

Azure DevOps Assessment – Banking Application

Objective

This document outlines the complete process for the Azure DevOps Assessment focused on building a basic structure for a Banking Application. The project includes breaking down work items, setting up a Git repository, and configuring a CI/CD pipeline.

Part 1 – Work Item Breakdown

Epics

1)User Management

Manage the lifecycle of users including registration, authentication, and password recovery.

2)Account Services

Enable users to create and manage bank accounts.

3)Fund Transfer

Support transferring money between accounts and external entities.

4)Transaction History

Provide a complete log of user transactions and filters for tracking.

5)Security & Compliance

Implement security measures and regulatory compliance (e.g., encryption, audit logs).

Features, User Stories, and Tasks

Epic: User Management

Feature: User Registration

US1: Register as a new user using email and password

US2: Admin approval for user registrations

Feature: User Authentication

US3: Login with email and password

US4: Logout securely

Feature: Password Reset

US5: Request password reset link

US6: Reset password using verification

Epic: Account Services

Feature: Account Creation

US7: Open a new bank account

Feature: View Account Details

US8: View account balance and type

Feature: Update Account Info

US9: Edit non-critical account details (e.g., contact info)

Epic: Fund Transfer

Feature: Internal Transfers

US10: Transfer funds between own accounts

Feature: External Transfers

US11: Transfer money to another user's account

US12: Transfer money to external bank accounts

Epic: Transaction History

Feature: View All Transactions

US13: View complete transaction history

Feature: Filter Transactions

US14: Filter transactions by date, amount, and type

Epic: Security & Compliance

Feature: Two-Factor Authentication

US15: Enable two-factor authentication at login

Feature: Audit Logging

US16: Log user activities for audit

Feature: Data Encryption

US17: Encrypt sensitive user data

Part 2 – Azure DevOps Git Setup

Create a new repository named banking-app in Azure DevOps Repos.

Clone the repository and add the following structure:

banking-app/

├── README.md

├── src/

| └── app.py

└── .azure-pipelines.yml

Push the changes to the main branch.

Part 3 – Configure CI/CD Pipeline

Use the following YAML for your .azure-pipelines.yml file:

trigger:

- main

pool:

- vmImage: 'ubuntu-latest'

steps:

- task: UsePythonVersion@0

- inputs:

- versionSpec: '3.x'

- script: python src/app.py

- displayName: 'Run Banking Application Placeholder'

Part 4 – Submission Checklist

Submit the following:

Screenshot of Epics, Features, User Stories, and Tasks in Azure Boards

Azure DevOps adityak09070805 / Bank-app / Boards / Work Items

Did you notice Azure Boards has a new look and awesome new features? [Learn more.](#)

Work Items

Recently updated | + New Work Item | Open filtered view in Queries | Column Options | Import Work Items | Recycle Bin

Filter by keyword | Epic (+3) | Assigned to | States | Area | Tags

ID	Title	Assigned To	State	Area Path	Tags
9	Account Creation	ADITYA KESAWAN	New	Bank-app	
2	Account Services	ADITYA KESAWAN	New	Bank-app	
36	Add user details to database	Unassigned	New	Bank-app	
32	Admin approval for user registrations	ADITYA KESAWAN	New	Bank-app	
17	Audit Logging	ADITYA KESAWAN	New	Bank-app	
35	Create API for registration (Backend)	ADITYA KESAWAN	New	Bank-app	
39	Create authentication API	ADITYA KESAWAN	New	Bank-app	
43	Create frontend table to display transactions	ADITYA KESAWAN	New	Bank-app	
41	Create transaction table in DB	ADITYA KESAWAN	New	Bank-app	
18	Data Encryption	ADITYA KESAWAN	New	Bank-app	
38	Design login form	ADITYA KESAWAN	New	Bank-app	
34	Design registration form (Frontend)	ADITYA KESAWAN	New	Bank-app	
42	Develop API to fetch transactions	ADITYA KESAWAN	New	Bank-app	
30	Edit non-critical account details	ADITYA KESAWAN	New	Bank-app	
23	Enable two-factor authentication at login	ADITYA KESAWAN	New	Bank-app	
25	Encrypt sensitive user data	ADITYA KESAWAN	New	Bank-app	
13	External Transfers	ADITYA KESAWAN	New	Bank-app	
15	Filter Transactions	ADITYA KESAWAN	New	Bank-app	
22	Filter transactions by date, amount, and type	ADITYA KESAWAN	New	Bank-app	
3	Fund Transfer	ADITYA KESAWAN	New	Bank-app	
12	Internal Transfers	ADITYA KESAWAN	New	Bank-app	
24	Log user activities for audit	ADITYA KESAWAN	New	Bank-app	
27	Login with email and password	ADITYA KESAWAN	New	Bank-app	
33	Logout securely	ADITYA KESAWAN	New	Bank-app	
19	Logout securely	ADITYA KESAWAN	New	Bank-app	
8	Password Reset	ADITYA KESAWAN	New	Bank-app	
26	Register as a new user using email and password	ADITYA KESAWAN	New	Bank-app	
28	Request password reset link	ADITYA KESAWAN	New	Bank-app	
20	Reset password using verification	ADITYA KESAWAN	New	Bank-app	
5	Security & Compliance	ADITYA KESAWAN	New	Bank-app	
40	Set session/token on login	ADITYA KESAWAN	New	Bank-app	
4	Transaction History	ADITYA KESAWAN	New	Bank-app	
31	Transfer money to another user's account	ADITYA KESAWAN	New	Bank-app	
16	Two-Factor Authentication	ADITYA KESAWAN	New	Bank-app	
11	Update Account Info	ADITYA KESAWAN	New	Bank-app	
7	User Authentication	ADITYA KESAWAN	New	Bank-app	
1	User Management	ADITYA KESAWAN	New	Bank-app	
6	User Registration	ADITYA KESAWAN	New	Bank-app	
37	Validate user inputs	ADITYA KESAWAN	New	Bank-app	
29	View account balance and type	ADITYA KESAWAN	New	Bank-app	
10	View Account Details	ADITYA KESAWAN	New	Bank-app	
14	View All Transactions	ADITYA KESAWAN	New	Bank-app	
21	View complete transaction history	ADITYA KESAWAN	New	Bank-app	

Screenshot of Git Repository with project structure

The screenshot shows the Azure DevOps interface for a repository named 'Bank-app'. The left sidebar contains navigation options: Overview, Boards, Repos, Files (selected), Commits, Pushes, Branches, Tags, Pull requests, Advanced Security, Pipelines, Test Plans, and Artifacts. The main area displays the file structure of the repository:

- src
 - app.py
- .azure-pipelines.yml
- README.md

Below the file structure, the 'Contents' tab shows a table of commits:

Name	Last change	Commits
src	Just now	3ddd6639 Added app.py ADITYA KESAVAN
.azure-pipelines.yml	Just now	c987d606 Added .azure-pipelines.yml ADITYA KES...
README.md	2m ago	c73f444e Added README.md ADITYA KESAVAN

The 'Introduction' section contains a TODO: Give a short introduction of your project. Let this section explain the objectives or the motivation behind this project.

The 'Getting Started' section contains a TODO: Guide users through getting your code up and running on their own system. In this section you can talk about:

1. Installation process
2. Software dependencies
3. Latest releases
4. API references

The 'Build and Test' section contains a TODO: Describe and show how to build your code and run the tests.

The 'Contribute' section contains a TODO: Explain how other users and developers can contribute to make your code better.

If you want to learn more about creating good readme files then refer the following [guidelines](#). You can also seek inspiration from the below readme files:

- [ASP.NET Core](#)
- [Visual Studio Code](#)
- [Chakra Core](#)

Screenshot of successful CI/CD pipeline run

The screenshot shows the Azure DevOps interface for a pipeline run. The left sidebar contains navigation options: Overview, Boards, Repos, Pipelines (selected), Environments, Library, Test Plans, and Artifacts. The main area displays the pipeline run details for the pipeline named 'Bank-app'.

The pipeline run is titled '#20250707.1 - Added .azure-pipelines.yml' and is in a failed state. The 'Summary' tab shows the following information:

- Manually run by ADITYA KESAVAN
- Repository and version: Bank, main, c987d606
- Time started and elapsed: Just now, <1s
- Related: 0 work items, 0 artifacts
- Tests and coverage: Get started

The 'Errors' tab shows the following error message:

No hosted parallelism has been purchased or granted. To request a free parallelism grant, please fill out the following form <https://aka.ms/azpipelines-parallelism-request>

The 'Jobs' tab shows the following job details:

Name	Status	Duration
Job	Failed	

