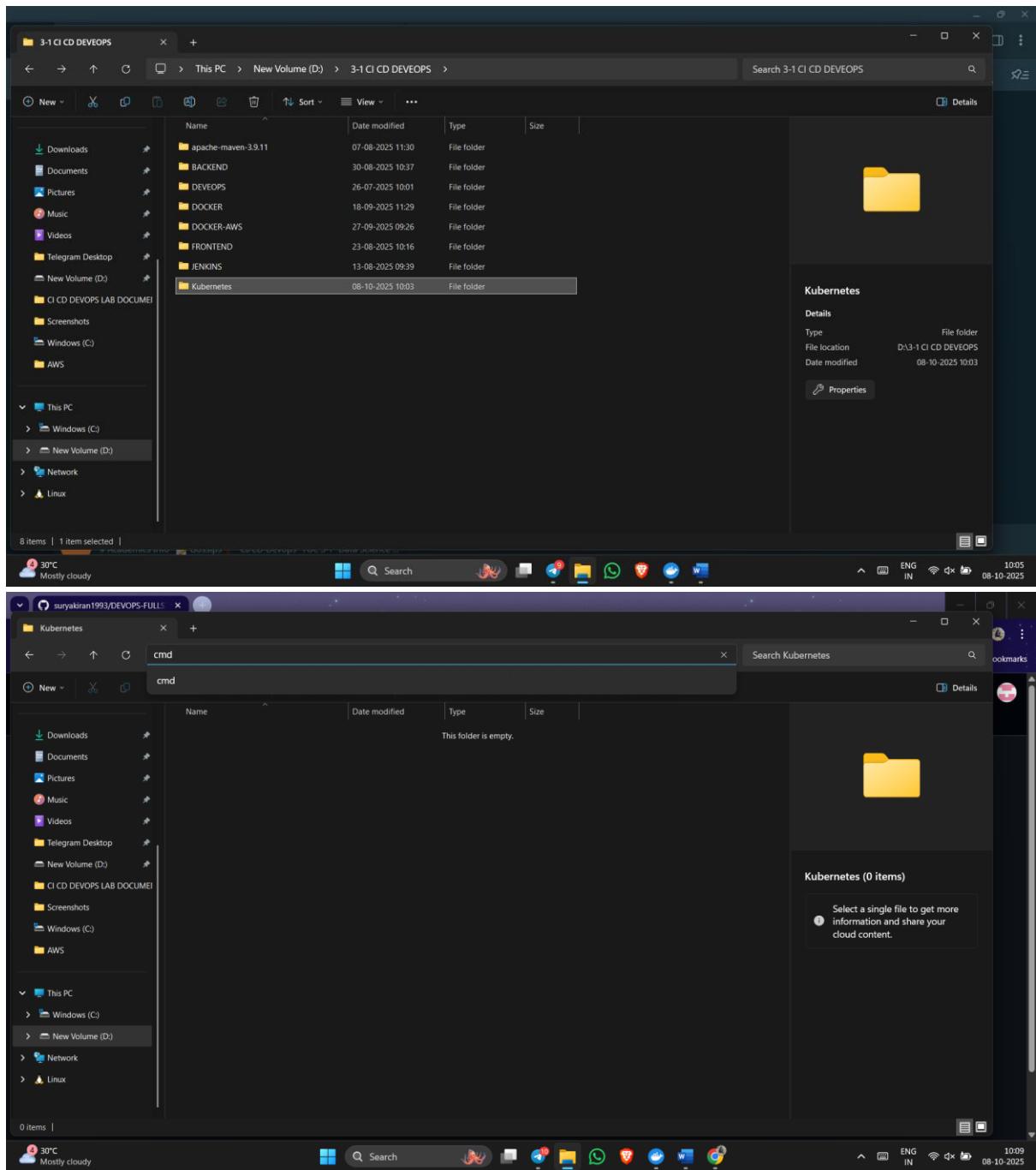


LAB 12



The image shows a Windows desktop environment with two main windows open:

- Top Window (GitHub Repository):** A screenshot of a GitHub repository page for "suryakiran1993/DEVOPS-FULLSTACK-PROJECT". The repository is public and contains branches "main" and "Branch", and tags "0 Tags". It includes files like "reactfrontend", "springbootbackend", and "README.md". The "Code" tab is selected. On the right, there's a "Clone" section with options for "HTTPS", "SSH", and "GitHub CLI". The "HTTPS" option is highlighted with a green checkmark. Below it are links to "Open with GitHub Desktop" and "Download ZIP".

Full Stack Project on Task API

No packages published

Languages

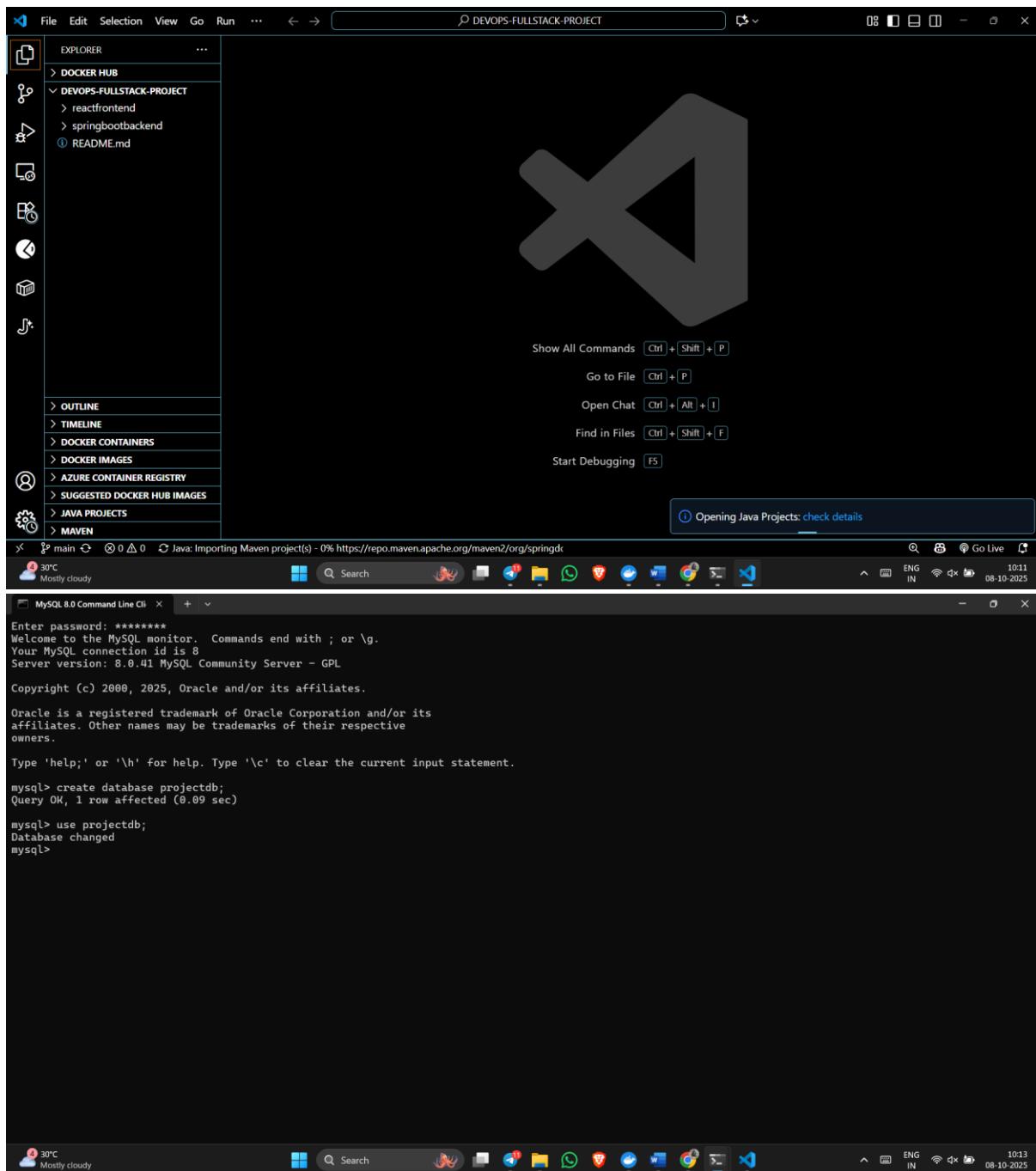
JavaScript	47.3%
Java	29.4%
CSS	22.0%
HTML	1.3%
- Bottom Window (Command Line):** A screenshot of a Microsoft Windows Command Prompt window titled "C:\Windows\System32\cmd.e". The user is cloning a GitHub repository into a local directory. The command entered is "git clone https://github.com/suryakiran1993/DEVOPS-FULLSTACK-PROJECT.git". The output shows the progress of the cloning process, including object enumeration, compression, and receiving objects from the remote repository.

```
Microsoft Windows [Version 10.0.26100.6584]
(c) Microsoft Corporation. All rights reserved.

D:\3-1 CI CD DEVEOPS\Kubernetes>git clone https://github.com/suryakiran1993/DEVOPS-FULLSTACK-PROJECT.git
Cloning into 'DEVOPS-FULLSTACK-PROJECT'...
remote: Enumerating objects: 95, done.
remote: Counting objects: 100% (95/95), done.
remote: Compressing objects: 100% (65/65), done.
remote: Total 95 (delta 14), reused 83 (delta 9), pack-reused 0 (from 0)
Receiving objects: 100% (95/95), 55.85 KiB | 107.00 KiB/s, done.
Resolving deltas: 100% (14/14), done.

D:\3-1 CI CD DEVEOPS\Kubernetes>cd DEVOPS-FULLSTACK-PROJECT
D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>code ..|
```

The desktop taskbar at the bottom shows various pinned icons, including a GitHub icon. The system tray indicates the date as 08-10-2025 and the time as 10:09.



The screenshot shows the VS Code interface with the following details:

- File Explorer:** On the left, it displays the project structure under the "DEVOPS-FULLSTACK-PROJECT" folder:
 - DOCKER HUB
 - reactfrontend
 - springbootbackend
 - .mvn
 - src
 - main
 - java
 - resources
 - test
 - target
 - .gitattributes
 - .gitignore
 - mvnw
 - mvnw.cmd
 - pom.xml
 - README.md
 - OUTLINE
 - TIMELINE
 - DOCKER CONTAINERS
 - DOCKER IMAGES
 - AZURE CONTAINER REGISTRY
 - SUGGESTED DOCKER HUB IMAGES
 - JAVA PROJECTS
 - MAVEN
- Editor:** The main editor area shows the "application.properties" file content:

```
spring.application.name=springbootbackend
server.port=2000
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
spring.datasource.url=jdbc:mysql://localhost:3306/projectdb
spring.datasource.username=root
spring.datasource.password=Nee@7483
spring.jpa.hibernate.ddl-auto=update
spring.jpa.show-sql=true
spring.jpa.properties.hibernate.format_sql=true
spring.jpa.database-platform=org.hibernate.dialect.MySQLDialect
```
- Bottom Status Bar:** Shows the current file is "main.java", Java building progress (0%), and other system information like battery level (30%) and weather (Mostly cloudy).
- Bottom Icons:** Includes icons for search, file operations, and various developer tools.

The screenshot shows the VS Code interface with the following details:

- File Explorer:** Shows the project structure under "DEVOPS-FULLSTACK-PROJECT".
- Editor:** The file "application.properties" is open, displaying the following content:

```
spring.application.name=springbootbackend
server.port=2000
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
spring.datasource.url=jdbc:mysql://localhost:3306/projectdb
spring.datasource.username=root
spring.datasource.password=N@e7483
```
- Terminal:** The terminal shows two command-line sessions:
 - PS D:\3-1\CI_CD\DEVOOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> cd ..\springbootbackend\
 - PS D:\3-1\CI_CD\DEVOOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend> mvn clean package
- Bottom Status Bar:** Shows "main* 4 Java: Ready".
- Bottom Icons:** Includes icons for search, file operations, and system status.

The screenshot shows a Java IDE interface with the title bar "DEVOPS-FULLSTACK-PROJECT". The left sidebar contains icons for Docker Hub, project structure, and various tools. The main area displays the "application.properties" file:

```
spring.application.name=springbootbackend
server.port=2000
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
spring.datasource.url=jdbc:mysql://localhost:3306/projectdb
spring.datasource.username=root
spring.datasource.password=Nee@7483
```

Below the code editor is a terminal window showing the output of the command "mvn clean package":

```
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- jar:3.4.2:jar (default-jar) @ springbootbackend ---
[INFO] Building Jar: D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend\target\springbootbackend-0.0.1-SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot:3.5.6:repackage (repackage) @ springbootbackend ---
[INFO] Replacing main artifact D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend\target\springbootbackend-0.0.1-SNAPSHOT.jar with repackaged archive, adding nested dependencies in BOOT-INF/
[INFO] The original artifact has been renamed to D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend\target\springbootbackend-0.0.1-SNAPSHOT.jar.original
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 21.050 s
[INFO] Finished at: 2025-10-08T10:17:48+05:30
[INFO]
```

The screenshot shows a Java IDE interface with the title bar "DEVOPS-FULLSTACK-PROJECT". The left sidebar contains icons for Docker Hub, project structure, and various tools. The main area displays the "application.properties" file:

```
spring.application.name=springbootbackend
```

Below the code editor is a terminal window showing the output of the command "npm install":

```
D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>cd reactfrontend
D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\reactfrontend>npm install
added 226 packages, and audited 227 packages in 2m

38 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
npm notice
npm notice New patch version of npm available! 11.6.0 -> 11.6.1
npm notice Changelog: https://github.com/npm/cli/releases/tag/v11.6.1
npm notice To update run: npm install -g npm@11.6.1
npm notice
```

IDEA Terminal Output Comparison

The following table compares the terminal output from two different IDE environments (IntelliJ IDEA and Eclipse) when running a Spring Boot application named "springbootbackend". Both environments show the same command-line interface and output logs.

IDE Environment	Terminal Command	Output Log (Excerpt)
IntelliJ IDEA (Screenshot 1)	mvn clean package	<pre>[INFO] ----- [INFO] PS D:\l-3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend> mvn clean package [INFO] ----- [INFO] PS D:\l-3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend> cd ..\target [INFO] ----- [INFO] PS D:\l-3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend\target> java -jar .\springbootbackend-0.1-SNAPSHOT.jar</pre>
Eclipse (Screenshot 2)	java -jar .\springbootbackend-0.1-SNAPSHOT.jar	<pre>2025-10-08T10:48:32.119+05:30 INFO 4108 --- [springbootbackend] [main] c.klef.dev.SpringbootbackendApplication : Starting SpringbootbackendApplication v0.1-SNAPSHOT using Java 21.0.6 with PID 4108 (D:\l-3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend\target\springbootbackend-0.1-SNAPSHOT.jar started by sakal in D:\l-3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend\target) 2025-10-08T10:48:32.126+05:30 INFO 4108 --- [springbootbackend] [main] c.klef.dev.SpringbootbackendApplication : No active profile set, falling back to 1 default profile: "default" 2025-10-08T10:48:33.274+05:30 INFO 4108 --- [springbootbackend] [main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode. 2025-10-08T10:48:33.372+05:30 INFO 4108 --- [springbootbackend] [main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 84 ms. Found 1 JPA repository interface. 2025-10-08T10:48:34.877+05:30 INFO 4108 --- [springbootbackend] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 2000 (http) 2025-10-08T10:48:34.891+05:30 INFO 4108 --- [springbootbackend] [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]</pre>

IDEA Status Bar Comparison

The following table compares the status bar information between IntelliJ IDEA and Eclipse.

IDE Environment	Status Bar Item	Value
IntelliJ IDEA (Screenshot 1)	Java: Ready	
Eclipse (Screenshot 2)	Java: Ready	

IDEA System Tray Comparison

The following table compares the system tray icons between IntelliJ IDEA and Eclipse.

IDE Environment	Icon Description
IntelliJ IDEA (Screenshot 1)	SENSEX icon
Eclipse (Screenshot 2)	Nifty bank icon

The screenshot shows a terminal window titled 'DEVOPS-FULLSTACK-PROJECT' with the command 'npm run dev' executed. The output indicates that VITE v7.1.9 is ready in 371 ms, and provides local and network URLs for the application.

```
springbootbackend > src > main > resources > application.properties
  1  spring.application.name=springbootbackend
PROBLEMS 4  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  POSTMAN CONSOLE  SPELL CHECKER 4
npm notice
D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\reactfrontend>npm run dev
> reactfrontend@0.0.0 dev
> vite
VITE v7.1.9 ready in 371 ms
→ Local: http://localhost:5173/
→ Network: use --host to expose
→ press h + enter to show help
```

The screenshot shows a 'Task Manager' application interface. At the top, there is a search bar and a 'Clear' button. Below it, a message says 'Task added successfully!' with a checkmark icon. The main area displays a table of 'All Tasks' with columns: ID, TITLE, DESCRIPTION, START, END, PRIORITY, STATUS, and ACTIONS (with 'Edit' and 'Delete' buttons). A single task is listed:

ID	TITLE	DESCRIPTION	START	END	PRIORITY	STATUS	ACTIONS
68566	AWS	AWS LABS	2025-10-08	2025-10-16	HIGH	ASSIGNED	<button>Edit</button> <button>Delete</button>

The screenshot displays two instances of a Task Manager application running on a Windows desktop. Both instances show the same interface: an 'Add Task' form and a 'All Tasks' table.

Add Task Form:

- Title:** Enter task title
- Description:** Enter task description
- Start Date:** dd-mm-yyyy
- End Date:** dd-mm-yyyy
- Priority:** --- Select Priority ---
- Add Task** button

A success message at the bottom of the first instance says "Task added successfully!"

All Tasks Table:

ID	TITLE	DESCRIPTION	START	END	PRIORITY	STATUS	ACTIONS
68566	AWS	AWS LABS	2025-10-08	2025-10-16	HIGH	ASSIGNED	<button>Edit</button> <button>Delete</button>
82389	JENKINS	JENKINS	2025-10-09	2025-10-10	MEDIUM	ASSIGNED	<button>Edit</button> <button>Delete</button>

Search Bar: Search by any field (id, title, description, priority, status)

Search Result: 82389

System Tray: Shows AFG - BAN, In 7 hours, various icons, ENG IN, 10:51, 08-10-2025.

The image displays two screenshots of a Task Manager application running on a Windows desktop. The top screenshot shows the 'Add Task' form with fields for Title, Description, Start Date, End Date, and Priority. A success message 'Task updated successfully!' is visible below the form. The bottom screenshot shows a confirmation dialog box asking 'Are you sure you want to delete this task?' with 'OK' and 'Cancel' buttons. Both screenshots show a table of 'All Tasks' with columns: ID, TITLE, DESCRIPTION, START, END, PRIORITY, STATUS, and ACTIONS (Edit, Delete). The tasks listed are AWS (ID 68566) and JENKINS (ID 82389), both assigned and high priority.

Add Task

Title: Enter task title

Description: Enter task description

Start Date: dd-mm-yyyy

End Date: dd-mm-yyyy

Priority: --- Select Priority ---

Add Task

Task updated successfully!

82389 **Clear**

All Tasks

ID	TITLE	DESCRIPTION	START	END	PRIORITY	STATUS	ACTIONS
68566	AWS	AWS LABS	2025-10-08	2025-10-16	HIGH	ASSIGNED	Edit Delete
82389	JENKINS	JENKINS	2025-10-09	2025-10-10	LOW	ASSIGNED	Edit Delete

localhost:5173 says
Are you sure you want to delete this task?
OK **Cancel**

Add Task

Title: Enter task title

Description: Enter task description

Start Date: dd-mm-yyyy

End Date: dd-mm-yyyy

Priority: --- Select Priority ---

Add Task

Task updated successfully!

82389 **Clear**

All Tasks

ID	TITLE	DESCRIPTION	START	END	PRIORITY	STATUS	ACTIONS
68566	AWS	AWS LABS	2025-10-08	2025-10-16	HIGH	ASSIGNED	Edit Delete
82389	JENKINS	JENKINS	2025-10-09	2025-10-10	LOW	ASSIGNED	Edit Delete

The image shows two screenshots of a Task Manager application running on a Windows desktop.

Add Task Page:

- Title:** Enter task title
- Description:** Enter task description
- Start Date:** dd-mm-yyyy
- End Date:** dd-mm-yyyy
- Priority:** --- Select Priority ---
- Add Task** button

A success message at the bottom says "Task deleted successfully!" with ID 82389.

All Tasks Table:

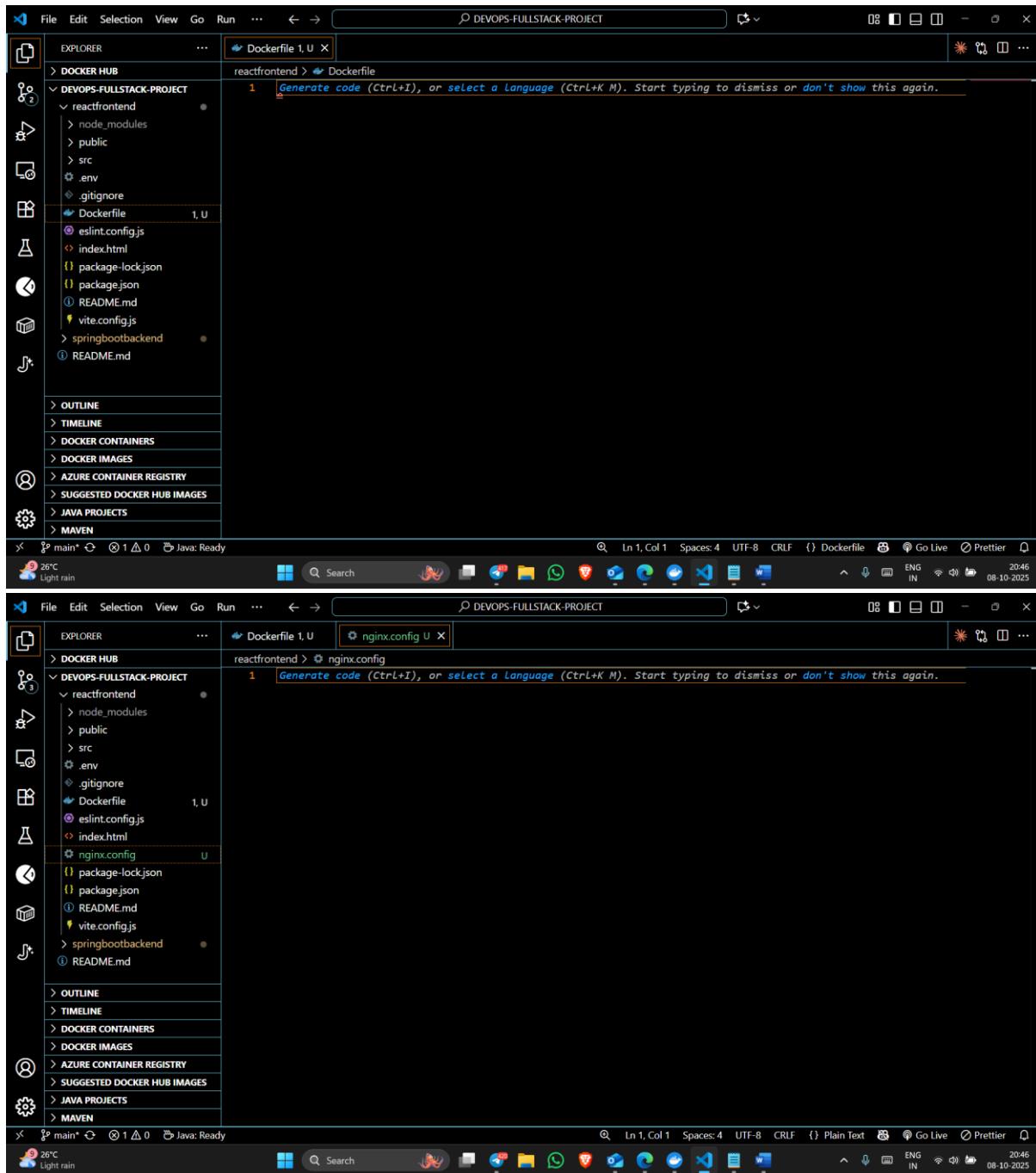
ID	TITLE	DESCRIPTION	START	END	PRIORITY	STATUS	ACTIONS
82389	JENKINS	JENKINS	2025-10-09	2025-10-10	LOW	ASSIGNED	<button>Edit</button> <button>Delete</button>

Task Board:

The Task Board displays tasks categorized into four columns:

- ASSIGNED:**
 - aws**
AWS LABS
Priority: HIGH
Start: 2025-10-09
End: 2025-10-20
Start button
 - JENKINS**
JENKINS
Priority: LOW
Start: 2025-10-09
End: 2025-10-10
Start button
- PROGRESS**
- COMPLETED**
- REJECTED**

The desktop taskbar at the bottom shows various pinned icons and system status.



The screenshot shows the VS Code interface with the Dockerfile open in the main editor area. The Explorer sidebar on the left shows the project structure under 'DEVOPS-FULLSTACK-PROJECT'. The Dockerfile content is as follows:

```
1 # ---- Stage 1: Build ----
2 FROM node:20-alpine AS build
3 WORKDIR /app
4
5 COPY package*.json .
6
7 RUN npm install
8
9 COPY .
10 RUN npm run build
11
12 # ---- Stage 2: Serve ----
13 FROM nginx:alpine
14 # Copy custom nginx config
15 COPY nginx.conf /etc/nginx/conf.d/default.conf
16 # Copy built files
17 COPY --from=build /app/dist /usr/share/nginx/html
18
19 EXPOSE 80
20 CMD ["nginx", "-g", "daemon off;"]
```

---- Stage 1: Build ----

FROM node:20-alpine AS build

WORKDIR /app

COPY package*.json ./

RUN npm install

COPY ..

RUN npm run build

---- Stage 2: Serve ----

FROM nginx:alpine

Copy custom nginx config

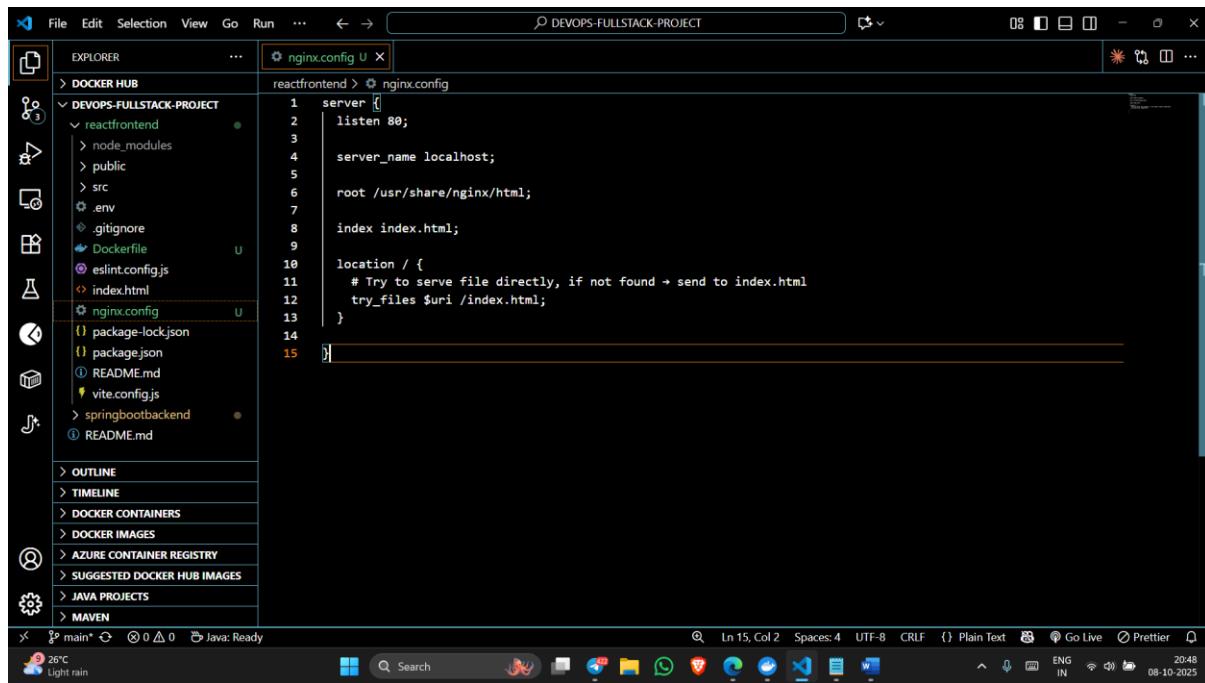
COPY nginx.conf /etc/nginx/conf.d/default.conf

Copy built files

COPY --from=build /app/dist /usr/share/nginx/html

EXPOSE 80

CMD ["nginx", "-g", "daemon off;"]



The screenshot shows a code editor interface with a dark theme. The title bar reads "DEVOPS-FULLSTACK-PROJECT". The left sidebar is an "EXPLORER" view showing a "DOCKER HUB" section and a "DEVOPS-FULLSTACK-PROJECT" folder containing "reactfrontend" and "springbootbackend" subfolders. Inside "reactfrontend", files like ".env", ".gitignore", "Dockerfile", "eslint.config.js", "index.html", and "nginx.config" are listed. The "nginx.config" file is currently selected and open in the main editor area. The code content is as follows:

```
server {  
    listen 80;  
  
    server_name localhost;  
  
    root /usr/share/nginx/html;  
  
    index index.html;  
  
    location / {  
        # Try to serve file directly, if not found → send to index.html  
        try_files $uri /index.html;  
    }  
}
```

server {

listen 80;

server_name localhost;

root /usr/share/nginx/html;

index index.html;

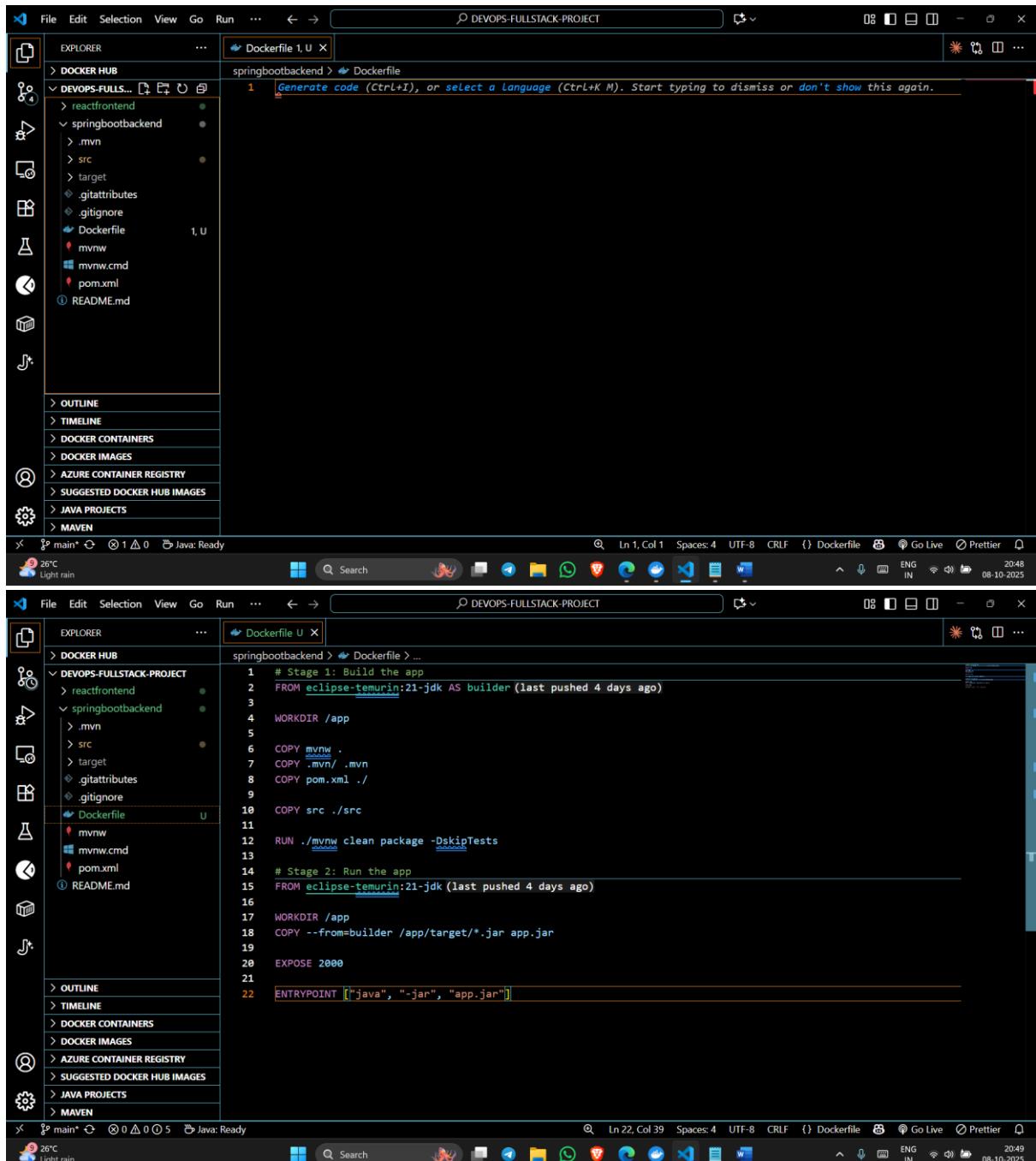
location / {

Try to serve file directly, if not found → send to index.html

try_files \$uri /index.html;

}

}



The screenshot shows the VS Code interface with the title bar "DEVOPS-FULLSTACK-PROJECT". The Explorer sidebar on the left shows a project structure with "springbootbackend" selected. The main editor area displays a Dockerfile:

```
1 # Stage 1: Build the app
2 FROM eclipse-temurin:21-jdk AS builder (last pushed 4 days ago)
3
4 WORKDIR /app
5
6 COPY mvnw .
7 COPY .mvn/ .mvn
8 COPY pom.xml .
9
10 COPY src ./src
11
12 RUN ./mvnw clean package -DskipTests
13
14 # Stage 2: Run the app
15 FROM eclipse-temurin:21-jdk (last pushed 4 days ago)
16
17 WORKDIR /app
18 COPY --from=builder /app/target/*.jar app.jar
19
20 EXPOSE 2000
21
22 ENTRYPOINT ["java", "-jar", "app.jar"]
```

The status bar at the bottom shows "main" and "Java: Ready".

Stage 1: Build the app

FROM eclipse-temurin:21-jdk AS builder

WORKDIR /app

COPY mvnw .

COPY .mvn/ .mvn

```
COPY pom.xml ./
```

```
COPY src ./src
```

```
RUN ./mvnw clean package -DskipTests
```

```
# Stage 2: Run the app
```

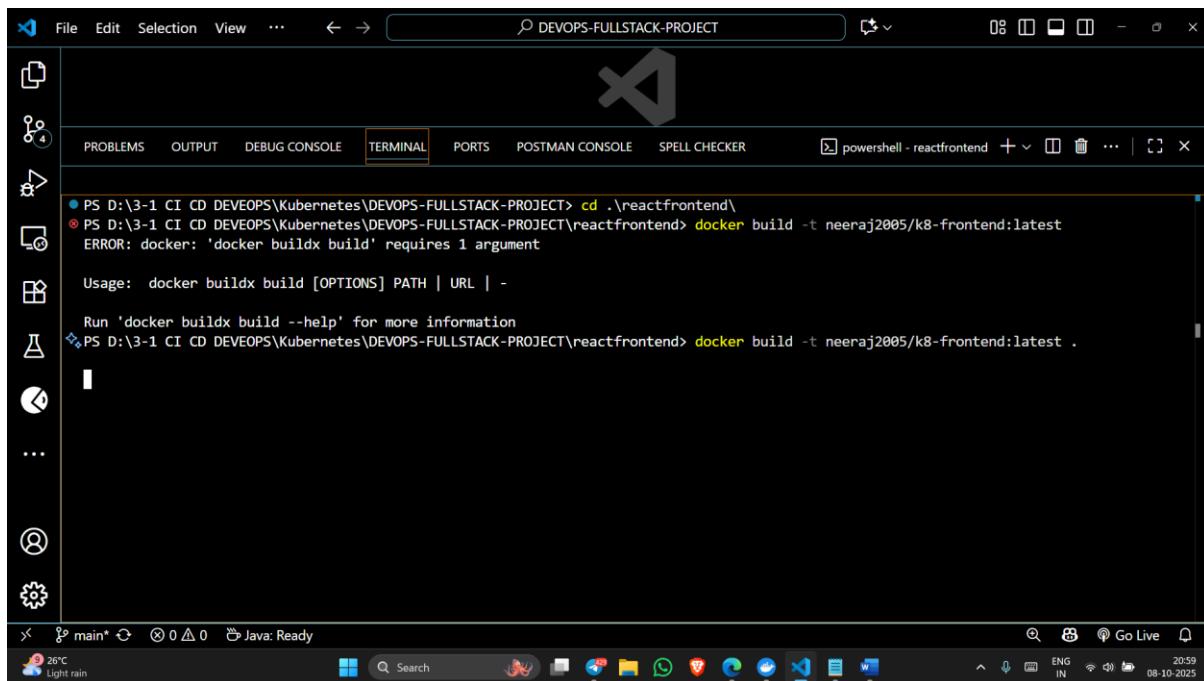
```
FROM eclipse-temurin:21-jdk
```

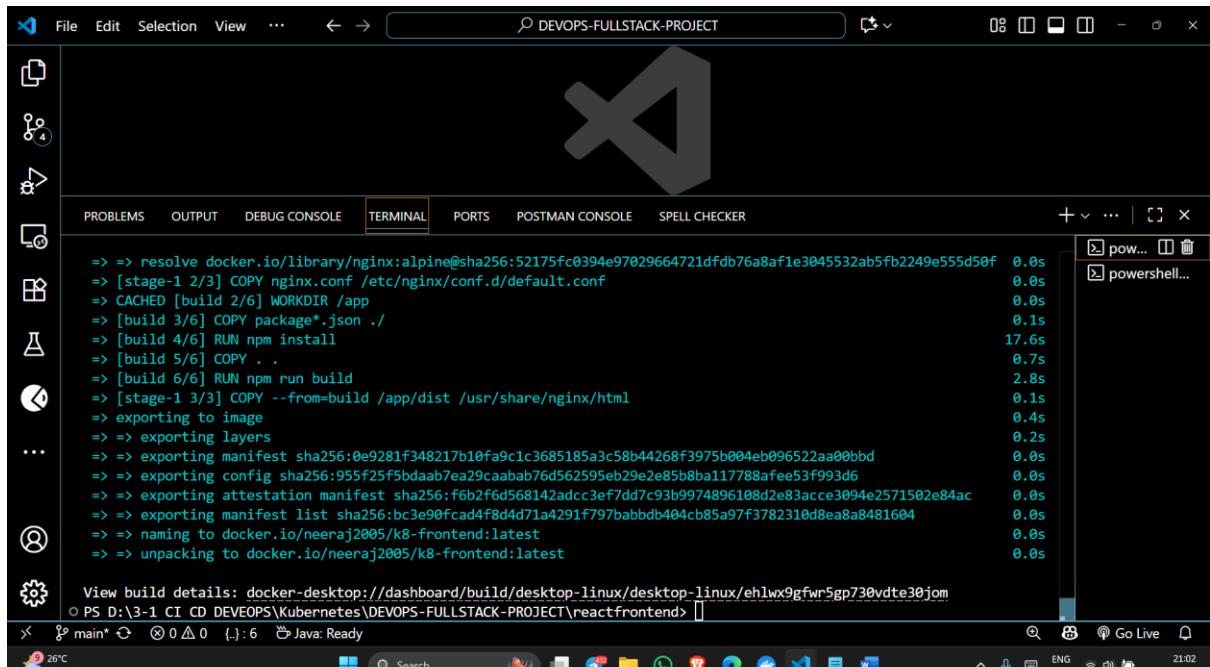
```
WORKDIR /app
```

```
COPY --from=builder /app/target/*.jar app.jar
```

```
EXPOSE 2000
```

```
ENTRYPOINT ["java", "-jar", "app.jar"]
```

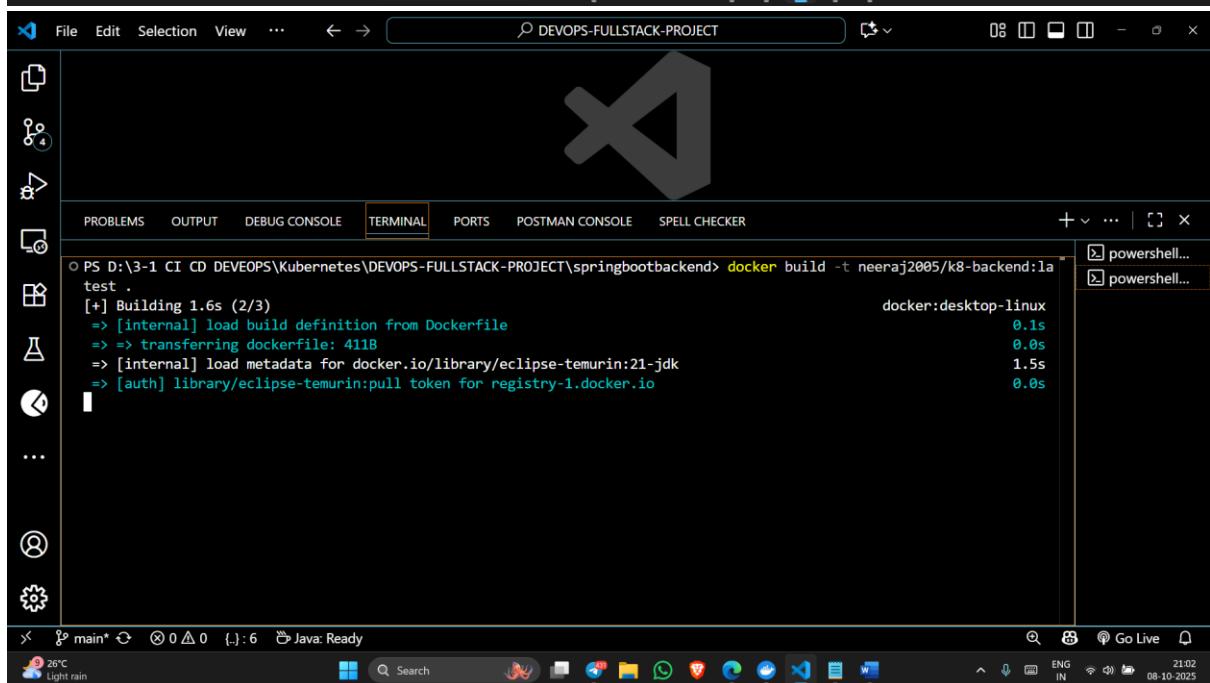




DEVOPS-FULLSTACK-PROJECT

```
=> => resolve docker.io/library/nginx:alpine@sha256:52175fc0394e97029664721fdb76a8af1e3045532ab5fb2249e555d50f 0.0s
=> [stage-1 2/3] COPY nginx.conf /etc/nginx/conf.d/default.conf
=> CACHED [build 2/6] WORKDIR /app
=> [build 3/6] COPY package*.json .
=> [build 4/6] RUN npm install
=> [build 5/6] COPY . .
=> [build 6/6] RUN npm run build
=> [stage-1 3/3] COPY --from=build /app/dist /usr/share/nginx/html
=> exporting to image
=> exporting layers
...
=> => exporting manifest sha256:0e9281f348217b10fa9c1c3685185a3c58b44268f3975b004eb096522aa00bbd 0.0s
=> => exporting config sha256:955f25f5bdaab7ea29caabab76d562595eb29e2e85b8ba117788afee53f993d6 0.0s
=> => exporting attestation manifest sha256:f6b2f6d568142adc3ef7dd7c9b9974896108d2e83acce3094e2571502e84ac 0.0s
=> => exporting manifest list sha256:bc3e90fcad4f8d4d71a4291f797babbd404cb85a97f3782310d8ea8a8481604 0.0s
=> => naming to docker.io/neeraj2005/k8-frontend:latest 0.0s
=> => unpacking to docker.io/neeraj2005/k8-frontend:latest 0.0s
```

View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/ehlwx9gfw5gp730vdte30jor
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\reactfrontend>



DEVOPS-FULLSTACK-PROJECT

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend> docker build -t neeraj2005/k8-backend:la
test .
[+] Building 1.6s (2/3)
=> [internal] load build definition from Dockerfile
=> transferring dockerfile: 41B
=> [internal] load metadata for docker.io/library/eclipse-temurin:21-jdk
=> [auth] library/eclipse-temurin:pull token for registry-1.docker.io
```

docker:desktop-linux

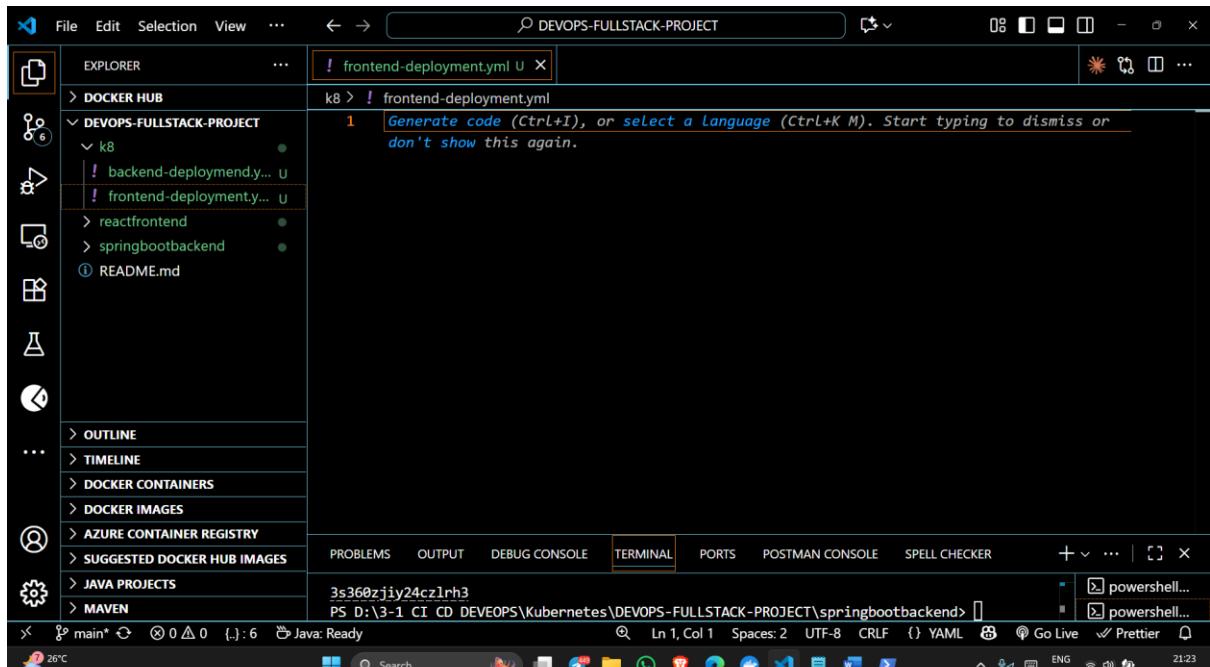
	Time
[internal] load build definition from Dockerfile	0.1s
=> transferring dockerfile: 41B	0.0s
[internal] load metadata for docker.io/library/eclipse-temurin:21-jdk	1.5s
=> [auth] library/eclipse-temurin:pull token for registry-1.docker.io	0.0s

PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend>

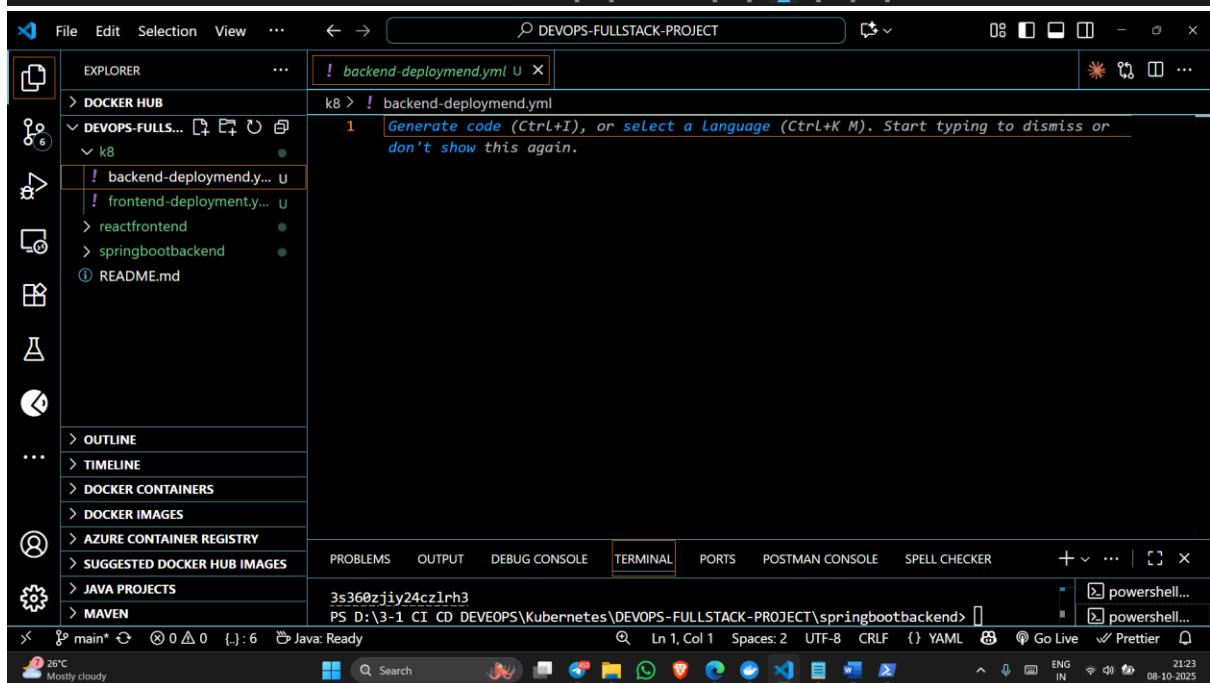
The screenshot displays a comprehensive DevOps development environment. At the top, a browser window titled 'DEVOPS-FULLSTACK-PROJECT' shows a large gray 'X' icon. The left sidebar contains various icons for file operations like copy, paste, and search. Below the sidebar, a navigation bar includes 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', 'TERMINAL' (which is selected), 'PORTS', 'POSTMAN CONSOLE', and 'SPELL CHECKER'. The main area shows a terminal window with the following build log:

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend> docker build -t neeraj2005/k8-backend:latest .
=> [builder 3/7] COPY mvnw .
=> [builder 4/7] COPY .mvn/ .mvn
=> [builder 5/7] COPY pom.xml .
=> [builder 6/7] COPY src ./src
=> [builder 7/7] RUN ./mvnw clean package -DskipTests
=> [stage-1 3/3] COPY --from=builder /app/target/*.jar app.jar
=> exporting to image
=> exporting layers
=> => exporting manifest sha256:bf6ffcf7f31a3e8f80df85a4d0b5f3eeaa9b47a2e84d3f95d8c76967972e81435
=> => exporting config sha256:18c9c872c4b54d74bb56aa0d39b5c68f7c38ea07fbc22dbde449c0bc7d69252f
=> => exporting attestation manifest sha256:edaf461a8e29acf55a8e92146f9b63b3c5e42cfac49b20e6f0e8198e5fd28c94
=> => exporting manifest list sha256:2ef21a6c28042392d017309314a1940cdcbca1c8f779d4245de9d63dce1b3326
=> => naming to docker.io/neeraj2005/k8-backend:latest
=> => unpacking to docker.io/neeraj2005/k8-backend:latest
```

Below the terminal, a message indicates the build was successful: 'View build details: docker-desktop://dashboard/build/desktop-linux/desktop-linux/lfbnpj3h3s360zjiy24czlrb3'. The status bar at the bottom shows 'Engine running', 'Kubernetes running', and 'Terminal v4.47.0'.



The screenshot shows the VS Code interface with the title bar "DEVOPS-FULLSTACK-PROJECT". The Explorer sidebar on the left has a tree view with several collapsed sections like "DOCKER HUB" and "DEVOPS-FULLSTACK-PROJECT". Under "DEVOPS-FULLSTACK-PROJECT", there are collapsed sections for "k8" and "reactfrontend". A file named "frontend-deployment.yml" is selected and highlighted in orange. The main editor area shows the content of this file, which includes a warning message: "Generate code (Ctrl+I), or select a language (Ctrl+K M). Start typing to dismiss or don't show this again." Below the editor are tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL, PORTS, POSTMAN CONSOLE, and SPELL CHECKER. The TERMINAL tab is active, showing a PowerShell prompt: "PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend>". The status bar at the bottom shows "Java: Ready", the date "08-10-2025", and the time "21:23".



This screenshot is identical to the one above, except the file "backend-deployment.yml" is now selected and highlighted in orange in the Explorer sidebar. The main editor area shows the content of this file, which also includes the same warning message about generating code. The rest of the interface, including the tabs, terminal output, and status bar, remains the same.

```
Command Prompt Microsoft Windows [version 10.0.26200.6899]
(c) Microsoft Corporation. All rights reserved.

C:\Users\sakal>kubectl config get-contexts
CURRENT   NAME         CLUSTER      AUTHINFO      NAMESPACE
*         docker-desktop  docker-desktop  docker-desktop  default
*         minikube       minikube     minikube     default

C:\Users\sakal>kubectl config use-context
Set the current-context in a kubeconfig file.

Aliases:
use-context, use

Examples:
# Use the context for the minikube cluster
kubectl config use-context minikube

Usage:
kubectl config use-context CONTEXT_NAME [options]

Use "kubectl options" for a list of global command-line options (applies to all commands).
error: Unexpected args: []

C:\Users\sakal>kubectl config use-context docker-desktop
Switched to context "docker-desktop".

C:\Users\sakal>kubectl config current-context
docker-desktop

C:\Users\sakal>kubectl config get-context
error: unknown command "get-context"
See 'kubectl config -h' for help and examples

C:\Users\sakal>kubectl config get-contexts
CURRENT   NAME         CLUSTER      AUTHINFO      NAMESPACE
*         docker-desktop  docker-desktop  docker-desktop  default
*         minikube       minikube     minikube     default

C:\Users\sakal>
```



```
28°C Partly sunny Search ENG IN 09:54
Administrator: Windows PowerShell Windows PowerShell Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> minikube delete
* Deleting "minikube" in docker ...
* Removing C:\Users\sakal\.minikube\machines\minikube ...
* Removed all traces of the "minikube" cluster.
PS C:\WINDOWS\system32> choco uninstall minikube
Chocolatey v2.5.1
Could not find a command registered that meets 'uninstall'.
Try choco --help for command reference/help.
PS C:\WINDOWS\system32> choco uninstall minikube
Chocolatey v2.5.1
Uninstalling the following packages:
minikube

Minikube v1.37.0
Skipping auto uninstaller - No registry snapshot.
Minikube has been successfully uninstalled.

Chocolatey uninstalled 1/1 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).
PS C:\WINDOWS\system32>
```



```
28°C Partly sunny Search ENG IN 10:02
25-10-2025
```

The screenshot shows the Visual Studio Code interface with the title bar "DEVOPS-FULLSTACK-PROJECT". The Explorer sidebar on the left has a "fullstack-deployment.yml" file selected under "DOCKER HUB". The terminal at the bottom shows a PowerShell prompt with the command "PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>". The status bar at the bottom right indicates "Java Ready".

No multiple files for deployment using one full stack

The screenshot shows the Visual Studio Code interface with the title bar "DEVOPS-FULLSTACK-PROJECT". The Explorer sidebar on the left has multiple files selected under "DOCKER HUB": "fullstack-deployment.yml", ".env", "application.properties", and ".env". The terminal at the bottom shows a PowerShell prompt with the command "PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>". The status bar at the bottom right indicates "Java Ready".

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE SPELL CHECKER

```

PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> cd ..\springbootbackend\
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\springbootbackend> docker build -f ..\backend.dockerfile -t neeraj2005/k8-backend:latest .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/

```

Sending build context to Docker daemon 59.05MB
Step 1/2 : FROM eclipse-temurin:21-jdk AS builder
21-jdk: Pulling from library/eclipse-temurin
Digest: sha256:7d00666dd0c1d4add6b807decc7fcf88b21f9d7953a76555cc82f86511
Status: Downloaded newer image for eclipse-temurin:21-jdk
--> 7d1d666ddfa
Step 2/12 : RUN MONITOR /app
--> 7d1d666ddfa
--> Removed intermediate container 154a56c6aea7
--> 9afab698eb3
Step 3/12 : COPY mvnw .
--> 2d7fa5a209c
Step 4/12 : COPY mvn/ mvn
--> fa7a0cc200
Step 5/12 : COPY pom.xml .
--> 9d0fac0c5c6
Step 6/12 : COPY src ./src
--> b350dd0c95d
Step 7/12 : RUN /mvnw clean package -DskipTests
--> Running in 537c7a9de16e
[INFO] Scanning for projects...
Downloading from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-starter-parent/3.5.6/spring-boot-starter-parent-3.5.6.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-starter-parent/3.5.6/spring-boot-starter-parent-3.5.6.pom (13 KB at 19 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-dependencies/3.5.6/spring-boot-dependencies-3.5.6.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/springframework/boot/spring-boot-dependencies/3.5.6/spring-boot-dependencies-3.5.6.pom (96 kB at 403 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/activemq/activemq-bom/6.1.7/activemq-bom-6.1.7.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/activemq/activemq-bom/6.1.7/activemq-bom-6.1.7.pom (7.9 kB at 21 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/activemq/artemis-bom/2.40.0/artemis-bom-2.40.0.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/activemq/artemis-bom/2.40.0/artemis-bom-2.40.0.pom (9.6 kB at 23 kB/s)

30°C Party sunny Java Ready 14:48 25-10-2025

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE SPELL CHECKER

```

Downloaded from central: https://repo.maven.apache.org/maven2/org/ow2asm/asm/9.7/asm-9.7.jar (125 kB at 21 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/vafer/jdependency/2.10/jdependency-2.10.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/ow2asm/asm-commons/9.7/asm-commons-9.7.jar (73 kB at 12 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/ow2asm/asm-tree/9.7/asm-tree-9.7.jar (52 kB at 8.3 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/jdom/jdom2/2.0.6.1/jdom2-2.0.6.1.jar (328 kB at 49 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/vafer/jdependency/2.10/jdependency-2.10.jar (416 kB at 61 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/net/java/dev/jna/jna-platform/5.17.0/jna-platform-5.17.0.jar (1.4 MB at 191 kB/s)
[INFO] Replacing main artifact /app/target/springbootbackend-0.0.1-SNAPSHOT.jar with repackaged archive, adding nested dependencies in BOOT-INF.
[INFO] The original artifact has been renamed to /app/target/springbootbackend-0.0.1-SNAPSHOT.jar.original
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 02:27 min
[INFO] Finished at: 2025-10-25T09:20:54Z
[INFO] -----
--> Removed intermediate container 537c7a9de16e
--> 7d1d666ddfa
Step 8/12 : FROM eclipse-temurin:21-jdk
--> 7d1d666ddfa
Step 9/12 : RUN MONITOR /app
--> Using cache
--> 9afab698eb3
Step 10/12 : COPY --from=builder /app/target/*.jar app.jar
--> e92bc7b16ac
Step 11/12 : EXPOSE 2000
--> Running in da10b568cef
--> Removed intermediate container da10b568cef
--> 324116ad3cc3
Step 12/12 : ENTRYPOINT ["java", "-jar", "app.jar"]
--> Running in ea0257fc611
--> Removed intermediate container ea0257fc611
--> 374dfaefec0
Successfully built 324dfaefec0
Successfully tagged neeraj2005/k8-backend:latest
SECURITY WARNING: You are building a Docker image from Windows against a non-Windows Docker host. All files and directories added to build context will have '-rw-r--r-' permissions. It is recommended to double check and reset permissions for sensitive files and directories.

```

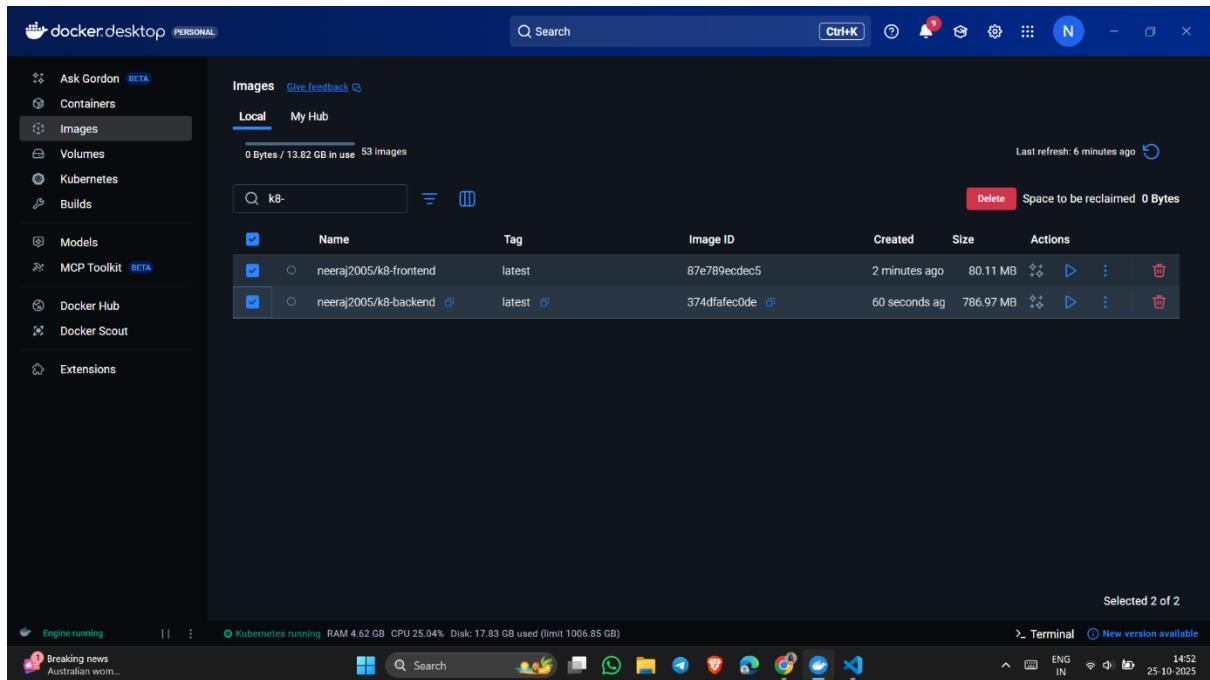
Breaking news Australian won... Java Ready 14:51 25-10-2025

VS Code interface showing the Explorer sidebar with a project named "DEVOPS-FULLSTACK-PROJECT". The terminal window displays the following command and its output:

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> cd ./reactfrontend<br/>PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\reactfrontend> docker build -f ./frontend.Dockerfile -t neeraj2005/k8-frontend:latest .<br/>DEPRECATED: The legacy builder is deprecated and will be removed in a future release.<br/>Install the buildx component to build images with BuildKit:<br/>https://docs.docker.com/go/buildx/<br/><br/>Sending build context to Docker daemon 68.16MB<br/>Step 1/11 : FROM node:20-alpine AS build<br/>20-alpine: Pulling from library/node<br/>d0a0452c923e: Pulling fs layer<br/>e7f6edc8923e: Pulling fs layer<br/>d0a0452c923e: Download complete<br/>e7f6edc8923e: Download complete<br/>60ee5a95660c: Pulling fs layer<br/>60ee5a95660c: Download complete<br/>60ee5a95660c: Pull complete<br/>d496f52c98f: Pull complete<br/>074e4ed823e9: Pull complete<br/>Digest: sha256:6178078b972f79c35df201f4b7674a2d85071aae2af020ffa39f0a770265435<br/>Status: Downloaded newer image for node:20-alpine<br/>-> 6178078b972f<br/>Step 2/11 : WORKDIR /app<br/>--> Running in c4defefab89495<br/>--> Removed intermediate container c4defefab89495<br/>--> 5dd1a915de7<br/>Step 3/11 : COPY package*.json ./<br/>--> 822bc42066ea<br/>Step 4/11 : RUN npm install<br/>--> Running in bfc466087781
```

VS Code interface showing the Explorer sidebar with a project named "DEVOPS-FULLSTACK-PROJECT". The terminal window displays the completed Docker build command and its output:

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\reactfrontend> docker build -f ./frontend.Dockerfile -t neeraj2005/k8-frontend:latest .<br/>> reactfrontend@0.0.0 build<br/>> vite build<br/>vite v7.1.9 building for production...<br/>transforming...<br/>✓ 99 modules transformed.<br/>rendering chunks...<br/>computing gzip size...<br/>dist/index.html 0.47 kB | gzip: 0.30 kB<br/>dist/assets/index-spjggsyK.css 3.97 kB | gzip: 1.20 kB<br/>dist/assets/index-B9N0xd7Z.js 269.90 kB | gzip: 88.88 kB<br/>✓ built in 3.27s<br/>--> Removed intermediate container 2b0793f23998<br/>--> 088eb1bbba<br/>Step 7/11 : FROM nginx:alpine<br/>alpine: Pulling from library/nginx<br/>Digest: sha256:61e01287e546aa28a3f56839c136b31f590273f3b41187a36f46f6a03bbfc22<br/>Status: Downloaded newer image for nginx:alpine<br/>-> 61e01287e546<br/>Step 8/11 : COPY nginx.conf /etc/nginx/conf.d/default.conf<br/>--> 8205e202628<br/>Step 9/11 : COPY --from=build /app/dist /usr/share/nginx/html<br/>--> 729b599b658<br/>Step 10/11 : EXPOSE 80<br/>--> Running in 2f344374d72b<br/>--> Removed intermediate container 2f344374d72b<br/>--> 6dbbe244311c<br/>Step 11/11 : CMD ["nginx", "-g", "daemon off;"]<br/>--> Running in 761374a916e0<br/>--> Removed intermediate container 761374a916e0<br/>--> 87e7898dec5<br/>Successfully built 87e7898dec5<br/>Successfully tagged neeraj2005/k8-frontend:latest<br/>SECURITY WARNING: You are building a Docker image from Windows against a non-Windows Docker host. All files and directories added to build context will have '-rwxr-xr-x' permissions. It is recommended to double check and reset permissions for sensitive files and directories.
```



The screenshot shows two instances of Visual Studio Code running side-by-side on a Windows desktop. Both instances have the title bar "DEVOPS-FULLSTACK-PROJECT".

Top Instance (Left):

- Terminal:** Shows the command `docker login` being run, followed by an info message about switching accounts.
- Output:** Shows the message "Login Succeeded".
- Explorer:** Displays the project structure for "DEVOPS-FULLSTACK-PROJECT" which includes "k8", "reactfrontend", "node_modules", "public", "src", ".env", ".gitignore", "eslint.config.js", "frontend.Dockerfile", "index.html", "nginx.conf", "package-lock.json", "package.json", "README.md", "vite.config.js", "springbootbackend", and "README.md".
- Bottom Status Bar:** Shows the weather as "25°C Mostly cloudy" and the system clock as "21:22 29-10-2025".

Bottom Instance (Right):

- Terminal:** Shows the command `docker push neeraj2005/k8-frontend:latest` being run, followed by a detailed log of the push process.
- Output:** Shows the message "The push refers to repository [docker.io/neeraj2005/k8-frontend]".
- Explorer:** Displays the same project structure as the top instance.
- Bottom Status Bar:** Shows the weather as "25°C Mostly cloudy" and the system clock as "21:24 29-10-2025".

Screenshot of a Microsoft Visual Studio Code (VS Code) interface showing a terminal session and a browser window.

Terminal:

```

PS D:\3-I CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> docker login
Authenticating with existing credentials... [username: neeraj2005]

Info → To Login with a different account, run 'docker logout' followed by 'docker login'

Login Succeeded
PS D:\3-I CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> docker push neeraj2005/k8-frontend:latest
The push refers to repository [docker.io/neeraj2005/k8-frontend]
f5a0dab98a64: Mounted from neeraj2005/crowd-frontend
621a51597e77: Mounted from neeraj2005/crowd-frontend
b9fded98cc07: Pushed
83ec039960: Mounted from neeraj2005/crowd-frontend
70ec5caaa163: Mounted from neeraj2005/crowd-frontend
fc52a194ea77: Pushed
c0deead56690: Mounted from neeraj2005/crowd-frontend
03e93548f209: Mounted from neeraj2005/crowd-frontend
7fb90c3f28bc: Mounted from neeraj2005/crowd-frontend
2d35eb0b5709: Mounted from neeraj2005/crowd-frontend
latest: digest: sha256:87e289ecdec56452245ad8849214ff77017d1952c9da26a3d4fa8a23b62dd7d size: 2483
PS D:\3-I CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> docker push neeraj2005/k8-backend:latest
The push refers to repository [docker.io/neeraj2005/k8-backend]
71abb30f78a1: Mounted from neeraj2005/crowd-backend
2326993bf9e6: Mounted from neeraj2005/crowd-backend
b12aac563d6e: Mounted from neeraj2005/crowd-backend
db3ffdc8cb52: Mounted from neeraj2005/crowd-backend
69baa32fhe43: Mounted from neeraj2005/crowd-backend
5ff8a85d66a0: Pushed
e71180acfe09: Pushed
latest: digest: sha256:374dfafec0detc6137317121f902ec165684b7f4b641fsa22fee1292d230589 size: 1838
PS D:\3-I CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>

```

Browser:

Windows Taskbar:

- 25°C Mostly cloudy
- Search bar
- File Explorer icon
- Task View icon
- Start button
- System tray icons (Battery, Network, Volume, etc.)
- 21:25

Hub.docker.com - neeraj2005

Repositories:

All repositories within the **neeraj2005** namespace.

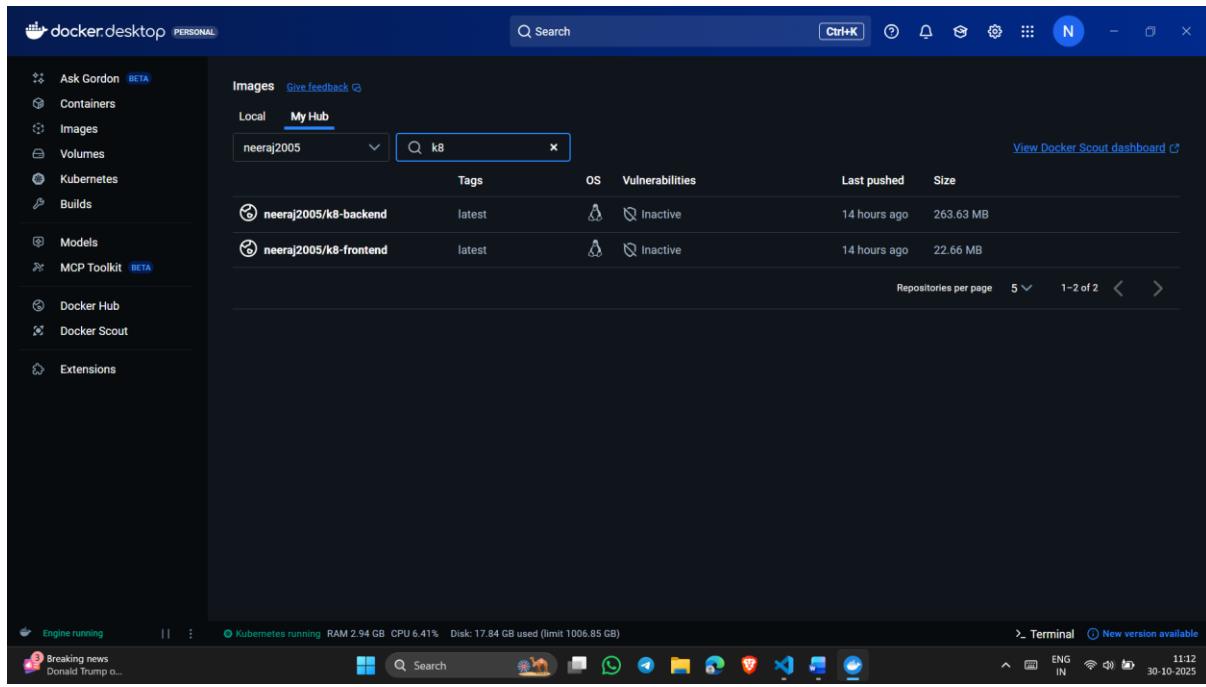
Name	Last Pushed	Contains	Visibility	Scout
neeraj2005/k8-backend	1 minute ago	IMAGE	Public	Inactive
neeraj2005/k8-frontend	2 minutes ago	IMAGE	Public	Inactive
neeraj2005/task-frontend	12 days ago	IMAGE	Public	Inactive
neeraj2005/task-backend	12 days ago	IMAGE	Public	Inactive
neeraj2005/dockeraws-frontend	14 days ago	IMAGE	Public	Inactive
neeraj2005/dockeraws-backend	14 days ago	IMAGE	Public	Inactive
neeraj2005/ap-frontend	15 days ago	IMAGE	Public	Inactive

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Windows Taskbar:

- 25°C Mostly cloudy
- Search bar
- File Explorer icon
- Task View icon
- Start button
- System tray icons (Battery, Network, Volume, etc.)
- 21:27
- ENG IN
- 29-10-2025



The screenshot displays two instances of Visual Studio Code running side-by-side. Both instances have the title bar "DEVOPS-FULLSTACK-PROJECT".

Terminal Output:

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> docker login
Authenticating with existing credentials... [Username: neeraj2005]

Info: To Login with a different account, run 'docker Logout' followed by 'docker Login'

Login Succeeded
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>
```

Terminal Output (Second Instance):

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> docker login
Info: To Login with a different account, run 'docker Logout' followed by 'docker Login'

Login Succeeded
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> docker push neeraj2005/k8-frontend:latest
The push refers to repository [docker.io/neeraj2005/k8-frontend]
e2d0ea5d3690: Layer already exists
76c9bcaa4163: Layer already exists
03e63548f209: Layer already exists
7fb80c2f28bc: Layer already exists
621a51978ed7: Layer already exists
2d35ebdd57d9: Layer already exists
fc52a1c94e47: Layer already exists
b9fcde89ace7: Layer already exists
83ce83cd9960: Layer already exists
f80aba050ead: Layer already exists
latest: digest: sha256:87e789ecdec65462245a08b0821d4f77017d1852c9cda20a3d4fa8423b62dd7d size: 2483
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> docker push neeraj2005/k8-backend:latest
The push refers to repository [docker.io/neeraj2005/k8-backend]
65b4a32f8e43: Layer already exists
2326993b9fe6: Layer already exists
71abb39f78a1: Layer already exists
4b3ff8c8cc52: Layer already exists
5ff8a85d66ad: Layer already exists
b32aac563dea: Layer already exists
e71180acf9e9: Layer already exists
latest: digest: sha256:374dfafec0detc6137317121b982ec165684b7f24b641f5a22fee1292d230589 size: 1838
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>
```

File Explorer:

- Both instances show a project structure under "DEVOPS-FULLSTACK-PROJECT":
 - src
 - main
 - java
 - resources
 - test
 - target
 - .gitattributes
 - .gitignore
 - backend.Dockerfile
 - mvnw
 - mvnw.cmd
 - pom.xml
- Other sections visible in the File Explorer include: DOCKER HUB, DOCKER CONTAINERS, DOCKER IMAGES, AZURE CONTAINER REGISTRY, SUGGESTED DOCKER HUB IMAGES, JAVA PROJECTS, and MAVEN.

System Status Bar:

- Top status bar: 29°C Party sunny, Go Live, 11:24, 30-10-2025.
- Bottom status bar: SBIN +2.02%, ENG IN, 11:27, 30-10-2025.

The screenshot displays two instances of Microsoft Visual Studio Code running side-by-side. Both instances have the same project structure and file open:

- File Explorer:** Shows the project structure with files like `fullstack-deployment.yml`, `reactfrontend`, `springbootbackend`, and various configuration and build files.
- Code Editor:** Both windows show the `fullstack-deployment.yml` file. The left window's code is as follows:

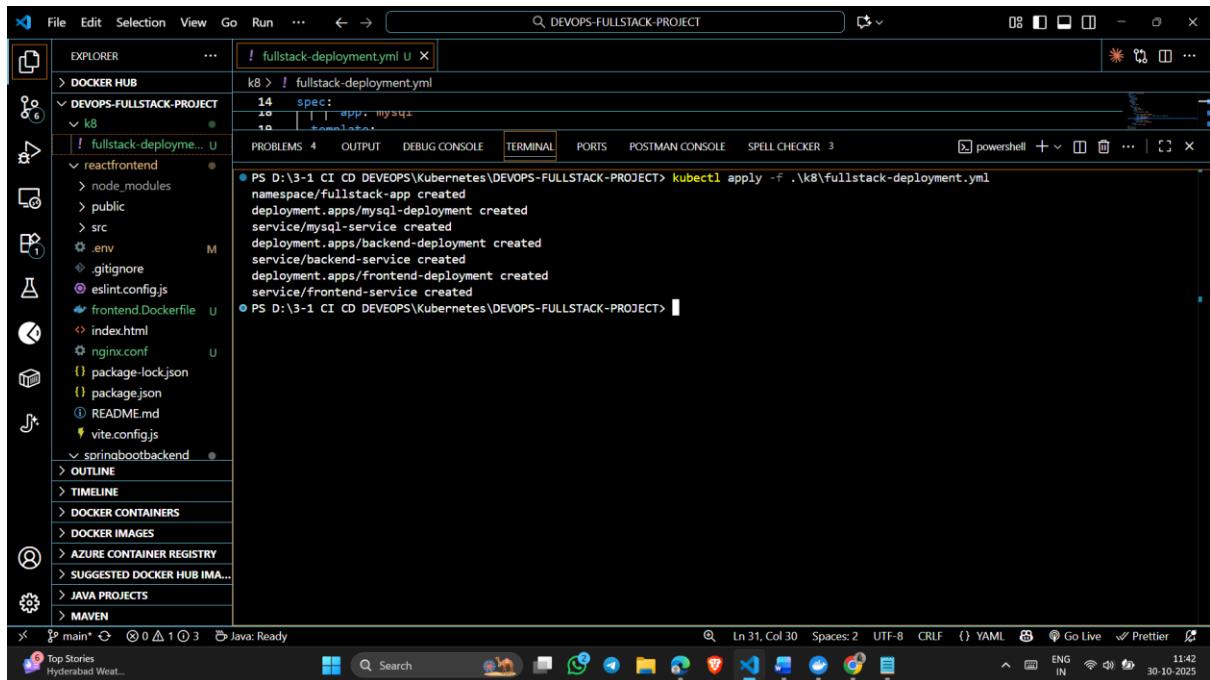
```
101 spec:
102   template:
103     metadata:
104       labels:
105         app: frontend
106     spec:
107       containers:
108         - name: frontend
109           image: neeraj2005/k8-frontend:latest #<--change this
110       ports:
111         - containerPort: 80
112     ---
113   apiVersion: v1
114   kind: Service
115   metadata:
116     name: frontend-service
117     namespace: fullstack-app
118   spec:
119     selector:
120       app: frontend
121     ports:
122       port: 80
123     selector:
124       app: frontend
125     type: ClusterIP
```

- The right window's code is as follows:

```
56b4a32fbe43: Layer already exists
2326993b9fe6: Layer already exists
71abb39f78a1: Layer already exists
4b3ffdf8ccb52: Layer already exists
5ff8a85d66ad: Layer already exists
b32aac563dea: Layer already exists
e71188acf0e9: Layer already exists
latest: digest: sha256:374dfafec0de1c6137317121b902ec165684b7f24b641f5a22fee1292d230589 size: 1838
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPTS-FULLSTACK-PROJECT>
```

- Terminal:** Both windows have a terminal tab open with the command `ps` and the output showing the latest digest of the image.
- Status Bar:** Includes standard VS Code status icons and information like "Java: Ready", "NIFTY -0.43%", and the date "30-10-2025".

```
kubectl apply -f.\k8\fullstack-deployment.yml
```



The screenshot shows two instances of the Visual Studio Code (VS Code) interface, both displaying a file named `fullstack-deployment.yaml` in the Explorer sidebar. The code defines a Kubernetes Deployment for a namespace named `fullstack-app`, which includes a MySQL service and a React frontend.

File Structure:

- EXPLORER:** Shows the project structure with files like `.env`, `index.html`, `nginx.conf`, `package-lock.json`, `package.json`, `README.md`, `vite.config.js`, and `springbootbackend`.
- K8S:** Shows the Kubernetes resources defined in the YAML file.

Code Content:

```
apiVersion: v1
kind: Namespace
metadata:
  name: fullstack-app
---
# =====
# MySQL Deployment & Service
# =====
apiVersion: apps/v1
kind: Deployment
metadata:
  name: mysql-deployment
  namespace: fullstack-app
spec:
  replicas: 1
```

Terminal Output:

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl get all -n fullstack-app
```

Bottom Status Bar:

Java: Ready

PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE SPELL CHECKER 3

powershell ENG IN 30-10-2025

Second Instance of VS Code:

The second instance shows the same project structure and the output of the terminal command `kubectl get all -n fullstack-app`. The output lists the following pods and services:

NAME	READY	STATUS	RESTARTS	AGE
pod/backend-deployment-5d4989568b-9b5qm	0/1	ContainerCreating	0	7m4s
pod/backend-deployment-5d4989568b-s1xbz	0/1	ContainerCreating	0	7m4s
pod/frontend-deployment-688747f78d-j5xkh	0/1	ContainerCreating	0	7m4s
pod/frontend-deployment-688747f78d-sgpd9	0/1	ContainerCreating	0	7m4s
pod/mysql-deployment-64fcc6bd5-sb9dc	0/1	ContainerCreating	0	7m4s

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service/backend-service	NodePort	10.99.198.200	<none>	2000:30025/TCP	7m4s
service/frontend-service	NodePort	10.96.23.157	<none>	80:30000/TCP	7m4s
service/mysql-service	ClusterIP	10.105.153.124	<none>	3306/TCP	7m4s

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
deployment.apps/backend-deployment	0/2	2	0	7m4s
deployment.apps/frontend-deployment	0/2	2	0	7m4s
deployment.apps/mysql-deployment	0/1	1	0	7m4s

NAME	DESIRED	CURRENT	READY	AGE
replicaset.apps/backend-deployment-5d4989568b	2	2	0	7m4s
replicaset.apps/frontend-deployment-688747f78d	2	2	0	7m4s
replicaset.apps/mysql-deployment-64fcc6bd5	1	1	0	7m4s

PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>

Java: Ready

PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE SPELL CHECKER 3

powershell ENG IN 30-10-2025

The screenshot shows a code editor interface with an open file named `! fullstack-deployment.yml`. The terminal tab is active, displaying the command `kubectl apply -f .\k8\fullstack-deployment.yml` and its output. The output shows the creation of various Kubernetes resources:

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl get all -n fullstack-app
NAME                                         READY   STATUS    RESTARTS   AGE
service/frontend-service   1/1     Running   1 (2m2s ago) 18m
pod/backend-deployment-5d4989568b-9b5qm   1/1     Running   1 (2m4s ago) 18m
pod/backend-deployment-5d4989568b-s1xzb   1/1     Running   1 (2m4s ago) 18m
pod/frontend-deployment-688747f78d-j5xkh  1/1     Running   0          18m
pod/frontend-deployment-688747f78d-sgpd9  1/1     Running   0          18m
pod/mysql-deployment-64fcc6bd5-sb5dc    1/1     Running   0          18m

NAME                           TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)    AGE
service/backend-service   NodePort   10.99.198.200 <none>       2000:30025/TCP 18m
service/frontend-service  NodePort   10.96.23.157  <none>       80:30088/TCP 18m
service/mysql-service     ClusterIP  10.105.153.124 <none>       3306/TCP   18m

NAME           DESIRED   CURRENT   READY   AGE
replicaset.apps/backend-deployment-5d4989568b 2         2         2         18m
replicaset.apps/frontend-deployment-688747f78d 2         2         2         18m
replicaset.apps/mysql-deployment-64fcc6bd5    1         1         1         18m

PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>
```

The screenshot shows a code editor interface with an open file named `! fullstack-deployment.yml`. The terminal tab is active, displaying the command `kubectl get pods -n fullstack-app` and its output. The output shows the status of the pods in the `fullstack-app` namespace:

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl get pods -n fullstack-app
NAME                                         READY   STATUS    RESTARTS   AGE
backend-deployment-5d4989568b-9b5qm   1/1     Running   1 (3m9s ago) 19m
backend-deployment-5d4989568b-s1xzb   1/1     Running   1 (3m11s ago) 19m
frontend-deployment-688747f78d-j5xkh  1/1     Running   0          19m
frontend-deployment-688747f78d-sgpd9  1/1     Running   0          19m
mysql-deployment-64fcc6bd5-sb5dc    1/1     Running   0          19m

PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>
```

Screenshot of a Task Manager application running on localhost:30080.

The application interface includes:

- A header bar with "Task Manager", "Dashboard", and "Task Board" buttons.
- An "Add Task" form with fields for Title, Description, Start Date, End Date, and Priority, along with a search bar and "Add Task" button.
- A table titled "All Tasks" showing one row: "No matching tasks found".
- A task card for a new task titled "DEMO" with description "demo", start date "2025-10-30", end date "2025-11-01", priority "MEDIUM", and status "ASSIGNED".

The desktop environment shows multiple browser tabs, system tray icons, and a taskbar at the bottom.

The screenshot shows a task management application running on a Windows desktop. The browser window title is "localhost:30080".

Add Task Page:

- Title:** Enter task title
- Description:** Enter task description
- Start Date:** dd-mm-yyyy
- End Date:** dd-mm-yyyy
- Priority:** --- Select Priority ---
- Add Task** button

A success message: **Task added successfully!**

All Tasks Table:

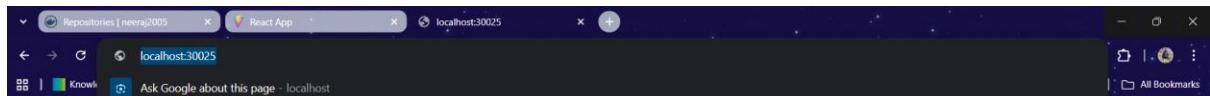
ID	TITLE	DESCRIPTION	START	END	PRIORITY	STATUS	ACTIONS
60680	CICD	CICD LAB	2025-10-30	2025-11-02	HIGH	ASSIGNED	<button>Edit</button> <button>Delete</button>
87592	DEMO	demo	2025-10-30	2025-11-01	MEDIUM	ASSIGNED	<button>Edit</button> <button>Delete</button>

Task Board Page:

The board has four columns: ASSIGNED, PROGRESS, COMPLETED, and REJECTED.

- ASSIGNED Column:**
 - CICD**
CICD LAB
Priority: HIGH
Start: 2025-10-30
End: 2025-11-02
Start button
 - DEMO**
demo
Priority: MEDIUM
Start: 2025-10-30
End: 2025-11-01
Start button
- PROGRESS, COMPLETED, and REJECTED columns:** These columns are currently empty.

System tray icons include Watchlist, Ideas, and various system status indicators like battery level and network connection.

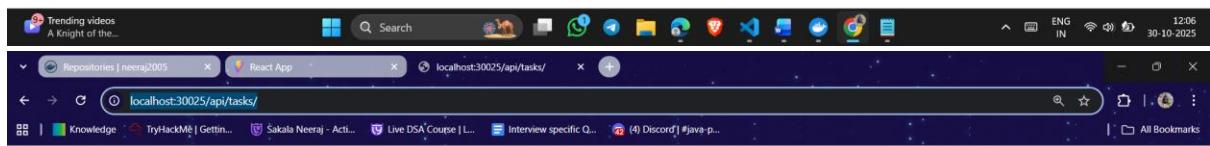


Whitelabel Error Page

This application has no explicit mapping for /error, so you are seeing this as a fallback.

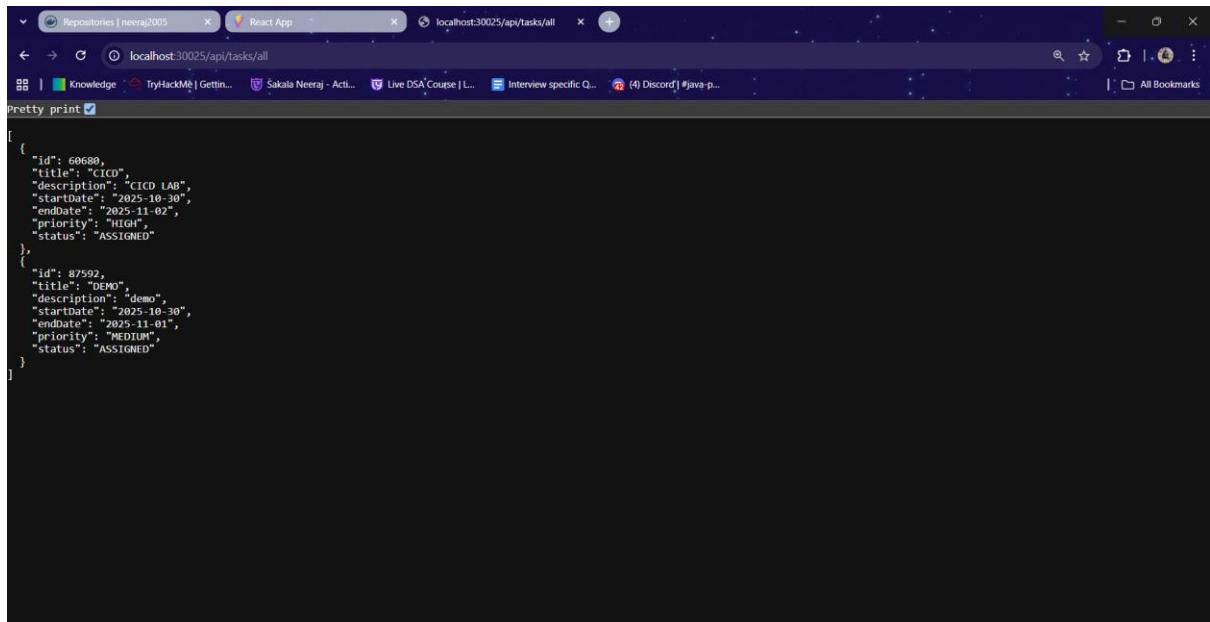
Thu Oct 30 06:36:18 UTC 2025

There was an unexpected error (type=Not Found, status=404).



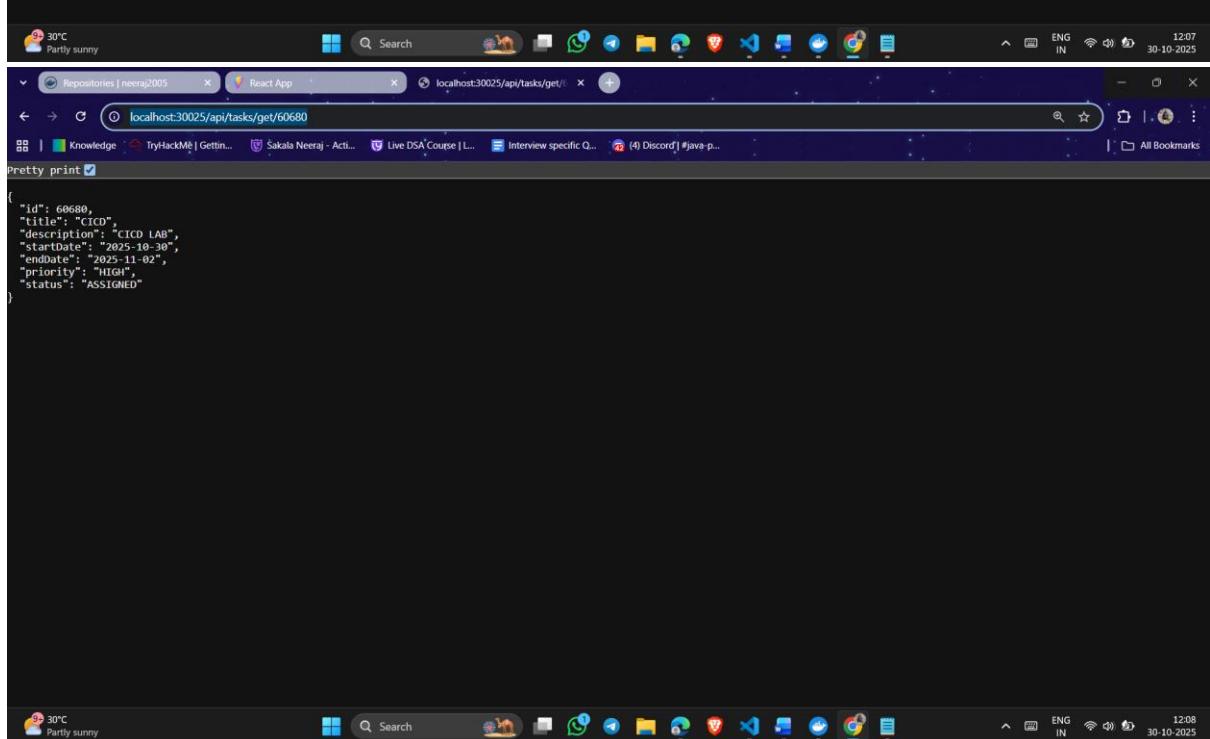
Task API Demo





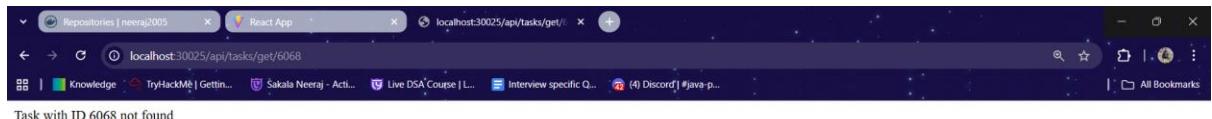
A screenshot of a Microsoft Edge browser window. The address bar shows the URL `localhost:30025/api/tasks/all`. The page content displays a JSON array of two task objects. The first task has an ID of 60680, title "CICD", description "CICD LAB", start date "2025-10-30", end date "2025-11-02", priority "HIGH", and status "ASSIGNED". The second task has an ID of 87592, title "DEMO", description "demo", start date "2025-10-30", end date "2025-11-01", priority "MEDIUM", and status "ASSIGNED".

```
[{"id": 60680, "title": "CICD", "description": "CICD LAB", "startDate": "2025-10-30", "endDate": "2025-11-02", "priority": "HIGH", "status": "ASSIGNED"}, {"id": 87592, "title": "DEMO", "description": "demo", "startDate": "2025-10-30", "endDate": "2025-11-01", "priority": "MEDIUM", "status": "ASSIGNED"}]
```



A screenshot of a Microsoft Edge browser window. The address bar shows the URL `localhost:30025/api/tasks/get/60680`. The page content displays a JSON object representing a single task. The task has an ID of 60680, title "CICD", description "CICD LAB", start date "2025-10-30", end date "2025-11-02", priority "HIGH", and status "ASSIGNED".

```
{ "id": 60680, "title": "CICD", "description": "CICD LAB", "startDate": "2025-10-30", "endDate": "2025-11-02", "priority": "HIGH", "status": "ASSIGNED"}
```



The screenshot shows a Windows desktop environment with a taskbar at the bottom and several windows open.

Browser Window (Top):

- Address bar: `localhost:30025/swagger-ui/index.html`
- Servers dropdown: `http://localhost:30025 - Generated server url`
- API endpoint list under "task-controller":
 - PUT /api/tasks/updatestatus/{id}
 - PUT /api/tasks/update/{id}
 - POST /api/tasks/add
 - GET /api/tasks/get/{id}
 - GET /api/tasks/all
 - GET /api/tasks/
 - DELETE /api/tasks/delete/{id}

Docker Desktop Window (Bottom):

- Left sidebar menu:
 - Ask Gordon (BETA)
 - Containers
 - Images
 - Volumes
 - Kubernetes
 - Builds
 - Models
 - MCP Toolkit (BETA)
 - Docker Hub
 - Docker Scout
 - Extensions
- Container list table:

	Name	Container ID	Image	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	k8s_mysql_mysql-deploy_0d290874741d	0d290874741d	mysql		1.73%	14 minutes ago	[Actions]
<input type="checkbox"/>	k8s_frontend_frontend-d_d16c14129559	d16c14129559	neeraj2005/k8-frontend		0%	14 minutes ago	[Actions]
<input type="checkbox"/>	k8s_frontend_frontend-d_7e4399f8a0f2	7e4399f8a0f2	neeraj2005/k8-frontend		0%	13 minutes ago	[Actions]
<input type="checkbox"/>	k8s_backend_backend-d_ff2045db7dad	ff2045db7dad	neeraj2005/k8-backend		0.82%	13 minutes ago	[Actions]
<input type="checkbox"/>	k8s_backend_backend-d_986a842bee73	986a842bee73	neeraj2005/k8-backend		0.89%	13 minutes ago	[Actions]
- Bottom status bar:
 - Engine running
 - Kubernetes running RAM 5.54 GB CPU 13.28% Disk: 19.04 GB used (limit 1006.85 GB)
 - Terminal
 - New version available

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl get -f .\k8\fullstack-deployment.yml
NAME           STATUS   AGE
namespace/fullstack-app   Active  31m

NAME          READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/mysql-deployment  1/1     1           1           31m
service/mysql-service   ClusterIP  10.105.153.124 <none>    3306/TCP  31m
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/backend-deployment  2/2     2           2           31m
service/backend-service   NodePort   10.99.198.200  <none>    2000:30025/TCP 31m
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/frontend-deployment 2/2     2           2           31m
service/frontend-service   NodePort   10.96.23.157  <none>    80:30080/TCP  31m
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>
```

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl get pods -n fullstack-app
NAME                           READY   STATUS    RESTARTS   AGE
backend-deployment-5d4989568b-9b5qm  1/1    Running   1 (18m ago)  34m
backend-deployment-5d4989568b-s1xz2b  1/1    Running   1 (18m ago)  34m
frontend-deployment-688747f78d-j5xkh  1/1    Running   0          34m
frontend-deployment-688747f78d-sgpd9  1/1    Running   0          34m
mysql-deployment-64fcc6bd5-sb9dc   1/1    Running   0          34m
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl logs -f backend-deployment-5d4989568b-9b5qm
error: error from server (NotFound): pods "backend-deployment-5d4989568b-9b5qm" not found in namespace "default"
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>
```

The screenshot shows a Microsoft Visual Studio Code interface with multiple tabs open. The active tab is titled 'fullstack-deployment.yml' under the 'k8s' project. The terminal tab displays a CI pipeline for a 'fullstack-app' using Kubernetes:

- Step 1: `kubectl get pods -n fullstack-app` lists pods: backend-deployment-5d4989568b-9b5qm, backend-deployment-5d4989568b-slxzb, frontend-deployment-688747f78d-j5xkh, frontend-deployment-688747f78d-sp9dc.
- Step 2: `kubectl logs -f backend-deployment-5d4989568b-9b5qm` fails with an error: "error from server (NotFound): pods \"backend-deployment-5d4989568b-9b5qm\" not found in namespace \"default\"".
- Step 3: `kubectl logs -f backend-deployment-5d4989568b-9b5qm -n fullstack-app` (referred to as 'Spring Boot') shows log output starting with:

```
2025-10-30T06:28:35.641Z INFO 1 --- [springbootbackend] [main] c.klef.dev.SpringbootbackendApplication : Starting Springboot backendApplication v0.0.1-SNAPSHOT using Java 21.0.8 with PID 1 (/app/app.jar started by root in /app)
2025-10-30T06:28:35.647Z INFO 1 --- [springbootbackend] [main] c.klef.dev.SpringbootbackendApplication : No active profile set, falling back to the default profile: "default"
2025-10-30T06:28:38.547Z INFO 1 --- [springbootbackend] [main] s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring data JPA repositories in DEFAULT mode.
2025-10-30T06:28:38.854Z INFO 1 --- [springbootbackend] [main] s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 290 ms. Found 1 JPA repository interface.
2025-10-30T06:28:40.759Z INFO 1 --- [springbootbackend] [main] o.s.w.e.embedded.tomcat.TomcatWebServer : Tomcat initialized
```

The status bar at the bottom indicates 'Java: Ready'.

The screenshot shows a Visual Studio Code (VS Code) interface with the following details:

- File Explorer:** On the left, it shows a project structure for a "fullstack-deployment" project. The structure includes a "frontend" folder containing "node_modules", "public", "src", ".env", ".gitignore", "eslint.config.js", and "frontend.Dockerfile". It also contains files like "index.html", "nginx.conf", "package-lock.json", "package.json", "README.md", and "vite.config.js". A "springbootbackend" folder is also present.
- Terminal:** The central terminal window displays a command-line session in a PowerShell-like environment (PS D:\...). The user runs the command `kubectl logs -f backend-deployment-5d4989568b-9b5qm -n fullstack-app`. The output shows two identical log entries from a PostgreSQL database, both titled "task_table t1_0" and "Hibernate: select". These logs correspond to the code shown in the code editor.
- Code Editor:** The right-hand editor pane shows a Java file named "TaskTable.java". The code uses JPA/Hibernate annotations to map a database table named "task_table" to a class named "t1_0". The annotations include `@Entity`, `@Table(name = "task_table")`, `@Id`, `@Column(name = "id")`, and `@Column(name = "description")`.
- Bottom Status Bar:** The status bar at the bottom shows the file path as "D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT\TaskTable.java", the line number as "Ln 82, Col 6", and the character count as "Spaces: 2". It also indicates "UTF-8" encoding, "CRLF" line endings, and "YAML" support. Other icons include "Go Live" and "Prettier".

File Edit Selection View Go Run ... ⏪ ⏹ 🔍 DEVOPS-FULLSTACK-PROJECT

EXPLORER ... ! fullstack-deployment.yml X

> DOCKER HUB

DEVOPS-FULLSTACK-PROJECT

 k8

 ! fullstack-deployment.yml

 PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE SPELL CHECKER 3

 kubectl + ...

```
PS D:\3-1 CI CD DEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl get pods -n fullstack-app
NAME           READY   STATUS    RESTARTS   AGE
backend-deployment-5d4989568b-9b5qm  1/1   Running   1 (21m ago)  38m
backend-deployment-5d4989568b-slxzb  1/1   Running   1 (21m ago)  38m
frontend-deployment-688747f78d-j5xkh  1/1   Running   0      38m
frontend-deployment-688747f78d-sgg9d  1/1   Running   0      38m
mysql-deployment-64fcc6bd5-sb9dc   1/1   Running   0      38m
```

PS D:\3-1 CI CD DEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl logs -f backend-deployment-5d4989568b-slxzb -n fullstack-app

```
:
:
:: Spring Boot ::          (v3.5.6)
2025-10-30T06:28:32.765Z  INFO 1 --- [springbootbackend] [main] c.klef.dev.SpringbootbackendApplication : Starting Springboot
backendApplication v0.0.1-SNAPSHOT using Java 21.0.8 with PID 1 (/app/app.jar started by root in /app)
2025-10-30T06:28:32.777Z  INFO 1 --- [springbootbackend] [main] c.klef.dev.SpringbootbackendApplication : No active profile s
et, falling back to 1 default profile: "default"
2025-10-30T06:28:36.468Z  INFO 1 --- [springbootbackend] [main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Sprin
g Data JPA repositories in DEFAULT mode.
2025-10-30T06:28:36.773Z  INFO 1 --- [springbootbackend] [main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Dat
a repository scanning in 258 ms. Found 1 JPA repository interface.
2025-10-30T06:28:38.459Z  INFO 1 --- [springbootbackend] [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized
with port 2000 (http)
2025-10-30T06:28:38.510Z  INFO 1 --- [springbootbackend] [main] o.apache.catalina.core.StandardService : Starting service [T
```

Ln 82, Col 6 Spaces:2 UTF-8 CRLF {} YAML ⚡ Go Live ✅ Prettier ⌂

High UV Now 12:21 ENG IN 30-10-2025

File Edit Selection View Go Run ... ⏪ ⏹ 🔍 DEVOPS-FULLSTACK-PROJECT

EXPLORER ... ! fullstack-deployment.yml X

> DOCKER HUB

DEVOPS-FULLSTACK-PROJECT

 k8

 ! fullstack-deployment.yml

 PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE SPELL CHECKER 3

 kubectl + ...

```
PS D:\3-1 CI_CD DEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl logs -f backend-deployment-5d4989568b-slxzb -n fullstack-app
(values, description, end_date, priority, start_date, status, title, id)
Hibernate:
  select
    t1_.id,
    t1_.description,
    t1_.end_date,
    t1_.priority,
    t1_.start_date,
    t1_.status,
    t1_.title
  from
    task_table t1_0
Hibernate:
  select
    t1_.id,
    t1_.description,
    t1_.end_date,
    t1_.priority,
    t1_.start_date,
    t1_.status,
    t1_.title
  from
    task_table t1_0
2025-10-30T06:49:17.327Z  INFO 1 --- [springbootbackend] [nio-2000-exec-8] o.springdoc.api.AbstractOpenApiResource : Init duration for s
pringdoc-openapi is: 972 ms
```

Ln 82, Col 6 Spaces:2 UTF-8 CRLF {} YAML ⚡ Go Live ✅ Prettier ⌂

High UV Now 12:21 ENG IN 30-10-2025

The screenshot shows a terminal window within a development environment. The terminal output is as follows:

```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl get pods -n fullstack-app
NAME          READY   STATUS    RESTARTS   AGE
backend-deployment-5d4989568b-9b5qm  1/1    Running   1 (26m ago)  42m
backend-deployment-5d4989568b-slxzb  1/1    Running   1 (26m ago)  42m
frontend-deployment-688747f78d-j5xkh  1/1    Running   0        42m
frontend-deployment-688747f78d-sgpd9  1/1    Running   0        42m
mysql-deployment-64fcc6bd5-sb9dc    1/1    Running   0        42m

○ PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl exec -it mysql-deployment-64fcc6bd5-sb9dc -n fullstack-app -- /bin/bash
bash-5.1# mysql -u root -p password
Enter password:
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)
bash-5.1# clear
bash: clear: command not found
bash-5.1# cls
bash: cls: command not found
bash-5.1# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 49
Server version: 8.0.44 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.
```

File Edit Selection View Go Run ... ← → 🔍 DEVOPS-FULLSTACK-PROJECT ⚡

EXPLORER ... ! fullstack-deployment.yml X

> DOCKER HUB

DEVOPS-FULLSTACK-PROJECT

 └ k8

 ! fullstack-deployment.yml

 reactfrontend

 node_modules

 public

 src

 .env M

 .gitignore

 eslint.config.js

 frontend.Dockerfile U

 index.html

 nginx.conf U

 package-lock.json

 package.json

 README.md

 vite.config.js

 springbootbackend ●

 > OUTLINE

 > TIMELINE

 > DOCKER CONTAINERS

 > DOCKER IMAGES

 > AZURE CONTAINER REGISTRY

 > SUGGESTED DOCKER HUB IMA...

 > JAVA PROJECTS

 > MAVEN

k8 > ! fullstack-deployment.yml

```

62   spec:
63     template:
64       image: nginx:2023-k8-backend.latest
65       ports:
66         - containerPort: 2000
67       ...
68     apiVersion: v1

```

PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE SPELL CHECKER 3

PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl exec -it mysql-deployment-64fcc6bd5-sb9dc -n fullstack-app -- /bin/bash

Enter password:

ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)

bash-5.1# clear

bash: clear: command not found

bash-5.1# cls

bash: cls: command not found

bash-5.1# mysql -u root -p

Enter password:

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 49

Server version: 8.0.44 MySQL Community Server - GPL

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>

Ln 82, Col 6 Spaces: 2 UTF-8 CRLF {} YAML ⚡ Go Live ✓ Prettier

500696 -1.17% 12:32 30-10-2025

File Edit Selection View Go Run ... ← → 🔍 DEVOPS-FULLSTACK-PROJECT ⚡

EXPLORER ... ! fullstack-deployment.yml X

> DOCKER HUB

DEVOPS-FULLSTACK-PROJECT

 └ k8

 ! fullstack-deployment.yml

 reactfrontend

 node_modules

 public

 src

 .env M

 .gitignore

 eslint.config.js

 frontend.Dockerfile U

 index.html

 nginx.conf U

 package-lock.json

 package.json

 README.md

 vite.config.js

 springbootbackend ●

 > OUTLINE

 > TIMELINE

 > DOCKER CONTAINERS

 > DOCKER IMAGES

 > AZURE CONTAINER REGISTRY

 > SUGGESTED DOCKER HUB IMA...

 > JAVA PROJECTS

 > MAVEN

k8 > ! fullstack-deployment.yml

```

62   spec:
63     template:
64       image: nginx:2023-k8-backend.latest
65       ports:
66         - containerPort: 2000
67       ...
68     apiVersion: v1

```

PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE SPELL CHECKER 3

PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl exec -it mysql-deployment-64fcc6bd5-sb9dc -n fullstack-app -- /bin/bash

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;

+-----+
Database
+-----+
information_schema
mysql
performance_schema
projectdb
sys
+-----+
5 rows in set (0.02 sec)

mysql>

Ln 82, Col 6 Spaces: 2 UTF-8 CRLF {} YAML ⚡ Go Live ✓ Prettier

USD/INR +0.25% 12:33 30-10-2025

The screenshot displays a full-stack development environment using Visual Studio Code (VS Code) on a Windows operating system. The interface shows two terminal windows running MySQL commands against a database named 'project_db'.

Top Terminal Output:

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| projectdb |
| sys |
+-----+
5 rows in set (0.02 sec)

mysql> use project_db;
ERROR 1049 (42000): Unknown database 'project_db'
mysql> use projectdb;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
```

Bottom Terminal Output:

```
mysql> show tables;
+-----+
| Tables_in_projectdb |
+-----+
| task_table |
+-----+
1 row in set (0.01 sec)
```

The left sidebar of VS Code shows the project structure under 'EXPLORER', including 'DOCKER HUB', 'DEVOPS-FULLSTACK-PROJECT', 'k8', 'reactfrontend', 'springbootbackend', and various configuration files like '.env', 'index.html', 'nginx.conf', 'package-lock.json', 'package.json', 'README.md', 'vite.config.js', and Dockerfiles for both frontend and backend.

The bottom status bar indicates the current currency exchange rate as 'USD/INR +0.25%' and the date and time as '30-10-2025'.

The screenshot shows a Windows desktop environment with two instances of the Visual Studio Code (VS Code) application running side-by-side. Both instances have the title bar "DEVOPS-FULLSTACK-PROJECT".

The left instance of VS Code has the "TERMINAL" tab selected. The terminal window displays a MySQL prompt from a pod named "fullstack-app" in a Kubernetes deployment. The user has run several commands to inspect a table named "task_table":

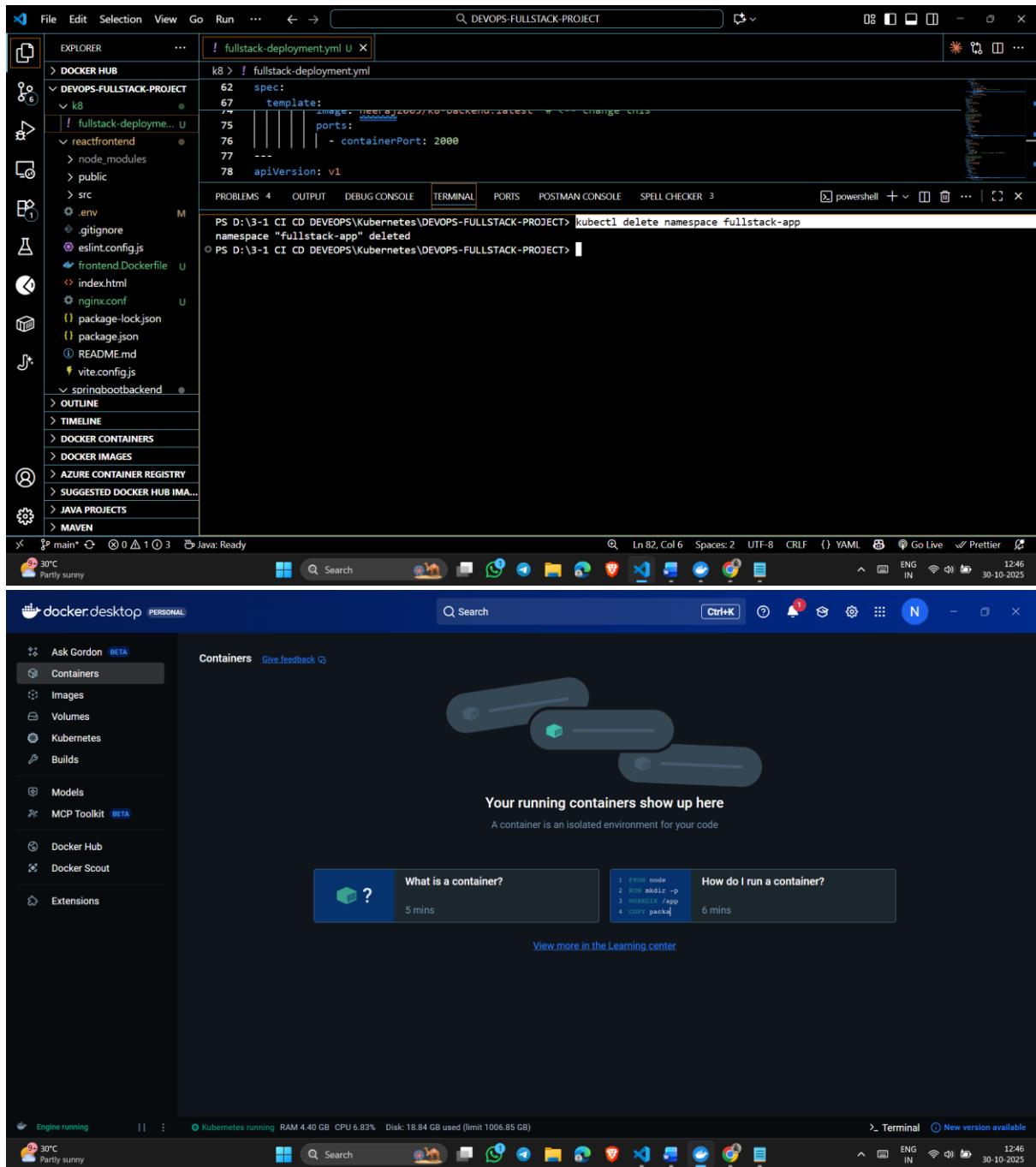
```
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT> kubectl exec -it mysql-deployment-64fcc6bd5-sb9dc -n fullstack-app -- /bin/bash
You can turn off this feature to get a quicker startup with -A
Database changed
mysql> show tables;
+-----+
| Tables_in_projectdb |
+-----+
| task_table |
+-----+
1 row in set (0.01 sec)

mysql> select * from task_table;
+-----+
| id | description | end_date | priority | start_date | status | title |
+-----+
| 60680 | CICD LAB | 2025-11-02 | HIGH | 2025-10-30 | ASSIGNED | CICD |
| 87592 | demo | 2025-11-01 | MEDIUM | 2025-10-30 | ASSIGNED | DEMO |
+-----+
2 rows in set (0.01 sec)
```

The right instance of VS Code also has the "TERMINAL" tab selected. It shows the same MySQL session and command history as the left instance.

This screenshot shows the same setup as the previous one, but the MySQL session has been completed. The user has run the "exit" command twice:

```
mysql> exit
Bye
bash-5.1# exit
exit
PS D:\3-1 CI CD DEVEOPS\Kubernetes\DEVOPS-FULLSTACK-PROJECT>
```



1. Delete the old namespace

kubectl delete namespace fullstack-app

2. Build and push new Docker images (If code is modified)

```
cd reactfrontend  
docker build -f frontend.Dockerfile -t username/k8-frontend:latest .  
docker push username/k8-frontend:latest
```

```
cd springbootbackend  
docker build -f backend.Dockerfile -t username/k8-backend:latest .  
docker push username/k8-backend:latest
```

3. Reapply deployment configuration

```
kubectl apply -f ./k8/fullstack-deployment.yml
```

4. Check that everything is up and running

```
kubectl get all -n fullstack-app
```