

Karthik Pradeep Hegadi

2KE20CS032

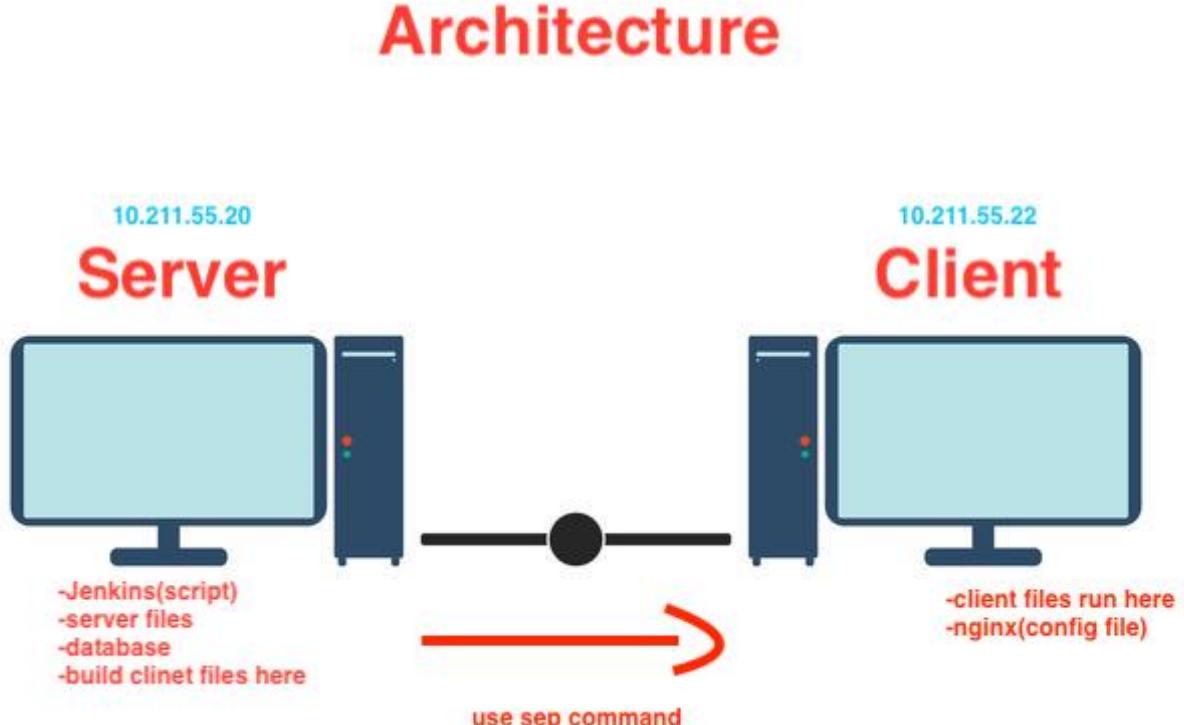
Assignment 30

Understood. To follow the provided instructions and create the files/directory using the same name and case as provided in the task steps, please provide me with the specific names and case instructions for the files/directory you want to create.

Jenkins -6

Assignment - Assignment - 6 - Build Jenkins Pipeline for 3 tier architecture involving Nodejs, ReactS & mysql

(You can refer the manual setup of server & client side, and you need to implement this in pipeline script)



Server Building (manually)

Clone the server repo using given link

1) install nodejs

```
lusy@localhost.localdomain ~/nodejs_server git:(main) ±3 (10.666s)
sudo yum install nodejs
[sudo] password for lusy:
Sorry, try again.
[sudo] password for lusy:
Last metadata expiration check: 2:25:50 ago on Sun 29 Oct 2023 05:18:11 AM IST.
Package nodejs-1:16.20.1-2.el9.aarch64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
```

2) Install mysqld

```
lusy@localhost.localdomain ~/nodejs_server git:(main) ±3 (0.502s)
sudo yum install mysql
Last metadata expiration check: 2:26:40 ago on Sun 29 Oct 2023 05:18:11 AM IST.
Package mysql-8.0.32-1.el9.aarch64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
```

3) Create database

```
/ rows in set (0.10 sec)

mysql> create database doctor_appointment;
ERROR 1007 (HY000): Can't create database 'doctor_appointment'; database exists
mysql> █
```

```
Type 'help;' or '\h' for help. Type '\c' to clear

mysql> show databases;
+-----+
| Database      |
+-----+
| doctor_appointment |
| information_schema |
| mattermost       |
| mysql           |
| performance_schema |
| socka          |
| sys            |
+-----+
7 rows in set (0.10 sec)
```

4) Import data base

```
lusy@localhost.localdomain ~/nodejs_server git:(main) ±3 (2.789s)
mysql -u root -p doctor_appointment <doctor_appointment.sql
Enter password:
```

5) Verify it

```
mysql> show tables;
+-----+
| Tables_in_doctor_appointment |
+-----+
| patients
+-----+
1 row in set (0.02 sec)

mysql> select * from patients;
+----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | name      | age | gender | status | time   | date    | phone   | doctor  |
+----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1  | John Doe  | 28  | Male   | Consult | 06:00 PM | 2 Feb 2021 | +91 987654321 | Dr. Ananth |
| 2  | Mukul Rao | 28  | Male   | Revisit | 06:00 PM | 2 Feb 2021 | +91 987654321 | Dr. Ananth |
| 3  | Neeraj Sharma | 28 | Male   | Consult | 06:00 PM | 2 Feb 2021 | +91 987654321 | Dr. Ananth |
| 11 | Manjunath Arun Naik | 22 | Male   | Revisit | 06:00 PM | 2 Feb 2021 | +91 932228949 | Dr. Ananth |
| 12 | Subbu Raja | 22  | Male   | Consult | 10:00 AM  | 10-12-2022 | 9012345678  | Dr. Raman  |
| 13 | Raj Kanna  | 31  | Male   | Consult | 13:00 PM  | 12-12-2022 | 8360285211 | Dr. Viswa |
+----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

6) change the credentials of app.js file

```
/ server to handle ajax requests to mockapi.io
const express = require('express');
const app = express();
const axios = require('axios');
const mysql = require('mysql2');

const pool = mysql.createPool({
  host: 'localhost',
  user: 'root',
  password: 'password',
  database: 'doctor_appointment'
});
```

Edit accordingly

7) start it using npm command

```
lusy@localhost.localdomain ~/nodejs_server git:(main) ±3
npm start
```

```
> server-mysql@1.0.0 start
> node app.js
```

```
listening on port 3001
GET /api/users
```

Each Time you trigger
each instance you get

8) Final verification

The screenshot shows a browser window with the URL `10.211.55.20:3001/api/us`. The page title is "GitHub - maheshgra". The browser toolbar includes back, forward, and refresh buttons. Below the address bar, there is a shield icon and a folder icon, followed by the URL again. The main content area displays a JSON array of user data:

```
[{"id":1,"name":"John Doe","age":28,"gender":"Male","status":"Consult","time":"06:00 PM","date":"2 Feb 2023"}, {"id":2,"name":"Rao","age":28,"gender":"Male","status":"Revisit","time":"06:00 PM","date":"2 Feb 2023"}, {"id":3,"name":"Sharma","age":28,"gender":"Male","status":"Consult","time":"06:00 PM","date":"2 Feb 2023"}, {"id":4,"name":"Naik","age":22,"gender":"Male","status":"Revisit","time":"06:00 PM","date":"2 Feb 2023"}, {"id":5,"name":"Raja","age":22,"gender":"Male","status":"Consult","time":"10:00 AM","date":"10-12-2023"}, {"id":6,"name":"Kanna","age":31,"gender":"Male","status":"Consult","time":"13:00 PM","date":"12-1-2023"}]
```

Below the JSON data, there are buttons for "Getting Started", "JSON", "Raw Data", and "Headers". At the bottom, there are links for "Save", "Copy", and "Pretty Print".

NOTE

Note in client server the nginx should be upend running

Config files should we placed in right manner

Reverse Proxy should we created to trigger the server

```
lusy@localhost.localdomain:/etc (0.02s)
cd nginx

lusy@localhost.localdomain /etc/nginx (0.028s)
ls
conf.d          fastcgi.conf.default    koi-utf      mime.types.default  scgi_params        uwsgi_params.default
default.d       fastcgi_params          koi-win     nginx.conf          scgi_params.default  win-utf
fastcgi.conf    fastcgi_params.default mime.types  nginx.conf.default uwsgi_params
```

```
lusy@localhost.localdomain /etc/nginx/conf.d (0.022s)
cat reactjs.conf
server {
    listen 80;
    listen [::]:80;
    root /usr/share/nginx/html/build;

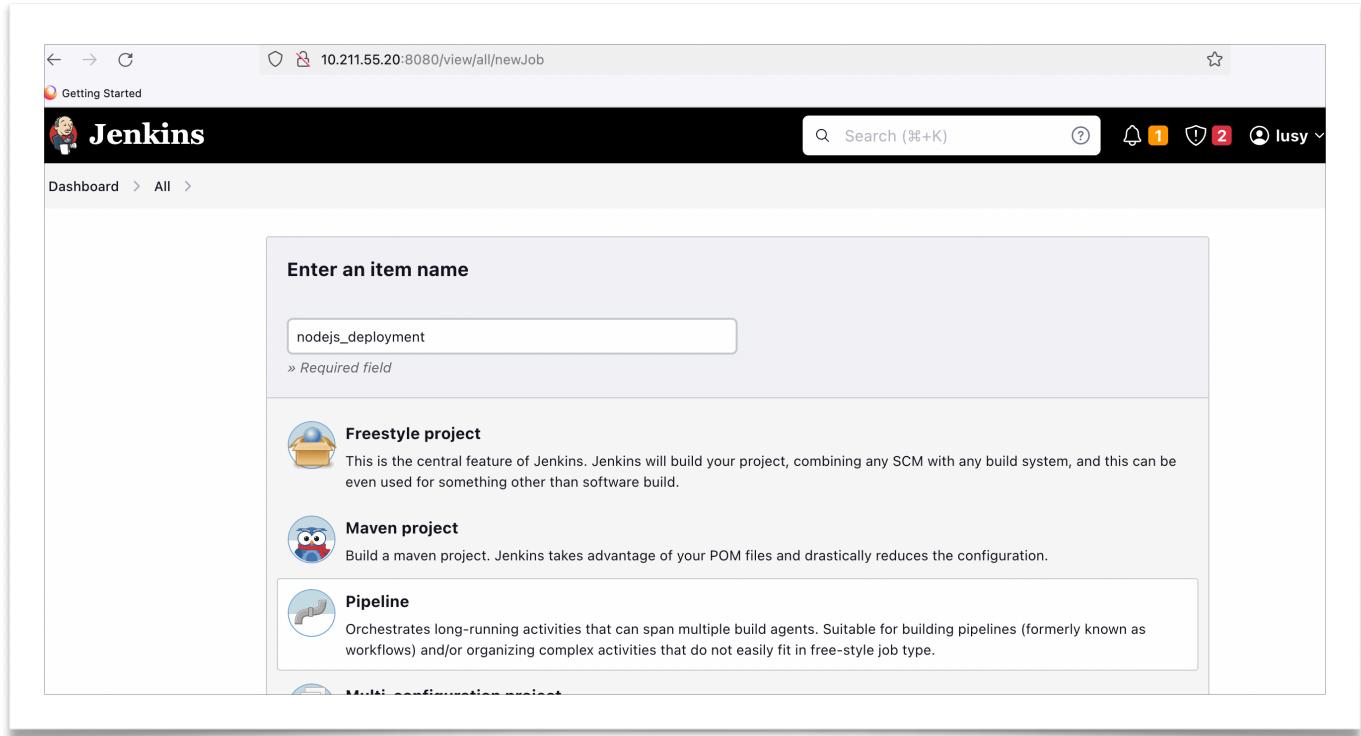
    location /api/users {
        proxy_pass http://10.211.55.20:3001/api/users;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
    }

    location /api/ {
        proxy_pass http://10.211.55.20:3001/api/;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
    }

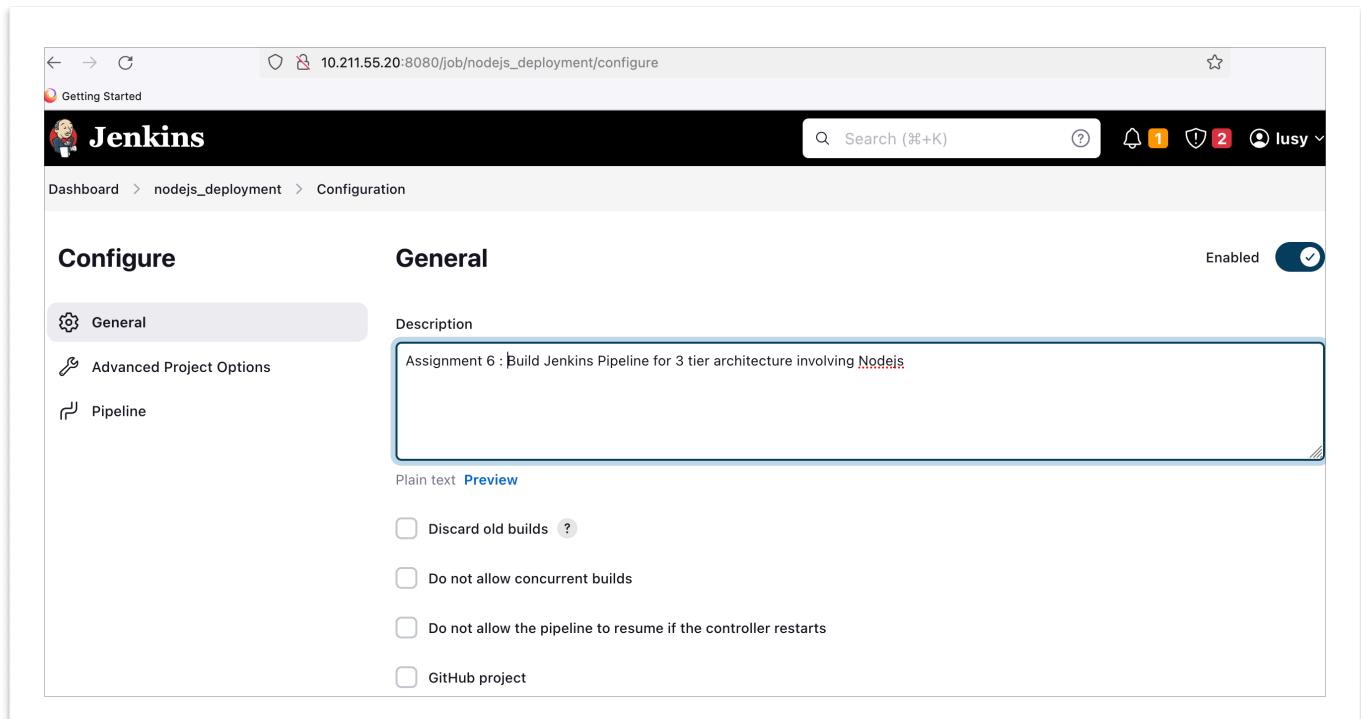
    location / {
        try_files $uri $uri/ /index.html;
    }
}
```

reverse proxy to trigger
server in which DB is
setup

Jenkins setup



The screenshot shows the Jenkins 'New Job' creation interface. At the top, there's a search bar with 'Search (⌘+K)' and a user icon for 'lusy'. Below the header, the URL is 10.211.55.20:8080/view/all/newJob. The main area has a title 'Enter an item name' with a required field 'nodejs_deployment'. It lists three project types: 'Freestyle project' (selected), 'Maven project', and 'Pipeline'. Each type has a brief description and an icon.



The screenshot shows the Jenkins Pipeline configuration page for the job 'nodejs_deployment'. The left sidebar has tabs for 'General', 'Advanced Project Options', and 'Pipeline'. The 'General' tab is selected. It shows a 'Description' field containing 'Assignment 6 : Build Jenkins Pipeline for 3 tier architecture involving Nodejs'. There are also checkboxes for 'Plain text' (disabled), 'Preview' (disabled), 'Discard old builds' (unchecked), 'Do not allow concurrent builds' (unchecked), 'Do not allow the pipeline to resume if the controller restarts' (unchecked), and 'GitHub project' (unchecked). A 'Enabled' switch is checked at the top right.

Config Jenkins for nodejs and jdk11

JDK installations ^ Edited

Add JDK

JDK

Name

jdk11

Install automatically ?

≡ Install Oracle Java SE Development Kit from the website ?

Version

Java SE Development Kit 9.0.4

NodeJS installations

NodeJS installations ^ Edited

My Script

```
pipeline {  
    agent any  
    tools {  
        nodejs "node"  
        jdk "jdk11"  
    }  
    environment {  
        SCANNER_HOME = tool 'sonar-scanners'  
    }  
    stages {  
        stage('git checkout') {  
            steps {  
                git branch: 'master', url: 'https://github.com/kartikhegadi/nodejs_client.git'  
            }  
        }  
        stage('npm install') {  
            steps {  
                sh 'npm install'  
            }  
        }  
        stage('npm with SonarQube') {  
            steps {  
                withSonarQubeEnv('sonarqube') {  
                    sh """  
                        $SCANNER_HOME/bin/sonar-scanner \  
                        -Dsonar.projectName=npmlclient \  
                        -Dsonar.java.binaries=\. \  
                        -Dsonar.projectKey=npmsclient \  
                        -Dsonar.source=.  
                    """  
                }  
            }  
        }  
        stage('quality gate') {  
            steps {  
                timeout(time: 5, unit: 'MINUTES') {  
                    waitForQualityGate abortPipeline: true, credentialsId: 'sonarqube'  
                }  
            }  
        }  
        stage('npm run build') {  
            steps {  
                sh 'sudo npm run build'  
            }  
        }  
    }  
}
```

```
stage('npm run build') {  
    steps {  
        sh 'sudo npm run build'  
    }  
}  
stage('replace file .js' ) {  
    steps {  
        sh 'sudo mv -f /home/lusy/server_react_js/reactjs.conf /home/lusy/nodejs_client/build/static/js/'  
    }  
}  
stage('copy build file') {  
    steps {  
        sh 'sudo scp -r /home/jenkins/workspace/nodejs_client/build/ lusy10.211.55.22:/usr/share/nginx/html/'  
        sh 'echo "Files copied"'  
    }  
}  
post {  
    always {  
        emailext body: 'SMTP mail sent)', subject: 'Test Email', to: ' 2ke20cs086_t@kleit.ac.in'  
    }  
}
```

I have remotley in server i.e in 10.211.55.20
i have saved that i am just moving to other machine

Using the script build it

The screenshot shows the Jenkins interface for the 'php_deployment' project. On the left, there's a sidebar with options like Status, Changes, Workspace, Build Now, Configure, Delete Project, and Rename. The main area is titled 'Project php_deployment' with a description: 'Assignment - 5 - create a simple php project pipeline /deploy to any web server & trigger the job using command line remotely'. Below this is a 'Permalinks' section showing recent builds. A 'Build History' tab is selected, showing build #5 from Oct 28, 2023, at 3:59 PM. The build status is green.

Fetch the page

The screenshot shows a browser window with multiple tabs open. The active tab is 'Appointment Booking' at the URL '10.211.55.22/index.html/api/user'. The page displays a form for booking an appointment with fields for Patient Name, Phone Number, Doctor Name, Gender, Date, Age, Time, and a 'Book Appointment' button. Below the form is a table listing patient appointments:

Patient	Status	Appointment	Phone	Doctor	Actions
User Img John Doe 28 yrs, Male	Consult	06:00 PM 2 Feb 2021	+91 987654321 Contact	Dr. Ananth	More
User Img Mukul Rao yrs, Male	Revisit	2 Feb 2021	+91 987654321 Contact	Dr. Ananth	More

Email:

Plugins

The screenshot shows the Jenkins plugin manager interface at the URL 10.211.55.20:8080/manage/pluginManager/installed. The title bar says "Started Jenkins". The left sidebar has tabs for "Available plugins" (selected), "Installed plugins" (highlighted in grey), "Advanced settings", and "Download progress". The main area is titled "Plugins" with a count of 21. A search bar contains the text "email". The results table has columns for "Name" and "Enabled". One result is shown: "Email Ext Recipients Column Plugin 27vb_9404db_b_018d". It is described as a sample plugin for writing Jenkins plugins. The "Enabled" switch is checked (blue circle with a white checkmark) and the "Delete" button (red circle with a white X) is visible. Below this, the "Email Extension Template Plugin 1.5" is listed, which is up for adoption. It has a "Report an issue with this plugin" link and a yellow info box stating: "This plugin is up for adoption! We are looking for new maintainers. Visit our [Adopt a Plugin](#) initiative for more information." The Jenkins logo is at the bottom.

Available plugins

Installed plugins

Advanced settings

Download progress

Plugins

21

Search (⌘+K)

?

1

2

Busy

log out

Name

Enabled

Email Ext Recipients Column Plugin 27vb_9404db_b_018d

This plugin is a sample to explain how to write a Jenkins plugin.
Report an issue with this plugin

✓

✗

Email Extension Template Plugin 1.5

This plugin allows administrators to create global templates for the Extended Email Publisher.
Report an issue with this plugin

✓

✗

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

✓

✗

Validating Email Parameter Plugin 1.10

Jenkins Validating Email Parameter Plugin
Report an issue with this plugin

Warning: The currently installed plugin version may not be safe to use. Please review the following security notices:

- [Stored XSS vulnerability](#)

✓

✗

Configurations

The screenshot shows the Jenkins System configuration page under the 'Content Token Reference' section. It includes fields for 'SMTP Port' (465), 'Reply-To Address' (empty), 'Charset' (UTF-8), and a checked checkbox for 'Test configuration by sending test e-mail'. Below this, a 'Test e-mail recipient' field contains 'karthikhegdi143@gmail.com'. A success message 'Email was successfully sent testing' is displayed, along with a 'Test configuration' button.

The screenshot shows a Gmail inbox with 19 messages. A new email from 'address not configured yet <karthikhegdi143@gmail.com>' is visible, timestamped '01:47 (2 minutes ago)'. The email subject is 'Test email #5' and the body contains the text 'This is test email #5 sent from Jenkins'. There are 'Reply' and 'Forward' buttons at the bottom of the email preview.

Post-build Actions

Editable Email Notification ?

Allows the user to disable the publisher, while maintaining the settings

Disable Extended Email Publisher ?

Project From

Project Recipient List ?

Comma-separated list of email address that should receive notifications for this project.

2ke20cs086_t@kleit.ac.in

Project Reply-To List ?

Comma-separated list of email address that should be in the Reply-To header for this project.

\$DEFAULT_REPLYTO

Content Type ?

HTML (text/html)

Default Subject ?

\$DEFAULT SUBJECT

Default Content ?

\$DEFAULT CONTENT

```
JDK installation skipped: Unknown CPU architecture: aarch64
Checking out Revision c812e96cd7b1b3575494bb9ab108ee0fef3715d8 (refs/remotes/origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f c812e96cd7b1b3575494bb9ab108ee0fef3715d8 # timeout=10
Commit message: "Add files via upload"
> git rev-list --no-walk c812e96cd7b1b3575494bb9ab108ee0fef3715d8 # timeout=10
No emails were triggered.
Email was triggered for: Always
Email was triggered for: Success
Sending email for trigger: Always
JDK installation skipped: Unknown CPU architecture: aarch64
An attempt to send an e-mail to empty list of recipients, ignored.
Finished: SUCCESS
```