls
git branch
git checkout dev-ops
ls
git push -u origin dev-ops-1
git branch
ls
git push -u origin dev-ops
git branch
ls
git checkout dev-ops-1
git branch
ls
git merge dev-ops
ls
git push -u origin dev-op1
git push -u origin dev-ops1
git branch
git push -u origin dev-ops-1
git status

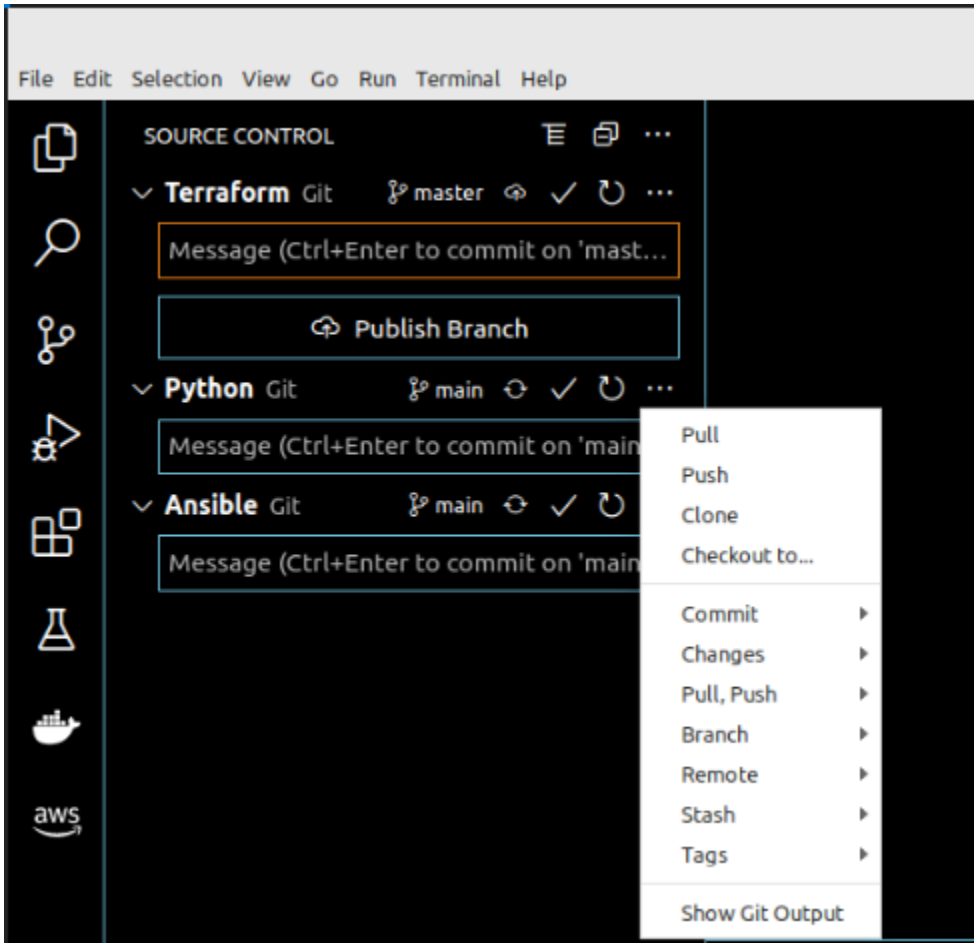
- New branch
- Rename branch
- Merge the branch on local
- Push new branch on remote
- Switch the branches on local

git branch -D dev-ops
git push origin --delete dev-ops

Clone one repo and make some changes and push back to remote repo
Using VS code


File Edit Selection View Go Run Terminal Help
Viewing Ajay (Faculty)'s desktop
SOURCE CONTROL
The folder currently open doesn't have a git repository. You can initialize a repository which will enable source control features powered by git.
Initialize Repository
To learn more about how to use git and source control in VS Code read our docs.
A valid git installation was not detected, more details can be found in the git output.
Please install git, or learn more about how to use git and source control in VS Code in our docs.
If you're using a different version control system, you can search the Marketplace for additional extensions.
Get Started
Visual Studio Code
Editing evolved
Start
New File...
Open File...
Open Folder...
Recent
You have no recent folders, open a folder to start.


File Edit Selection View Go Run Terminal Help
Explorer (Ctrl+Shift+E)
The folder currently open doesn't have a git repository. You can initialize a repository which will enable source control features powered by git.
Initialize Repository
To learn more about how to use git and source control in VS Code read our docs.
A valid git installation was not detected, more details can be found in the git output.
Please install git, or learn more about how to use git and source control in VS Code in our docs.
If you're using a different version control system, you can search the Marketplace for additional extensions.
Untitled-1
1 Select a language
PROBLEMS OUTPUT DEBUG
No problems have been detecte



git rebase -i ajay

1) **We need 2 users**
2) **Take clone for both users**
3) **Make any change and commit to github from any one user**
4) **Make any changes and commit to github from user2 (but same as step 3)**
5) **Push from user2, it's will reject**
6) **Then solve the confilite and push back**

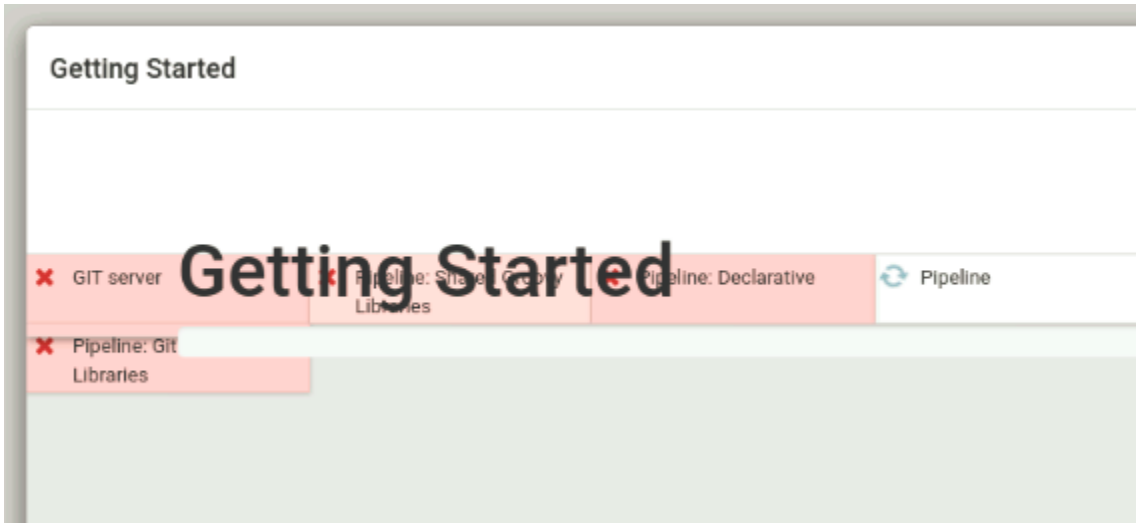
Jenkins

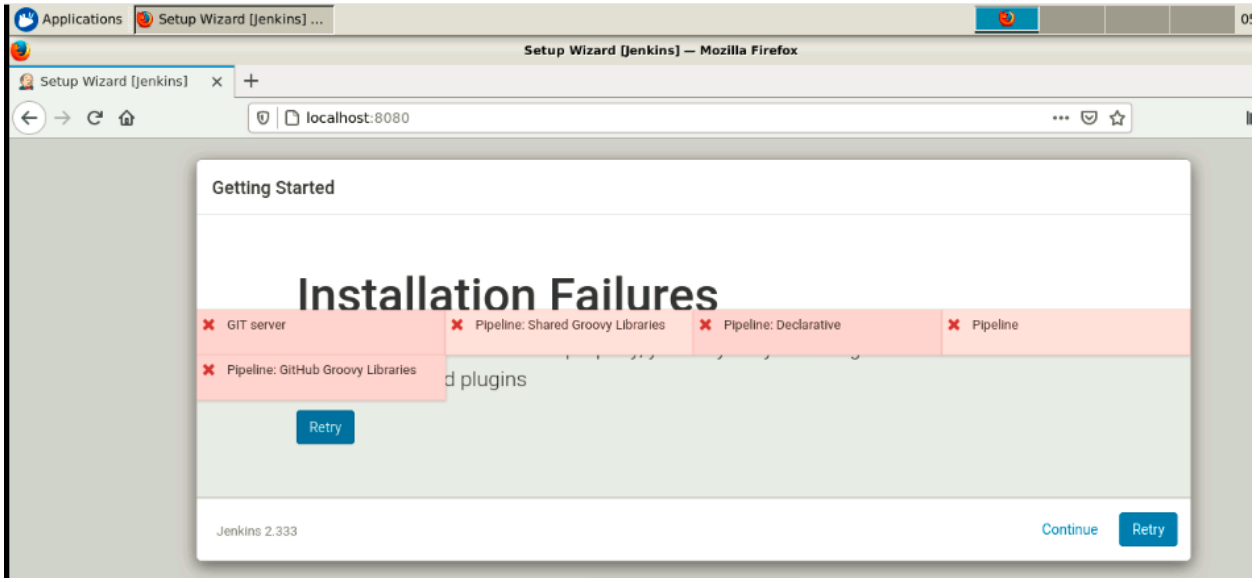
sudo cat /var/lib/jenkins/secrets/initialAdminPassword

```
wget --no-check-certificate -qO -
http://pkg.jenkins-ci.org/debian/jenkins-ci.org.key | sudo apt-key add -
```

Installation Failures
Some plugins failed to install properly, you may retry installing them or continue without the failed plugins

GIT server Pipeline: Shared Groovy Libraries Pipeline: Declarative Pipeline Pipeline: GitHub Groovy Libraries

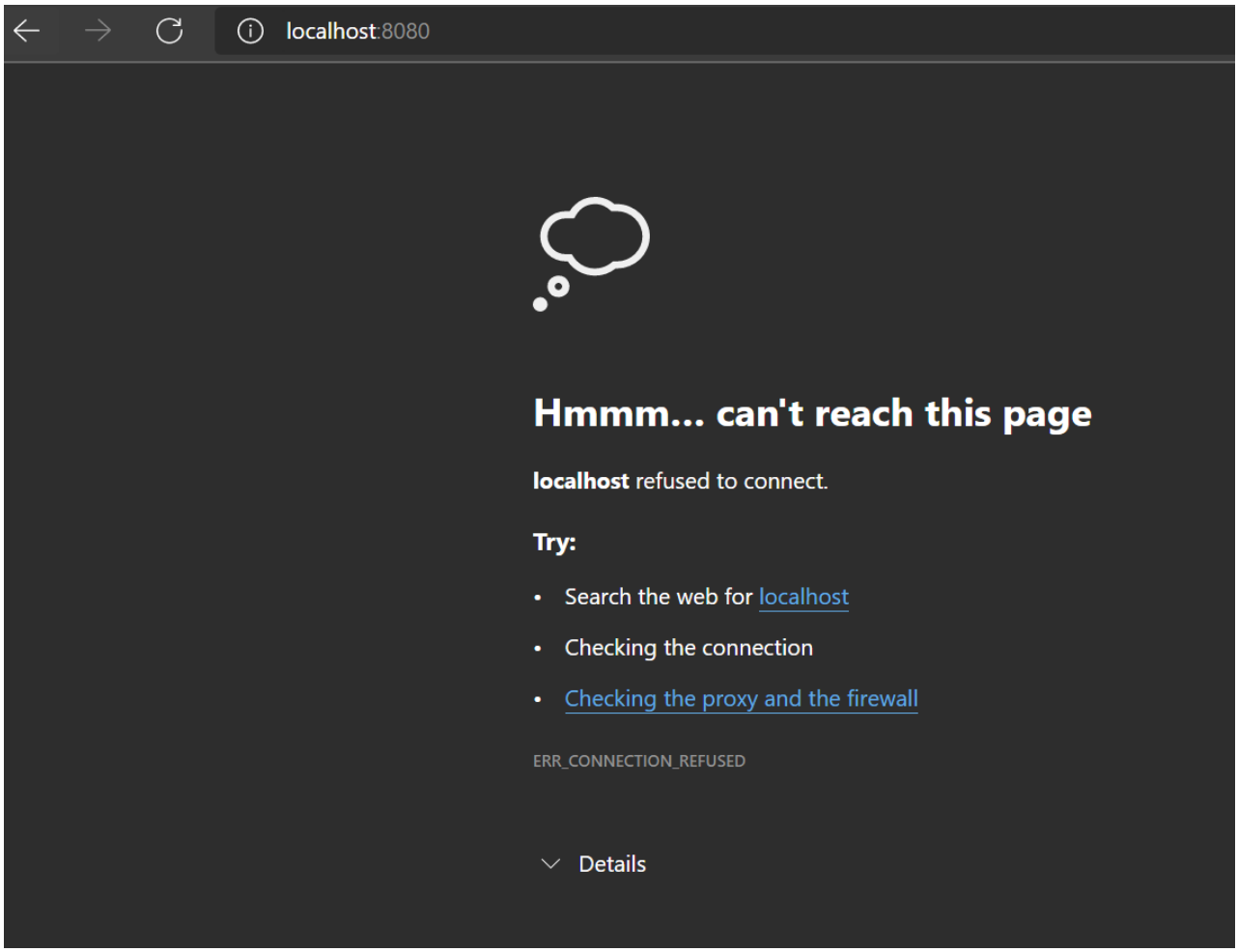




sudo apt remove --purge jenkins or sudo apt purge jenkins

sudo apt-get install jenkins

sudo systemctl status jenkins



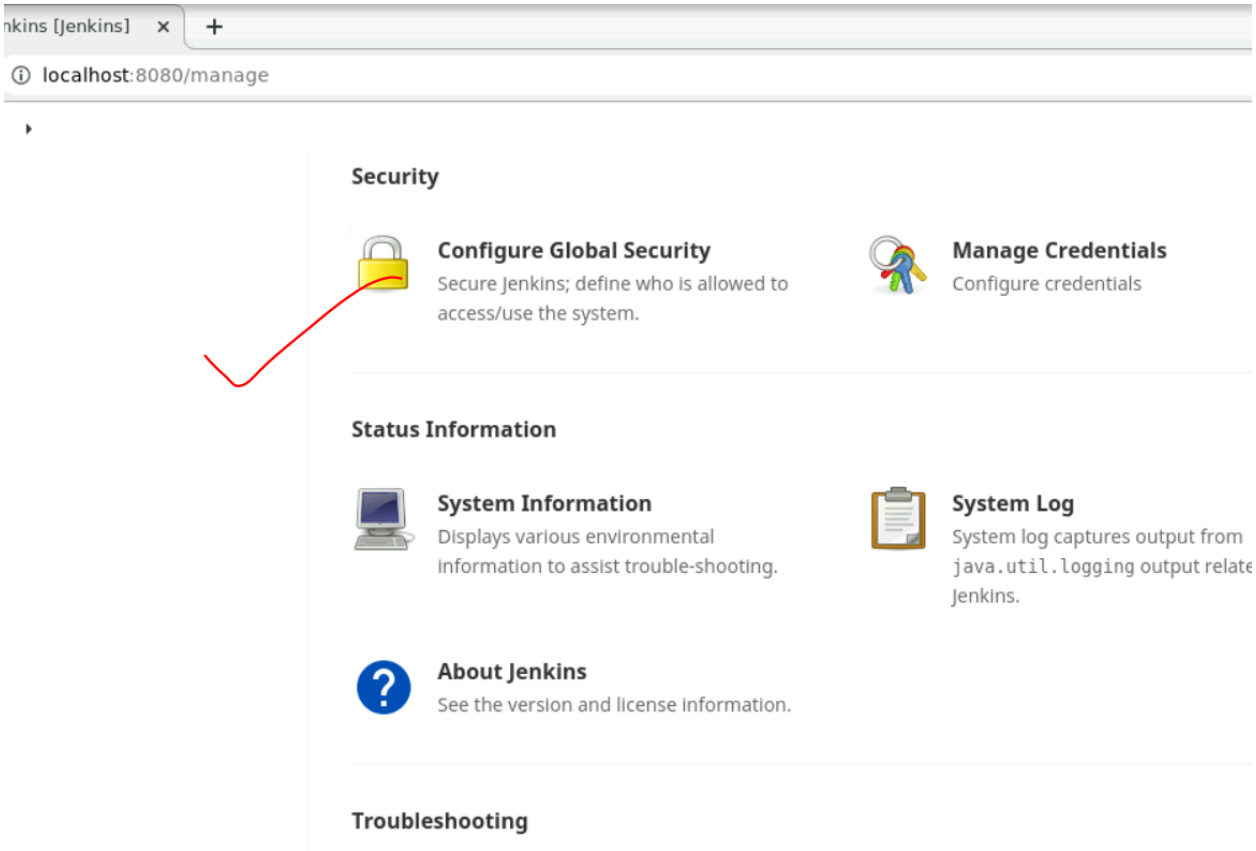
In case someone missed the jenkins password

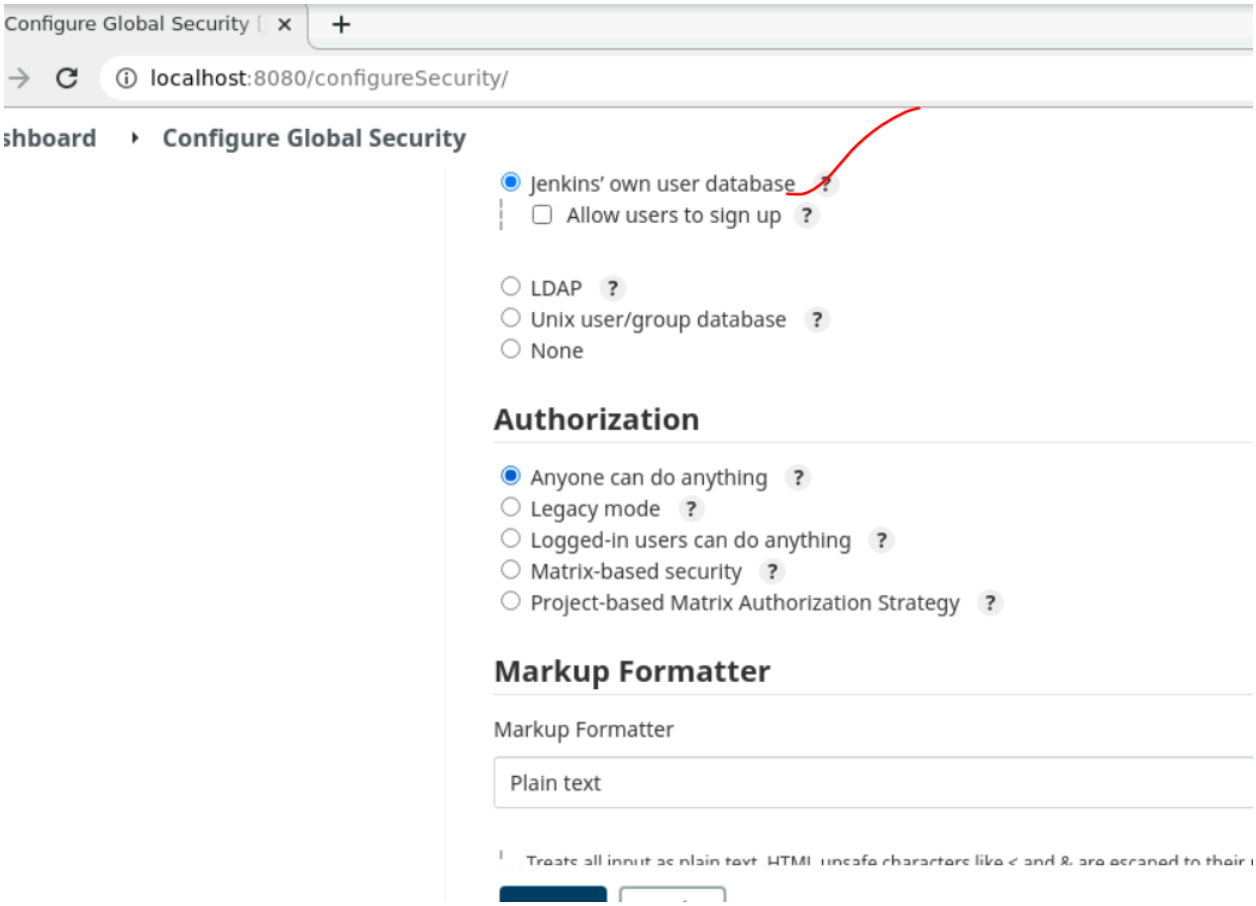
sudo vi /var/lib/jenkins/config.xml

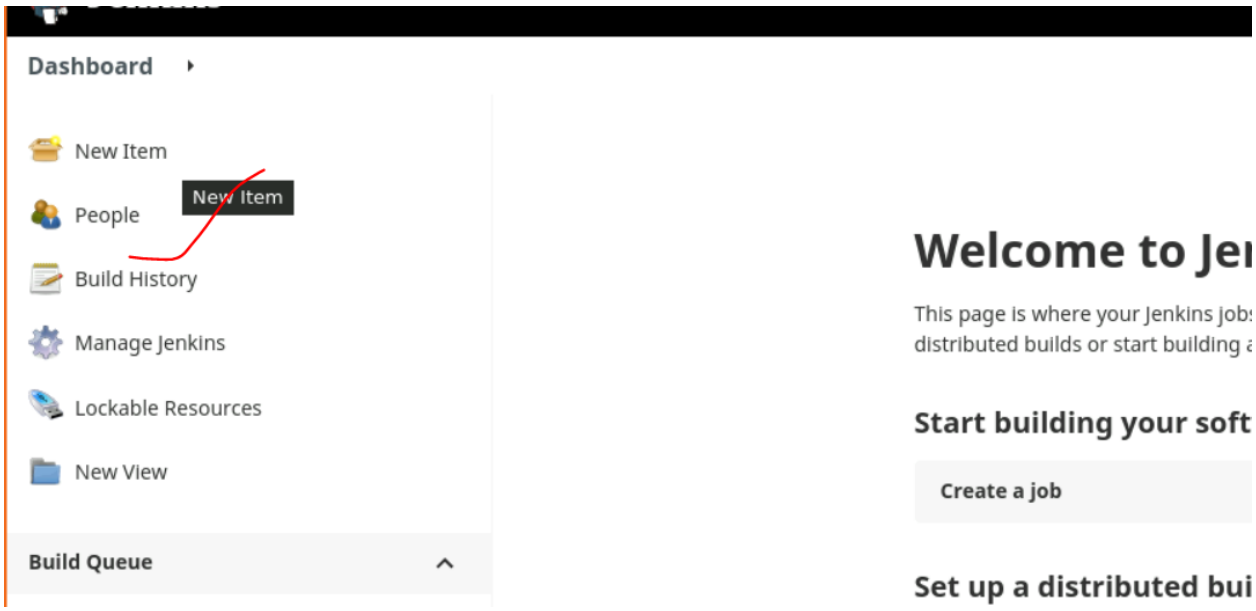
From
<useSecurity>true</useSecurity>
To
<useSecurity>false</useSecurity>

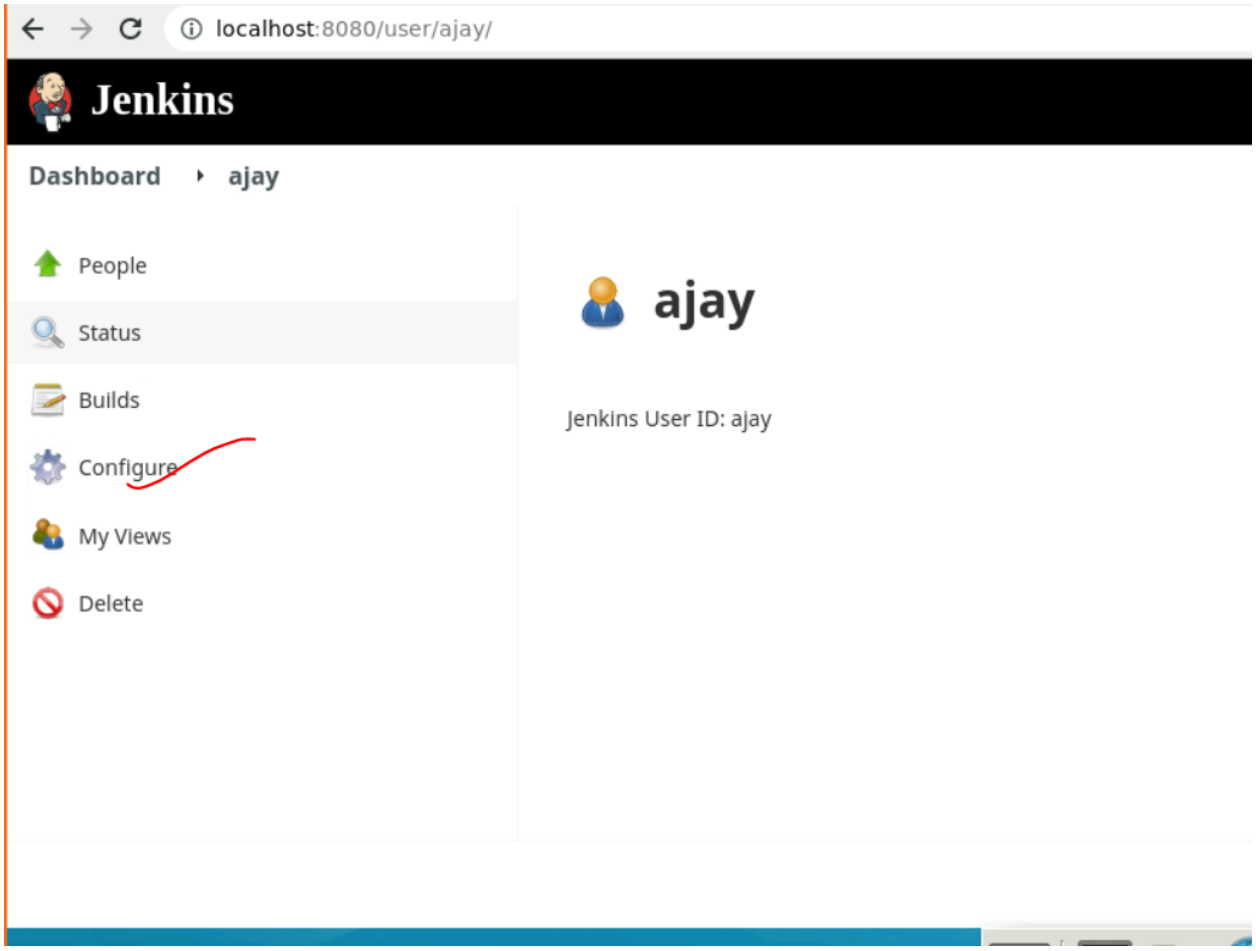
sudo systemctl restart jenkins

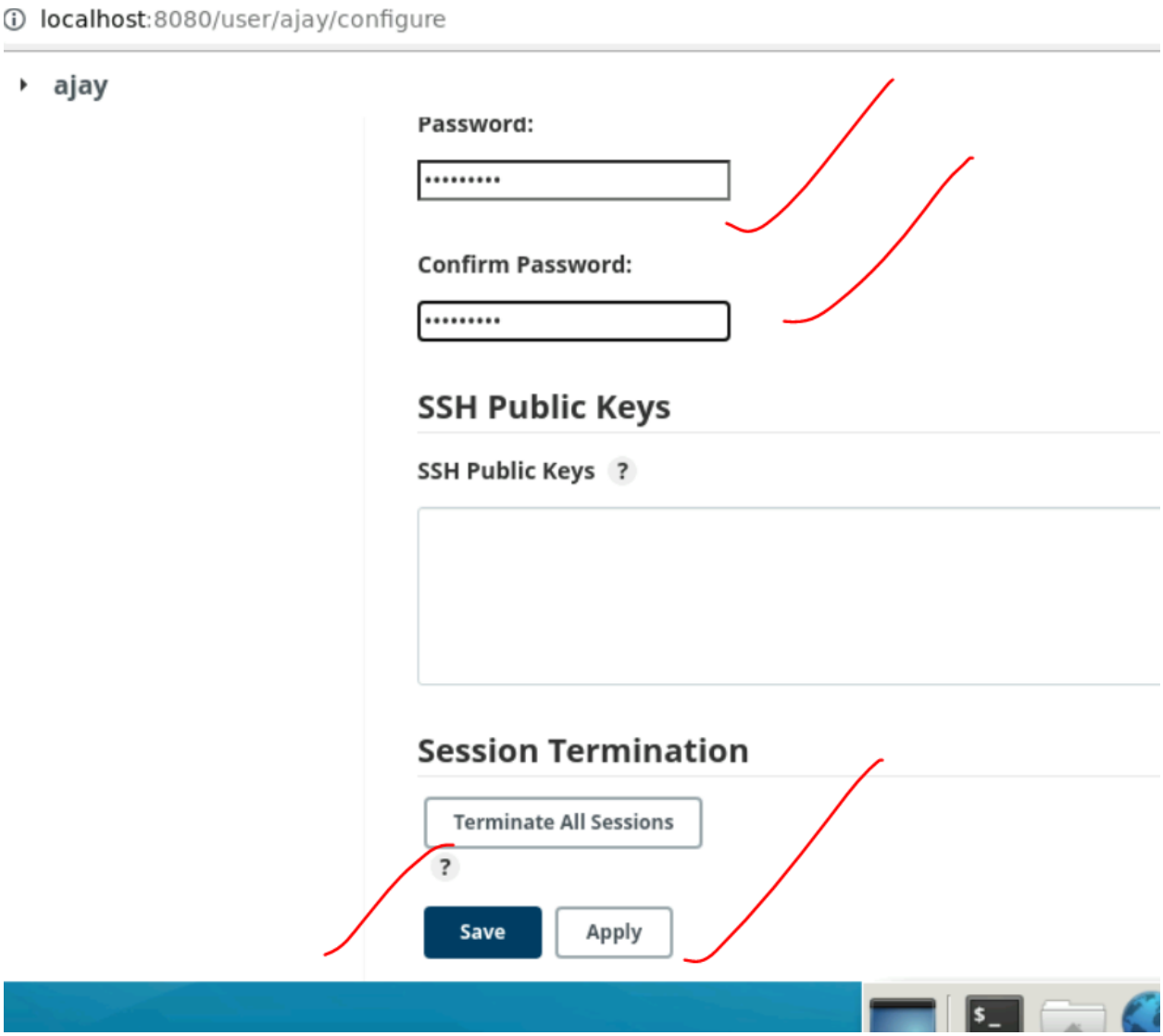
Manage jenkins


nkins [Jenkins]
localhost:8080/manage
Security
Configure Global Security
Secure Jenkins; define who is allowed to access/use the system.
Manage Credentials
Configure credentials
Status Information
System Information
Displays various environmental information to assist trouble-shooting.
System Log
System log captures output from java.util.logging output relate
Jenkins.
About Jenkins
See the version and license information.
Troubleshooting


Configure Global Security
localhost:8080/configureSecurity/
shboard
Configure Global Security
Jenkins' own user database
Allow users to sign up
LDAP
Unix user/group database
None
Authorization
Anyone can do anything
Legacy mode
Logged-in users can do anything
Matrix-based security
Project-based Matrix Authorization Strategy
Markup Formatter
Markup Formatter
Plain text


Dashboard
New Item
People
New Item
Build History
Manage Jenkins
Lockable Resources
New View
Build Queue
Welcome to Je
This page is where your Jenkins jobs
distributed builds or start building a
Start building your soft
Create a job
Set up a distributed bui


localhost:8080/user/ajay/
Jenkins
Dashboard
ajay
People
Status
Builds
Configure
My Views
Delete
ajay
Jenkins User ID: ajay


localhost:8080/user/ajay/configure
ajay
Password:
Confirm Password:
SSH Public Keys
SSH Public Keys
Session Termination
Terminate All Sessions
Save
Apply


localhost:8080/user/ajay/
Search
log in
ajay

demo-java-app

General | Source Code Management | Build Triggers | Build Environment | Build

None

Git ?

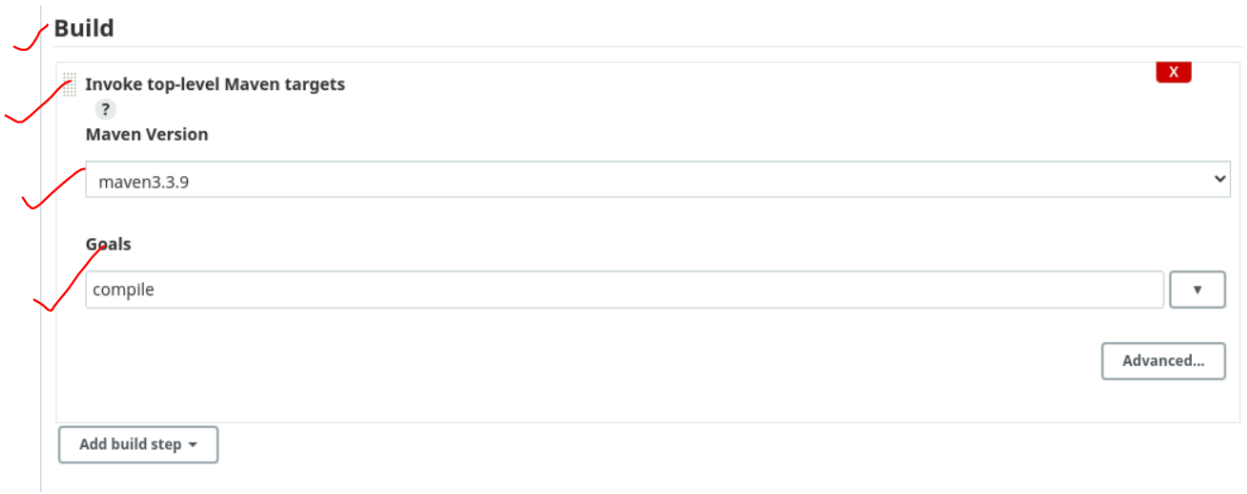
Repositories ?

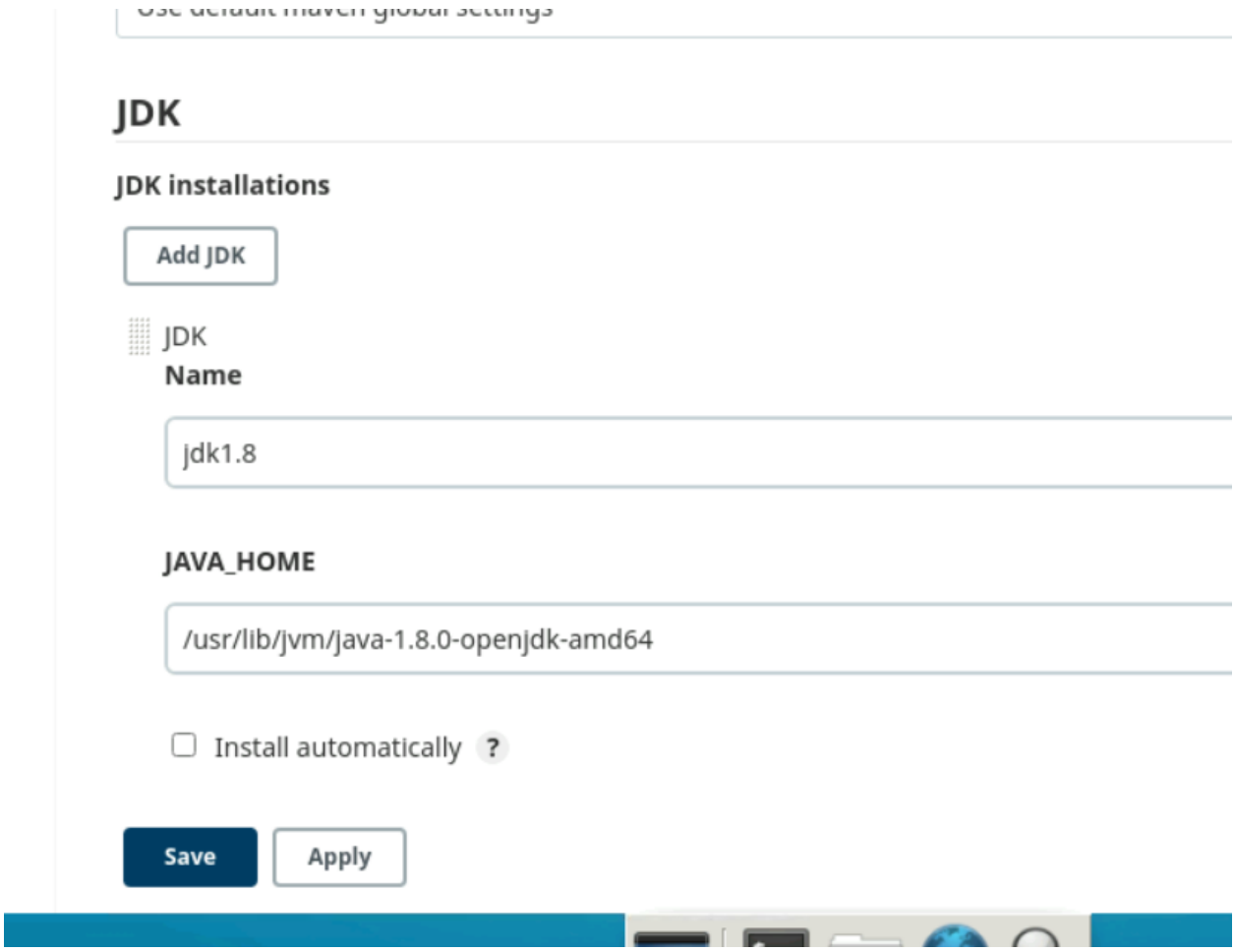
Repository URL ?

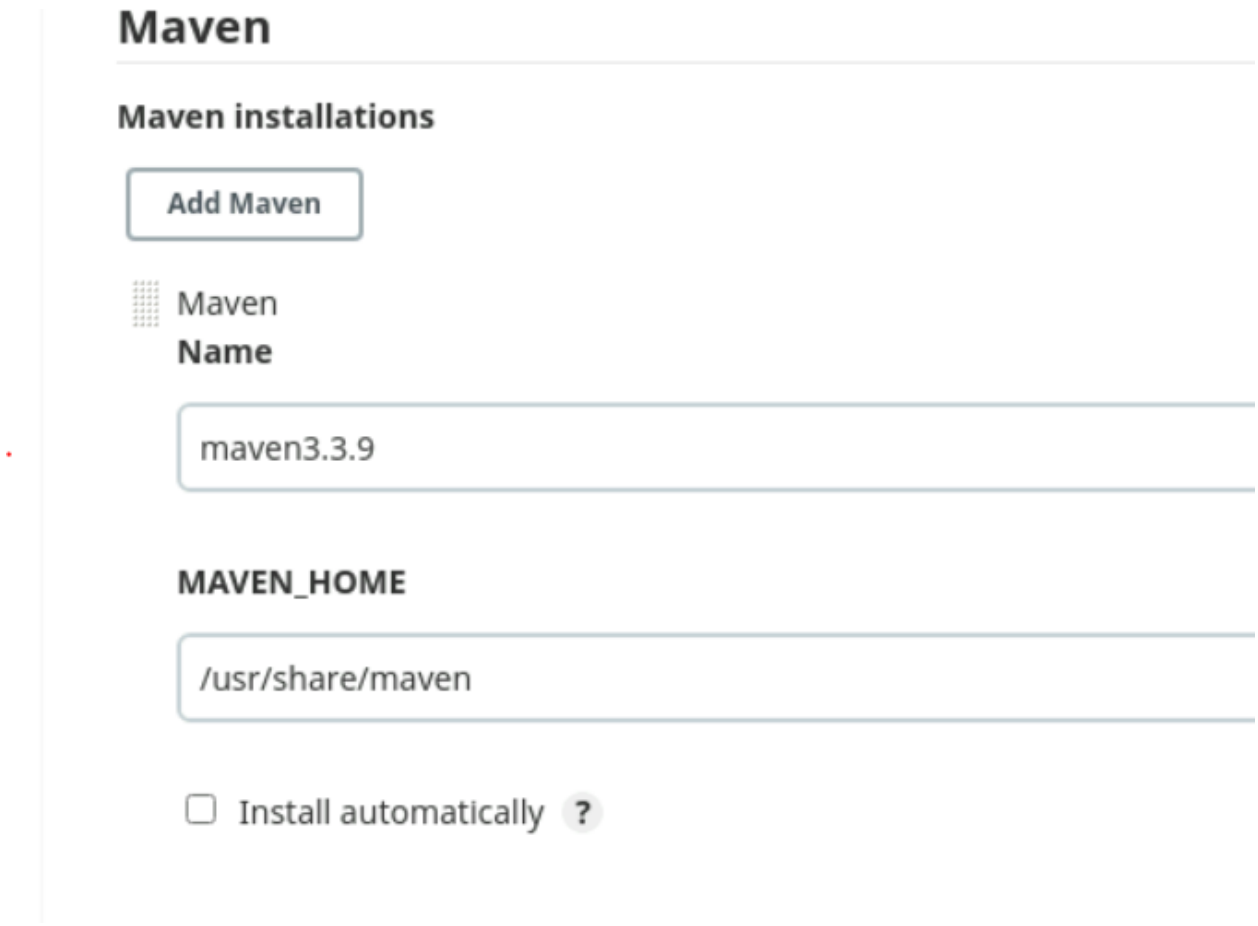
https://github.com/devopstrainers1/addressbook.git

Credentials ?

- none - | Add




JDK
JDK installations
Add JDK
JDK
Name
jdk1.8
JAVA_HOME
/usr/lib/jvm/java-1.8.0-openjdk-amd64
Install automatically
Save
Apply

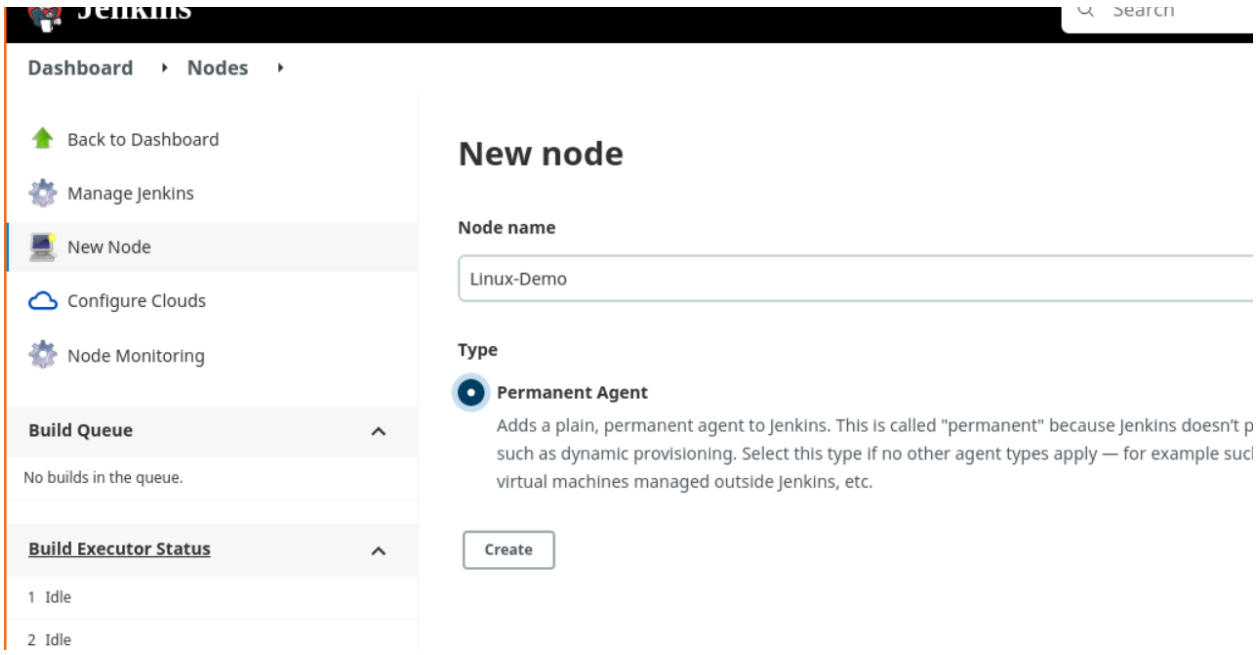


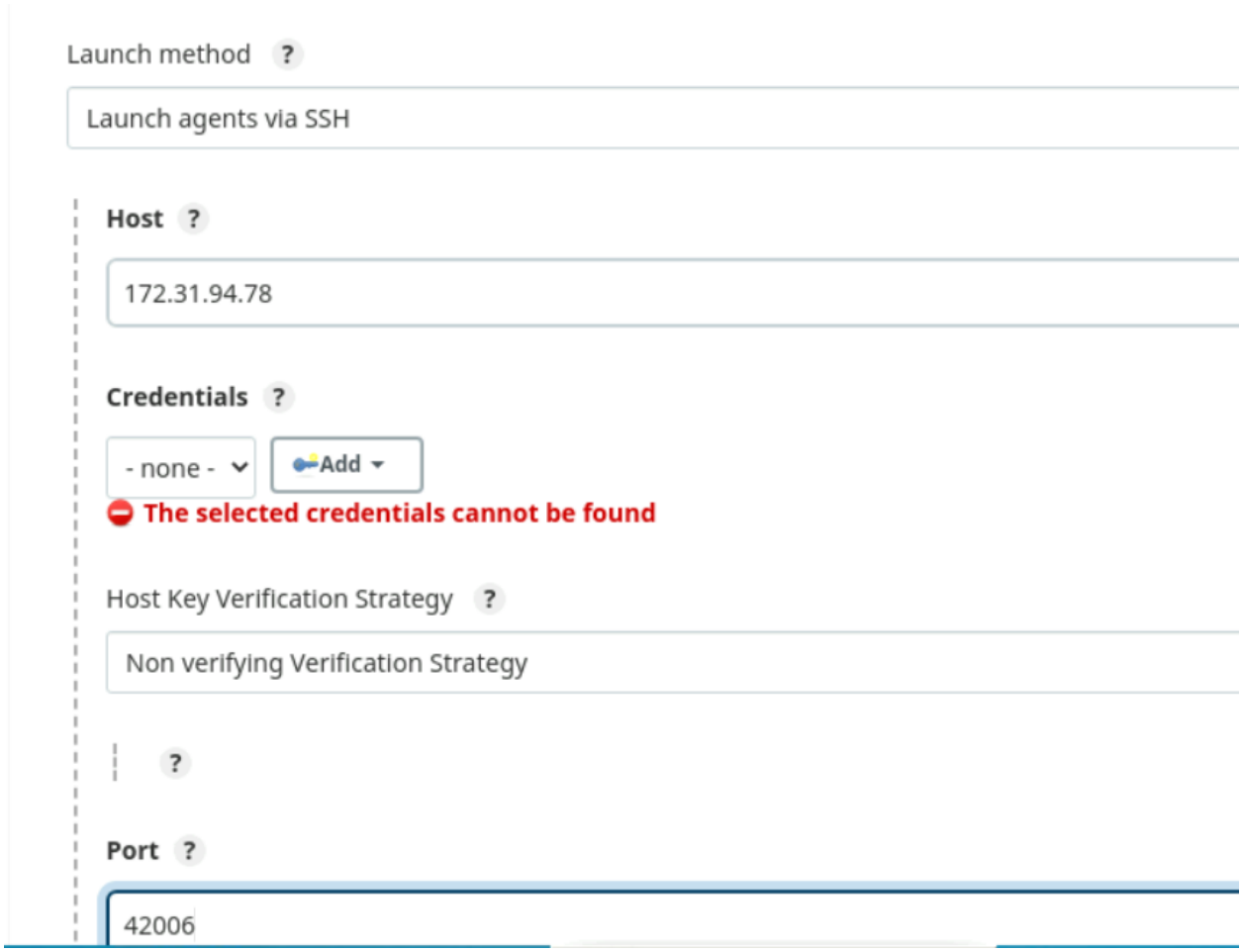
https://github.com/devopstrainers1/addressbook.git

```
pipeline {

agent { node { label 'master' } }
tools {
        maven 'maven3.3.9'
        jdk 'jdk1.8'
    }
stages {
        stage('Code validate') {
            steps {
                sh 'mvn validate'
            }
        }
```

```
        stage('Code Compile') {
            steps {
                sh 'mvn compile'
            }
        }
        stage('Code Test') {
            steps {
                sh 'mvn test'
            }
        }
        stage('Code Package') {
            steps {
                sh 'mvn package'
            }
        }


    }
}
```

Adding Slave




Launch method
Launch agents via SSH
Host
172.31.94.78
Credentials
- none -
Add
The selected credentials cannot be found
Host Key Verification Strategy
Non verifying Verification Strategy
Port
42006

Description ?

Number of executors ?

4

Remote root directory ?

/jenkins_work

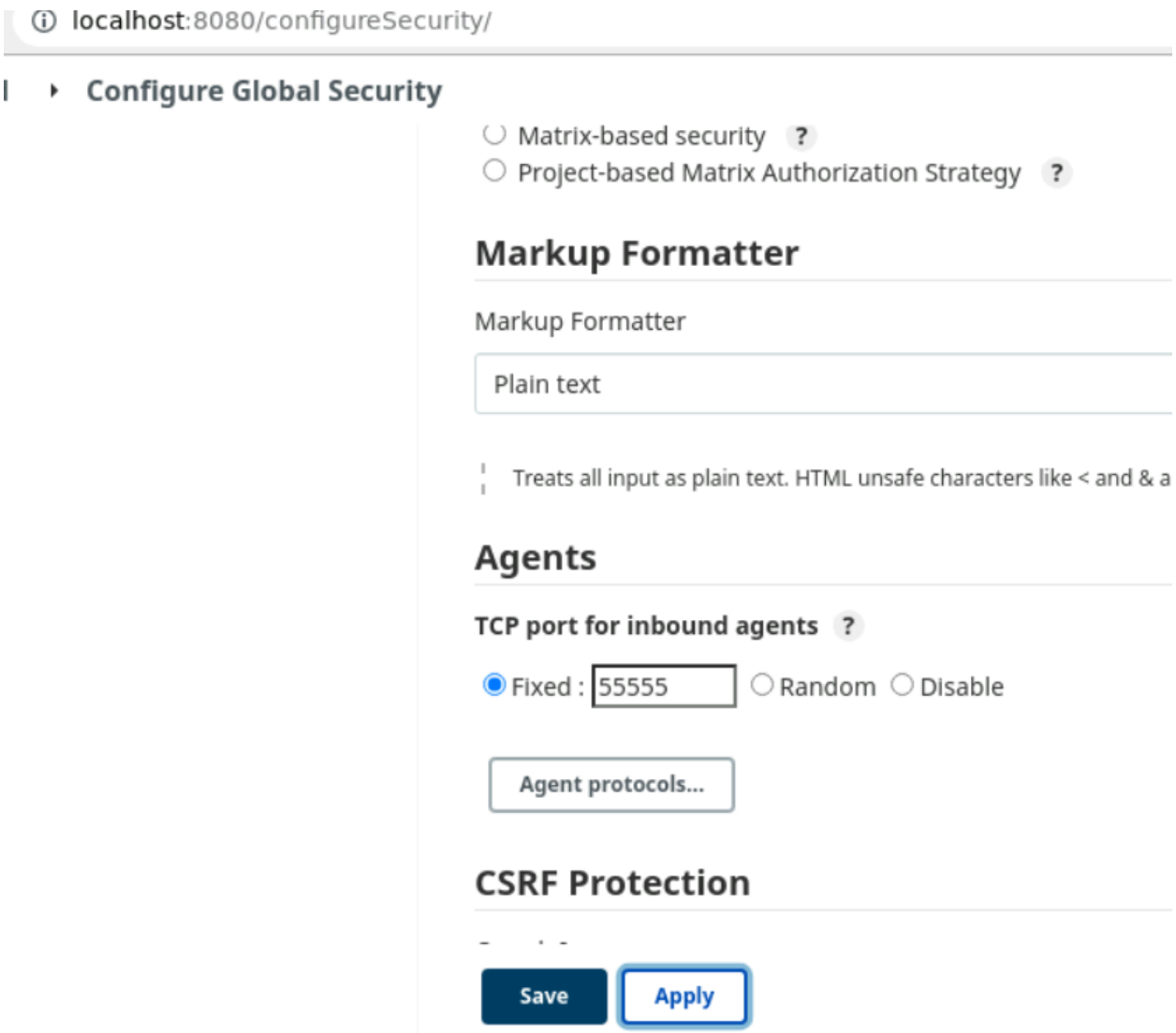
Labels ?

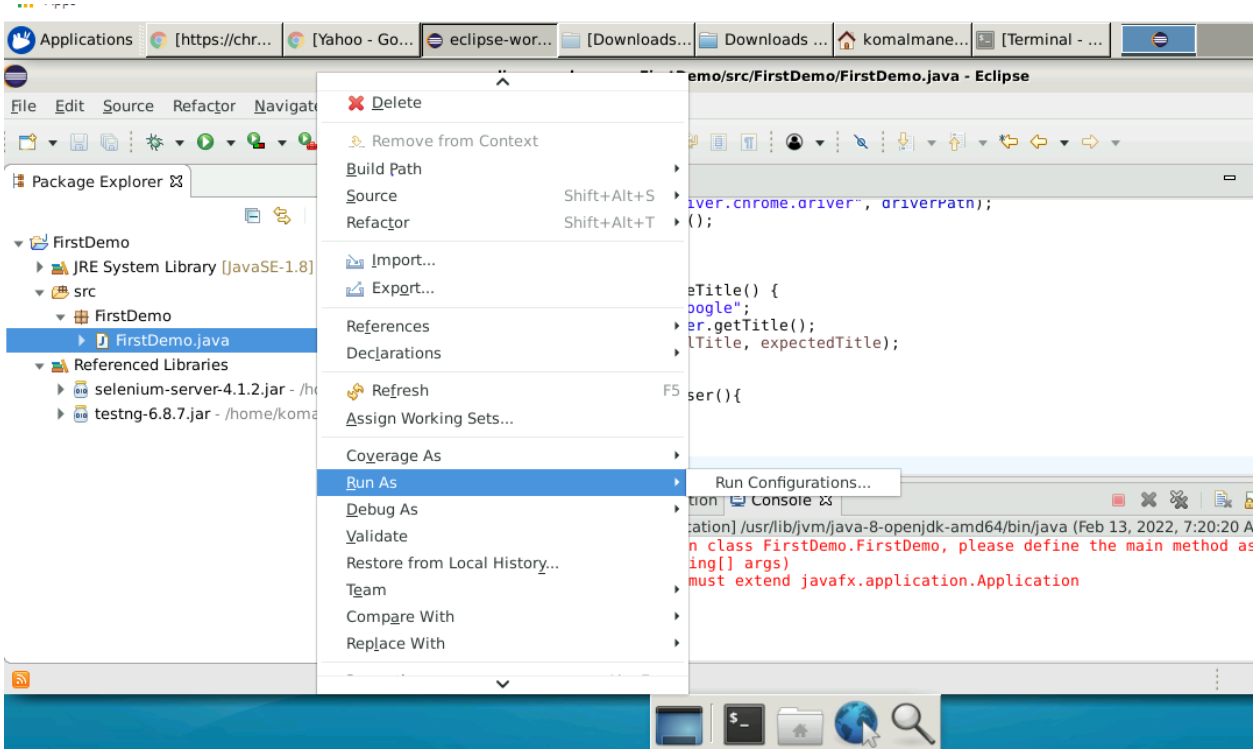
Linux-Demo

Usage ?

Use this node as much as possible

```
aparnabgv15gmai@ip-172-31-94-78:~$ ^C
aparnabgv15gmai@ip-172-31-94-78:~$ mkdir /jenkins_work
mkdir: cannot create directory '/jenkins_work': Permission denied
aparnabgv15gmai@ip-172-31-94-78:~$ sudo mkdir /jenkins_work
aparnabgv15gmai@ip-172-31-94-78:~$ sudo chmod 777 /jenkins_work
aparnabgv15gmai@ip-172-31-94-78:~$ ls -l /jenkins_work
total 1500
drwxrwxr-x 3 aparnabgv15gmai aparnabgv15gmai    4096 Feb 12 07:19 caches
drwxrwxr-x 4 aparnabgv15gmai aparnabgv15gmai    4096 Feb 12 07:15 remoting
-rw-rw-r-- 1 aparnabgv15gmai aparnabgv15gmai 1522173 Feb 12 07:15 remoting.jar
drwxrwxr-x 4 aparnabgv15gmai aparnabgv15gmai    4096 Feb 12 07:19 workspace
```


localhost:8080/configureSecurity/
Configure Global Security
Matrix-based security ?
Project-based Matrix Authorization Strategy ?
Markup Formatter
Markup Formatter
Plain text
Treats all input as plain text. HTML unsafe characters like < and & a
Agents
TCP port for inbound agents ?
Fixed : 55555
Random
Disable
Agent protocols...
CSRF Protection
Save
Apply



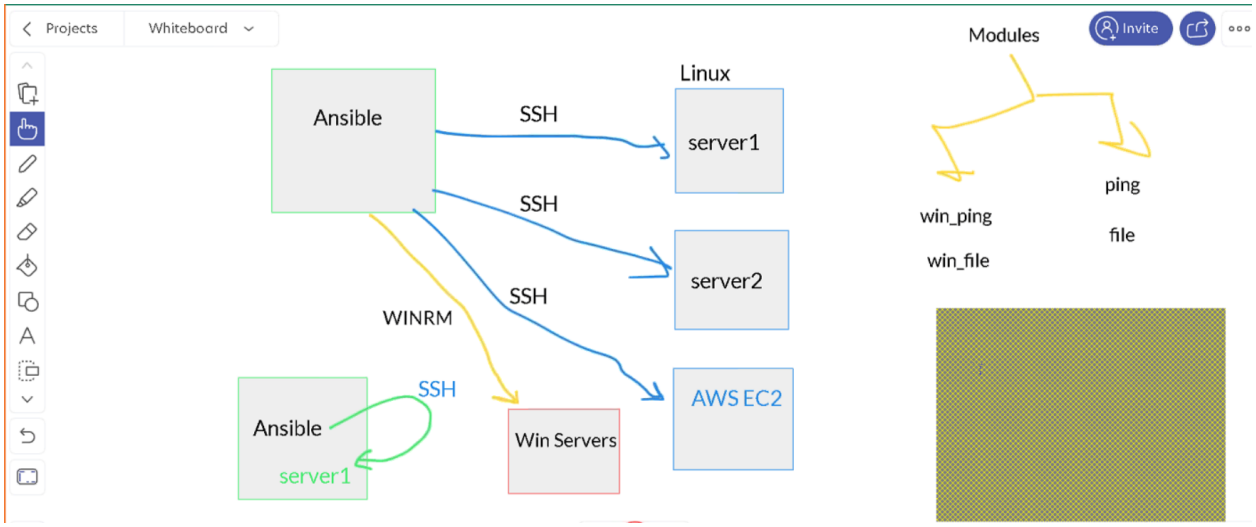

```
package FirstDemo;
import org.testng.annotations.Test;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.testng.Assert;
import org.testng.annotations.AfterTest;
import org.testng.annotations.BeforeTest;



public class FirstDemo{
public String baseUrl = "https://www.google.com/";
String driverPath = "/home/komalmane106gma/Downloads/chromedriver";
public WebDriver driver ;
@BeforeTest
public void launchBrowser() {
System.out.println("launching Chrome browser");
System.setProperty("webdriver.chrome.driver", driverPath);
driver = new ChromeDriver();
driver.get(baseUrl);
}
@Test
```

```
public void verifyHomepageTitle() {
String expectedTitle = "Google";
String actualTitle = driver.getTitle();
Assert.assertEquals(actualTitle, expectedTitle);
}
@AfterTest
public void terminateBrowser(){
driver.close();
}
}
```

```
 <project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/maven-v4_0_0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>jenkinsDemo</groupId>
  <artifactId>jenkinsDemo</artifactId>
  <packaging>jar</packaging>
  <version>1.0-SNAPSHOT</version>
  <name>jenkinsDemo</name>
  <url>http://maven.apache.org</url>
  <dependencies>
        <dependency>
            <groupId>junit</groupId>
            <artifactId>junit</artifactId>
            <version>3.8.1</version>
            <scope>test</scope>
        </dependency>
        <dependency>
            <groupId>org.testng</groupId>
            <artifactId>testng</artifactId>
            <version>6.8.7</version>
            <scope>test</scope>
    </dependency>
    <dependency>
            <groupId>org.seleniumhq.selenium</groupId>
            <artifactId>selenium-java</artifactId>
            <version>3.10.0</version>
```

```
    </dependency>
  </dependencies>
</project>
```

```
[ERROR] Failed to execute goal
org.apache.maven.plugins:maven-compiler-plugin:3.2:testCompile
(default-testCompile) on project jenkinsDemo: Fatal error compiling:
directory not found: /home/kgunjan88gmail/jenkinsDemo/target/test-classes
-> [Help 1]
[ERROR]
[ERROR] To see the full stack trace of the errors, re-run Maven with the
-e switch.
[ERROR] Re-run Maven using the -X switch to enable full debug logging.
[ERROR]
[ERROR] For more information about the errors and possible solutions,
please read the following articles:
[ERROR] [Help 1]
http://cwiki.apache.org/confluence/display/MAVEN/MojoExecutionException
[JENKINS] Archiving /home/kgunjan88gmail/jenkinsDemo/pom.xml to
jenkinsDemo/jenkinsDemo/1.0-SNAPSHOT/jenkinsDemo-1.0-SNAPSHOT.pom
/home/kgunjan88gmail/jenkinsDemo/pom.xml is not inside
/var/lib/jenkins/workspace/Demo-automation-test/home/kgunjan88gmail/jenkin
sDemo/; will archive in a separate pass
channel stopped
Finished: FAILURE
```



```
---
- hosts: webservers
  become: true

  tasks:
   - name: add    - name: add repo for  apt key for nodesource
     apt_key:
       url: https://deb.nodesource.com/gpgkey/nodesource.gpg.key

     apt_repository:
        repo: 'deb https://deb.nodesource.com/node_0.10 {{
ansible_distribution_release }} main'
        update_cache: yes

   - name: install nodejs
     apt:
       name: nodejs
       state: present
```

Ansible AD-HOC command

```
 ansible webservers -m copy -a "src=/etc/hosts dest=/tmp/hosts"
```

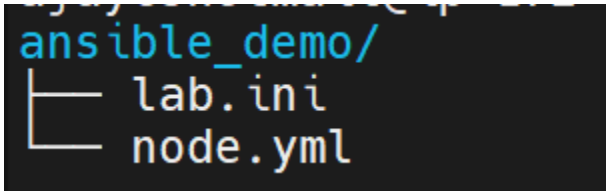
```
ansible webservers -m ping
```

sudo vim /etc/ansible/ansible.cfg - This needs to be configured on ansible servers not on target servers.

On line number 71

```
host_key_checking = False
```

```
172.31.91.143:42006 ansible_connection=ssh ansible_user=*******
ansible_ssh_pass='*******' ansible_ssh_common_args='-o
StrictHostKeyChecking=no'
```




```
ansible webservers -m copy -a "src=/home/ajaycshotmail/ajay.txt
dest=/tmp/ajay.txt" -i lab.ini
```

This is default inventory location **/etc/ansible/hosts**

We have moved the default inventory from /etc/ansible/hosts to /home/ajaycshotmail/ansible_demo/lab.ini

```
---
- hosts: webservers
  become: true

  tasks:
  - name: Update the apt cache
    apt:
      update_cache: yes

  - name: Install OpenJDK java
    apt:
      name:  openjdk-8-jdk
      state: present

  - name: SET JAVA_HOME
    shell: sudo echo "export JAVA_HOME=/usr/lib/jvm/java-8-openjdk-amd64"
>> ~/.bashrc
```

How to uninstall JDK

fatal: [172.31.91.143]: FAILED! => {"changed": false, "msg": "'apt-get remove 'openjdk-8-jdk'' failed: E: Sub-process /usr/bin/dpkg returned an error code (1)\n", "rc": 100, "stderr": "E: Sub-process /usr/bin/dpkg returned an error code (1)\n", "stderr_lines": ["E: Sub-process /usr/bin/dpkg returned an error code (1)"],

Solution:

```
---
- hosts: webservers
  become: true

  tasks:
  - name: Update the apt cache
    apt:
      update_cache: yes
```

```
  - name: Remove OpenJDK java
    apt:
      name:  openjdk-8-jdk
      state: absent
      autoremove: yes
      purge: yes

  - name: SET JAVA_HOME
    shell: sudo echo "export JAVA_HOME=/usr/lib/jvm/java-8-openjdk-amd64"
>> ~/.bashrc
```

```
---
- hosts: webservers
  become: true

  tasks:
  - name: Update the apt cache
    apt:
      update_cache: yes

  - name: Remove OpenJDK java
    apt:
      name:  "{{ item }}"
      state: present
    with_items:
      - mongodb
      - zip
      - unzip
      - vsftpd
```

https://docs.ansible.com/ansible/latest/user_guide/playbooks_loops.html

```
---
- hosts: webservers
  become: true

  tasks:
  - name: Update the apt cache
    apt:
      update_cache: yes

  - name: Installation on packages
    apt:
      name:  "{{ item }}"
      state: present
    loop:
      - mongodb
      - zip
      - unzip
      - vsftpd
```

```
---
- hosts: webservers
  become: true

  tasks:
  - name: Update the apt cache
    apt:
      update_cache: yes

  - name: Installation on packages
    apt:
      name:  "{{ item }}"
      state: present
```

```
    loop:
      - mongodb
      - zip
      - unzip
      - vsftpd

  - name: Check mongodb version

    command: mongo -version
    register: mongodb_version

  - debug:
      msg: "{{ mongodb_version }}"

################################## APACHE INSTALLATION #############

---
- hosts: webservers
  become: true
  tasks:
       - name: install apache2
      apt:
        name: apache2
        update_cache: yes
        state: latest

    - name: enabled mod_rewrite
      apache2_module:
        name: rewrite
        state: present
      notify:
         - restart apache2
0
     - name: Copy index page
      copy:
        src: index.html
        dest: /var/www/html/index.html


  handlers:
```

```
    - name: restart apache2
      service:
        name: apache2
        state: restarted

################HOW to check apache module###################
sudo apache2ctl -M
sudo apache2ctl -M | grep rewrite




ERROR! We were unable to read either as JSON nor YAML, these are the
errors we got from each:
JSON: No JSON object could be decoded

Syntax Error while loading YAML.
  did not find expected '-' indicator

The error appears to be in '/home/kgunjan88gmail/ansible_demo/apache.yml':
line 6, column 2, but may
be elsewhere in the file depending on the exact syntax problem.

The offending line appears to be:


 - name: install apache2
 ^ here
```

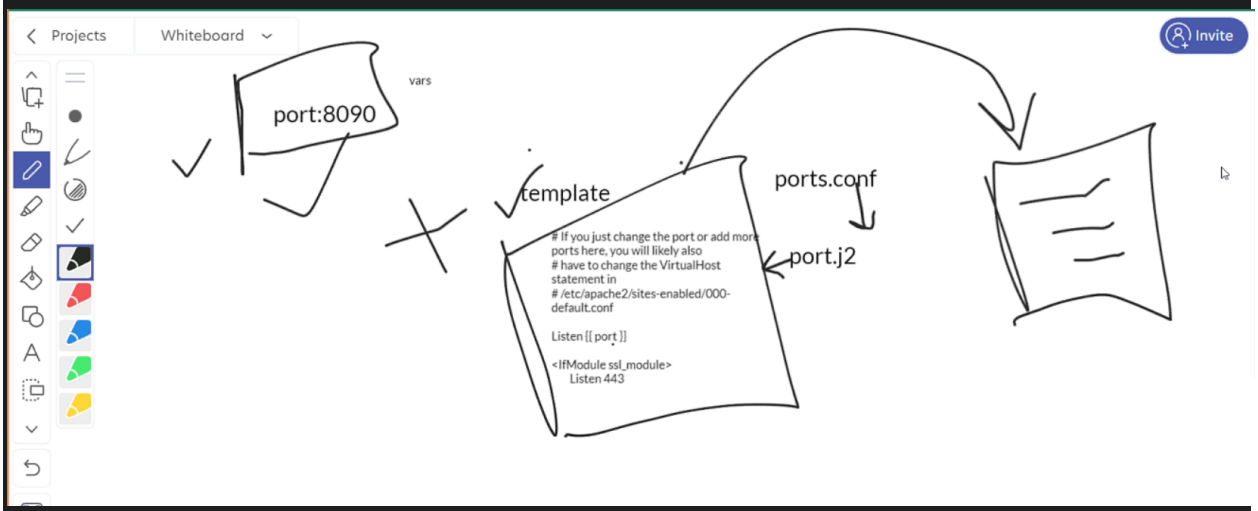
```
# playbooks
site.yml
webservers.yml
fooservers.yml
roles/
    common/
        tasks/
        handlers/
        library/
        files/
        templates/
        vars/
        defaults/
        meta/
    webservers/
        tasks/
        defaults/
        meta/
```

```
ansible-galaxy init web-server


cat web-server/tasks/main.yml
---
# tasks file for web-server
    - name: install apache2
      apt:
        name: apache2
        update_cache: yes
        state: latest

    - name: enabled mod_rewrite
      apache2_module:
        name: rewrite
        state: present
      notify:
         - restart apache2
```

```
    - name: Copy index page
      copy:
        src: index.html
        dest: /var/www/html/index.html



ajaycshotmail@ip-172-31-93-214:~/ansible_demo$ cat
web-server/handlers/main.yml
---
# handlers file for web-server
    - name: restart apache2
      service:
        name: apache2
        state: restart


tree web-server/files/
web-server/files/
└── index.html


cat deploy-web.yml
---
- hosts: webservers
  become: true
  roles:
    - role: web-server


###############How to run the role###############

ansible-playbook  deploy-web.yml -i lab.ini



cat index.html
This is new webserver created by ansible
```

```
ajaycshotmail@ip-172-31-93-214:~/ansible_demo/web-server$ cat
vars/main.yml
---
# vars file for web-server
webContent: ajay.html
ajaycshotmail@ip-172-31-93-214:~/ansible_demo/web-server$ cat
defaults/main.yml
---
# defaults file for web-server
apachePackageName: apache2
webContent: index.html
wwwPath: /var/www/html/index.html



ajaycshotmail@ip-172-31-93-214:~/ansible_demo$ cat
web-server/tasks/main.yml
---

# tasks file for web-server
    - name: install apache2
      apt:
        name:
        update_cache: yes
        state: latest
    - name: enabled mod_rewrite
      apache2_module:
        name: rewrite
        state: present
      notify:
         - restart apache2

    - name: Copy index page
      copy:
        src: "{{ webContent }}"
        dest: "{{ wwwPath }}"
```

```
ansible-playbook deploy-web.yml -i lab.ini -vvv


UI
https://github.com/ansible/awx


ajaycshotmail@ip-172-31-93-214:~/ansible_demo$ cat deploy-web.yml
---
- hosts: webservers
  become: true
  roles:
    - role: web-server
```



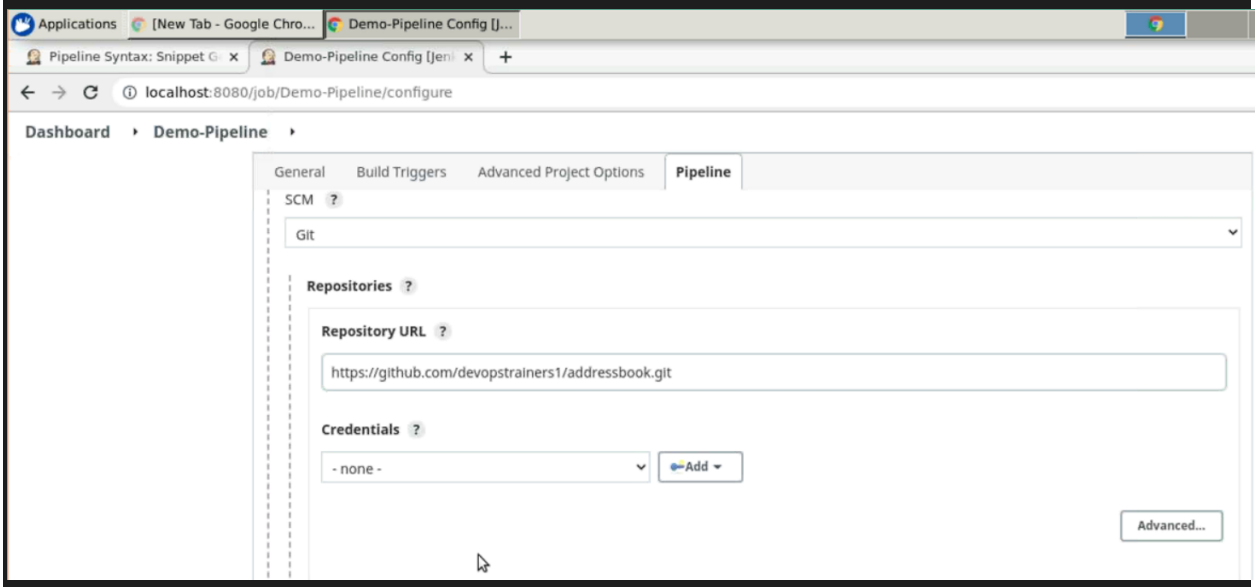

```
ajaycshotmail@ip-172-31-93-214:~/ansible_demo$ cat
web-server/tasks/main.yml
---
# tasks file for web-server
```

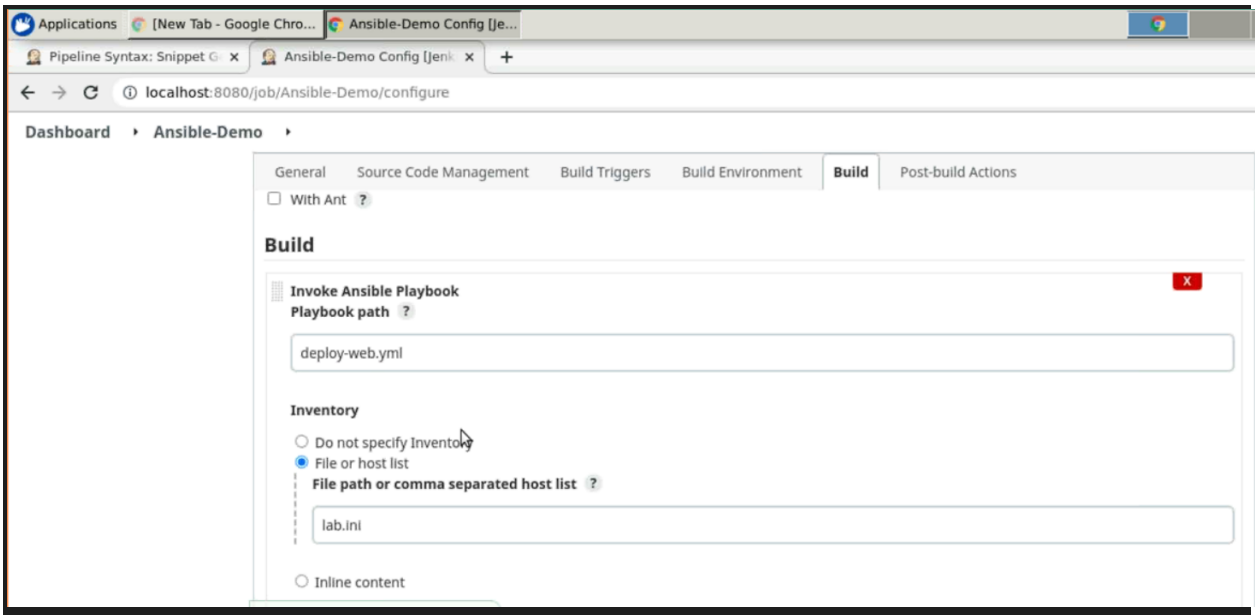
```
    - name: install apache2
      apt:
        name: "{{ apachePackageName }}"
        update_cache: yes
        state: latest

    - name: enabled mod_rewrite
      apache2_module:
        name: rewrite
        state: present
      notify:
         - restart apache2

    - name: Copy index page
      copy:
        src: "{{ webContent }}"
        dest: "{{ wwwPath }}"

    - name: Update apache configuration
      template:
        src: ports.j2
        dest: /etc/apache2/ports.conf
      notify:
        - restart apache2




ajaycshotmail@ip-172-31-93-214:~/ansible_demo$ cat
web-server/templates/ports.j2
# If you just change the port or add more ports here, you will likely also
# have to change the VirtualHost statement in
# /etc/apache2/sites-enabled/000-default.conf

Listen "{{ apachePort }}"

<IfModule ssl_module>
        Listen 443
</IfModule>
```

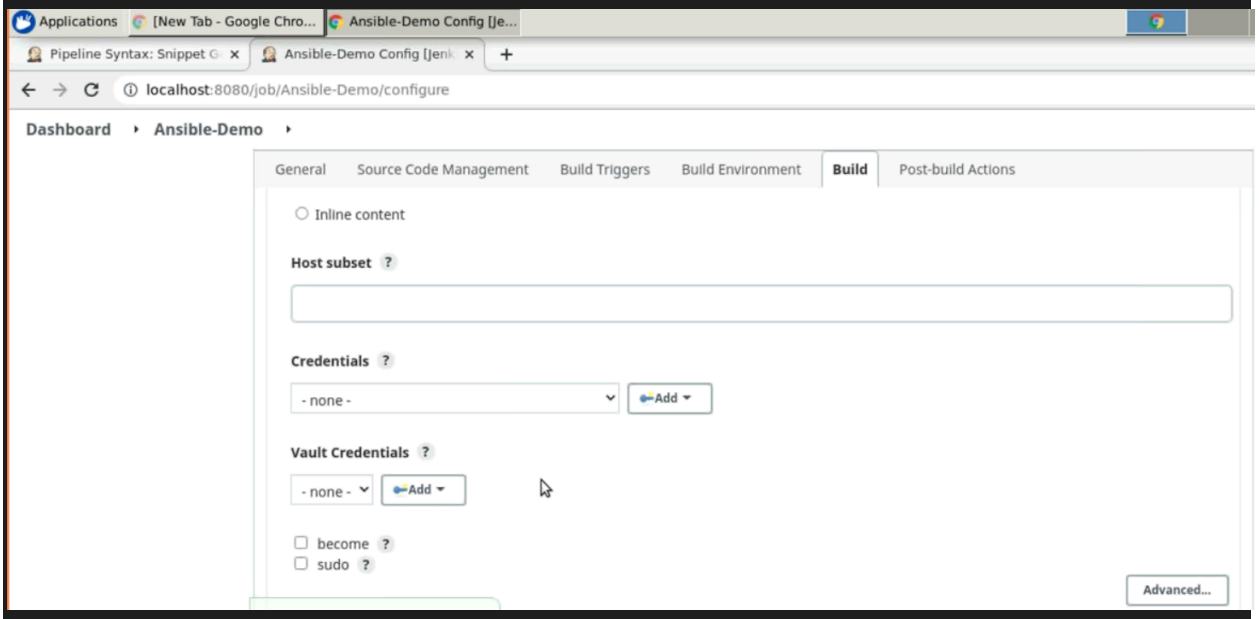
```
<IfModule mod_gnutls.c>
        Listen 443
</IfModule>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet




ajaycshotmail@ip-172-31-93-214:~/ansible_demo$ cat
web-server/vars/main.yml
---
# vars file for web-server
#webContent: ajay.html
apachePort: 8090



   1) role/vars
   2) Outside role , group_vars
   3) default


---
- hosts: "{{ hosts }}"
  become: true
  roles:
    - role: web-server


 ansible-playbook deploy-web.yml -i lab.ini -e hosts=webservers

ansible-playbook deploy-web.yml -i lab.ini -e hosts=webserversprod -e
apachePort=8088

tree group_vars/
group_vars/
├── webserversprod.yml
└── webservers.yml
```

```
 cat group_vars/webservers.yml
---
# This variables will applied to group webservers
apachePort: 9090



cat group_vars/webserversprod.yml
---
#This vcariables will be applied for grop webserversprod
apachePort: 9099


ajaycshotmail@ip-172-31-93-214:~/ansible_demo$ cat lab.ini
[webservers]
localhost:42006
#172.31.91.143:42006 ansible_connection=ssh ansible_user=sumitmkp33gmail
ansible_ssh_pass='3gmail0A@eqftt'

[webserversprod]
localhost:42006



https://docs.ansible.com/ansible/latest/user_guide/playbooks_variables.html

https://docs.ansible.com/ansible/latest/user_guide/playbooks_templating.html


ansible-vault encrypt lab.ini

cat lab.ini

ansible-playbook deploy-web.yml -i lab.ini -e hosts=webservers
--ask-vault-pass
```

```
 sudo usermod -d /home/jenkins jenkins
sudo mkdir /home/jenkins
sudo chown jenkins:jenkins /home/jenkins

 sudo chown jenkins:jenkins /home/jenkins/id_rsa



pipeline {

agent { node { label 'Linux-Demo' } }
stages {
     stage('Run Ansible playbook') {
            steps {
                sh 'ansiblePlaybook extras: 'hosts=webservers', inventory:
'lab.ini', playbook: 'deploy-web.yml''
            }
        }

    }
}
```





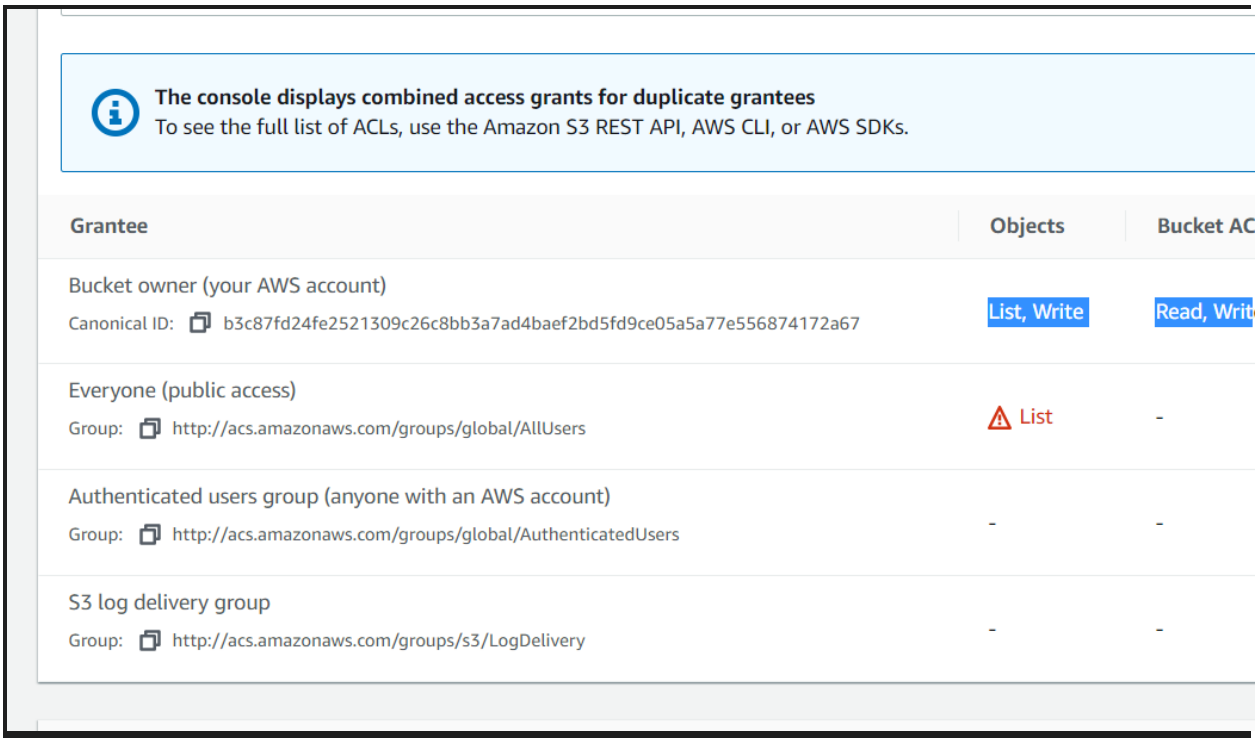



```
resource "aws_s3_bucket" "b" {
  bucket = "my-kgunjan88-test-bucket"

  tags = {
      Name        = "My bucket"
      Environment = "Dev"
  }
```

```
}
resource "aws_s3_bucket_acl" "example" {
  bucket = aws_s3_bucket.b.id
  acl = "private"
}
```

https://docs.aws.amazon.com/AmazonS3/latest/userguide/acl-overview.html#canned-acl

```
ajaycshotmail@ip-172-31-93-214:~/test/s3back$ cat main.tf
resource "aws_s3_bucket" "b" {
  bucket = "ajaycshotmail"

  tags = {
    Name        = "My bucket"
    Environment = "Dev"
  }
}
resource "aws_s3_bucket_acl" "example" {
  bucket = aws_s3_bucket.b.id
  acl    = "public-read"
}
```

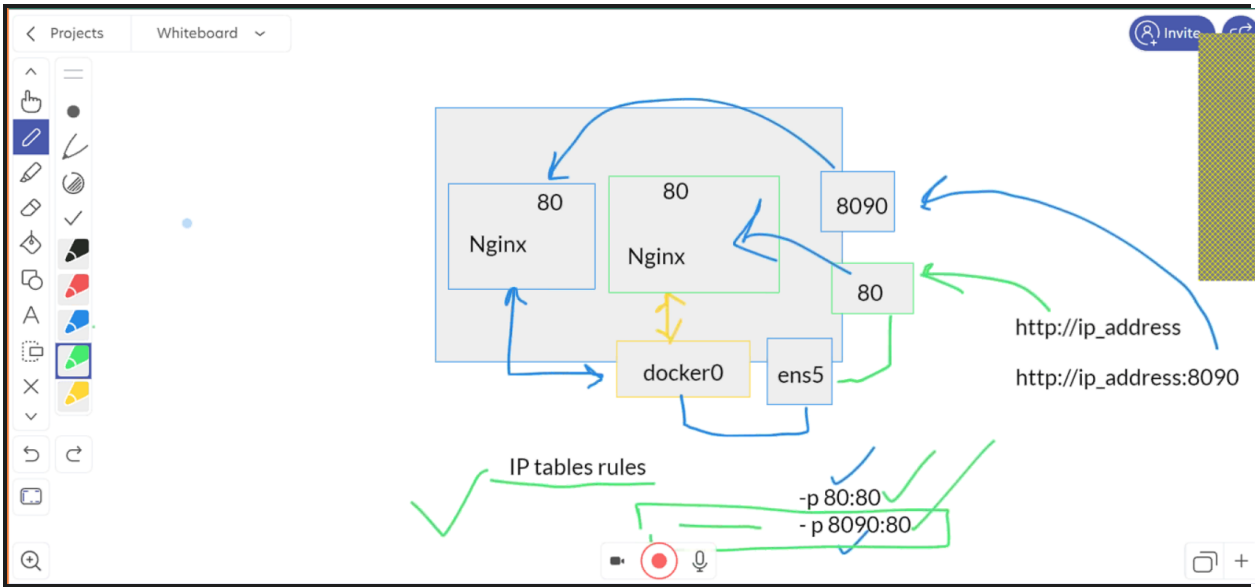


https://registry.terraform.io/providers/hashicorp/aws/latest/docs/resources/instance

```
ajaycshotmail@ip-172-31-93-214:~/test/s3back$ cat main.tf
data "aws_ami" "ubuntu" {
  most_recent = true

  filter {
    name   = "name"
    values = ["ubuntu/images/hvm-ssd/ubuntu-focal-20.04-amd64-server-*"]
  }

  filter {
    name   = "virtualization-type"
    values = ["hvm"]
  }
```

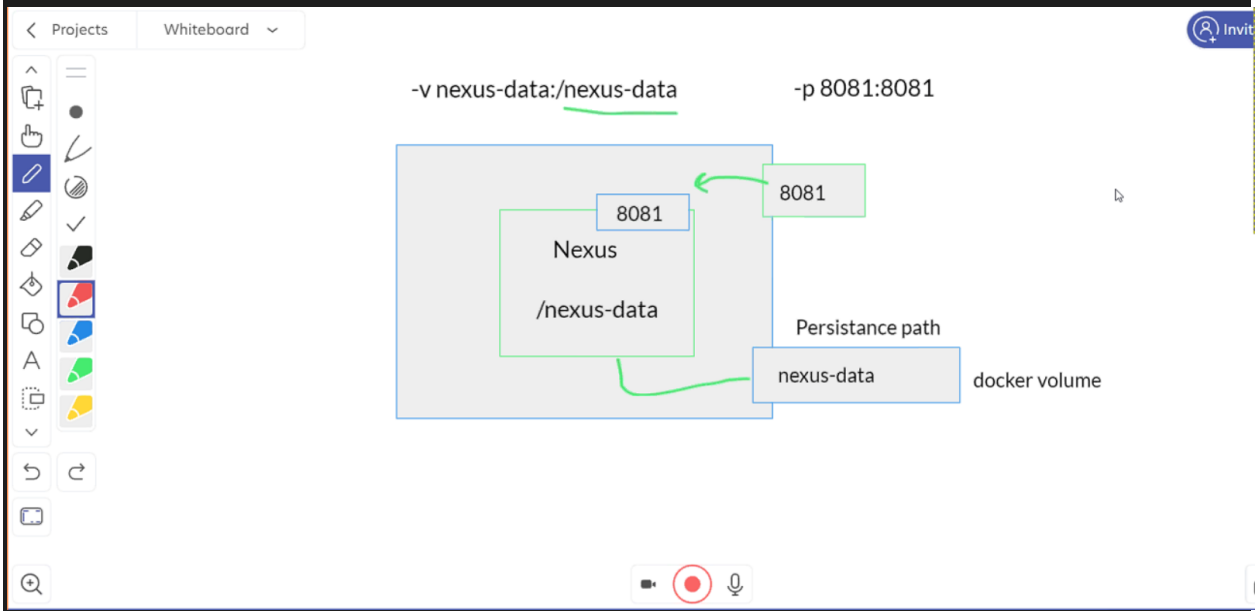
```
  owners = ["099720109477"] # Canonical
}

resource "aws_instance" "web" {
  ami           = data.aws_ami.ubuntu.id
  instance_type = "t3.micro"

  tags = {
    Name = "HelloWorld"
  }
}

resource "aws_key_pair" "deployer" {
  key_name   = "devops"
  public_key = "ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQC+sgckzkmwZhLBUXxu5CNkltWkAHIzZev0HejDnoEgVe
T1S32AMehbe8JLqw047Cae7fOEuebtDIAu8/XSN9rlmQtRUtGxhadZ/JQIn5gN31YV0gq5j5pS
vM4TD8KPTkFaThm6d7Lm4j/sC3R5sm5kRJRhN90eyUPVa4UHpKRyao/7ZS3RQkyFiPdTv8xuzT
2JzLS7kx0C31g969KyJN3xBzVjs0VUlN0mxAUQEJUo6g1SKJ8/h4ahVwaX0/2zlTeOFxmMXIE8
+B24wiir22jtuda15BOWrWM1AcFuKnULSws7mGkWzdPgstv87a2StmB3bcJcr+4uWFhMiSWBNi
Kd ajaycshotmail@ip-172-31-93-214"
}
```

```
#############With SSH Key###################################
ajaycshotmail@ip-172-31-93-214:~/test/s3back$ cat main.tf
data "aws_ami" "ubuntu" {
  most_recent = true

  filter {
    name   = "name"
    values = ["ubuntu/images/hvm-ssd/ubuntu-focal-20.04-amd64-server-*"]
  }

  filter {
    name   = "virtualization-type"
    values = ["hvm"]
  }

  owners = ["099720109477"] # Canonical
}

resource "aws_instance" "web" {
  ami           = data.aws_ami.ubuntu.id
  instance_type = "t3.micro"
  key_name =  "devops"

  tags = {
    Name = "HelloWorld"
  }
}
```



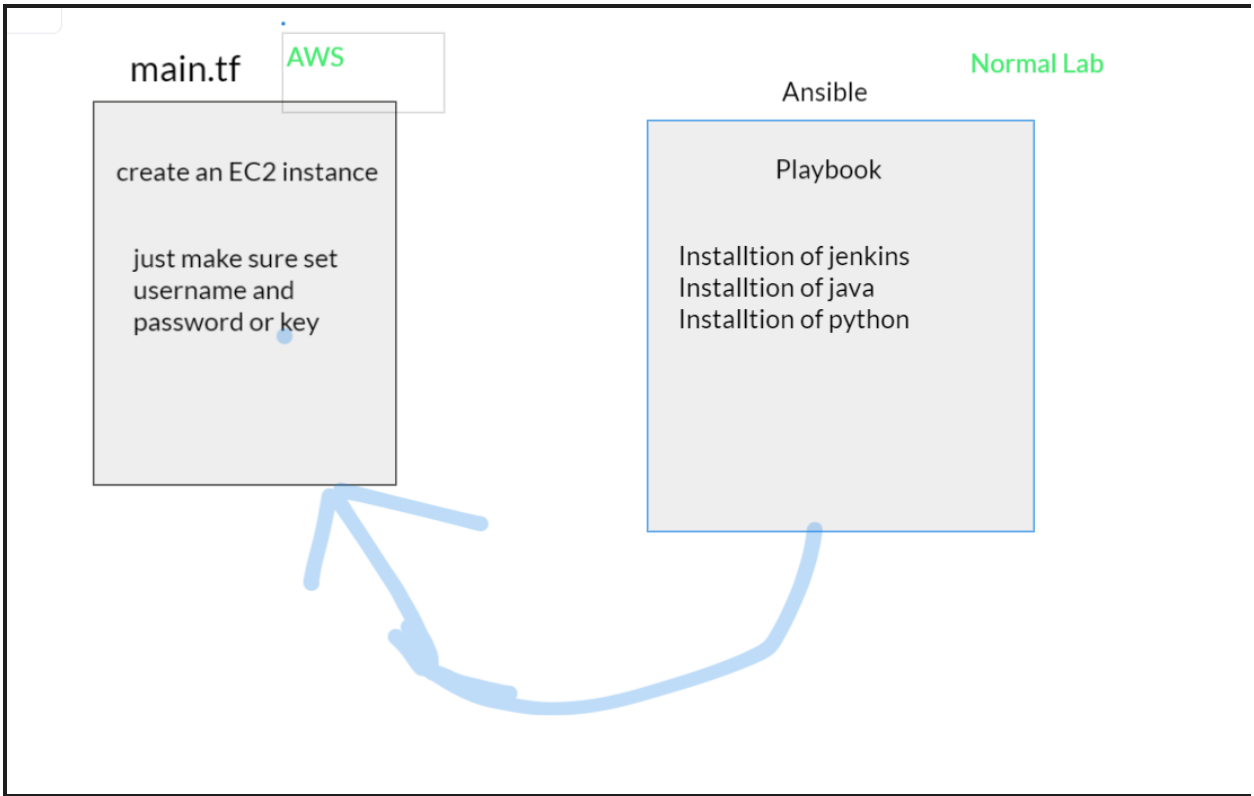

```
sudo docker run -dt -p 8090:80 nginx
sudo docker log bcb5000779bd
```

https://hub.docker.com/r/sonatype/nexus3/tags



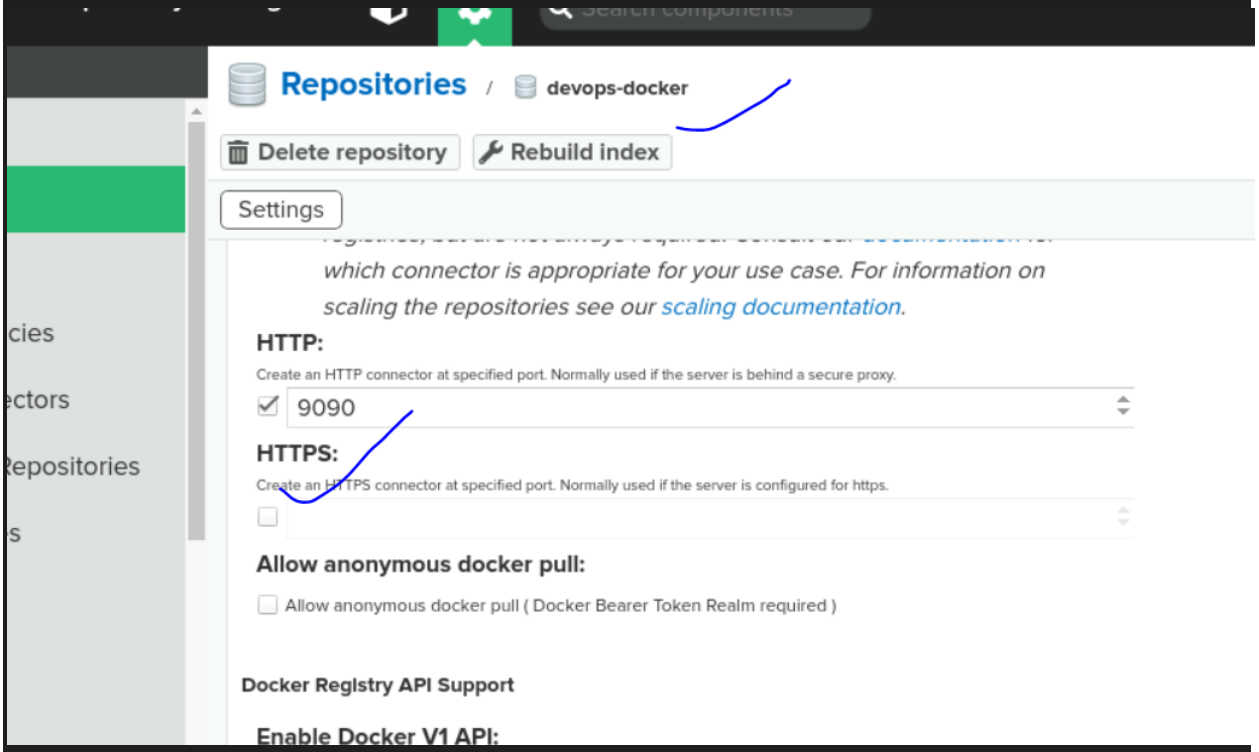

```
docker volume create --name nexus-data
```

```
docker run -d -p 8081:8081 --name nexus -v nexus-data:/nexus-data sonatype/nexus3

sudo docker volume list


/var/lib/docker/volumes/nexus-data

sudo docker run -d -p 8081:8081 --name nexus -v nexus-data:/nexus-data
sonatype/nexus3:3.38.0


 sudo docker logs -f  6bd5c0329c99


sudo cat /var/lib/docker/volumes/nexus-data/_data/admin.password


sudo docker rm -f 6bd5c0329c99

sudo docker stop 6bd5c0329c99

sudo docker rm  6bd5c0329c99


docker rmi  $(docker images -qa)
docker rm $(docker ps -qa)  #remove and delete unused image

sudo docker system prune
```




```
FROM tomcat:9.0.24-jdk8-adoptopenjdk-hotspot
COPY addressbook-2.0.war /usr/local/tomcat/webapps

docker login

docker push ajaycs/devops-tomcat:v1

 ajaycs/devops-tomcat:v1
ajaycs - repo in dockerhub
Devops-tomcat - image name
v1 - version or tag


docker run -itd -p 8090:8080 --name devops-addressbook
ajaycs/devops-tomcat:v1

http://localhost:8090/addressbook-2.0/


cat Dockerfile
```

```
FROM sonatype/nexus3:3.38.0
EXPOSE 8081
EXPOSE 9090


docker pull ajaycs/devops-nexus:v1

Get the admin password:
cat /var/lib/docker/volumes/nexus-data-new/_data/admin.password

sudo docker run -d -p 8082:8081 -p 9090:9090 --name nexus-docker -v
nexus-data-new:/nexus-data ajaycs/devops-nexus:v1
```




```
sudo docker login localhost:9090
Username: admin
Password:


docker tag ajaycs/devops-tomcat:v1 localhost:9090/devops-tomcat:v1
docker push localhost:9090/devops-tomcat:v1
```

```
 docker pull localhost:9090/devops-tomcat:v1
```

https://docs.docker.com/compose/install/

https://stackoverflow.com/questions/22697688/how-to-cat-eof-a-file-containing-code

1) Build War ---> using maven , it will generate war file
2) Create dir and copy war and created dockerfile to build the image
The image should use tomcat and copy the war

3) Docker build and push

==========

4) Docker pull
5) Docker run -> running
6) Access the application and put screeshort

```
docker stats

ajaycshotmail@ip-172-31-93-214:~/devop-dockerp-compose$ cat
docker-compose.yml
version: "3.9"

services:
  db:
    image: mysql:5.7
    volumes:
      - db_data:/var/lib/mysql
    restart: always
    environment:
```

```
      MYSQL_ROOT_PASSWORD: somewordpress
      MYSQL_DATABASE: wordpress
      MYSQL_USER: wordpress
      MYSQL_PASSWORD: wordpress

  wordpress:
    depends_on:
      - db
    image: wordpress:latest
    volumes:
      - wordpress_data:/var/www/html
    ports:
      - "8002:80"
    restart: always
    environment:
      WORDPRESS_DB_HOST: db
      WORDPRESS_DB_USER: wordpress
      WORDPRESS_DB_PASSWORD: wordpress
      WORDPRESS_DB_NAME: wordpress
volumes:
  db_data: {}
  wordpress_data: {}


docker-compose up -d

docker-compose ps

https://kubernetes.io/docs/tasks/run-application/run-stateless-application-deployment/


kubectl taint nodes --all node-role.kubernetes.io/master-
```