

WIPRO NGA Program – 25SUB4530_CP_JAVA

Capstone Project Presentation – 9th Feb & 10th
Feb 2026

Project Title Here - Employee Management
System

Team number - 20

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INTRODUCTION

- The Employee Management System is a web-based application designed to help organizations manage employee records efficiently.
- The system provides a user-friendly interface for HR or administrators to perform CRUD (Create, Read, Update, Delete) operations on employee data.
- It eliminates manual record-keeping by centralizing employee information in a secure and structured database.
- The frontend is developed using Angular, providing a responsive and interactive user experience with form validation and data tables. The backend is built with Spring Boot ,exposing RESTful APIs to handle business logic and database operations.
- Spring Data JPA is used for seamless interaction with the relational database. The application is containerized using Docker and deployed on Microsoft Azure, ensuring scalability and easy deployment.

Business Objectives

- Automate employee data management processes
- Improve data accuracy and consistency
- Reduce manual administrative effort
- Enable quick access to employee information
- Support future scalability and enhancements.

Technology Stack

Frontend Layer:

- HTML, CSS, JavaScript (User Interface)

Backend Layer:

- Java, Spring Boot (Business Logic & APIs)
- Spring Data JPA (Persistence Layer)

Database:

- MySQL (Relational Database Management System)

Frontend Module Overview

The frontend provides a user-friendly interface for administrators to manage employee records.

Key Responsibilities:

- Display employee information in structured views
- Capture and validate user input
- Communicate with backend services via REST APIs

Backend Module Overview

The backend is responsible for handling business logic, data processing, and system security.

Key Responsibilities:

- Expose RESTful APIs
- Perform CRUD operations
- Handle exceptions and validations
- Maintain data integrity

Key Features

- Centralized employee data management
- Secure and structured REST APIs
- Robust exception handling
- Input validation and error control
- Modular and maintainable architecture

DevOps & Deployment:

Docker:

- Containerizes frontend and backend applications
- Ensures consistent environment across development and production
- Simplifies deployment process

Azure:

- Hosts backend Spring Boot APIs
- Hosts Angular frontend application
- Supports scalability and cloud deployment
- Enables easy application management.

Employee Management Running



Add Employee

Employee Code	Name	Department
<input type="text"/>	<input type="text"/>	<input type="text"/>
Designation	Email	Phone
<input type="text"/>	<input type="text"/>	<input type="text"/>
Emergency Contact	Salary	Experience (Years)
<input type="text"/>	<input type="text"/>	<input type="text"/>
Work Location	Gender	Employment Type
<input type="text"/>	<input type="text" value="v"/>	<input type="text" value="v"/>
Status	Date of Birth	Date of Joining
<input type="text" value="v"/>	<input data-bbox="917 768 1605 806" type="text" value="dd-----yyyy"/>	<input data-bbox="1668 768 2356 806" type="text" value="dd-----yyyy"/>
Last Working Day		
<input data-bbox="160 882 879 921" type="text" value="dd-----yyyy"/>		
Profile Image URL		
<input type="text"/>		
Address		
<input type="text"/>		

Save

Cancel

Employee Management Running

localhost:4200

Employee Management

Search...

Search

Add Employee

Code	Name	Dept	Designation	Email	Phone	Actions
EMP3210	Harshini G R	IT	Developer	harshini@gmail.com	9878976578	<div>Edit</div> <div>Delete</div>
EMP2345	Varun N	R&D	Senior Engineer	varu8998@gmail.com	9876543210	<div>Edit</div> <div>Delete</div>
EMP001	Varun N	R&D	Senior Engineer	varun398@gmail.com	9876543210	<div>Edit</div> <div>Delete</div>
EMP006	Vamshi P	IT	Senior Engineer	vamshii98@gmail.com	9987543210	<div>Edit</div> <div>Delete</div>
EMP013	Naruto	IT	Junior Engineer	naruto998@gmail.com	9873243210	<div>Edit</div> <div>Delete</div>

Employee Data in DB:

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator:

- MANAGEMENT
 - Server Status
 - Client Connections
 - Users and Privileges
 - Status and System Variables
 - Data Export
 - Data Import/Restore
- INSTANCE
 - Startup / Shutdown
 - Server Logs
 - Options File
- PERFORMANCE
 - Dashboard
 - Performance Reports
 - Performance Schema Setup
- Administration Schemas
- Information

Query 1 x

```
1 • USE employee_db;  
2 • SHOW TABLES;  
3 • SELECT * FROM employees;  
4
```

Limit to 1000 rows

Result Grid

	id	address	created_at	date_of_birth	date_of_joining	department	designation	email
▶	5	Hyderabad	2026-02-07 20:50:36.479802	2003-02-01	2026-03-03	IT	Developer	harshini@gmail.com
	6	India	2026-02-08 12:50:49.858929	2001-05-10	2024-01-01	R&D	Senior Engineer	varu8998@gmail.com
	7	India	2026-02-08 13:20:51.539221	2001-05-10	2024-01-01	R&D	Senior Engineer	varun398@gmail.com
	8	India	2026-02-08 13:42:59.043015	2001-05-01	2025-01-01	IT	Senior Engineer	vamshi98@gmail.com

employees 2 x

Output

Action Output

#	Time	Action	Message
✓ 1	08:13:45	USE employee_db	0 row(s) affected
✓ 2	08:14:05	SHOW TABLES	1 row(s) returned
✓ 3	08:14:30	SELECT * FROM employees LIMIT 0, 1000	4 row(s) returned

No object selected

Object Info Session

Postman Screenshots:

GET Get data No environment

My Collection / Get data Save Share

GET http://localhost:8080/api/employees Send

Docs Params Authorization Headers (9) Body Scripts Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Schema Beautify

```
1 {
2   "name": "Naruto",
3   "department": "IT",
4   "designation": "Junior Engineer",
5   "email": "naruto998@gmail.com",
6   "phoneNumber": "9873243210",
7   "emergencyContact": "9185156789",
8   "salary": 70000,
```

Body Cookies Headers (8) Test Results (1/1) 200 OK • 69 ms • 2.82 KB Save Response

{ JSON Preview Visualize

```
57 "salary": 75000.0,
58 "experienceYears": 3,
59 "workLocation": "Hyderabad",
60 "address": "India",
61 "dateOfBirth": "2001-05-10",
```

POST Get data No environment

My Collection / Get data Save Share

POST http://localhost:8080/api/employees Send

Docs Params Authorization Headers (9) Body Scripts Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Schema Beautify


```
1 {
2   "name": "manasa",
3   "department": "IT",
4   "designation": "Junior Engineer",
5   "email": "manasamh@gmail.com",
6   "phoneNumber": "9873248710",
7   "emergencyContact": "9189156789",
8   "salary": 70090,
```

Body Cookies Headers (8) Test Results (0/1) 201 Created • 173 ms • 775 B Save Response

{ JSON Preview Visualize

```
1 {
2   "id": 10,
3   "employeeCode": "EMP015",
4   "name": "manasa",
5   "department": "IT",
```


Docker Deployment:


 **docker desktop** PERSONAL


Q Search


Ctrl+K


?


 4










 V





 A new version of Docker Desktop is available.


Update





 Ask Gordon BETA


 Containers


 **Images**


 Volumes


 Kubernetes


 Builds


 Models

 MCP Toolkit BETA

 Docker Hub

 Docker Scout

 Extensions


 **Images** [Give feedback](#)

Local



My Hub

















449.94 MB / 4.67 GB in use

4 images


Last refresh: 7 hours ago 

Q Search



<input type="checkbox"/>	Name	Tag	Image ID	Created	Size	Actions
<input type="checkbox"/>	 employee-frontend	latest	bbbd3c90aa32	1 day ago	93.93 MB	  
<input type="checkbox"/>	 employee-backend	latest	14bd3446639c	1 day ago	541.79 MB	  
<input type="checkbox"/>	 employeemanagement	latest	687da9c5343b	1 day ago	541.79 MB	  
<input type="checkbox"/>	 mysql	8	7fcf7bcd3fa7	4 days ago	1.09 GB	  

Showing 4 items


learn..evolve

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13

General - RPS

Date:

Azure Deployment:

portal.azure.com/#@labasservice.onmicrosoft.com/resource/subscriptions/9e28aa91-bc70-4f12-8c96-962827ff6189/resourceGroups/Employee-man...

Microsoft Azure Search resources, services, and docs (G+)

Copilot

traininguser120@labass... ZIPPYOPS CONSULTING SERVICE...

Home

employeemanagement23 Web App

Search

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Microsoft Defender for Cloud
- Events (preview)
- Resource visualizer
- Deployment
 - Deployment slots
 - Deployment Center
- Settings

Consider using Azure Front Door since your app receives incoming requests from multiple regions.

Essentials

Resource group (move)	Default domain
Employee-management_group	employeemanagement23-ahafehfdasabbgd4.centralus-01.azurewebsite...
Status	App Service Plan
Running	ASP-Employeemanagementgroup-8ec1 (B1: 1)
Location (move)	Operating System
Central US	Linux
Subscription (move)	Health Check
labs120	Not Configured
Subscription ID	GitHub Project
9e28aa91-bc70-4f12-8c96-962827ff6189	https://github.com/varshagk2709/Employee-Management-System
Tags (edit)	
Add tags	

JSON View

GitHub Actions:

varshagk2709 / Employee-Management-System

🔍 Type / to search

<> Code

⌚ Issues

🔗 Pull requests

▶ Actions

📁 Projects

📖 Wiki

🛡 Security

📈 Insights

⚙ Settings

← Build and deploy JAR app to Azure Web App - employeemanagement23

✔️ **Fix workflow: correct paths with new Azure credentials #5**

Re-run all jobs ...

🏠 Summary

All jobs

✔️ build

✔️ deploy

Run details

⌚ Usage




📄 Workflow file

Triggered via push 1 hour ago

Status

Total duration

Artifacts

 varshagk2709 pushed  a91a86d 

Success

2m 6s

1

main_employeemanagement23.yml

on: push

✔️ build43s

✔️ deploy1m 17s

🔍

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Conclusion:

- This project implements a **full-stack Employee Management System** using **Angular, Spring Boot, and MySQL**.
- It supports complete CRUD operations with proper validation, REST API integration, and structured backend architecture.
- The system is scalable, maintainable, and reflects real-world enterprise application design.

THANK YOU