Ansible Project

Library project deployment automation

The project requires us to make use of jenkins and ansible to deploy an web application and implement a continuous integration and continuous deployment pipeline. So for my project I used a public repository from github- Online Library Management System PHP

This project was forked for my projects use. Furthermore, I made use of this project and deployed it as a LAMP stack project. The process was automated with the help of ansible.

The steps taken-

Step 1

Setup VM

Install 2 centos machines as webserver that hosts the website and dbserver that hosts the database serve. Also 1 master machine that will host ansible and jenkins. The master machine is a Rocky Linux server.

Step 2

Setup for ansible

1. Configure with `nmtui` to make the machines' ip static.

2. Install package pre-requisite packages.

   `yum install vim curl wget open-vm-tools -y`

3. Disable selinux by opening `/etc/selinux/config` change `enforcing` to `disabled`

4. Change hostnames in `/etc/hostname`

5. Add name resolution in `/etc/hosts`

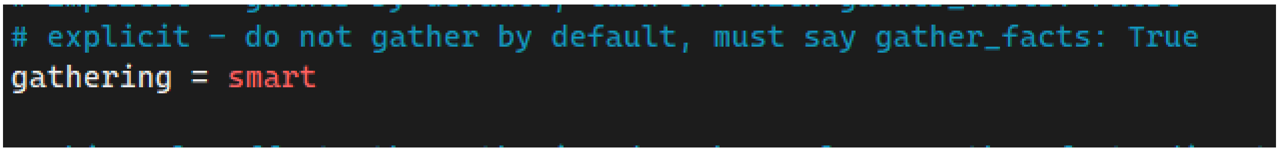
   ```
   192.168.20.246 rocky-ansible.localdomain rocky-ansible

   192.168.20.135 webserver.localdomain webserver

   192.168.20.124 dbserver.localdomain dbserver
   ```

6. In master machine create `ssh-keygen` add the key in the client machines in `~/.ssh/authorized_keys`.

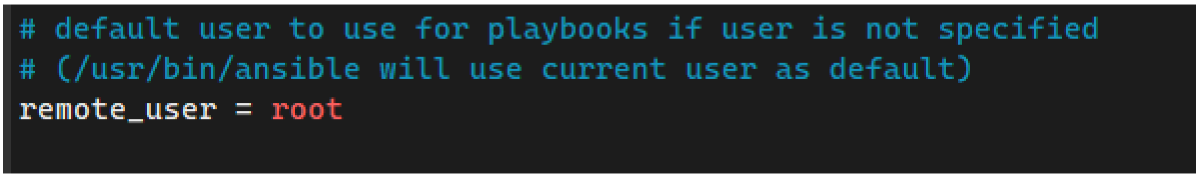
7. To install ansible run

```
yum install epel-release -y
yum install ansible -y
```

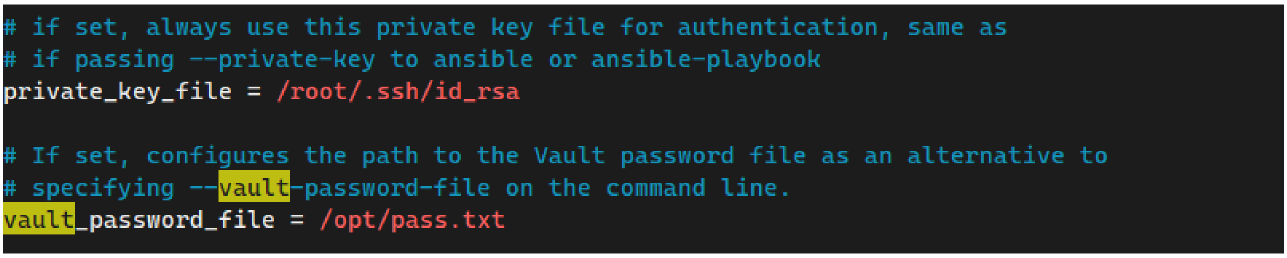
8. In ansible config in `/etc/ansible/ansible.cfg` the following lines are changed as such



```
# explicit - do not gather by default, must say gather_facts: True
gathering = smart
```



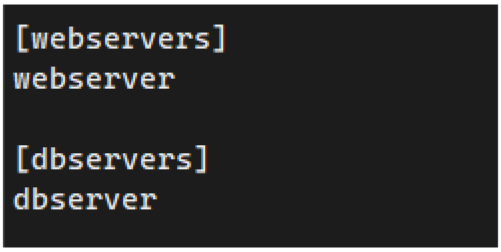
```
# default user to use for playbooks if user is not specified
# (/usr/bin/ansible will use current user as default)
remote_user = root
```



```
# if set, always use this private key file for authentication, same as
# if passing --private-key to ansible or ansible-playbook
private_key_file = /root/.ssh/id_rsa

# If set, configures the path to the Vault password file as an alternative to
# specifying --vault-password-file on the command line.
vault_password_file = /opt/pass.txt
```

```
Note: The vault_password_file points to ansible where to find ansible vault password
```

9. In ansible inventory in `/etc/ansible/hosts` the following lines are changed as such



```
[webservers]
webserver

[dbservers]
dbserver
```

Step 3

Setup for jenkins

1. First we need to add the jenkins repo

```
wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo

rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key

yum upgrade
```

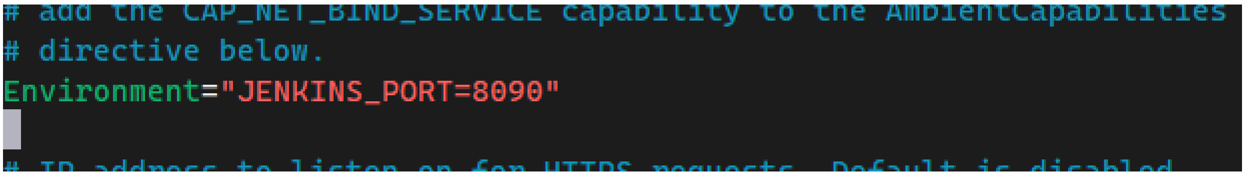
2. Add required dependencies for the jenkins package by installing java

```
sudo yum install java-11-openjdk
```

3. Install jenkins and reload the daemon

```
yum install jenkins
systemctl daemon-reload
```

4. Change jenkins defaut port using `vim /usr/lib/systemd/system/jenkins.service` as following



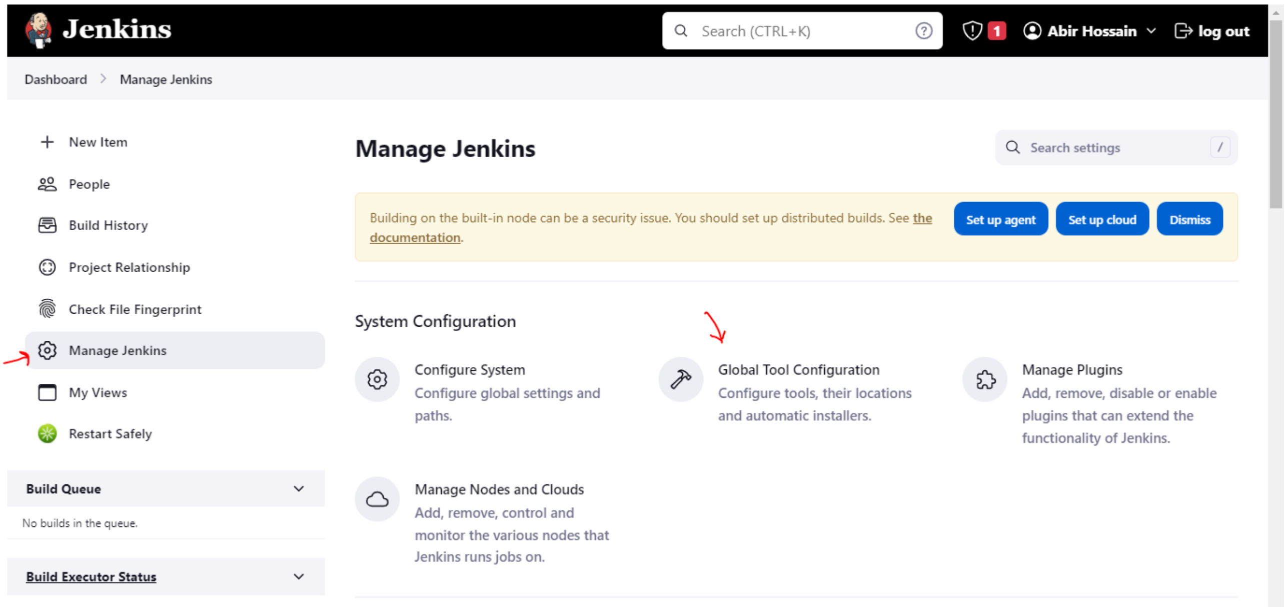
```
# add the CAP_NET_BIND_SERVICE capability to the AmbientCapabilities
# directive below.
Environment="JENKINS_PORT=8090"

# IP address to listen on for HTTPS requests. Default is disabled.
```

5. Start the jenkins service

```
systemctl start jenkins.service
systemctl enable jenkins.service
```

6. Go to the the master machine ip in port 8090. For my case `192.168.20.246:8090` use the password found in `/var/lib/jenkins/secrets/initialAdminPassword` also make a new user. Add Ansible plugin.

7. Some configuration is needed in `Global Tool Configuration`



Manage Jenkins

No builds in the queue.

Building on the built-in node can be a security issue. You should set up distributed builds. See the documentation.

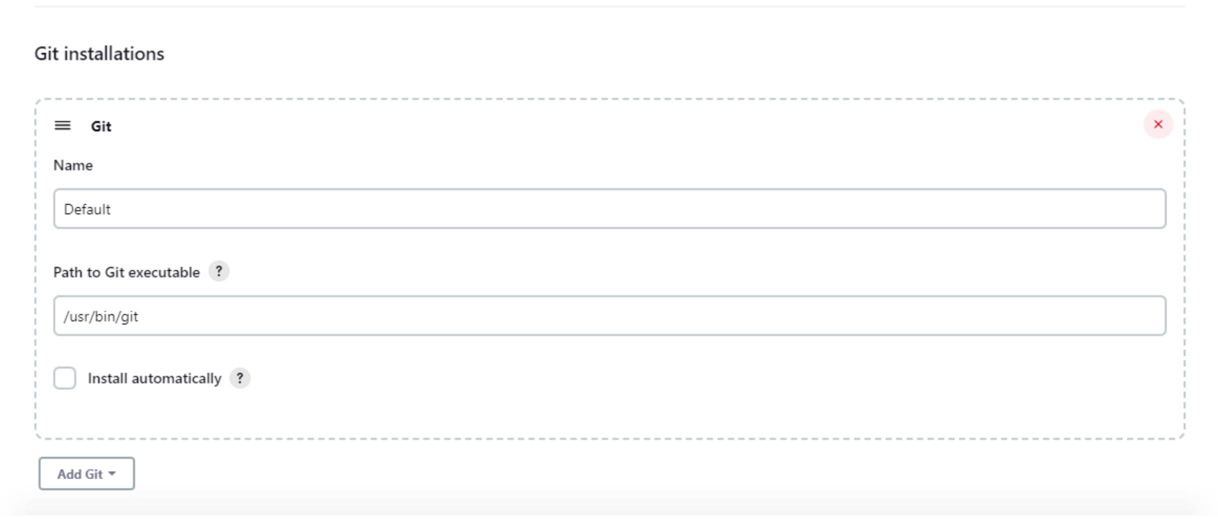
System Configuration

Configure System
Configure global settings and paths.

Global Tool Configuration
Configure tools, their locations and automatic installers.

Manage Plugins
Add, remove, disable or enable plugins that can extend the functionality of Jenkins.

Manage Nodes and Clouds
Add, remove, control and monitor the various nodes that Jenkins runs jobs on.



Git installations

Git

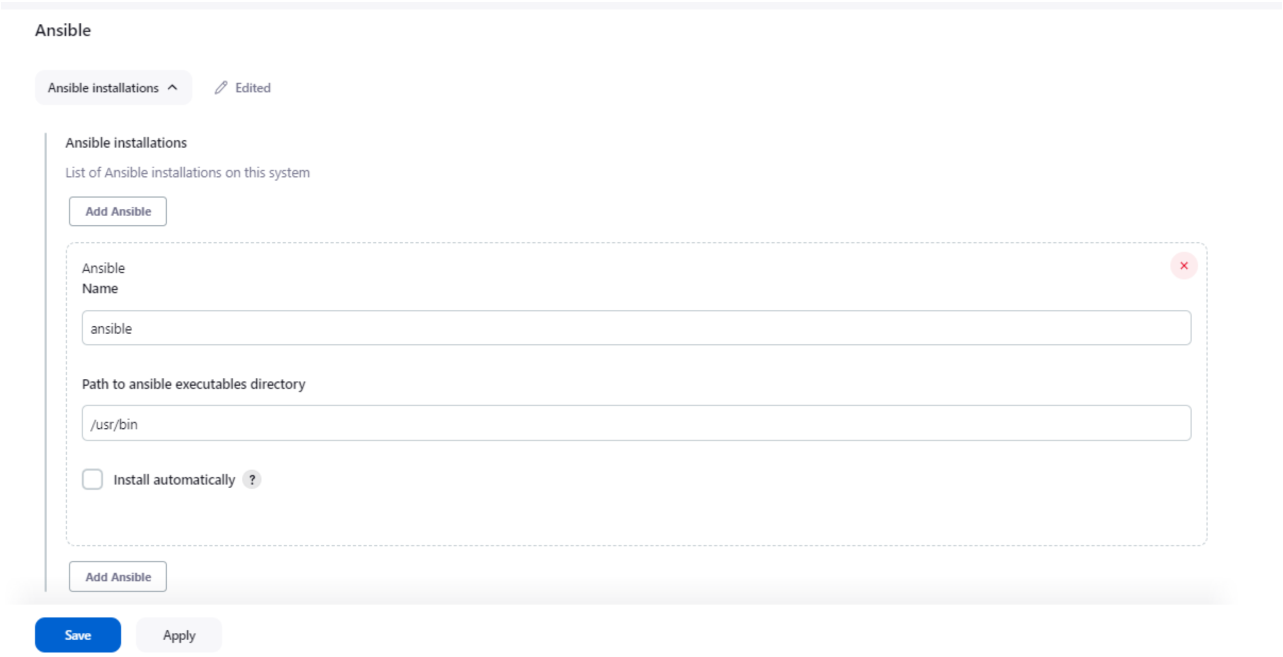
Name

Default

Path to Git executable ?

/usr/bin/git

□ Install automatically ?



Ansible

Ansible installations

Edited

Ansible installations

List of Ansible installations on this system

Ansible

Name

ansible

Path to ansible executables directory

/usr/bin

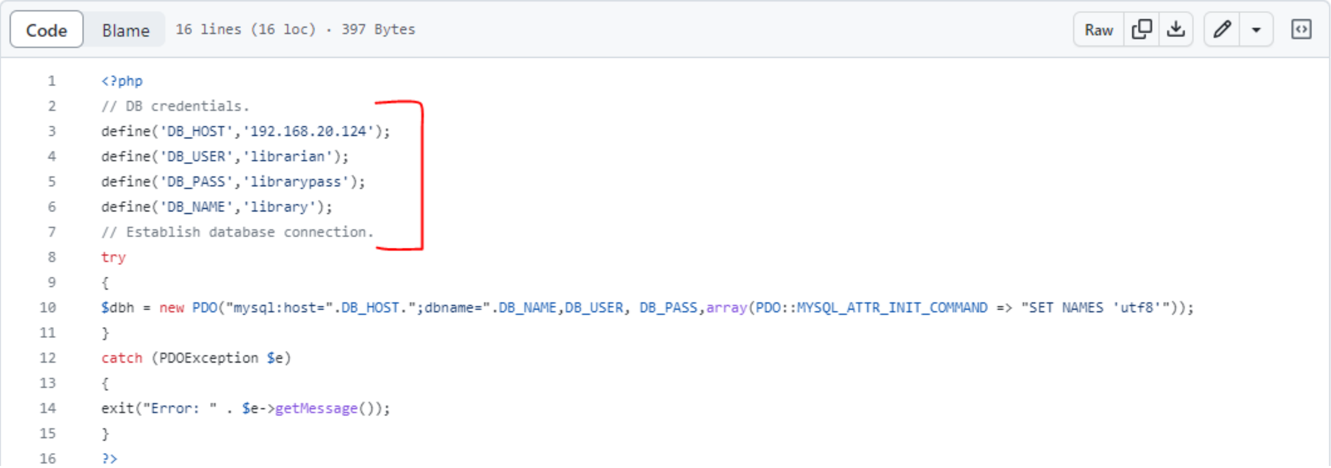
□ Install automatically ?

```
Note: I have also setup jenkins reverse proxy for jenkins using nginx as per the
documentation found in the jenkins website.
```

Step 4

Github project code modifications

The project source code required some slight modifications to work for my project. The db connection has been changed as per the following image. 2 files needed this change which are as follows, the `config.php` file in includes and admin/includes directory.



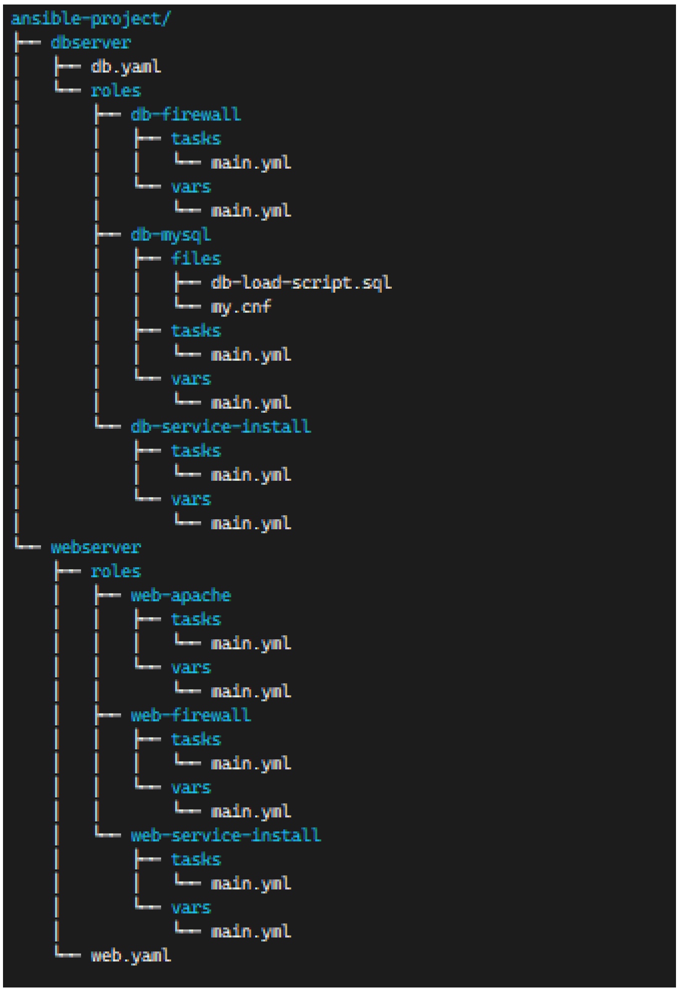
```php
<?php
// DB credentials.
define('DB_HOST','192.168.20.124');
define('DB_USER','librarian');
define('DB_PASS','librarypass');
define('DB_NAME','library');
// Establish database connection.
try
{
$dbh = new PDO("mysql:host=".DB_HOST.";dbname=".DB_NAME,DB_USER, DB_PASS,array(PDO::MYSQL_ATTR_INIT_COMMAND => "SET NAMES 'utf8'"));
}
catch (PDOException $e)
{
exit("Error: " . $e->getMessage());
}
?>
```

Step 5

Ansible playbook

1. We will use the command `ansible-galaxy init file-name` to create roles

2. The roles created sum up to the following tree.The tree structure shows my ansible playbooks with roles implemented.



```
ansible-project/
├── dbserver
│   ├── db.yaml
│   └── roles
│       ├── db-firewall
│       │   ├── tasks
│       │   │   └── main.yml
│       │   └── vars
│       │       └── main.yml
│       ├── db-mysql
│       │   ├── files
│       │   │   ├── db-load-script.sql
│       │   │   └── my.cnf
│       │   ├── tasks
│       │   │   └── main.yml
│       │   └── vars
│       │       └── main.yml
│       └── db-service-install
│           ├── tasks
│           │   └── main.yml
│           └── vars
│               └── main.yml
└── webserver
    ├── roles
    │   ├── web-apache
    │   │   ├── tasks
    │   │   │   └── main.yml
    │   │   └── vars
    │   │       └── main.yml
    │   ├── web-firewall
    │   │   ├── tasks
    │   │   │   └── main.yml
    │   │   └── vars
    │   │       └── main.yml
    │   └── web-service-install
    │       ├── tasks
    │       │   └── main.yml
    │       └── vars
    │           └── main.yml
    └── web.yaml
```

We created dbserver and webserver directory in asible-project. Then we created role directory and created role with the command.

3. For the dbsrver we will run the the roles through the `db.yaml` file.

```
- name: DB Service
  hosts: dbservers
  roles:
      - db-service-install
      - db-firewall
      - db-mysql
```

The db-service-role installs the packages from vars.

```
---
- name: Installation packages and services for DB server
  yum:
    name: '{{ item }}'
    state: installed
  loop: '{{ packages }}'
  tags: installation
```

```
---
packages:
  - libselinux-python
  - libsemanage-python
  - mariadb-server
  - MySQL-python
  - php-mysql
```

The db-firewall role adds rule exception and restarts it.

```
---
- name: Start firewalld
  service:
    name: firewalld
    state: started
    enabled: true
  tags: started firewalld

- name: Insert firewalld rule for mysql
  firewalld:
    port: '{{ mysql_port }}/tcp'
    permanent: true
    immediate: true
    state: enabled
  tags: open port for mysql

- name: Restart firewalld
  service:
    name: firewalld
    state: reloaded
    enabled: true
  tags: restarted firewalld
```

```
---
mysql_port: 3306
```

The db-mysql role imports database

```
---
- name: Copy mysql configuration file
  copy:
    src: files/my.cnf
    dest: /etc/my.cnf
  tags: mysql conf copy

- name: Start MariaDB service
  service:
    name: mariadb
    state: started
    enabled: true
  tags: started mariadb

- name: Create Application Database
  mysql_db:
    name: '{{ dbname }}'
    state: present
  tags: created database

- name: Create Application DB User
  mysql_user:
    name: '{{ dbuser }}'
    password: '{{ dbpassword }}'
    priv: '*.*:ALL'
    host: '{{ sql_host }}'
    state: present
  tags: created user

- name: Move db-load-script to db host
  copy:
    src: files/db-load-script.sql
    dest: /tmp/db-load-script.sql
  tags: copy sql

- name: Load db data
  mysql_db:
    name: library
    encoding: latin1
    target: /tmp/db-load-script.sql
    state: import
  tags: run sql
```

```
---
dbname: library
dbuser: librarian
dbpassword: librarypass
sql_host: 192.168.20.124
```

```
Note: This vars file is encrypted using ansible vault. I used the command-
ansible-vault encrypt <file-name>
To decrypt the vault the command-
ansible-vault decrypt <file-name>
To edit the vault the command-
ansible-vault edit <file-name>
```

```
GRANT ALL PRIVILEGES ON *.* TO 'librarian'@'192.168.20.135' IDENTIFIED BY
'librarypass' WITH GRANT OPTION;
FLUSH PRIVILEGES;
USE library;

CREATE TABLE `admin` (
`id` int(11) NOT NULL,
`FullName` varchar(100) DEFAULT NULL,
`AdminEmail` varchar(120) DEFAULT NULL,
`UserName` varchar(100) NOT NULL,
`Password` varchar(100) NOT NULL,
`updationDate` timestamp NOT NULL DEFAULT '0000-00-00 00:00:00' ON UPDATE
current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `admin`
--

INSERT INTO `admin` (`id`, `FullName`, `AdminEmail`, `UserName`, `Password`,
`updationDate`) VALUES
(1, 'Kumar Pandule', 'kumarpandule@gmail.com', 'admin',
'e6e061838856bf47e1de730719fb2609', '2021-06-28 16:06:08');

-- --------------------------------------------------------

--
-- Table structure for table `tblauthors`
--

CREATE TABLE `tblauthors` (
`id` int(11) NOT NULL,
`AuthorName` varchar(159) DEFAULT NULL,
`creationDate` timestamp NULL DEFAULT current_timestamp(),
`UpdationDate` timestamp NULL DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblauthors`
--

INSERT INTO `tblauthors` (`id`, `AuthorName`, `creationDate`,
`UpdationDate`) VALUES
(1, 'Kumar Pandule', '2017-07-08 12:49:09', '2021-06-28 16:03:28'),
(2, 'Kumar', '2017-07-08 14:30:23', '2021-06-28 16:03:35'),
(3, 'Rahul', '2017-07-08 14:35:08', '2021-06-28 16:03:43'),
(4, 'HC Verma', '2017-07-08 14:35:21', NULL),
(5, 'R.D. Sharma ', '2017-07-08 14:35:36', NULL),
(9, 'fwdfrwer', '2017-07-08 15:22:03', NULL);

-- --------------------------------------------------------

--
-- Table structure for table `tblbooks`
--

CREATE TABLE `tblbooks` (
`id` int(11) NOT NULL,
`BookName` varchar(255) DEFAULT NULL,
`CatId` int(11) DEFAULT NULL,
`AuthorId` int(11) DEFAULT NULL,
`ISBNNumber` int(11) DEFAULT NULL,
`BookPrice` int(11) DEFAULT NULL,
`RegDate` timestamp NULL DEFAULT current_timestamp(),
`UpdationDate` timestamp NULL DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblbooks`
--

INSERT INTO `tblbooks` (`id`, `BookName`, `CatId`, `AuthorId`, `ISBNNumber`,
`BookPrice`, `RegDate`, `UpdationDate`) VALUES
(1, 'PHP And MySql programming', 5, 1, 222333, 20, '2017-07-08 20:04:55',
'2017-07-15 05:54:41'),
(3, 'physics', 6, 4, 1111, 15, '2017-07-08 20:17:31', '2017-07-15
06:13:17');

-- --------------------------------------------------------

--
-- Table structure for table `tblcategory`
--

CREATE TABLE `tblcategory` (
`id` int(11) NOT NULL,
`CategoryName` varchar(150) DEFAULT NULL,
`Status` int(1) DEFAULT NULL,
`CreationDate` timestamp NULL DEFAULT current_timestamp(),
`UpdationDate` timestamp NULL DEFAULT '0000-00-00 00:00:00'
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblcategory`
--

INSERT INTO `tblcategory` (`id`, `CategoryName`, `Status`, `CreationDate`,
`UpdationDate`) VALUES
(4, 'Romantic', 1, '2017-07-04 18:35:25', '2017-07-06 16:00:42'),
(5, 'Technology', 1, '2017-07-04 18:35:39', '2017-07-08 17:13:03'),
(6, 'Science', 1, '2017-07-04 18:35:55', '0000-00-00 00:00:00'),
(7, 'Management', 0, '2017-07-04 18:36:16', '0000-00-00 00:00:00');

-- --------------------------------------------------------

--
-- Table structure for table `tblissuedbookdetails`
--

CREATE TABLE `tblissuedbookdetails` (
`id` int(11) NOT NULL,
`BookId` int(11) DEFAULT NULL,
`StudentID` varchar(150) DEFAULT NULL,
`IssuesDate` timestamp NULL DEFAULT current_timestamp(),
`ReturnDate` timestamp NULL DEFAULT NULL,
`RetrunStatus` int(1) DEFAULT NULL,
`fine` int(11) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblissuedbookdetails`
--

INSERT INTO `tblissuedbookdetails` (`id`, `BookId`, `StudentID`,
`IssuesDate`, `ReturnDate`, `RetrunStatus`, `fine`) VALUES
(1, 1, 'SID002', '2017-07-15 06:09:47', '2017-07-15 11:15:20', 1, 0),
(2, 1, 'SID002', '2017-07-15 06:12:27', '2017-07-15 11:15:23', 1, 5),
(3, 3, 'SID002', '2017-07-15 06:13:40', NULL, 0, NULL),
(4, 3, 'SID002', '2017-07-15 06:23:23', '2017-07-15 11:22:29', 1, 2),
(5, 1, 'SID009', '2017-07-15 10:59:26', NULL, 0, NULL),
(6, 3, 'SID011', '2017-07-15 18:02:55', NULL, 0, NULL);

-- --------------------------------------------------------

--
-- Table structure for table `tblstudents`
--

CREATE TABLE `tblstudents` (
`id` int(11) NOT NULL,
`StudentId` varchar(100) DEFAULT NULL,
`FullName` varchar(120) DEFAULT NULL,
`EmailId` varchar(120) DEFAULT NULL,
`MobileNumber` char(11) DEFAULT NULL,
`Password` varchar(120) DEFAULT NULL,
`Status` int(1) DEFAULT NULL,
`RegDate` timestamp NULL DEFAULT current_timestamp(),
`UpdationDate` timestamp NULL DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblstudents`
--

INSERT INTO `tblstudents` (`id`, `StudentId`, `FullName`, `EmailId`,
`MobileNumber`, `Password`, `Status`, `RegDate`, `UpdationDate`) VALUES
(1, 'SID002', 'Anuj kumar', 'anuj.lpu1@gmail.com', '9865472555',
'f925916e2754e5e03f75dd58a5733251', 1, '2017-07-11 15:37:05', '2017-07-15
18:26:21'),
(4, 'SID005', 'sdfsd', 'csfsd@dfsfks.com', '8569710025',
'92228410fc8b872914e023160cf4ae8f', 0, '2017-07-11 15:41:27', '2017-07-15
17:43:03'),
(8, 'SID009', 'test', 'test@gmail.com', '2359874527',
'f925916e2754e5e03f75dd58a5733251', 1, '2017-07-11 15:58:28', '2017-07-15
13:42:44'),
(9, 'SID010', 'Amit', 'amit@gmail.com', '8585856224',
'f925916e2754e5e03f75dd58a5733251', 1, '2017-07-15 13:40:30', NULL),
(10, 'SID011', 'Sarita Pandey', 'sarita@gmail.com', '4672423754',
'f925916e2754e5e03f75dd58a5733251', 1, '2017-07-15 18:00:59', NULL);

--
-- Indexes for dumped tables
--

--
-- Indexes for table `admin`
--
ALTER TABLE `admin`
ADD PRIMARY KEY (`id`);

--
-- Indexes for table `tblauthors`
--
ALTER TABLE `tblauthors`
ADD PRIMARY KEY (`id`);

--
-- Indexes for table `tblbooks`
--
ALTER TABLE `tblbooks`
ADD PRIMARY KEY (`id`);

--
```

```
-- Indexes for table `tblcategory`
--
ALTER TABLE `tblcategory`
ADD PRIMARY KEY (`id`);

--
-- Indexes for table `tblissuedbookdetails`
--
ALTER TABLE `tblissuedbookdetails`
ADD PRIMARY KEY (`id`);

--
-- Indexes for table `tblstudents`
--
ALTER TABLE `tblstudents`
ADD PRIMARY KEY (`id`),
ADD UNIQUE KEY `StudentId` (`StudentId`);

--
-- AUTO_INCREMENT for dumped tables
--

--
-- AUTO_INCREMENT for table `admin`
--
ALTER TABLE `admin`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;

--
-- AUTO_INCREMENT for table `tblauthors`
--
ALTER TABLE `tblauthors`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=10;

--
-- AUTO_INCREMENT for table `tblbooks`
--
ALTER TABLE `tblbooks`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=4;

--
-- AUTO_INCREMENT for table `tblcategory`
--
ALTER TABLE `tblcategory`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=8;

--
-- AUTO_INCREMENT for table `tblissuedbookdetails`
--
ALTER TABLE `tblissuedbookdetails`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=7;

--
-- AUTO_INCREMENT for table `tblstudents`
```

```
--
ALTER TABLE `tblstudents`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=11;
COMMIT;
```

```
[mysqld]
datadir=/var/lib/mysql
socket=/var/lib/mysql/mysql.sock
symbolic-links=0
[mysqld_safe]
log-error=/var/log/mariadb/mariadb.log
pid-file=/var/run/mariadb/mariadb.pid
!includedir /etc/my.cnf.d
```

4. For the websrver we will run the the roles through the `web.yaml` file.

```
- name: Web Service
  hosts: webservers
  roles:
    - web-service-install
    - web-firewall
    - web-apache
```

The web-service-install role is for installation

```
---
- name: Installation packages and services for Web server
  yum:
    name: '{{ item }}'
    state: installed
  loop: '{{ packages }}'
  tags: installaton
```

```
---
packages:
- libselinux-python
- libsemanage-python
- httpd
- git
- php
- php-mysql
```

The web-firewall role allows exception for port 80 and 3306

```
---
- name: Start firewalld
  service:
    name: firewalld
    state: started
    enabled: true
  tags: started firewalld

- name: Insert firewalld rule for apache
  firewalld:
    port: '{{ httpd_port }}/tcp'
    permanent: true
    immediate: true
    state: enabled
  tags: open port for apache

- name: Insert firewalld rule for mysql
  firewalld:
    port: '{{ mysql_port }}/tcp'
    permanent: true
    immediate: true
    state: enabled
  tags: open port for mysql
```

```
---
httpd_port: 80
mysql_port: 3306
```

The web-apache role configures apache and sets up the webpage

```
---
- name: document root exist
  file:
    path: '/var/www/{{ http_host }}'
    state: directory
    owner: root
    mode: '0755'
  tags: make root directory

- name: Set index.php as the default page
  replace:
    path: /etc/httpd/conf/httpd.conf
    regexp: 'DirectoryIndex index.html'
    replace: '#DirectoryIndex index.html \nDirectoryIndex index.php'
  tags: changed apache index from html to php file

- name: Start Apache service
  service:
    name: httpd
    enabled: true
    state: started
  tags: started apache

- name: Configuration of apache server
  template:
    src: myconf.conf.j2
    dest: '/etc/httpd/conf.d/{{http_host}}.conf'
    mode: '0644'
  notify: apache restart
  tags: configure apache

- name: Copy the code from repository
  git:
    repo: '{{ repository }}'
    dest: '/var/www/{{ http_host }}/'
    force: true
  tags: copy repo
```

```
---
# This is a handler
- name: apache restart
service:
    name: httpd
    state: restarted
tags: restarted apache
```

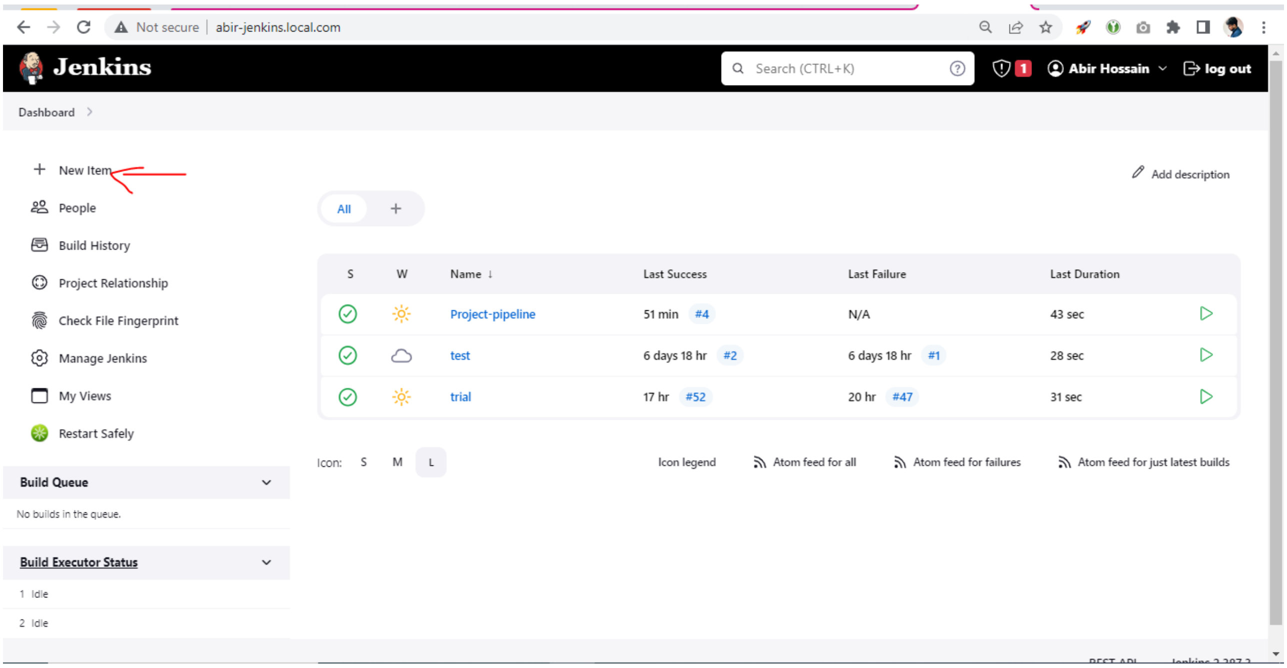
```
# This is a virtual host configuration file using jinja2
<VirtualHost *:80>
    ServerName {{ server }}
    ServerAlias {{http_host}}
    DocumentRoot /var/www/{{http_host}}
    ErrorLog /var/www/{{http_host}}/error.log
    CustomLog /var/www/{{http_host}}/requests.log combined

    <Directory /var/www/{{http_host}}>
    Options Indexes FollowSymLinks
    AllowOverride None
    Require all granted
</Directory>
</VirtualHost>
```

```
---
http_host: library.com
server: 192.168.20.135
repository: https://github.com/AbirHossainDevOps/library.git
```

Step 5

Jenkins work

1. We have to create a pipeline project



S	W	Name ↓	Last Success	Last Failure	Last Duration
✓	☀	Project-pipeline	51 min #4	N/A	43 sec
✓	☁	test	6 days 18 hr #2	6 days 18 hr #1	28 sec
✓	☀	trial	17 hr #52	20 hr #47	31 sec

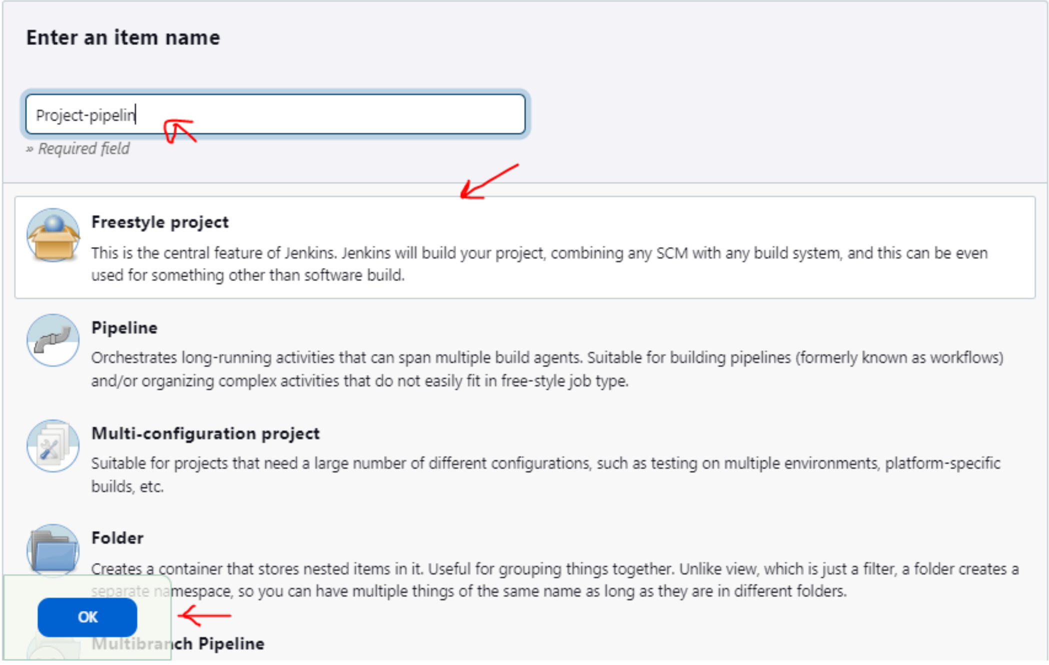
Build Queue

No builds in the queue.

Build Executor Status

1 Idle

2 Idle



Enter an item name

Project-pipelin

» Required field

Freestyle project

This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

Pipeline

Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Multi-configuration project

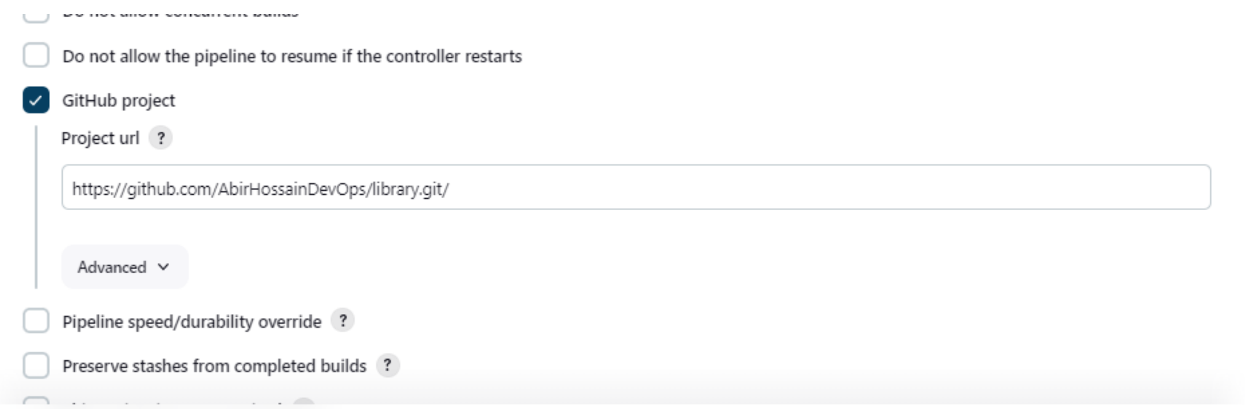
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder

Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

Multibranch Pipeline

2. Now doing the following



□ Do not allow the pipeline to resume if the controller restarts

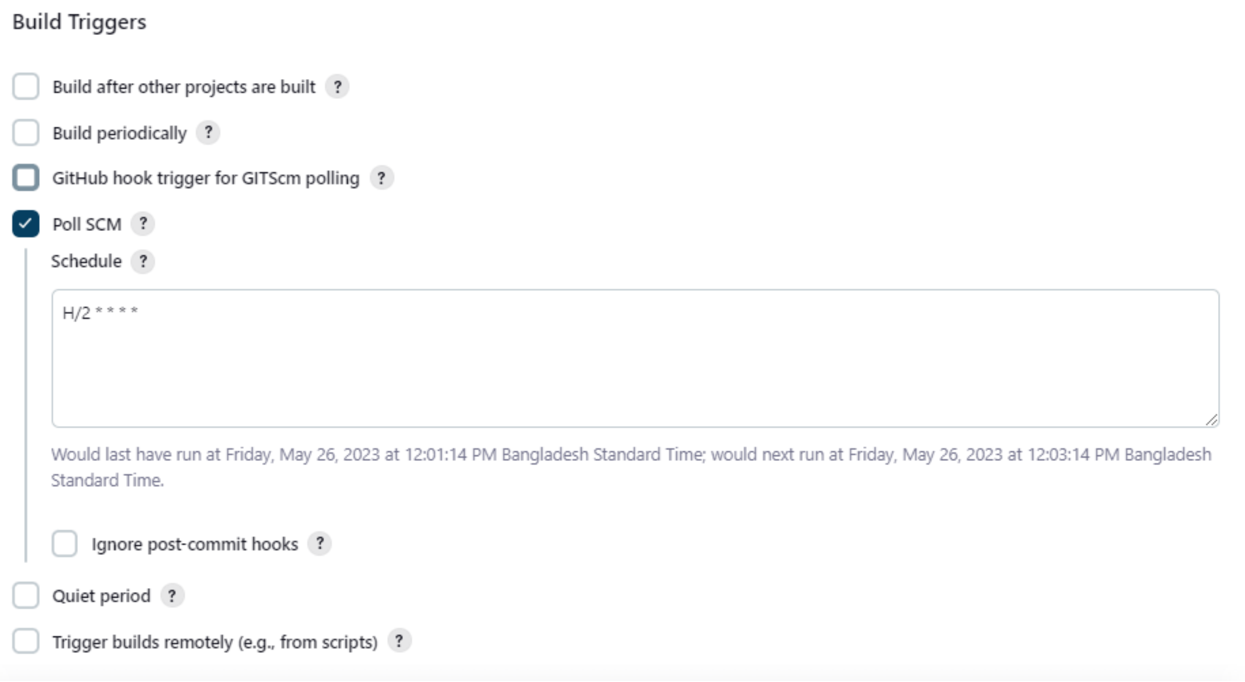
☑ GitHub project

Project url ?

https://github.com/AbirHossainDevOps/library.git/

□ Pipeline speed/durability override ?

□ Preserve stashes from completed builds ?



Build Triggers

□ Build after other projects are built ?

□ Build periodically ?

□ GitHub hook trigger for GITScm polling ?

☑ Poll SCM ?

Schedule ?

H/2 * * * *

Would last have run at Friday, May 26, 2023 at 12:01:14 PM Bangladesh Standard Time; would next run at Friday, May 26, 2023 at 12:03:14 PM Bangladesh Standard Time.

□ Ignore post-commit hooks ?

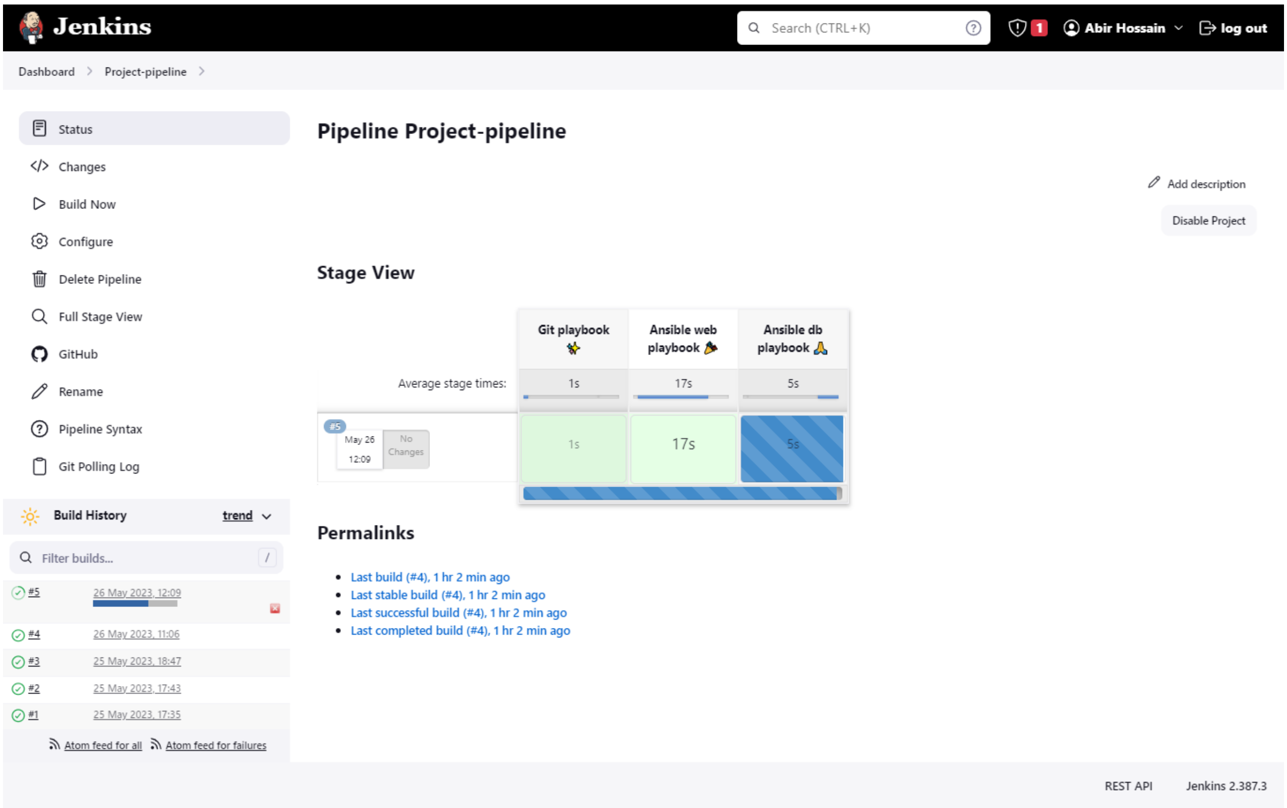
□ Quiet period ?

□ Trigger builds remotely (e.g., from scripts) ?

In the pipeline script I created this script using pipeline-syntax module from jenkins.

```
pipeline {
    agent any

    stages {
        stage('Git playbook ✨') {
            steps {
                git branch: 'main', credentialsId: '12c630aa-5df4-4da9-b530-3b2c6404cf61', url: 'https://github.com/AbirHossainDevOps/library.git'
            }

        }
        stage('Ansible web playbook 🎉') {
            steps {
                ansiblePlaybook become: true, credentialsId: '12c630aa-5df4-4da9-b530-3b2c6404cf61', installation: 'ansible', inventory: '/etc/ansible/hosts', playbook: '/opt/ansible-project/webserver/web.yaml'
                echo 'DONE with the webpage👌'
            }
        }
        stage('Ansible db playbook 🙏') {
            steps {

                sh 'sudo ansible-playbook /opt/ansible-project/dbserver/db.yaml --vault-password-file /opt/pass.txt '
                echo 'DONE with the db 🙌'
            }
        }
    }
}
```

3. By using `Build Now` we run the pipeline



Pipeline Project-pipeline

Stage View

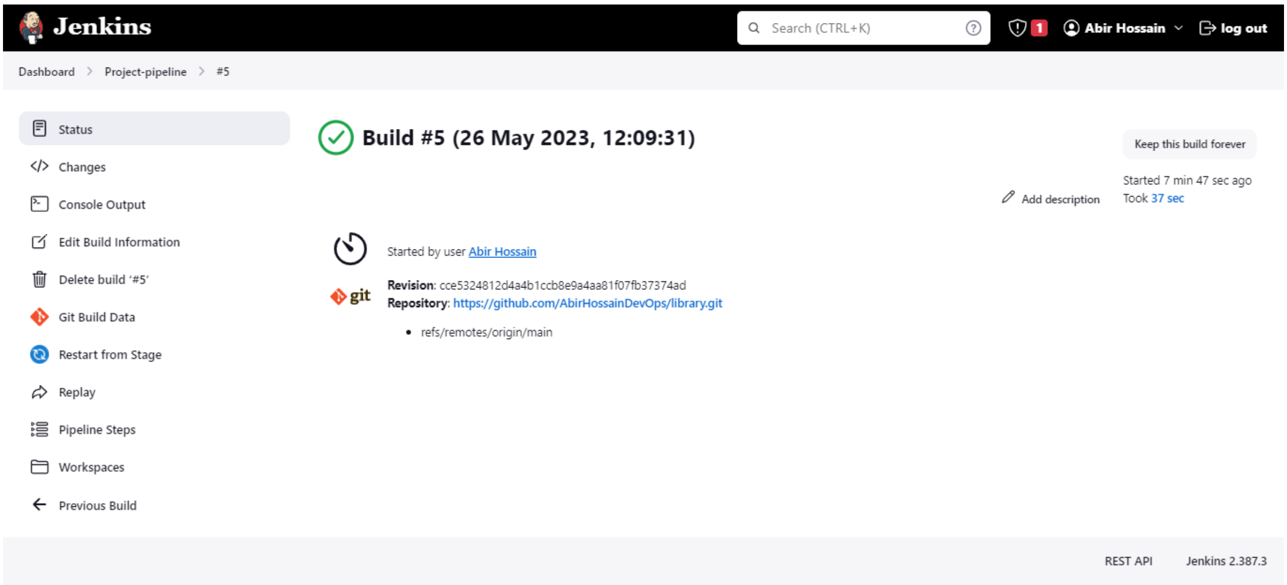
	Git playbook ✨	Ansible web playbook 🎉	Ansible db playbook 🙏
Average stage times:	1s	17s	5s
#5 May 26 12:09 No Changes	1s	17s	5s

#5	26 May 2023, 12:09
#4	26 May 2023, 11:06
#3	25 May 2023, 18:47
#2	25 May 2023, 17:43
#1	25 May 2023, 17:35

Atom feed for all Atom feed for failures

Permalinks

- Last build (#4), 1 hr 2 min ago
- Last stable build (#4), 1 hr 2 min ago
- Last successful build (#4), 1 hr 2 min ago
- Last completed build (#4), 1 hr 2 min ago



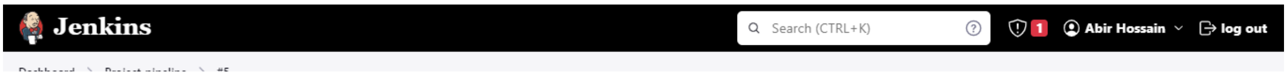
Build #5 (26 May 2023, 12:09:31)

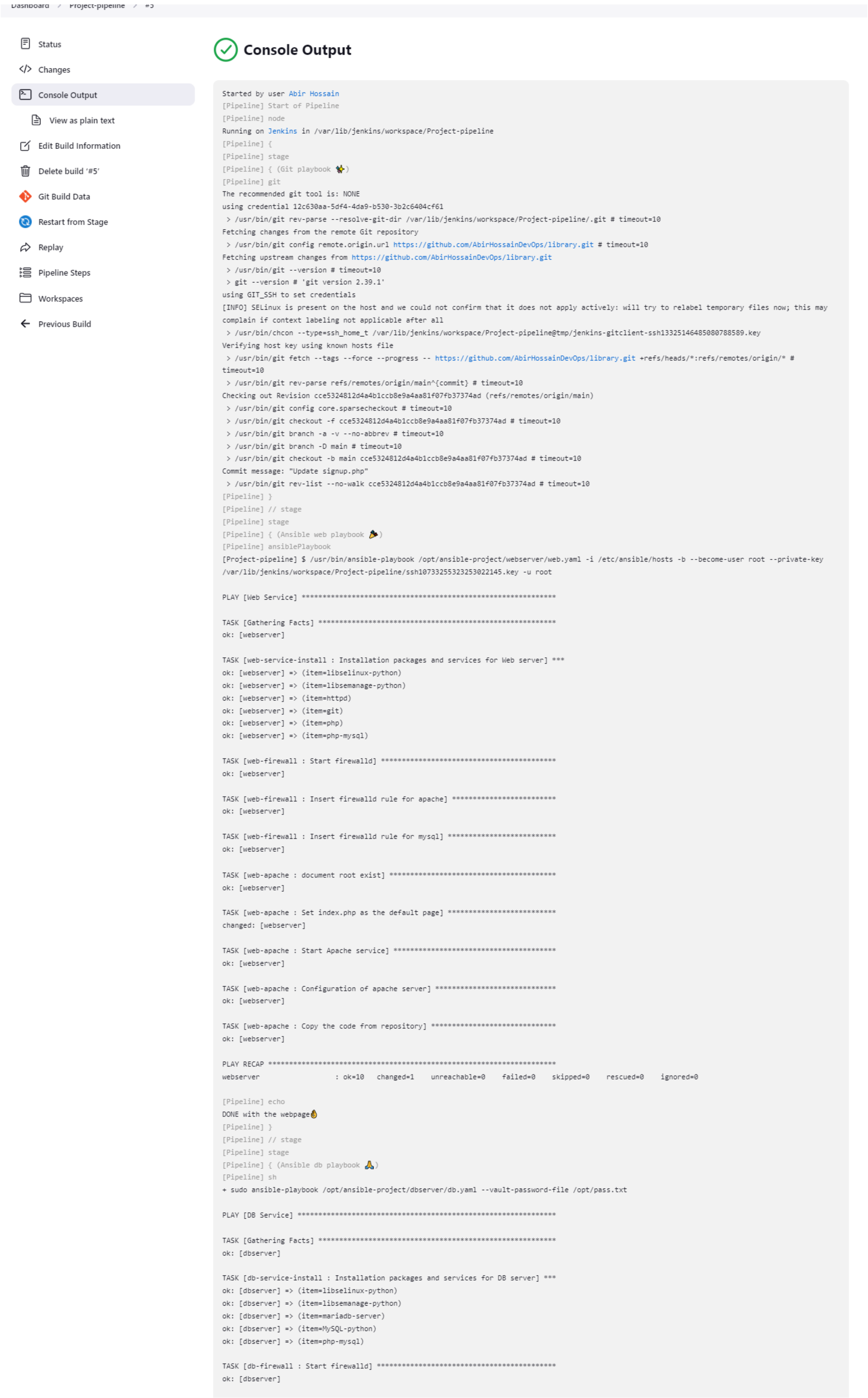
Started 7 min 47 sec ago
Took 37 sec

Started by user Abir Hossain

Revision: cce5324812d4a4b1ccb8e9a4aa81f07fb37374ad
Repository: https://github.com/AbirHossainDevOps/library.git

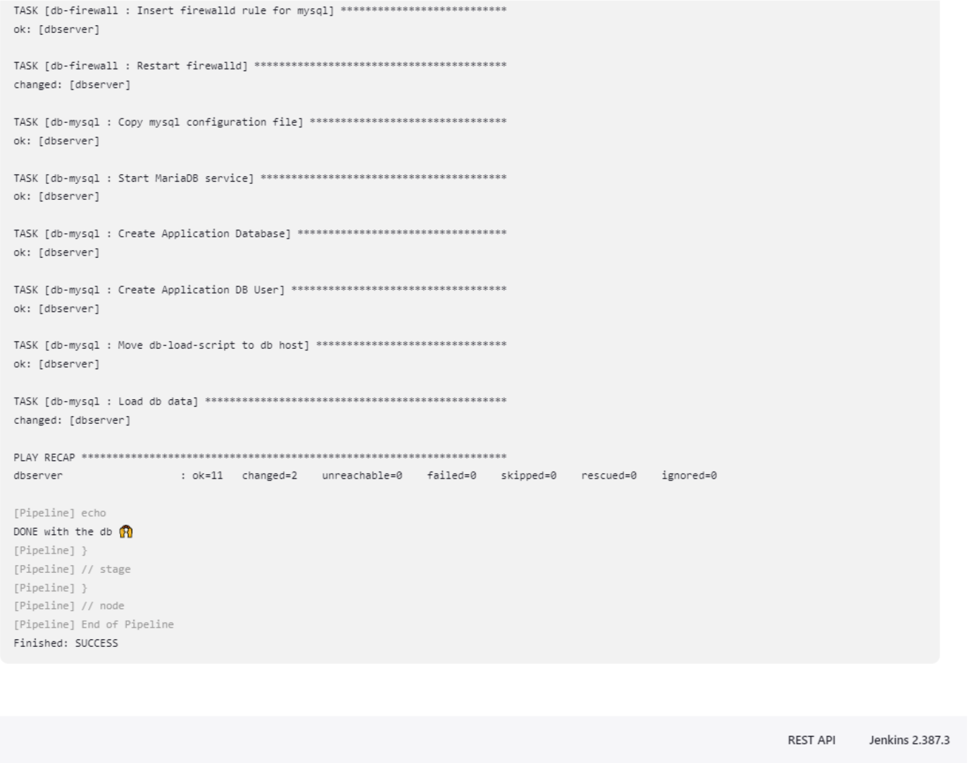
- refs/remotes/origin/main





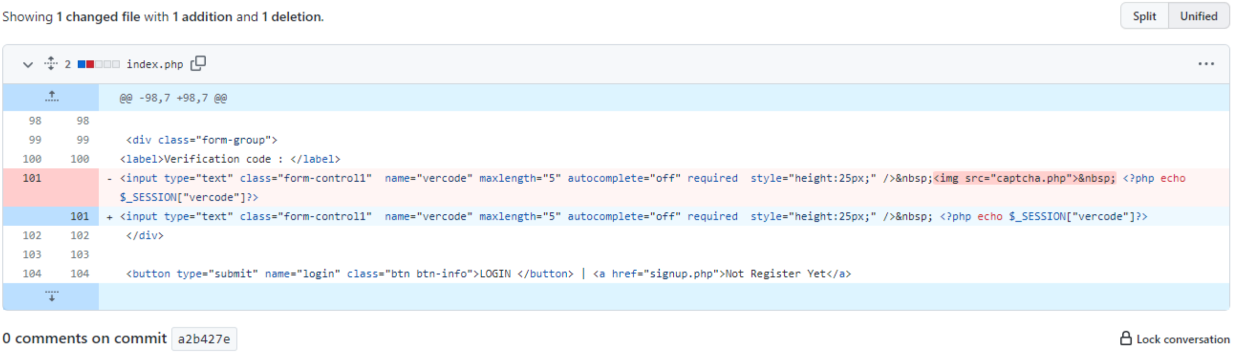
Console Output

```
Started by user Abir Hossain
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/Project-pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Git playbook ✨)
[Pipeline] git
The recommended git tool is: NONE
using credential 12c630aa-5df4-4da9-b530-3b2c6404cf61
 > /usr/bin/git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/Project-pipeline/.git # timeout=10
Fetching changes from the remote Git repository
 > /usr/bin/git config remote.origin.url https://github.com/AbirHossainDevOps/library.git # timeout=10
Fetching upstream changes from https://github.com/AbirHossainDevOps/library.git
 > /usr/bin/git --version # timeout=10
 > git --version # 'git version 2.39.1'
using GIT_SSH to set credentials
[INFO] SELinux is present on the host and we could not confirm that it does not apply actively: will try to relabel temporary files now; this may
complain if context labeling not applicable after all
 > /usr/bin/chcon --type=ssh_home_t /var/lib/jenkins/workspace/Project-pipeline@tmp/jenkins-gitclient-ssh13325146485080788589.key
Verifying host key using known hosts file
 > /usr/bin/git fetch --tags --force --progress -- https://github.com/AbirHossainDevOps/library.git +refs/heads/*:refs/remotes/origin/* #
timeout=10
 > /usr/bin/git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision cce5324812d4a4b1ccb8e9a4aa81f07fb37374ad (refs/remotes/origin/main)
 > /usr/bin/git config core.sparsecheckout # timeout=10
 > /usr/bin/git checkout -f cce5324812d4a4b1ccb8e9a4aa81f07fb37374ad # timeout=10
 > /usr/bin/git branch -a -v --no-abbrev # timeout=10
 > /usr/bin/git branch -D main # timeout=10
 > /usr/bin/git checkout -b main cce5324812d4a4b1ccb8e9a4aa81f07fb37374ad # timeout=10
Commit message: "Update signup.php"
 > /usr/bin/git rev-list --no-walk cce5324812d4a4b1ccb8e9a4aa81f07fb37374ad # timeout=10
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Ansible web playbook 🎉)
[Pipeline] ansiblePlaybook
[Project-pipeline] $ /usr/bin/ansible-playbook /opt/ansible-project/webserver/web.yaml -i /etc/ansible/hosts -b --become-user root --private-key
/var/lib/jenkins/workspace/Project-pipeline/ssh10733255323253022145.key -u root

PLAY [Web Service] *************************************************************

TASK [Gathering Facts] *********************************************************
ok: [webserver]

TASK [web-service-install : Installation packages and services for Web server] ***
ok: [webserver] => (item=libselinux-python)
ok: [webserver] => (item=libsemanage-python)
ok: [webserver] => (item=httpd)
ok: [webserver] => (item=git)
ok: [webserver] => (item=php)
ok: [webserver] => (item=php-mysql)

TASK [web-firewall : Start firewalld] ******************************************
ok: [webserver]

TASK [web-firewall : Insert firewalld rule for apache] *************************
ok: [webserver]

TASK [web-firewall : Insert firewalld rule for mysql] **************************
ok: [webserver]

TASK [web-apache : document root exist] ****************************************
ok: [webserver]

TASK [web-apache : Set index.php as the default page] **************************
changed: [webserver]

TASK [web-apache : Start Apache service] ***************************************
ok: [webserver]

TASK [web-apache : Configuration of apache server] *****************************
ok: [webserver]

TASK [web-apache : Copy the code from repository] ******************************
ok: [webserver]

PLAY RECAP *********************************************************************
webserver                  : ok=10   changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[Pipeline] echo
DONE with the webpage👌
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Ansible db playbook 🙏)
[Pipeline] sh
+ sudo ansible-playbook /opt/ansible-project/dbserver/db.yaml --vault-password-file /opt/pass.txt

PLAY [DB Service] **************************************************************

TASK [Gathering Facts] *********************************************************
ok: [dbserver]

TASK [db-service-install : Installation packages and services for DB server] ***
ok: [dbserver] => (item=libselinux-python)
ok: [dbserver] => (item=libsemanage-python)
ok: [dbserver] => (item=mariadb-server)
ok: [dbserver] => (item=MySQL-python)
ok: [dbserver] => (item=php-mysql)

TASK [db-firewall : Start firewalld] *******************************************
ok: [dbserver]
```



```
TASK [db-firewall : Insert firewalld rule for mysql] ***************************
ok: [dbserver]

TASK [db-firewall : Restart firewalld] *****************************************
changed: [dbserver]

TASK [db-mysql : Copy mysql configuration file] ********************************
ok: [dbserver]

TASK [db-mysql : Start MariaDB service] ****************************************
ok: [dbserver]

TASK [db-mysql : Create Application Database] **********************************
ok: [dbserver]

TASK [db-mysql : Create Application DB User] ***********************************
ok: [dbserver]

TASK [db-mysql : Move db-load-script to db host] *******************************
ok: [dbserver]

TASK [db-mysql : Load db data] *************************************************
changed: [dbserver]

PLAY RECAP *********************************************************************
dbserver                   : ok=11   changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[Pipeline] echo
DONE with the db 😱
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

4. Now to demonstrate the cronjob working we will make some changes in the repo. The job is scheduled in such a way that after every 2 minutes jenkins looks for chages in the remote repo and if there are chages it will rerun the pipeline again.

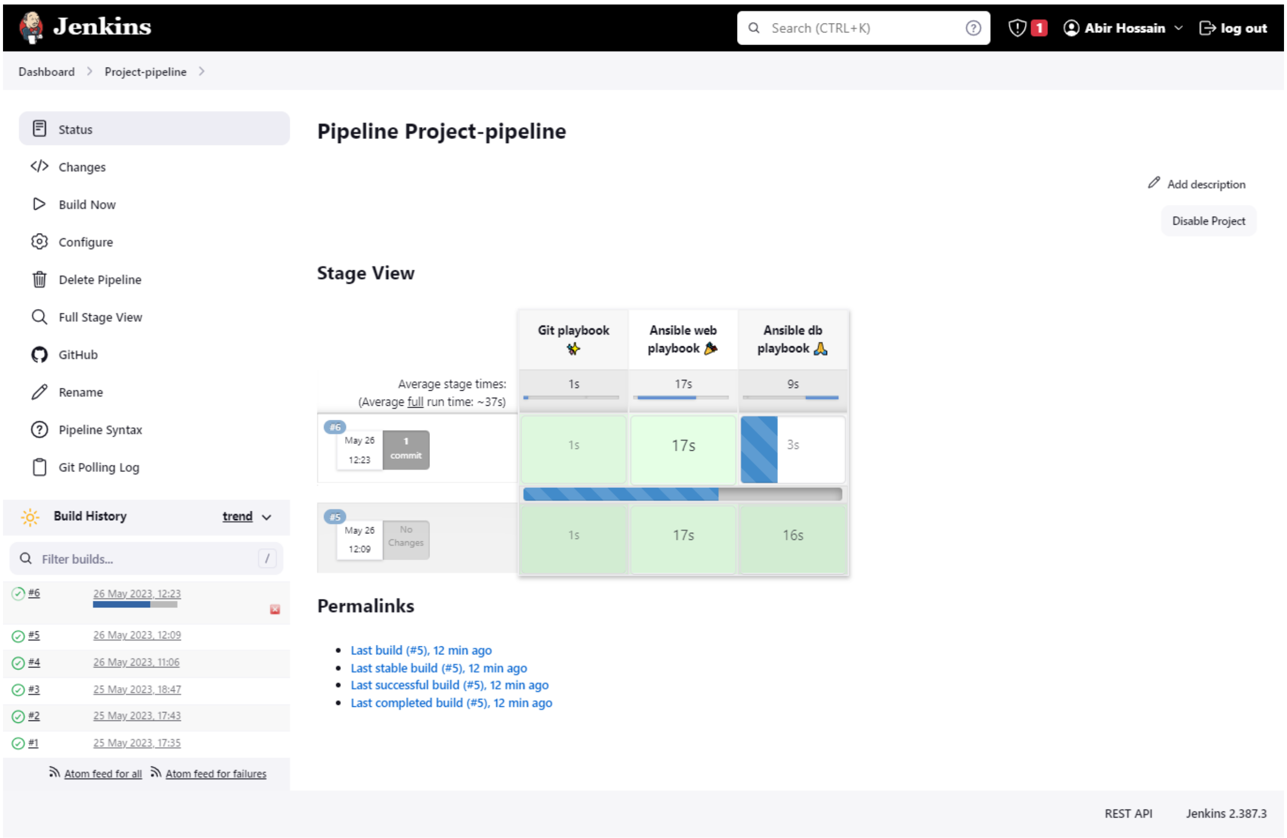


Showing **1 changed file** with **1 addition** and **1 deletion.**

2 index.php

```
@@ -98,7 +98,7 @@

 <div class="form-group">
<label>Verification code : </label>
- <input type="text" class="form-controll"  name="vercode" maxlength="5" autocomplete="off" required  style="height:25px;" />&nbsp;<img src="captcha.php">&nbsp; <?php echo $_SESSION["vercode"]?>
+ <input type="text" class="form-controll"  name="vercode" maxlength="5" autocomplete="off" required  style="height:25px;" />&nbsp; <?php echo $_SESSION["vercode"]?>
 </div>

 <button type="submit" name="login" class="btn btn-info">LOGIN </button> | <a href="signup.php">Not Register Yet</a>
```

0 comments on commit a2b427e



Pipeline Project-pipeline

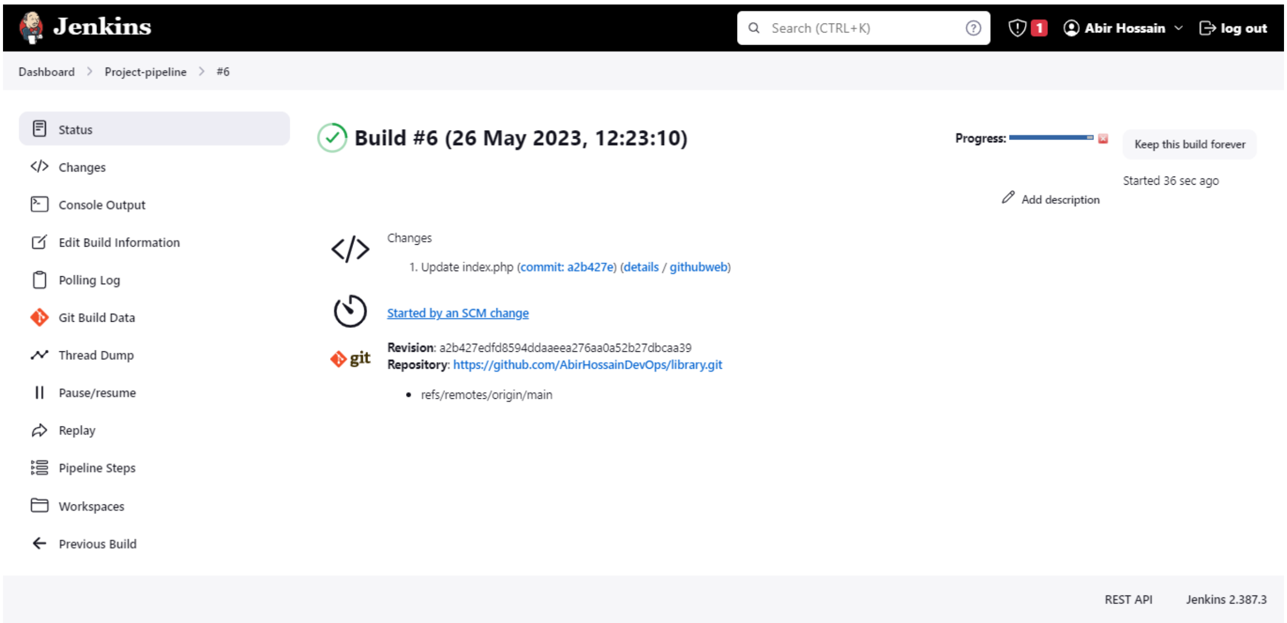
Stage View

	Git playbook ✨	Ansible web playbook 🎉	Ansible db playbook 🙏
Average stage times: (Average full run time: ~37s)	1s	17s	9s
#6 May 26 12:23 1 commit	1s	17s	3s
#5 May 26 12:09 No Changes	1s	17s	16s

#6	26 May 2023, 12:23
#5	26 May 2023, 12:09
#4	26 May 2023, 11:06
#3	25 May 2023, 18:47
#2	25 May 2023, 17:43
#1	25 May 2023, 17:35

Permalinks

- Last build (#5), 12 min ago
- Last stable build (#5), 12 min ago
- Last successful build (#5), 12 min ago
- Last completed build (#5), 12 min ago



Build #6 (26 May 2023, 12:23:10)

Started 36 sec ago

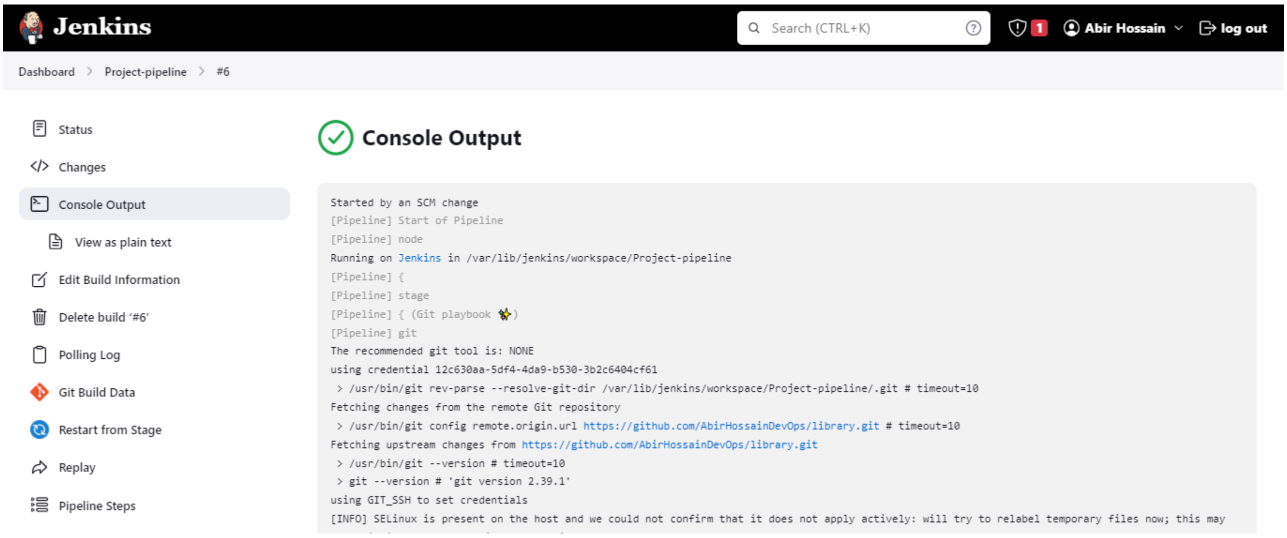
Changes

1. Update index.php (commit: a2b427e) (details / githubweb)

Started by an SCM change

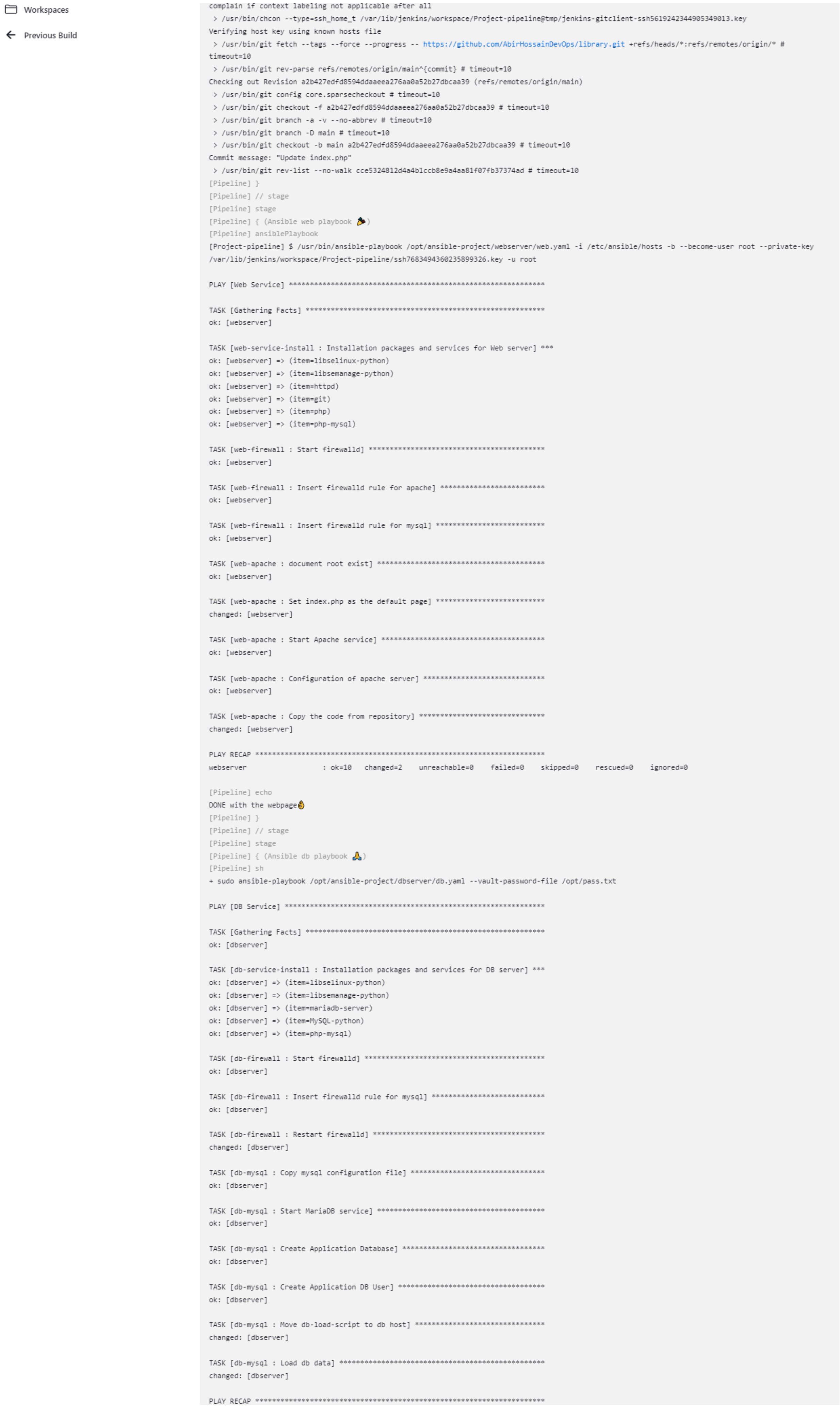
Revision: a2b427edfd8594ddaaeea276aa0a52b27dbcaa39
Repository: https://github.com/AbirHossainDevOps/library.git

- refs/remotes/origin/main

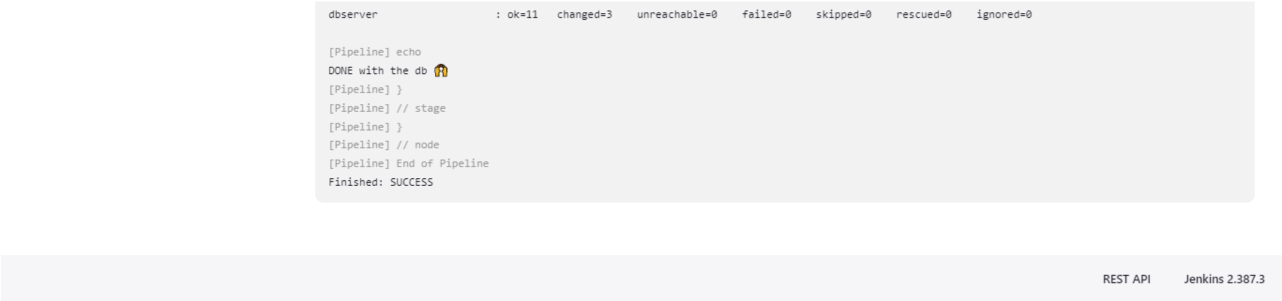


Console Output

```
Started by an SCM change
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/Project-pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Git playbook ✨)
[Pipeline] git
The recommended git tool is: NONE
using credential 12c630aa-5df4-4da9-b530-3b2c6404cf61
 > /usr/bin/git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/Project-pipeline/.git # timeout=10
Fetching changes from the remote Git repository
 > /usr/bin/git config remote.origin.url https://github.com/AbirHossainDevOps/library.git # timeout=10
Fetching upstream changes from https://github.com/AbirHossainDevOps/library.git
 > /usr/bin/git --version # timeout=10
 > git --version # 'git version 2.39.1'
using GIT_SSH to set credentials
[INFO] SELinux is present on the host and we could not confirm that it does not apply actively: will try to relabel temporary files now; this may
```



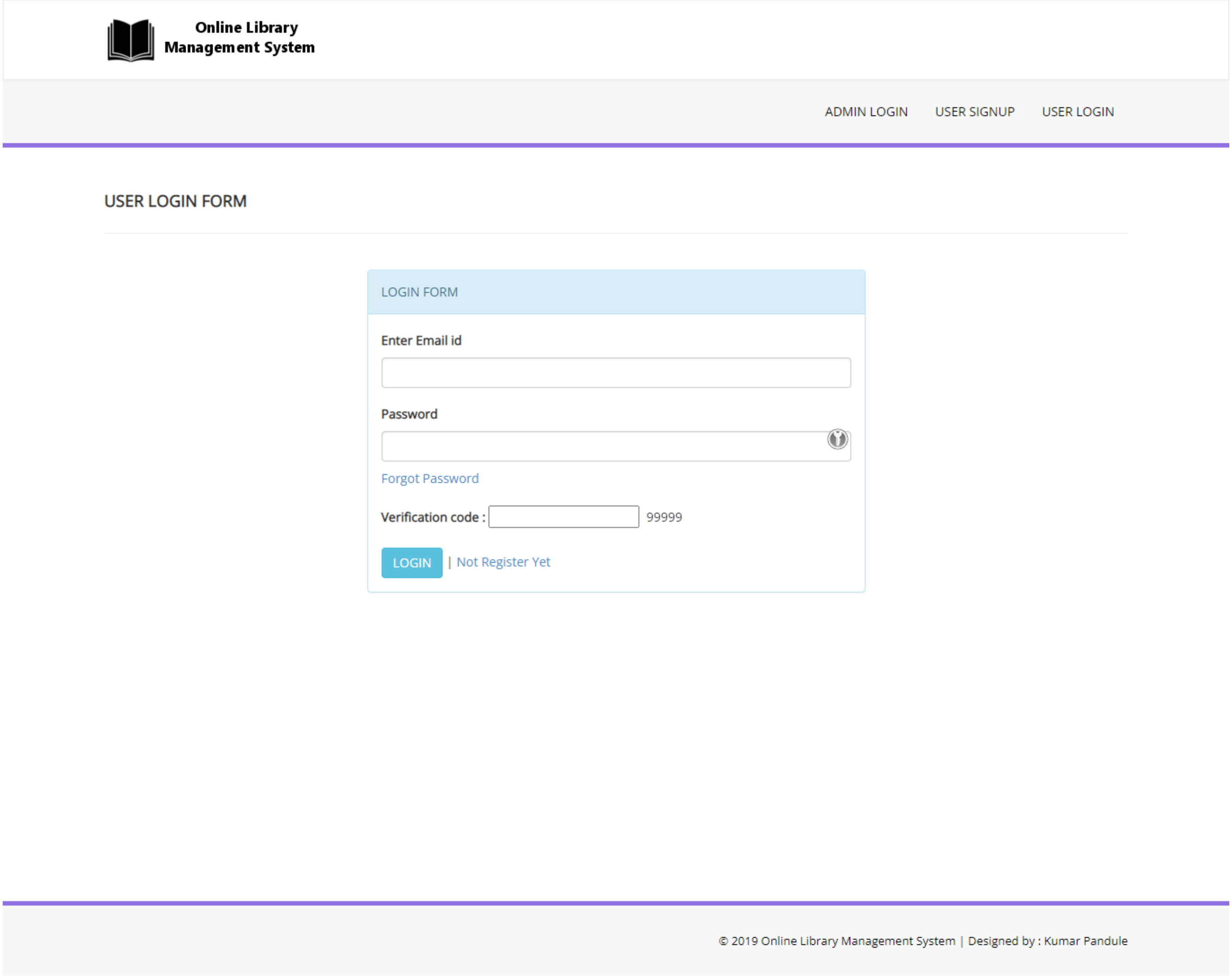
```
complain if context labeling not applicable after all
 > /usr/bin/chcon --type=ssh_home_t /var/lib/jenkins/workspace/Project-pipeline@tmp/jenkins-gitclient-ssh5619242344905349013.key
Verifying host key using known hosts file
 > /usr/bin/git fetch --tags --force --progress -- https://github.com/AbirHossainDevOps/library.git +refs/heads/*:refs/remotes/origin/* #
timeout=10
 > /usr/bin/git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision a2b427edfd8594ddaaeea276aa0a52b27dbcaa39 (refs/remotes/origin/main)
 > /usr/bin/git config core.sparsecheckout # timeout=10
 > /usr/bin/git checkout -f a2b427edfd8594ddaaeea276aa0a52b27dbcaa39 # timeout=10
 > /usr/bin/git branch -a -v --no-abbrev # timeout=10
 > /usr/bin/git branch -D main # timeout=10
 > /usr/bin/git checkout -b main a2b427edfd8594ddaaeea276aa0a52b27dbcaa39 # timeout=10
Commit message: "Update index.php"
 > /usr/bin/git rev-list --no-walk cce5324812d4a4b1ccb8e9a4aa81f07fb37374ad # timeout=10
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Ansible web playbook 🎉)
[Pipeline] ansiblePlaybook
[Project-pipeline] $ /usr/bin/ansible-playbook /opt/ansible-project/webserver/web.yaml -i /etc/ansible/hosts -b --become-user root --private-key
/var/lib/jenkins/workspace/Project-pipeline/ssh7683494360235899326.key -u root

PLAY [Web Service] *************************************************************

TASK [Gathering Facts] *********************************************************
ok: [webserver]

TASK [web-service-install : Installation packages and services for Web server] ***
ok: [webserver] => (item=libselinux-python)
ok: [webserver] => (item=libsemanage-python)
ok: [webserver] => (item=httpd)
ok: [webserver] => (item=git)
ok: [webserver] => (item=php)
ok: [webserver] => (item=php-mysql)

TASK [web-firewall : Start firewalld] ******************************************
ok: [webserver]

TASK [web-firewall : Insert firewalld rule for apache] *************************
ok: [webserver]

TASK [web-firewall : Insert firewalld rule for mysql] **************************
ok: [webserver]

TASK [web-apache : document root exist] ****************************************
ok: [webserver]

TASK [web-apache : Set index.php as the default page] **************************
changed: [webserver]

TASK [web-apache : Start Apache service] ***************************************
ok: [webserver]

TASK [web-apache : Configuration of apache server] *****************************
ok: [webserver]

TASK [web-apache : Copy the code from repository] ******************************
changed: [webserver]

PLAY RECAP *********************************************************************
webserver                  : ok=10   changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[Pipeline] echo
DONE with the webpage👌
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Ansible db playbook 🙏)
[Pipeline] sh
+ sudo ansible-playbook /opt/ansible-project/dbserver/db.yaml --vault-password-file /opt/pass.txt

PLAY [DB Service] **************************************************************

TASK [Gathering Facts] *********************************************************
ok: [dbserver]

TASK [db-service-install : Installation packages and services for DB server] ***
ok: [dbserver] => (item=libselinux-python)
ok: [dbserver] => (item=libsemanage-python)
ok: [dbserver] => (item=mariadb-server)
ok: [dbserver] => (item=MySQL-python)
ok: [dbserver] => (item=php-mysql)

TASK [db-firewall : Start firewalld] *******************************************
ok: [dbserver]

TASK [db-firewall : Insert firewalld rule for mysql] ***************************
ok: [dbserver]

TASK [db-firewall : Restart firewalld] *****************************************
changed: [dbserver]

TASK [db-mysql : Copy mysql configuration file] ********************************
ok: [dbserver]

TASK [db-mysql : Start MariaDB service] ****************************************
ok: [dbserver]

TASK [db-mysql : Create Application Database] **********************************
ok: [dbserver]

TASK [db-mysql : Create Application DB User] ***********************************
ok: [dbserver]

TASK [db-mysql : Move db-load-script to db host] *******************************
changed: [dbserver]

TASK [db-mysql : Load db data] *************************************************
changed: [dbserver]

PLAY RECAP *********************************************************************
```



```
dbserver                   : ok=11   changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[Pipeline] echo
DONE with the db 😱
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

The website

The website look as such



USER LOGIN FORM

LOGIN FORM

Enter Email id

Password

Forgot Password

Verification code : 99999

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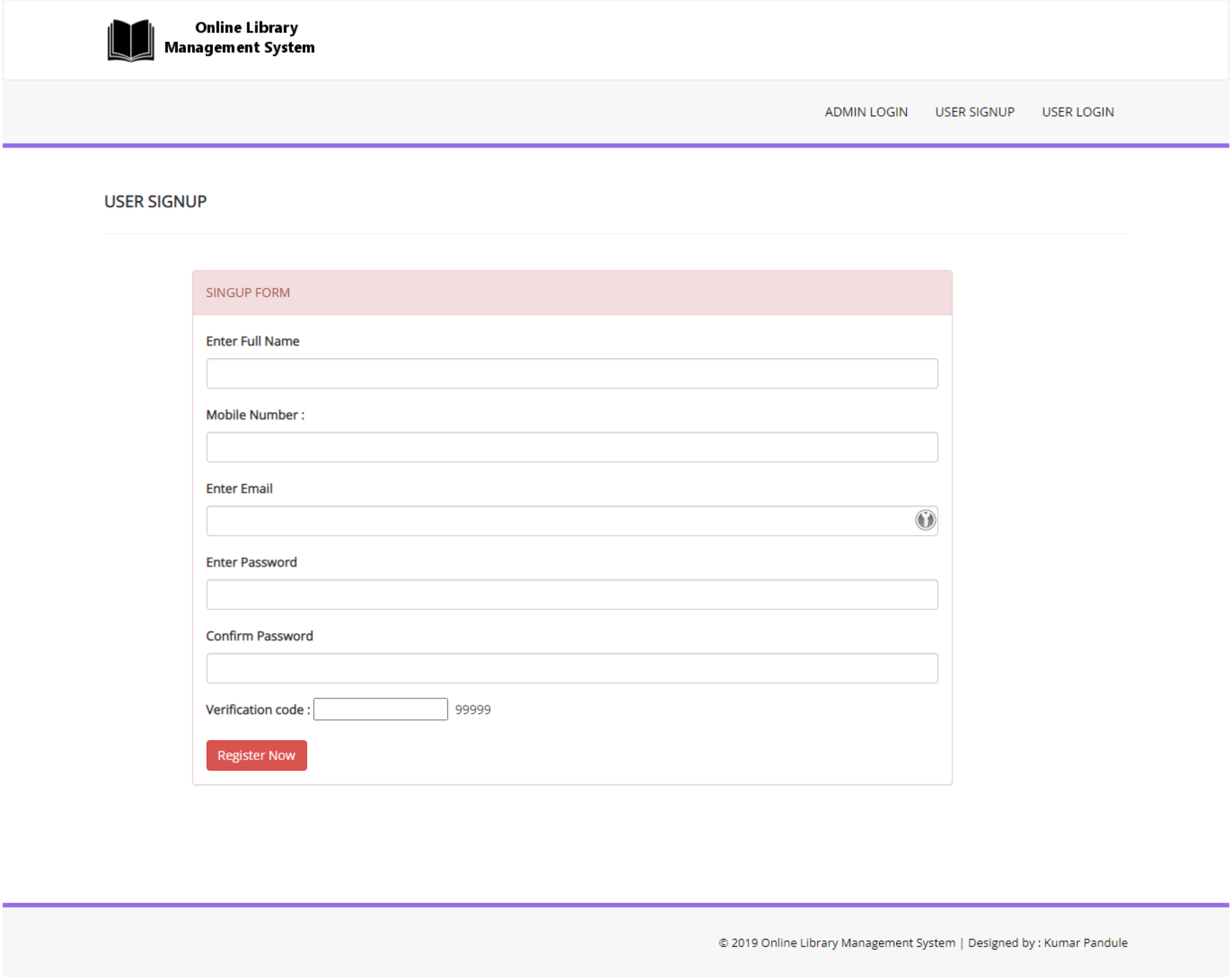

USER SIGNUP

SINGUP FORM

Enter Full Name

Mobile Number :

Enter Email

Enter Password

Confirm Password

Verification code : 99999

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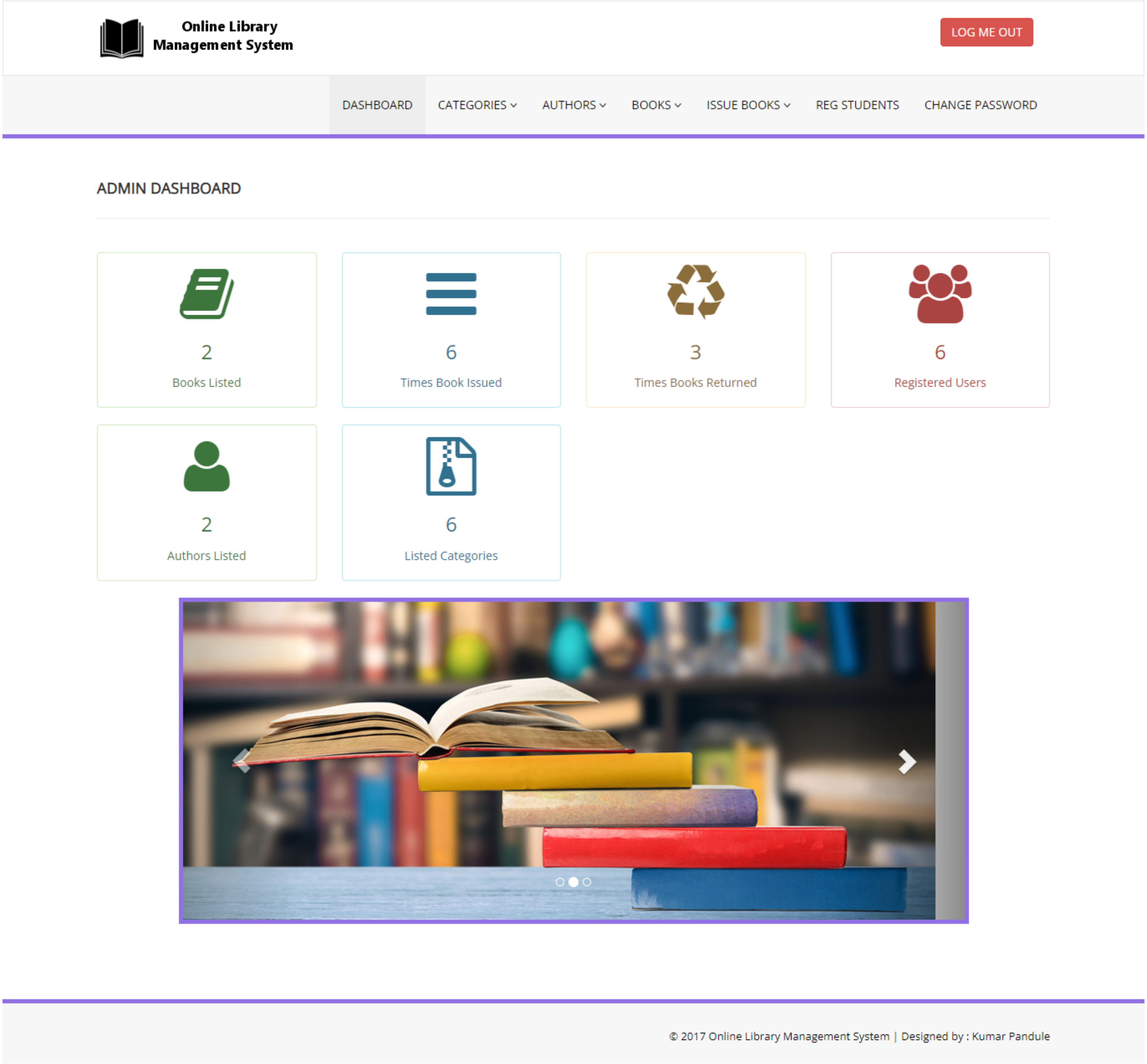

Online Library
Management System

LOG ME OUT

DASHBOARD CATEGORIES AUTHORS BOOKS ISSUE BOOKS REG STUDENTS CHANGE PASSWORD

ADMIN DASHBOARD

2
Books Listed

6
Times Book Issued

3
Times Books Returned

6
Registered Users

2
Authors Listed

6
Listed Categories

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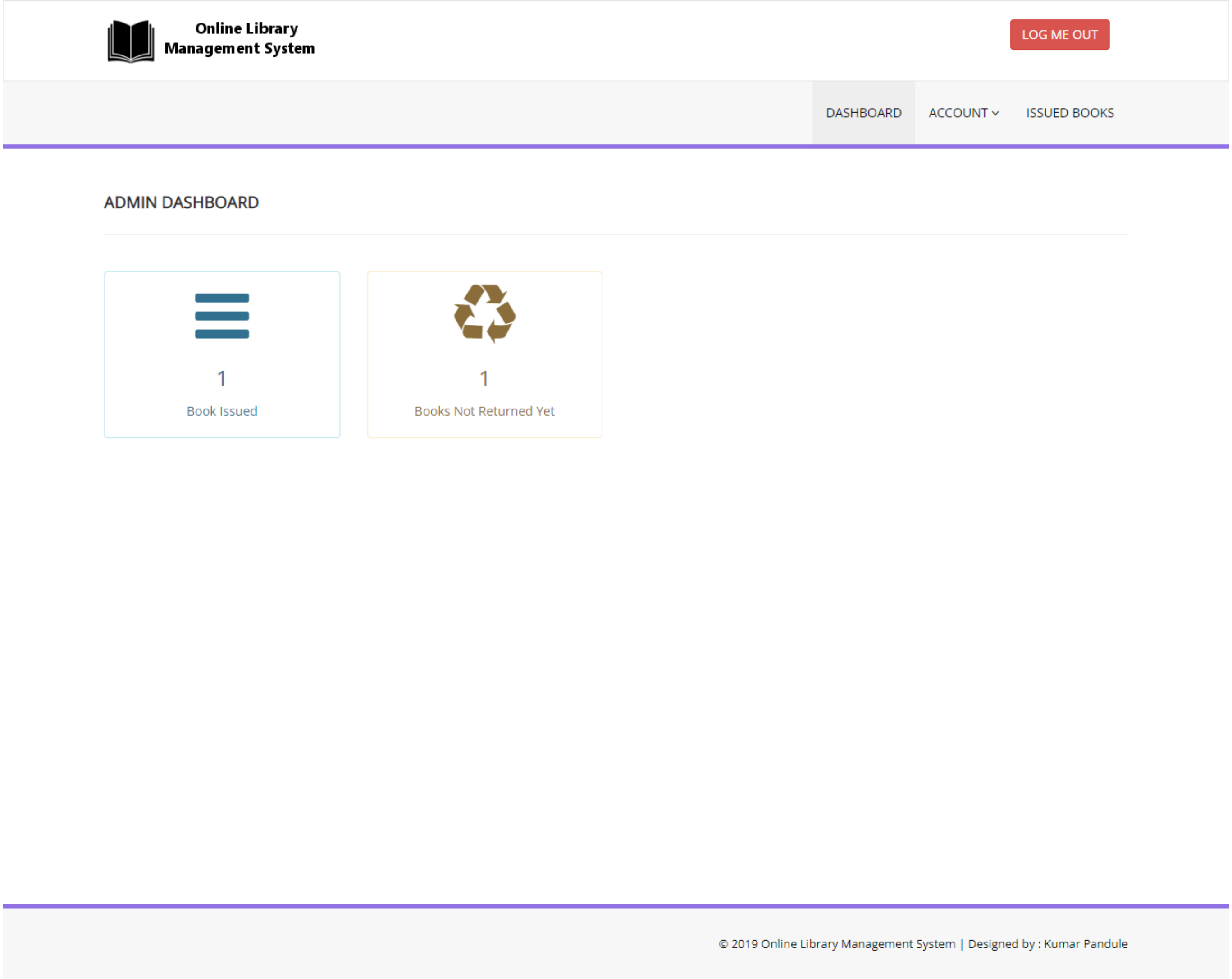

ADMIN DASHBOARD

1
Book Issued

1
Books Not Returned Yet

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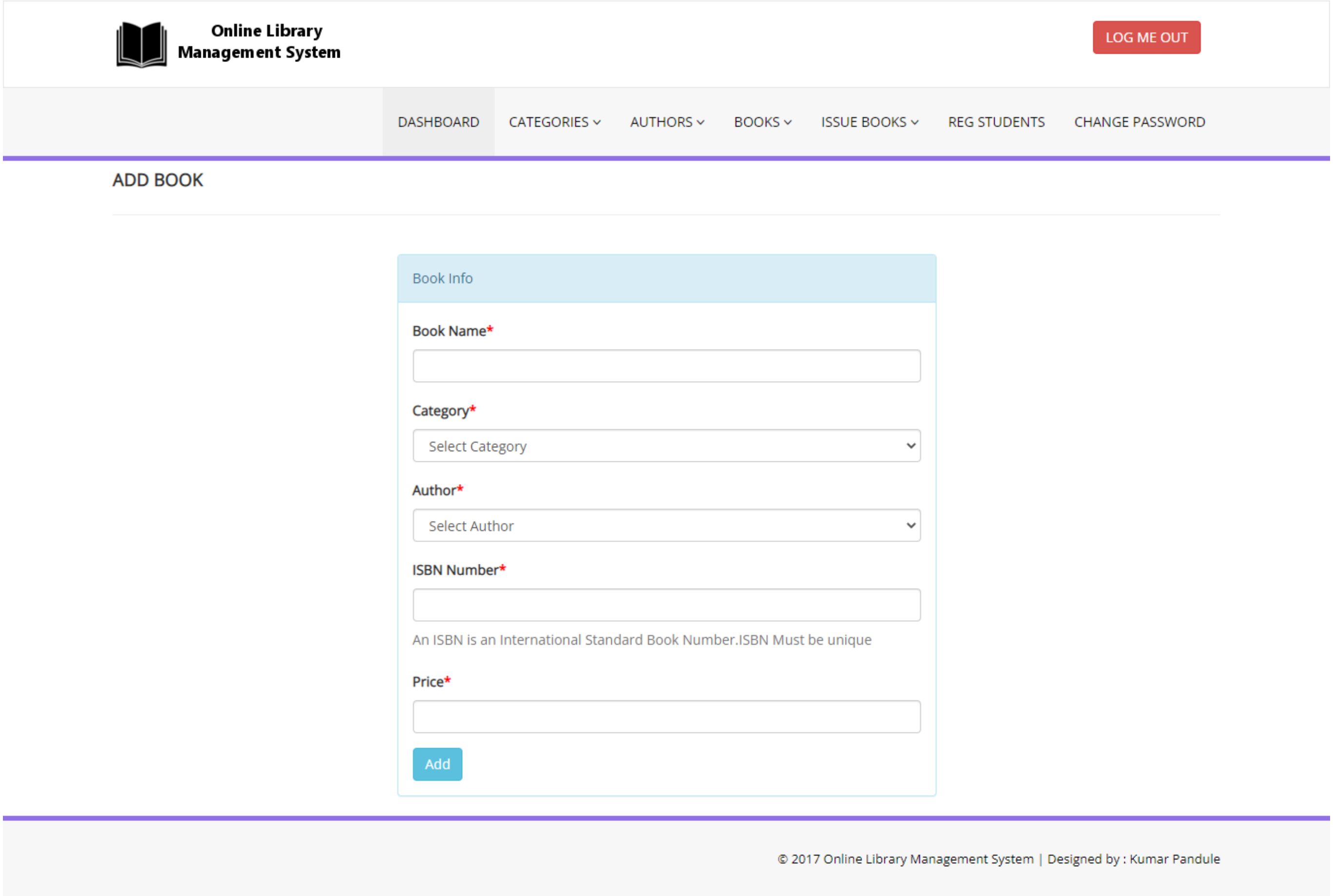
user2



ADD BOOK

Book Info

Book Name*

Category*

Select Category

Author*

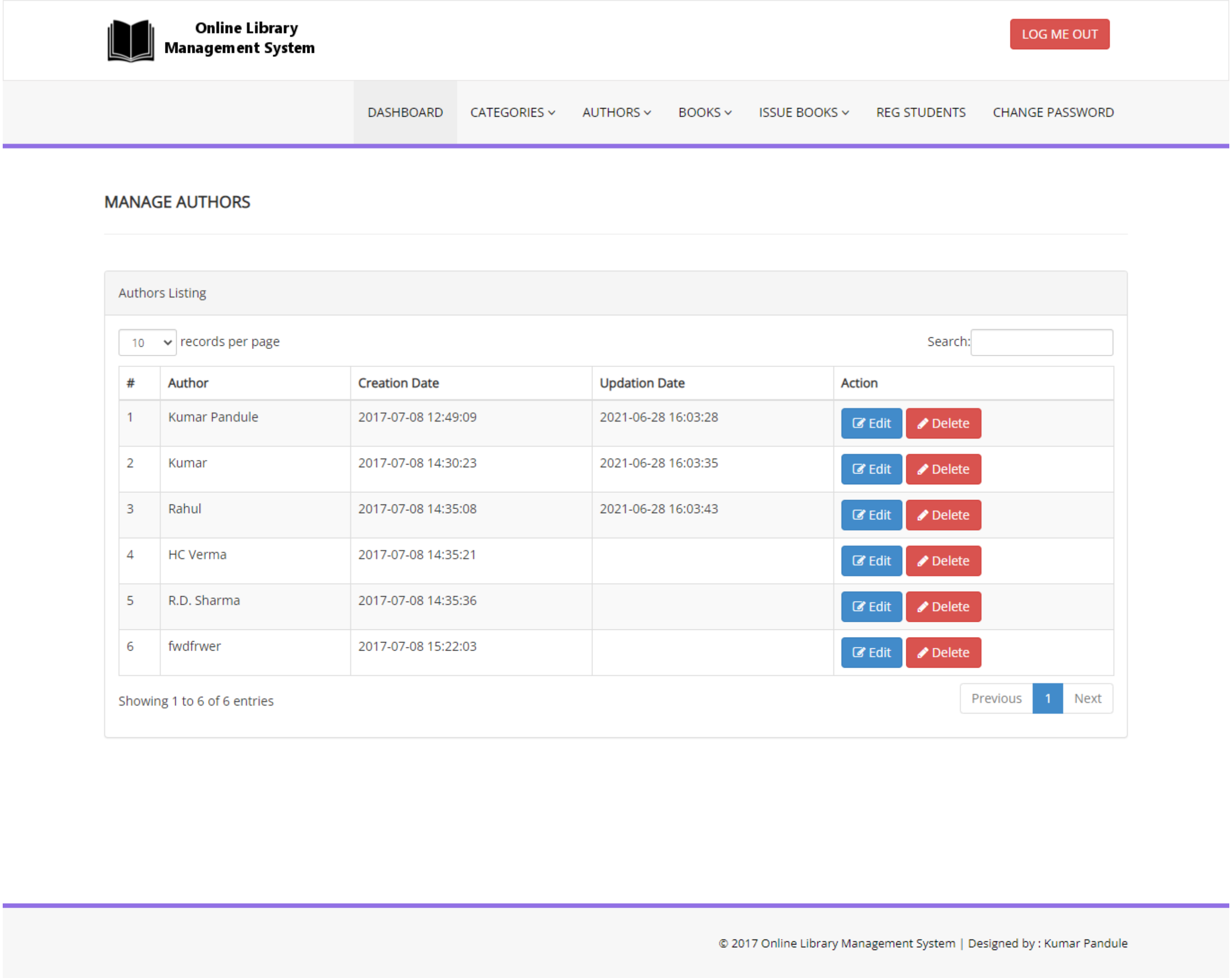
Select Author

ISBN Number*

An ISBN is an International Standard Book Number.ISBN Must be unique

Price*

© 2017 Online Library Management System | Designed by : Kumar Pandule



MANAGE AUTHORS

Authors Listing

10 records per page

Search:

#	Author	Creation Date	Updation Date	Action
1	Kumar Pandule	2017-07-08 12:49:09	2021-06-28 16:03:28	Edit Delete
2	Kumar	2017-07-08 14:30:23	2021-06-28 16:03:35	Edit Delete
3	Rahul	2017-07-08 14:35:08	2021-06-28 16:03:43	Edit Delete
4	HC Verma	2017-07-08 14:35:21		Edit Delete
5	R.D. Sharma	2017-07-08 14:35:36		Edit Delete
6	fwdfrwer	2017-07-08 15:22:03		Edit Delete

Showing 1 to 6 of 6 entries

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