WIPRO NGA Program – 25SUB4530_CP_JAVA

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

Project Title - **Customer Feedback Management System**

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Customer Feedback Management System

Introduction

- Managing customer feedback manually can be difficult and inefficient. Many organizations struggle to collect, organize, and analyze customer opinions, which affects service quality and decision-making.

- The Customer Feedback Management System is designed to solve this problem by providing a digital platform where users can submit structured feedback with ratings and comments in an organized manner.

- The application offers a simple interface and real-time data storage, enabling administrators to easily monitor customer satisfaction and improve products and services effectively.

Customer Feedback Management System

Project Overview

The Customer Feedback Management System is a web application designed to collect, manage, and analyze customer feedback for products or services.

It enables organizations to:

- Understand customer satisfaction
- Improve service quality using real-time feedback

The system uses:

- Angular frontend for feedback submission and dashboards
- Spring Boot backend for REST APIs and business logic
- Docker and Azure for scalable deployment

Customer Feedback Management System

Problem Statement

Many businesses face challenges in:

- Collecting structured customer feedback efficiently
- Analysing customer satisfaction trends
- Managing feedback securely in one platform

Manual feedback systems are:

- Error-prone
- Time-consuming
- Hard to scale

Hence, a centralized, web-based feedback system is required.

Customer Feedback Management System

Objectives

- To collect structured customer feedback with ratings and comments
- To store feedback securely in a database
- To enable easy viewing and filtering of feedback
- To improve customer satisfaction analysis
- To validate user input and handle errors properly
- To provide a user-friendly and efficient feedback management system

Customer Feedback Management System

System Architecture

The application follows a three-tier architecture to ensure scalability, maintainability, and clear separation of responsibilities:

1. Frontend (Angular):

Provides an interactive user interface for customers to submit feedback and for administrators to view and filter feedback through dashboards.

2. Backend (Spring Boot REST APIs):

Handles business logic, data validation, request processing, and communication between the frontend and the database.

3. Database (PostgreSQL / H2):

Stores customer details, product information, and feedback records securely in structured tables.

Customer Feedback Management System

Technology Stack

Frontend:

- Angular
- HTML, CSS, TypeScript

Backend:

- Java
- Spring Boot
- Spring Data JPA

Database:

- PostgreSQL (Production)
- H2 (Development & Testing)

DevOps:

- Docker
- Azure App Service

Customer Feedback Management System

Core Functionalities

- Allows customers to submit feedback with ratings and detailed comments
- Displays all submitted feedback in an organized dashboard view
- Enables filtering of feedback based on ratings for better analysis
- Stores feedback securely and reliably in the database
- Validates user input to ensure accurate data entry
- Handles errors gracefully using proper exception handling mechanisms

Backend Design

Backend follows layered architecture:

- Controller Layer:

Handles incoming HTTP requests from the frontend and sends appropriate responses using REST APIs.

- Service Layer:

Contains the core business logic and processes data before passing it between controllers and repositories.

- Repository Layer:

Handles all database interactions and data persistence operations.

- Entity Layer:

Maps Java classes to database tables using JPA annotations for object-relational mapping.

Customer Feedback Management System

Frontend Design

The frontend is developed using Angular and provides an interactive interface for users:

- Includes a feedback submission form where customers can enter ratings and comments
- Displays submitted feedback through a dashboard for easy viewing and filtering
- Uses service classes to communicate with backend REST APIs

It utilizes:

- Angular routing for smooth navigation between pages
- HTTP client services for backend communication
- Reactive forms for input validation and error handling

Customer Feedback Management System

Database Design

Main tables:

- Customer - id, name, email, password
- Product - id, name, description
- Feedback - id, rating, comment, customer_id, product_id

Relationships:

- One customer → Many feedbacks
- One product → Many feedbacks

Implemented using JPA entity mappings.

Customer Feedback Management System

Deployment

Docker:
Containerizes both frontend and backend applications, ensuring consistent environments across development, testing, and deployment.

Azure:
Hosts the frontend and backend services, providing reliable cloud infrastructure and supporting application scalability.

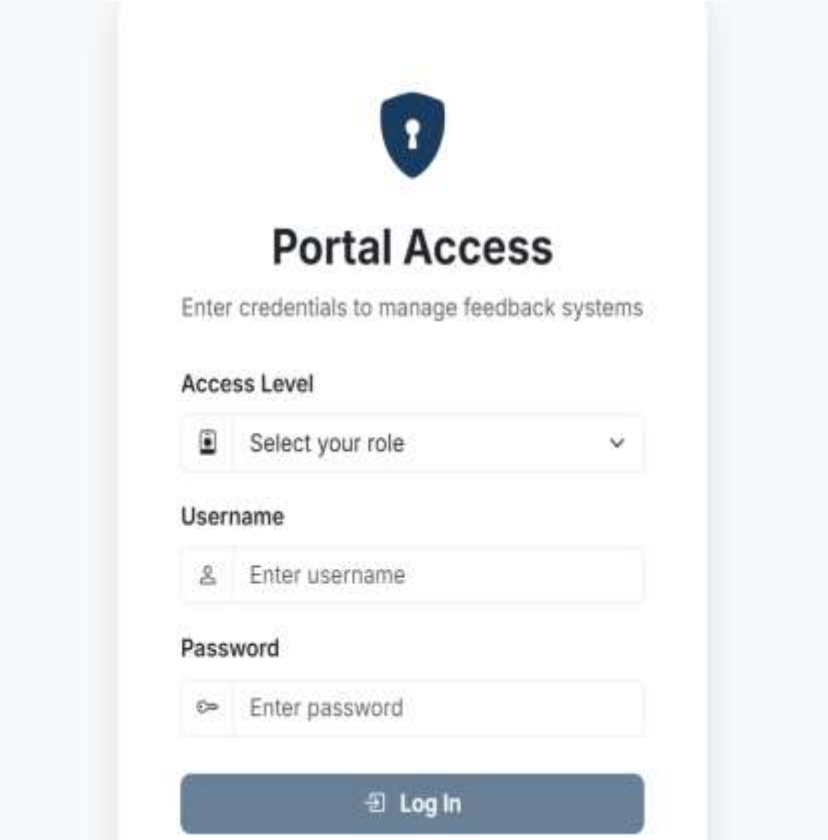
Benefits:

- Simplified deployment process
- Secure cloud-based hosting
- High availability and improved system reliability

Customer Feedback Management System

Application Screenshots

Login Page for User & Admin



Portal Access

Enter credentials to manage feedback systems

Access Level

Select your role

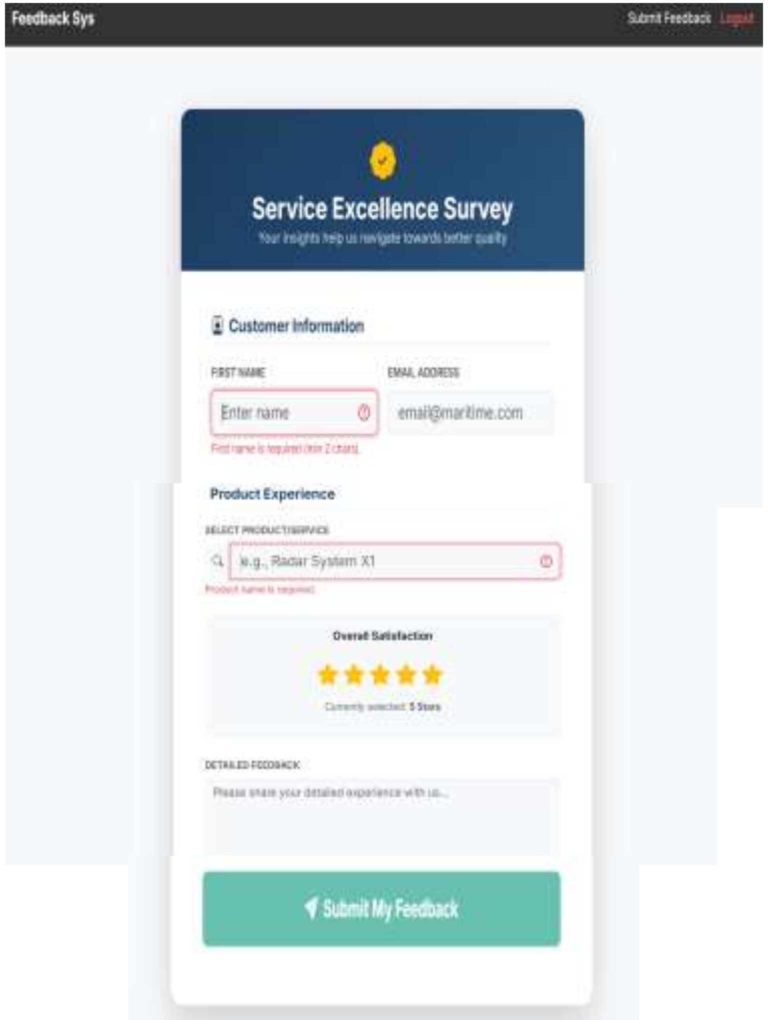
Username

Enter username

Password

Enter password

Feedback Form



Service Excellence Survey

Your insights help us navigate towards better quality

Customer Information

FIRST NAME: Enter name

First name is required (min 2 chars)

EMAIL ADDRESS: email@maritime.com

Product Experience

SELECT PRODUCT/SERVICE: e.g., Radar System X1

Product name is required

Overall Satisfaction

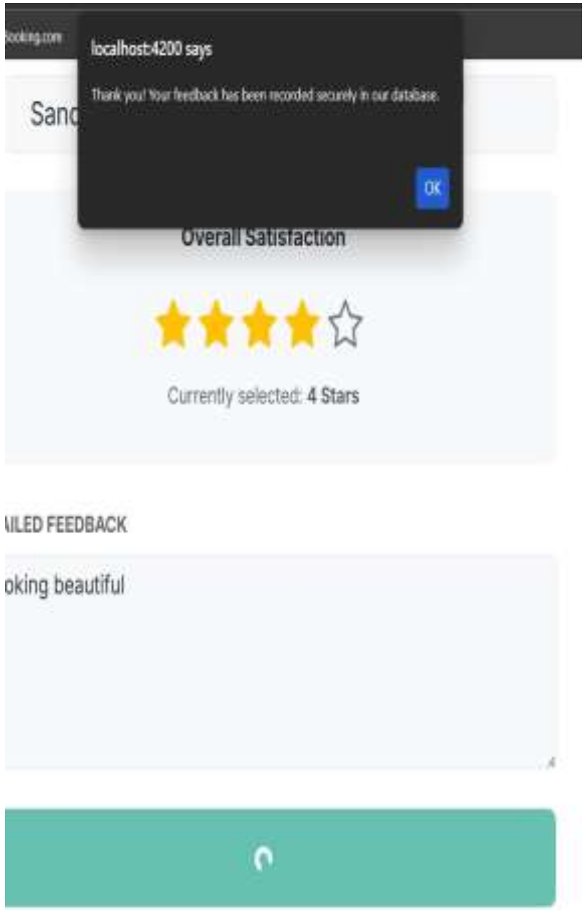
★★★★★

Currently selected: 5 Stars

DETAILED FEEDBACK

Please share your detailed experience with us...

Feedback Submitted Message



localhost:4200 says

Thank you! Your feedback has been recorded securely in our database.

Sand

Overall Satisfaction

★★★★☆

Currently selected: 4 Stars

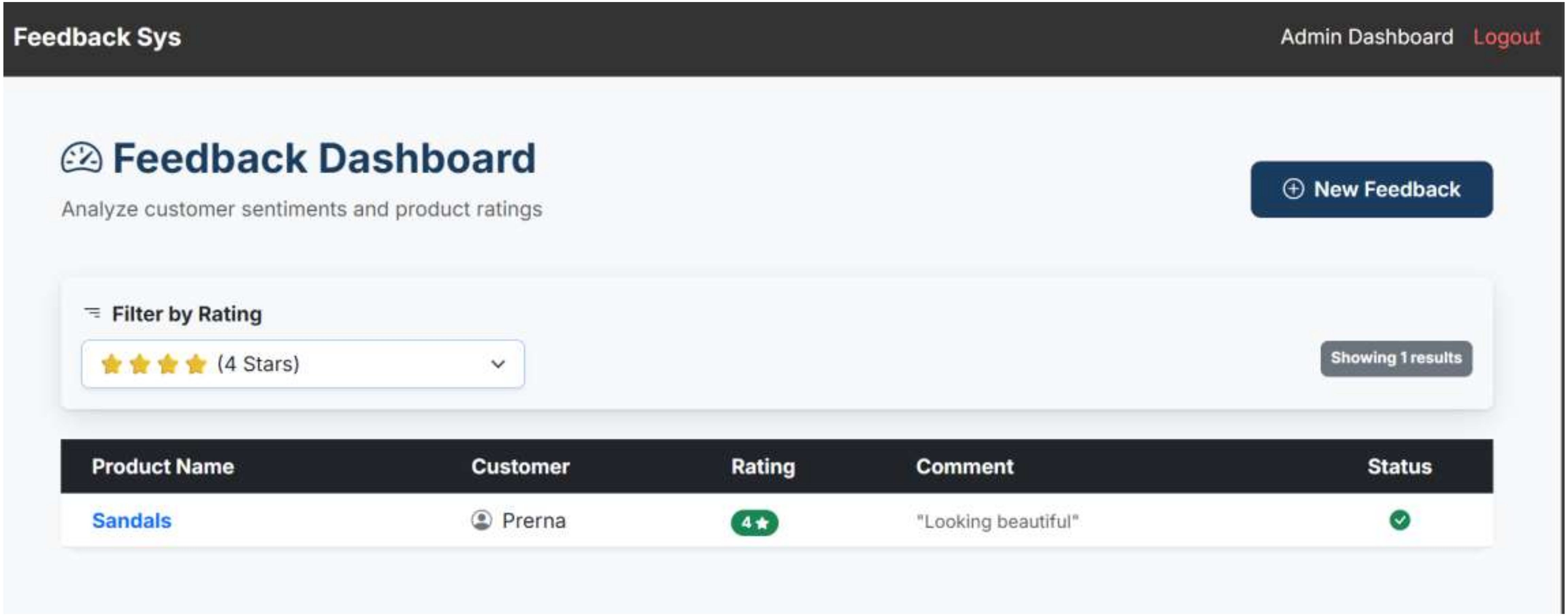
ILED FEEDBACK

oking beautiful

Customer Feedback Management System

Application Screenshots

Admin dashboard to view & filter feedback



Feedback Dashboard

Analyze customer sentiments and product ratings

Filter by Rating: ★★★★ (4 Stars)

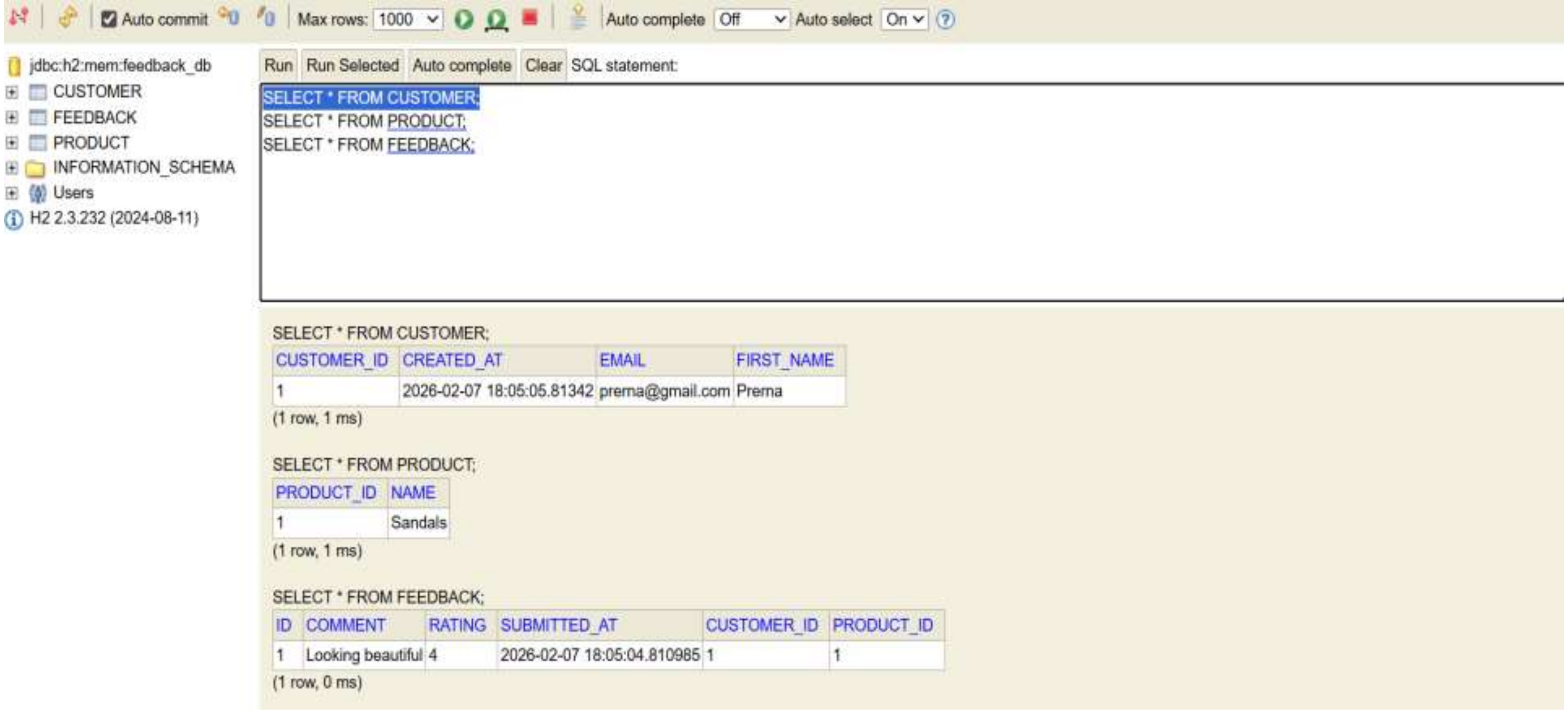
Showing 1 results

Product Name	Customer	Rating	Comment	Status
Sandals	Prerna	4 ★	"Looking beautiful"	✓

Customer Feedback Management System

Application Screenshots

Data Storing at database



☑ Auto commit

Max rows: 1000

Auto complete: Off

Auto select: On

```
SELECT * FROM CUSTOMER;
SELECT * FROM PRODUCT;
SELECT * FROM FEEDBACK;
```

SELECT * FROM CUSTOMER;

CUSTOMER_ID	CREATED_AT	EMAIL	FIRST_NAME
1	2026-02-07 18:05:05.81342	prema@gmail.com	Prema

(1 row, 1 ms)

SELECT * FROM PRODUCT;

PRODUCT_ID	NAME
1	Sandals

(1 row, 1 ms)

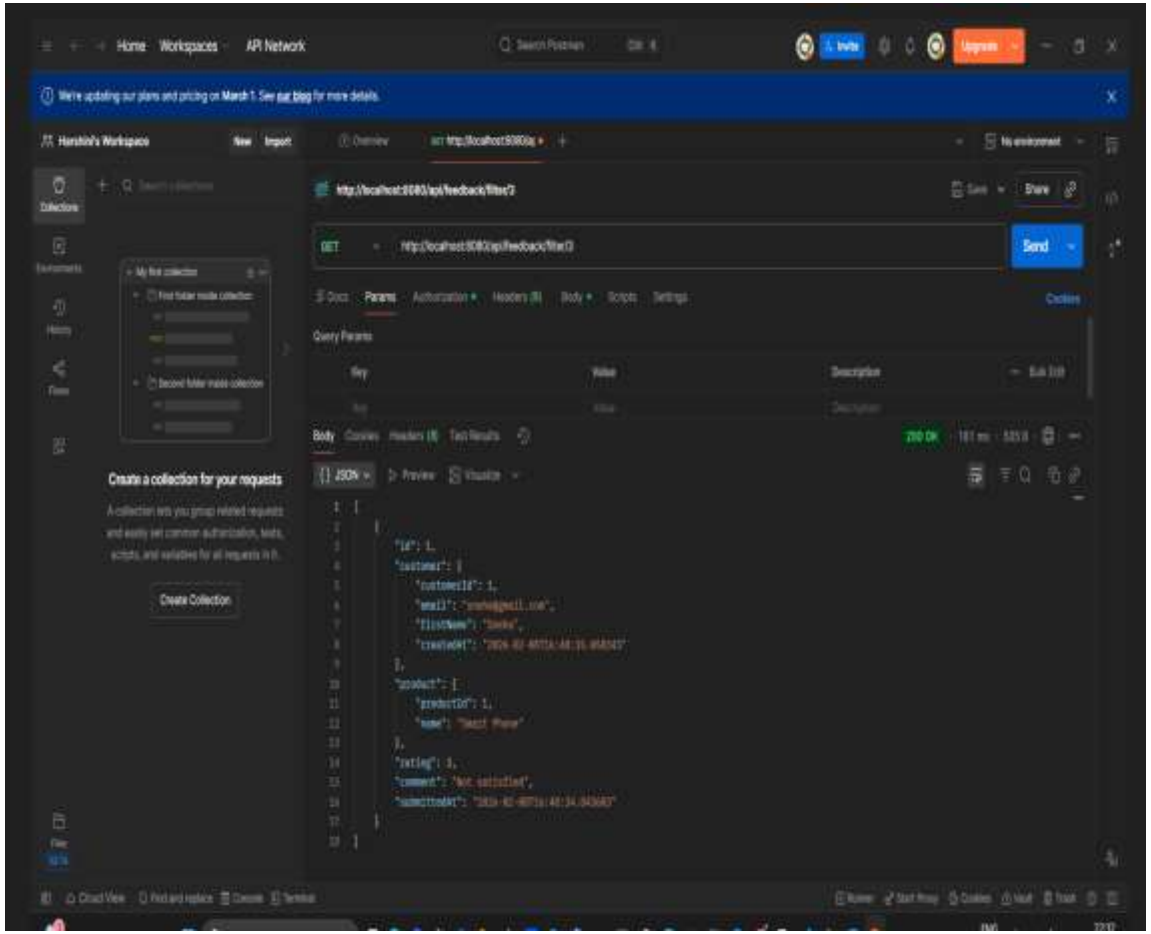
SELECT * FROM FEEDBACK;

ID	COMMENT	RATING	SUBMITTED_AT	CUSTOMER_ID	PRODUCT_ID
1	Looking beautiful	4	2026-02-07 18:05:04.810985	1	1

(1 row, 0 ms)

Customer Feedback Management System

Postman Screenshots



We're updating our plans and pricing on March 1. See our blog for more details.

Harshini's Workspace

Create a collection for your requests

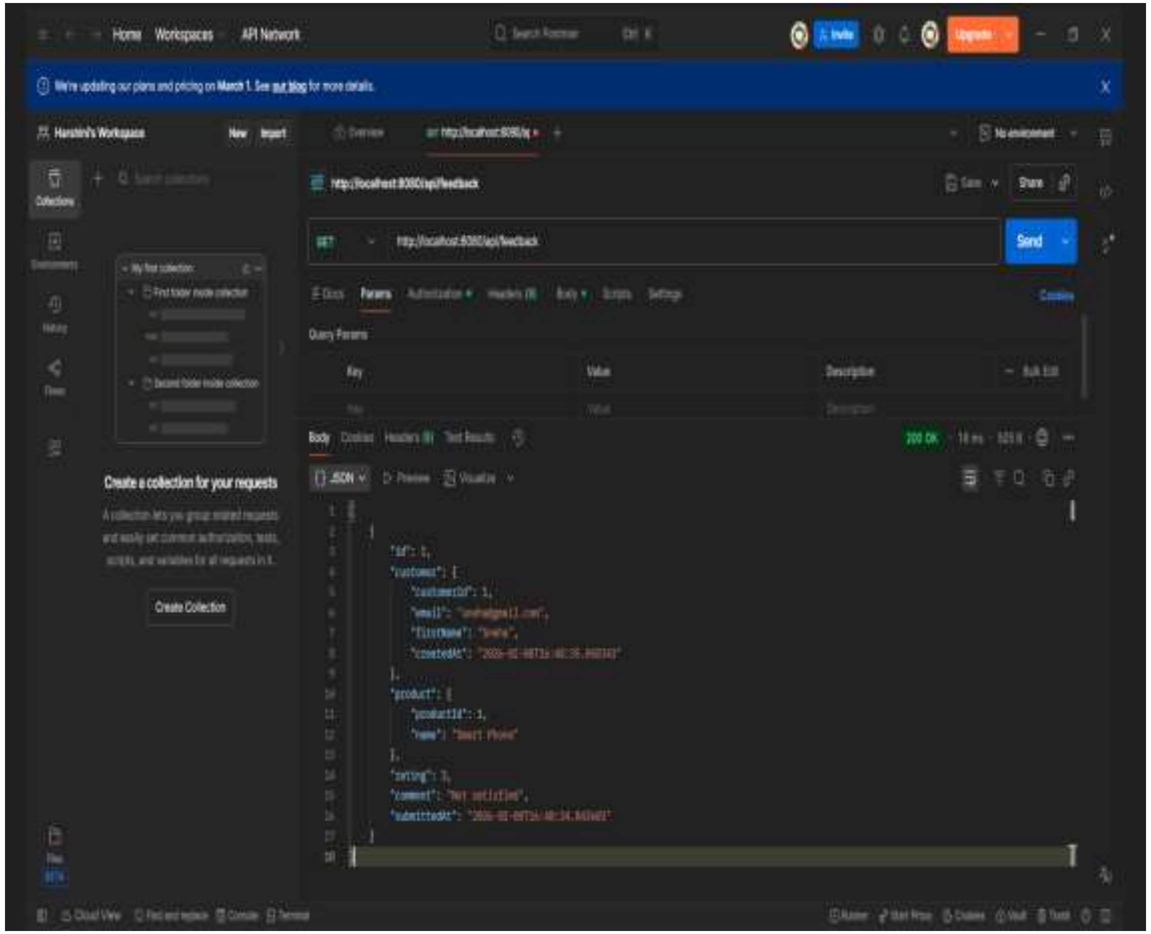
A collection lets you group related requests and easily set common authorization, tests, scripts, and variables for all requests in it.

http://localhost:8080/api/feedback/filter/3

GET http://localhost:8080/api/feedback/filter/3

200 OK · 181 ms · 535 B

```
[
    {
        "id": 1,
        "customer": {
            "customerId": 1,
            "email": "sneha@gmail.com",
            "firstName": "Sneha",
            "createdAt": "2026-02-08T16:40:35.[illegible]"
        },
        "product": {
            "productId": 1,
            "name": "Smart Phone"
        },
        "rating": 1,
        "comment": "Not satisfied",
        "submittedAt": "2026-02-08T16:40:34.[illegible]"
    }
]
```



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Harshini's Workspace

Create a collection for your requests

A collection lets you group related requests and easily set common authorization, tests, scripts, and variables for all requests in it.

http://localhost:8080/api/feedback

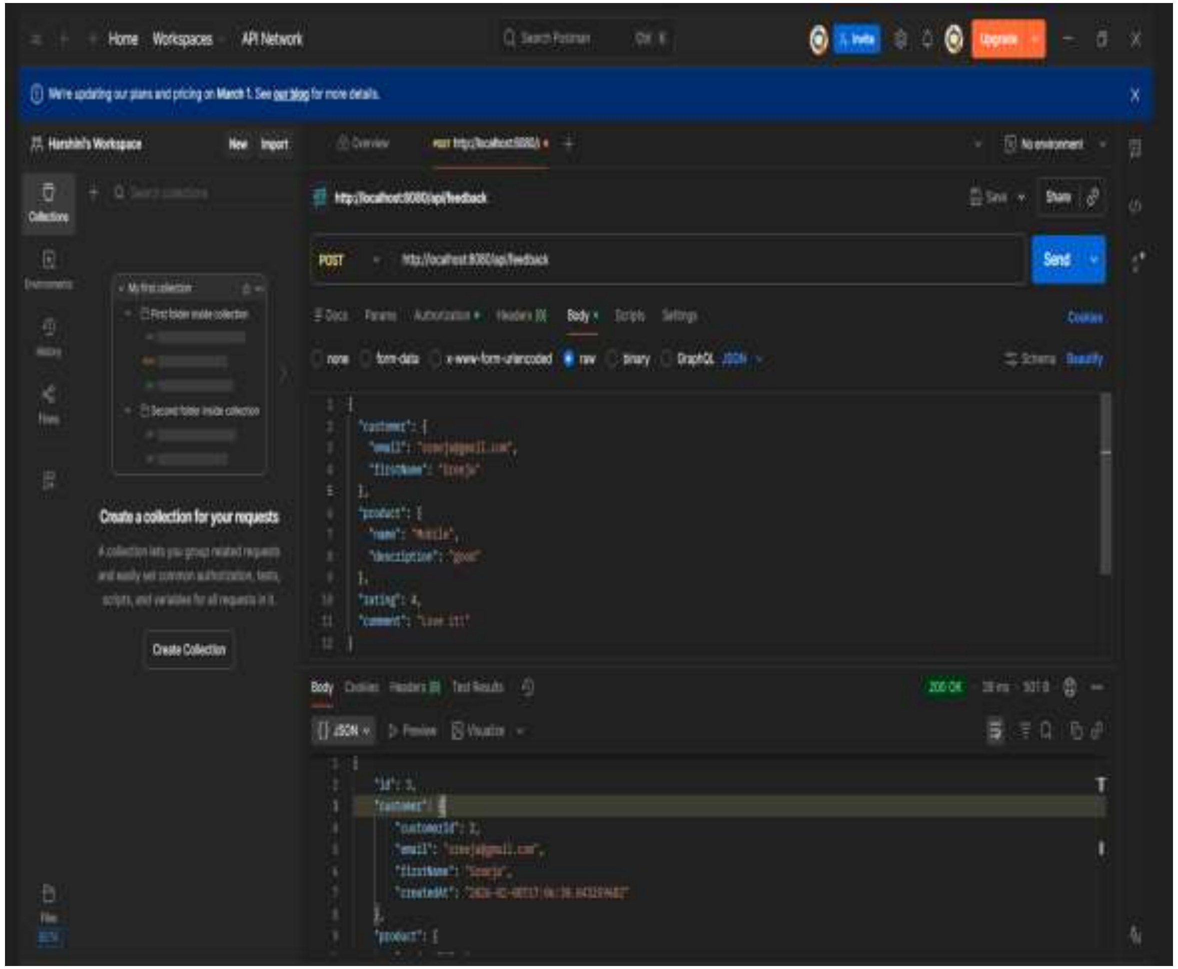
GET http://localhost:8080/api/feedback

200 OK · 18 ms · 535 B

```
[
    {
        "id": 1,
        "customer": {
            "customerId": 1,
            "email": "sneha@gmail.com",
            "firstName": "Sneha",
            "createdAt": "2026-02-08T16:40:35.[illegible]"
        },
        "product": {
            "productId": 1,
            "name": "Smart Phone"
        },
        "rating": 1,
        "comment": "Not satisfied",
        "submittedAt": "2026-02-08T16:40:34.[illegible]"
    }
]
```

Customer Feedback Management System

Postman Screenshots



We're updating our plans and pricing on March 1. See our blog for more details.

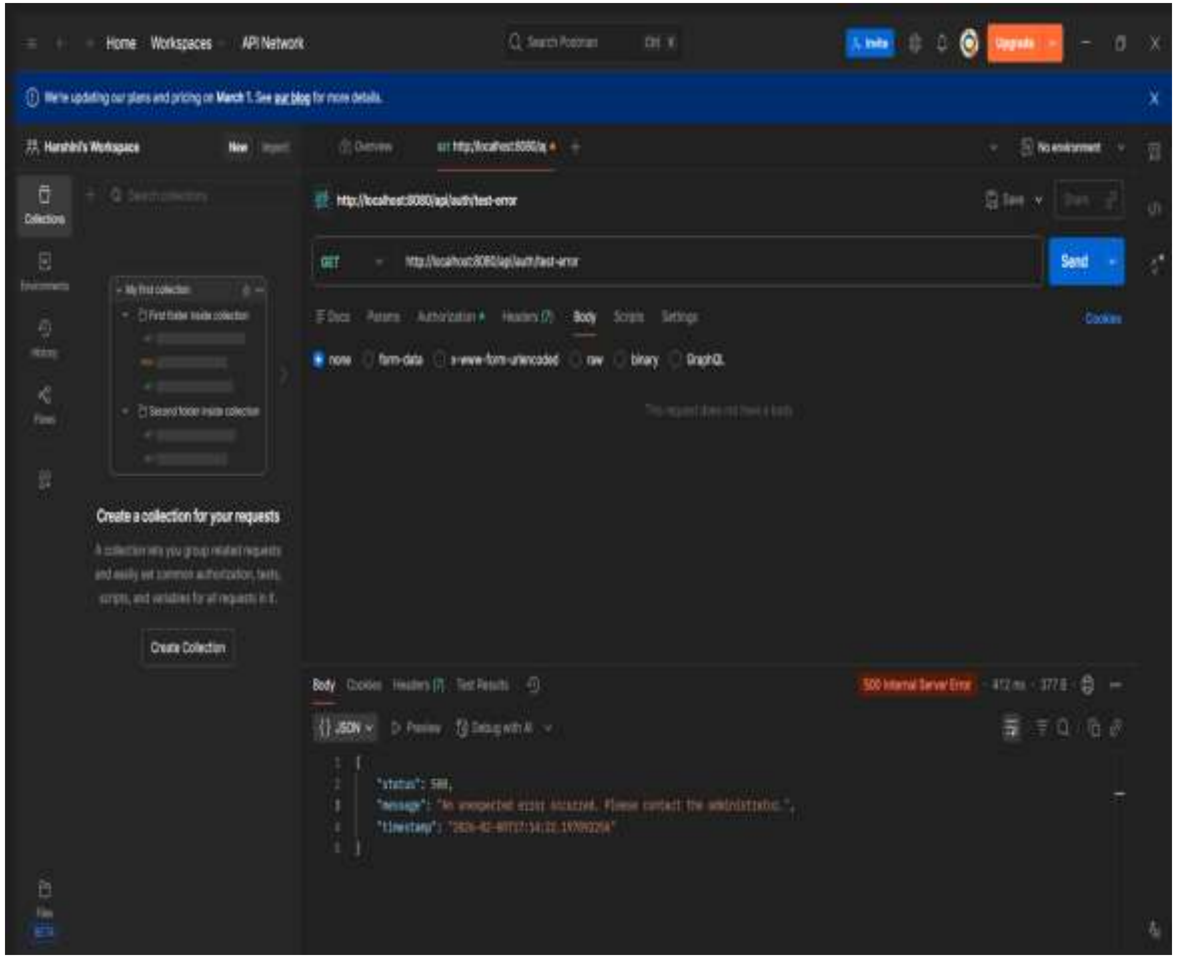
http://localhost:8080/api/feedback

POST http://localhost:8080/api/feedback

```
{
  "customer": {
    "email": "sreeja@gmail.com",
    "firstName": "Sreeja"
  },
  "product": {
    "name": "Mobile",
    "description": "good"
  },
  "rating": 4,
  "comment": "Love it!!"
}
```

200 OK · 28 ms · 501 B

```
{
  "id": 1,
  "customer": {
    "customerId": 1,
    "email": "sreeja@gmail.com",
    "firstName": "Sreeja",
    "createdAt": "2026-02-08T17:06:36.843289482"
  },
  "product": {
```



We're updating our plans and pricing on March 1. See our blog for more details.

http://localhost:8080/api/auth/test-error

GET http://localhost:8080/api/auth/test-error

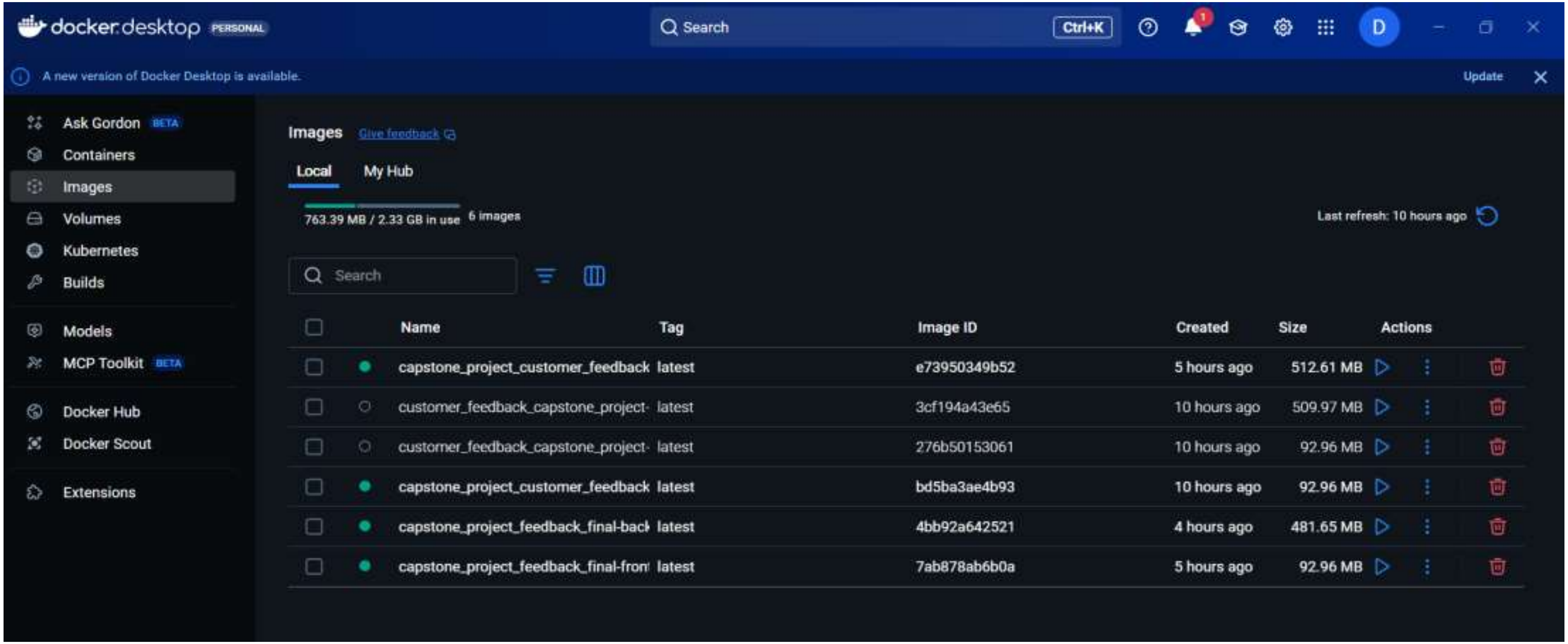
This request does not have a body

500 Internal Server Error · 472 ms · 377 B

```
{
  "status": 500,
  "message": "An unexpected error occurred. Please contact the administrator.",
  "timestamp": "2026-02-08T17:34:22.19709226"
}
```

Customer Feedback Management System

Docker Deployment



A new version of Docker Desktop is available.

Images

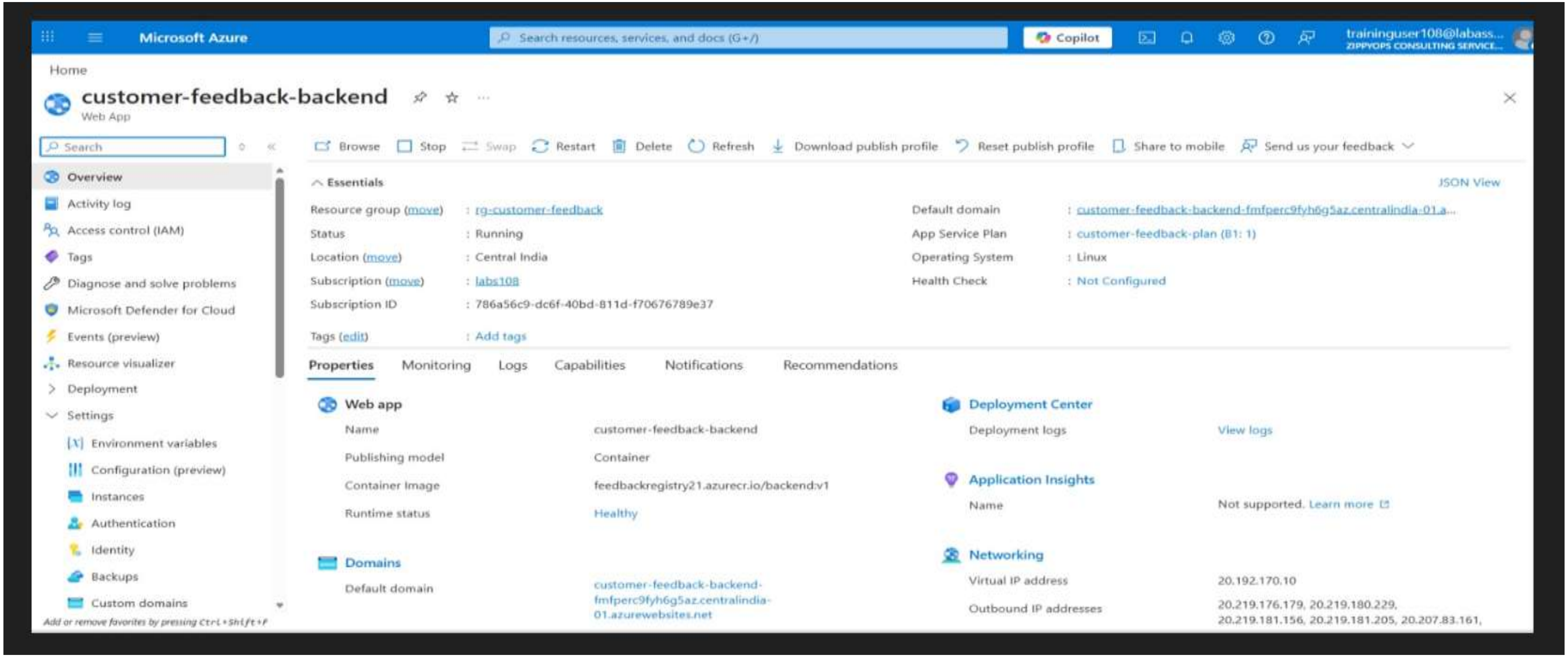
763.39 MB / 2.33 GB in use 6 images

Last refresh: 10 hours ago

□		Name	Tag	Image ID	Created	Size	Actions
□	●	capstone_project_customer_feedback	latest	e73950349b52	5 hours ago	512.61 MB	
□	○	customer_feedback_capstone_project-	latest	3cf194a43e65	10 hours ago	509.97 MB	
□	○	customer_feedback_capstone_project-	latest	276b50153061	10 hours ago	92.96 MB	
□	●	capstone_project_customer_feedback	latest	bd5ba3ae4b93	10 hours ago	92.96 MB	
□	●	capstone_project_feedback_final-back	latest	4bb92a642521	4 hours ago	481.65 MB	
□	●	capstone_project_feedback_final-fron	latest	7ab878ab6b0a	5 hours ago	92.96 MB	

Customer Feedback Management System

Azure Deployment



customer-feedback-backend

Web App

Essentials

Resource group (move) : rg-customer-feedback

Status : Running

Location (move) : Central India

Subscription (move) : labs108

Subscription ID : 786a56c9-dc6f-40bd-811d-f70676789e37

Tags (edit) : Add tags

Default domain : customer-feedback-backend-fmfperc9fyh6g5az.centralindia-01.a...

App Service Plan : customer-feedback-plan (B1: 1)

Operating System : Linux

Health Check : Not Configured

Web app

Name: customer-feedback-backend

Publishing model: Container

Container Image: feedbackregistry21.azurecr.io/backend:v1

Runtime status: Healthy

Domains

Default domain: customer-feedback-backend-fmfperc9fyh6g5az.centralindia-01.azurewebsites.net

Deployment Center

Deployment logs: View logs

Application Insights

Name: Not supported. Learn more

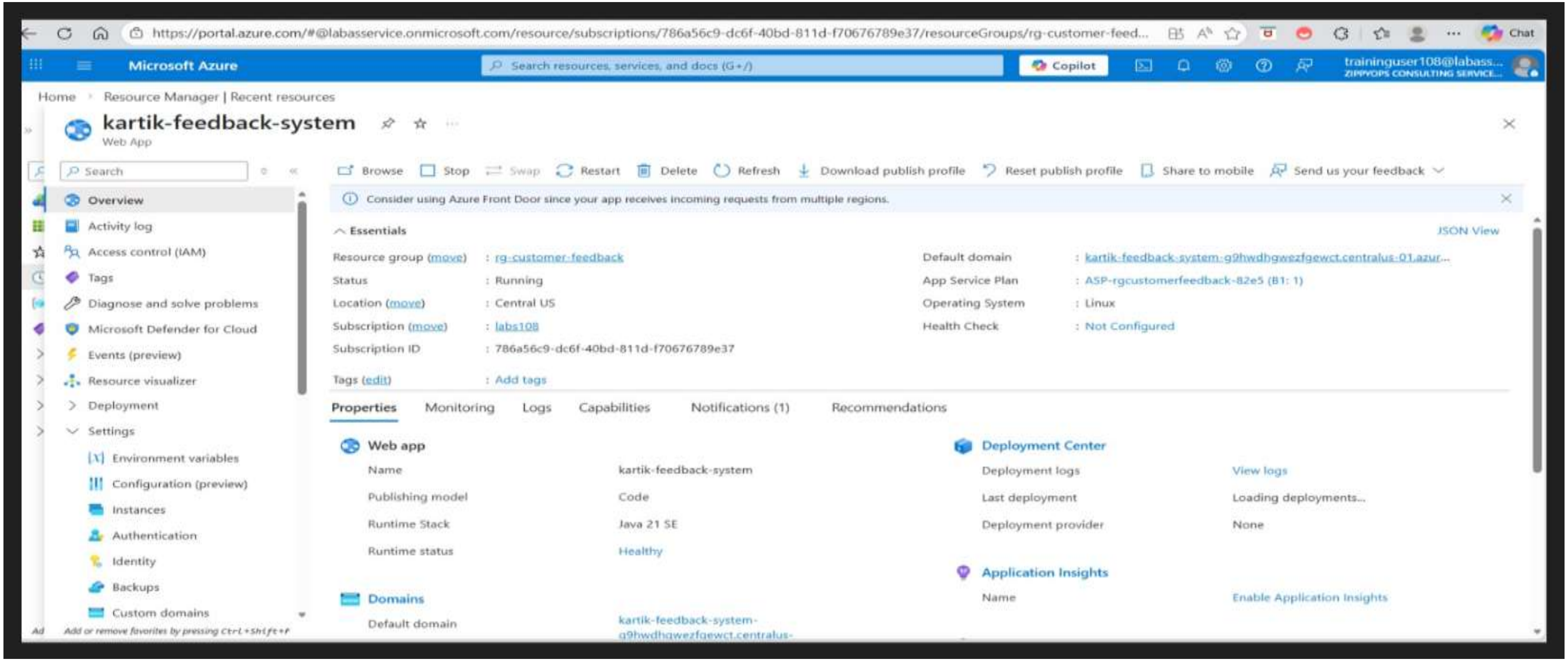
Networking

Virtual IP address: 20.192.170.10

Outbound IP addresses: 20.219.176.179, 20.219.180.229, 20.219.181.156, 20.219.181.205, 20.207.83.161,

Customer Feedback Management System

Azure Deployment



kartik-feedback-system
Web App

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

Essentials

Resource group (move)	: rg-customer-feedback	Default domain	: kartik-feedback-system-g9hwdhgwezfgewct.centralus-01.azur...
Status	: Running	App Service Plan	: ASP-rgcustomerfeedback-82e5 (B1: 1)
Location (move)	: Central US	Operating System	: Linux
Subscription (move)	: labs108	Health Check	: Not Configured
Subscription ID	: 786a56c9-dc6f-40bd-811d-f70676789e37		
Tags (edit)	: Add tags		

Web app

Name	kartik-feedback-system
Publishing model	Code
Runtime Stack	Java 21 SE
Runtime status	Healthy

Domains

Default domain	kartik-feedback-system-g9hwdhgwezfgewct.centralus-

Deployment Center

Deployment logs	View logs
Last deployment	Loading deployments...
Deployment provider	None

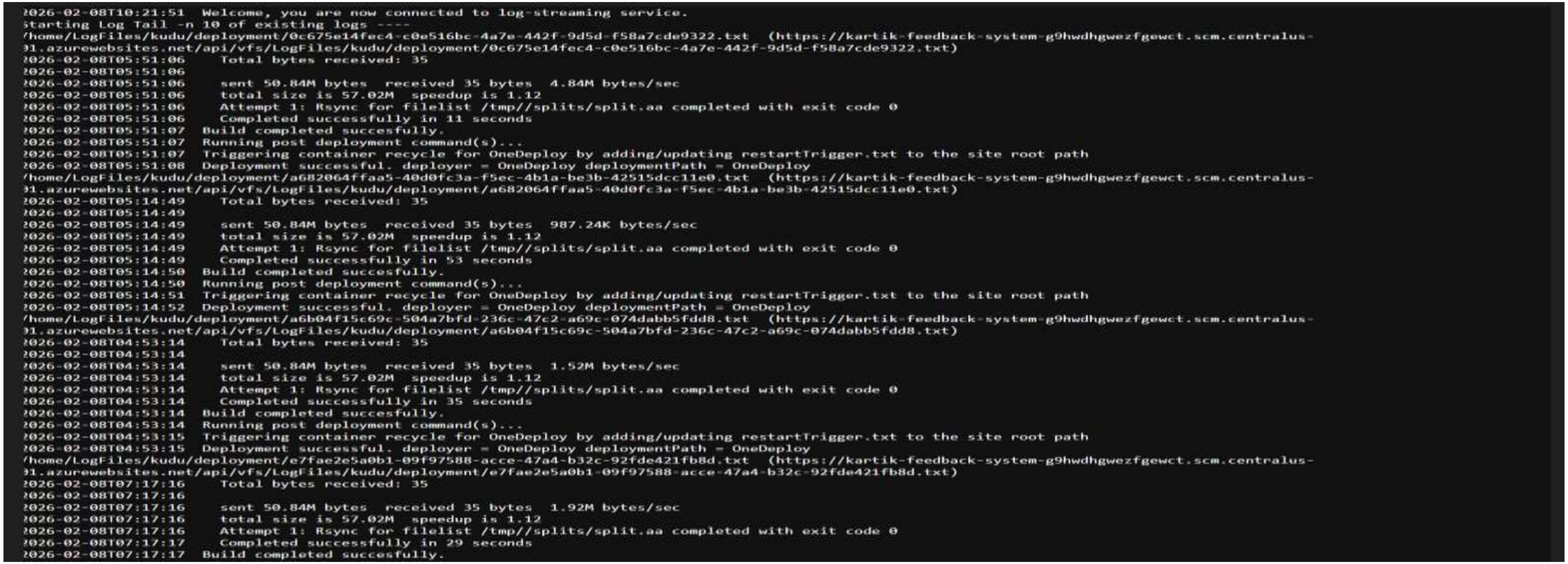
Application Insights

Name	Enable Application Insights

learn..evolve

Customer Feedback Management System

Azure Deployment



```
2026-02-08T10:21:51  Welcome, you are now connected to log-streaming service.
Starting Log Tail -n 10 of existing logs ----
/home/LogFiles/kudu/deployment/0c675e14fec4-c0e516bc-4a7e-442f-9d5d-f58a7cde9322.txt  (https://kartik-feedback-system-g9hwdhgwezfgewct.scm.centralus-
01.azurewebsites.net/api/vfs/LogFiles/kudu/deployment/0c675e14fec4-c0e516bc-4a7e-442f-9d5d-f58a7cde9322.txt)
2026-02-08T05:51:06    Total bytes received: 35
2026-02-08T05:51:06
2026-02-08T05:51:06    sent 50.84M bytes  received 35 bytes  4.84M bytes/sec
2026-02-08T05:51:06    total size is 57.02M  speedup is 1.12
2026-02-08T05:51:06    Attempt 1: Rsync for filelist /tmp//splits/split.aa completed with exit code 0
2026-02-08T05:51:06    Completed successfully in 11 seconds
2026-02-08T05:51:07  Build completed succesfully.
2026-02-08T05:51:07  Running post deployment command(s)...
2026-02-08T05:51:07  Triggering container recycle for OneDeploy by adding/updating restartTrigger.txt to the site root path
2026-02-08T05:51:08  Deployment successful. deployer = OneDeploy deploymentPath = OneDeploy
/home/LogFiles/kudu/deployment/a682064ffaa5-40d0fc3a-f5ec-4b1a-be3b-42515dcc11e0.txt  (https://kartik-feedback-system-g9hwdhgwezfgewct.scm.centralus-
01.azurewebsites.net/api/vfs/LogFiles/kudu/deployment/a682064ffaa5-40d0fc3a-f5ec-4b1a-be3b-42515dcc11e0.txt)
2026-02-08T05:14:49    Total bytes received: 35
2026-02-08T05:14:49
2026-02-08T05:14:49    sent 50.84M bytes  received 35 bytes  987.24K bytes/sec
2026-02-08T05:14:49    total size is 57.02M  speedup is 1.12
2026-02-08T05:14:49    Attempt 1: Rsync for filelist /tmp//splits/split.aa completed with exit code 0
2026-02-08T05:14:49    Completed successfully in 53 seconds
2026-02-08T05:14:50  Build completed succesfully.
2026-02-08T05:14:50  Running post deployment command(s)...
2026-02-08T05:14:51  Triggering container recycle for OneDeploy by adding/updating restartTrigger.txt to the site root path
2026-02-08T05:14:52  Deployment successful. deployer = OneDeploy deploymentPath = OneDeploy
/home/LogFiles/kudu/deployment/a6b04f15c69c-504a7bfd-236c-47c2-a69c-074dabb5fdd8.txt  (https://kartik-feedback-system-g9hwdhgwezfgewct.scm.centralus-
01.azurewebsites.net/api/vfs/LogFiles/kudu/deployment/a6b04f15c69c-504a7bfd-236c-47c2-a69c-074dabb5fdd8.txt)
2026-02-08T04:53:14    Total bytes received: 35
2026-02-08T04:53:14
2026-02-08T04:53:14    sent 50.84M bytes  received 35 bytes  1.52M bytes/sec
2026-02-08T04:53:14    total size is 57.02M  speedup is 1.12
2026-02-08T04:53:14    Attempt 1: Rsync for filelist /tmp//splits/split.aa completed with exit code 0
2026-02-08T04:53:14    Completed successfully in 35 seconds
2026-02-08T04:53:14  Build completed succesfully.
2026-02-08T04:53:14  Running post deployment command(s)...
2026-02-08T04:53:15  Triggering container recycle for OneDeploy by adding/updating restartTrigger.txt to the site root path
2026-02-08T04:53:15  Deployment successful. deployer = OneDeploy deploymentPath = OneDeploy
/home/LogFiles/kudu/deployment/e7fae2e5a0b1-09f97588-acce-47a4-b32c-92fde421fb8d.txt  (https://kartik-feedback-system-g9hwdhgwezfgewct.scm.centralus-
01.azurewebsites.net/api/vfs/LogFiles/kudu/deployment/e7fae2e5a0b1-09f97588-acce-47a4-b32c-92fde421fb8d.txt)
2026-02-08T07:17:16    Total bytes received: 35
2026-02-08T07:17:16
2026-02-08T07:17:16    sent 50.84M bytes  received 35 bytes  1.92M bytes/sec
2026-02-08T07:17:16    total size is 57.02M  speedup is 1.12
2026-02-08T07:17:16    Attempt 1: Rsync for filelist /tmp//splits/split.aa completed with exit code 0
2026-02-08T07:17:17    Completed successfully in 29 seconds
2026-02-08T07:17:17  Build completed succesfully.
```

https://kartikfrontend1770533220.z19.web.core.windows.net/login

https://kartik-feedback-system-g9hwdhgwezfgewct.centralus-01.azurewebsites.net/api/feedback

Customer Feedback Management System

Conclusion & Future Enhancements

Conclusion:

- Successfully built a full-stack feedback management system
- Secure authentication and real-time feedback storage implemented
- Improved customer feedback collection and analysis through a centralized platform

Future Enhancements:

- Add feedback analytics dashboards
- Implement role-based authorization
- Add email notifications
- Integrate JWT security

THANK YOU