WEEK 5 : CI/CD Pipeline with Azure DevOps

Pre-requisites:

- Ensure **SSH Public Key** or **Personal Access Token (PAT)** for HTTPS is already configured.
- Install **Git**, **Python**, and **VS Code / any IDE**.
- Have your project folder ready on your local system, which includes:
    - Python file for **expense alert**
    - Azure pipeline YAML file

Step 1: Create Python and YAML Files in Local Project

1. Create a Python file (e.g. alert.py)
   Example:

```
# alert.py

def check_expense(monthly_total, limit):

    if monthly_total > limit:

        print(f"Alert! Monthly expense ₹{monthly_total} exceeds the limit of ₹{limit}")

    else:

        print("Expense within limit.")
```

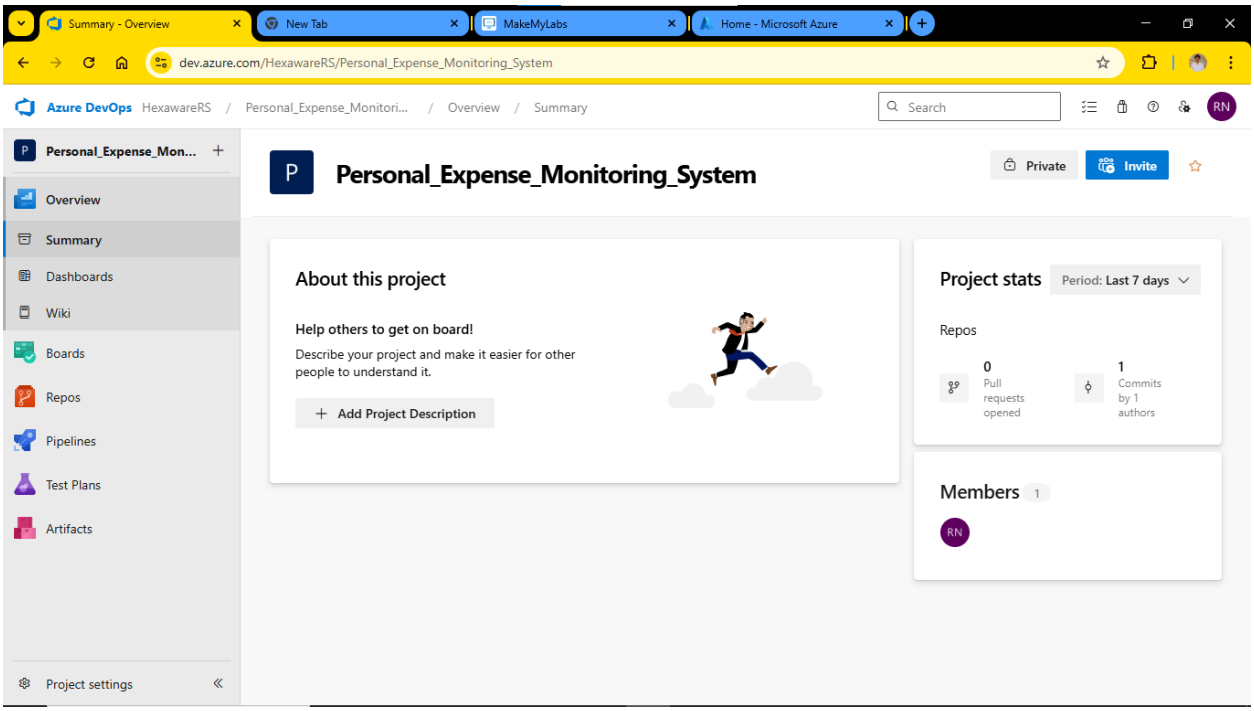
2. Create a YAML file for Azure Pipeline (e.g. azure-pipelines.yml)
   Example:

```
trigger:

  - main

pool:

  vmImage: 'ubuntu-latest'

steps:

  - task: UsePythonVersion@0

    inputs:
```

```
    versionSpec: '3.x'
- script: |
    python Personal_Expense_Monitoring_System/
  displayName: 'Successfully Run'
- script: |
    python alert_expense.py
  displayName: 'Expense Alert'
```

Step 2: Create a New Azure DevOps Project

1. Go to Azure DevOps Portal.
2. Click **New Project** → Provide name and visibility → Click **Create**.
3. Navigate to **Repos** → Click **Clone** → Copy the **SSH** URL.



Step 3: Push Local Project to Azure Repo via SSH

Open **Command Prompt / Git Bash**, then run the following:

Go to the directory where your local project exists

cd path\to\your\project-folder

Initialize git repository

git init

Add files to git

git add .

Commit the files

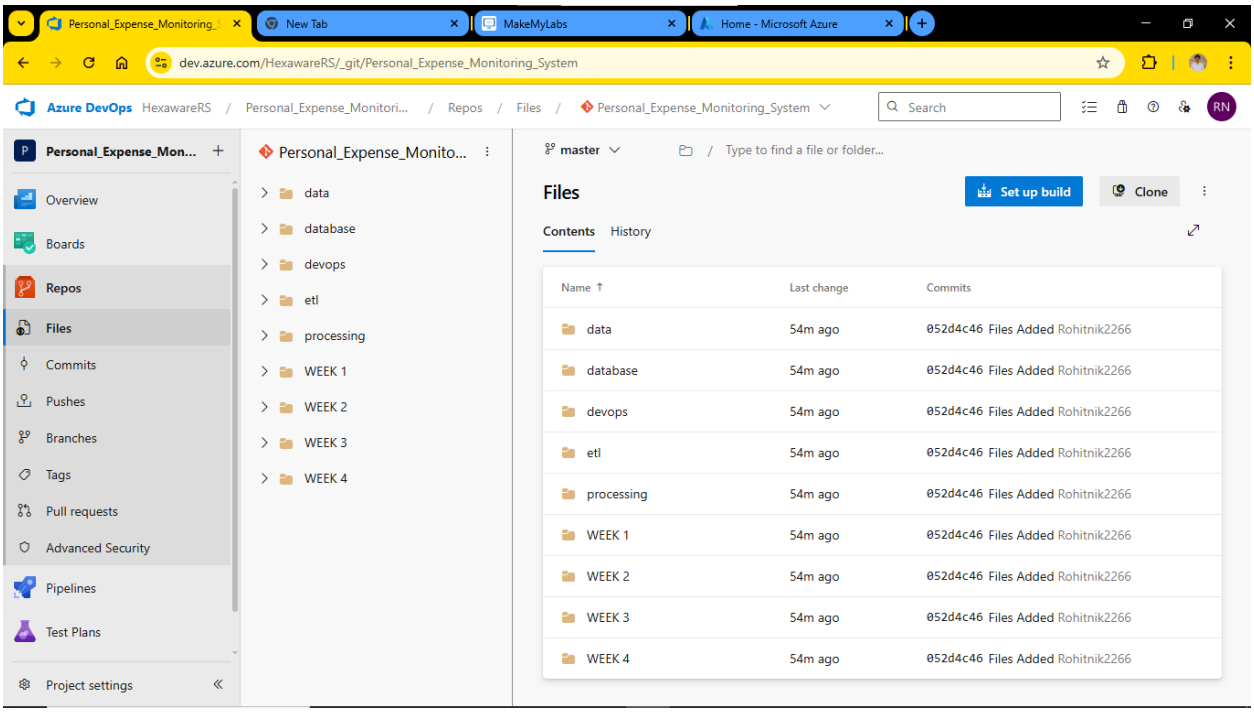
git commit -m "Initial commit"

Add Azure DevOps repo as remote (replace with your SSH link)

git remote add origin git@ssh.dev.azure.com:v3/YourOrg/YourProject/YourRepo

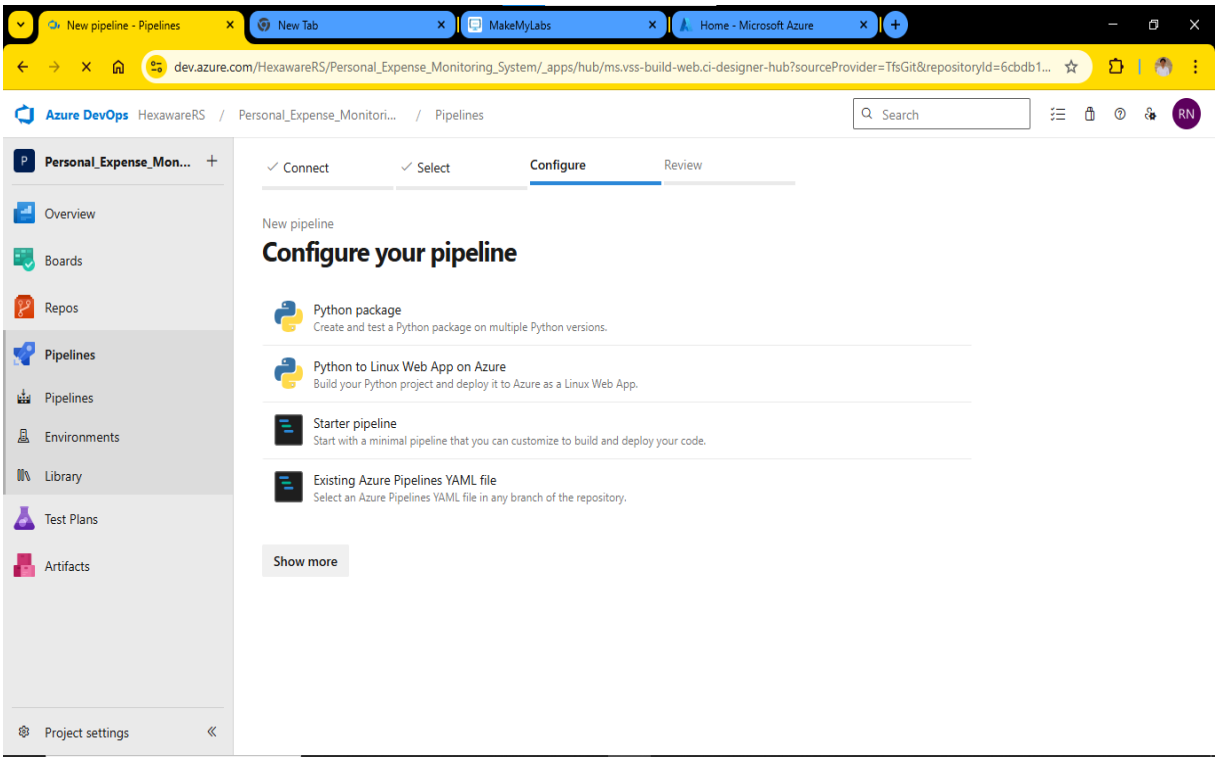
Push the code to Azure repo

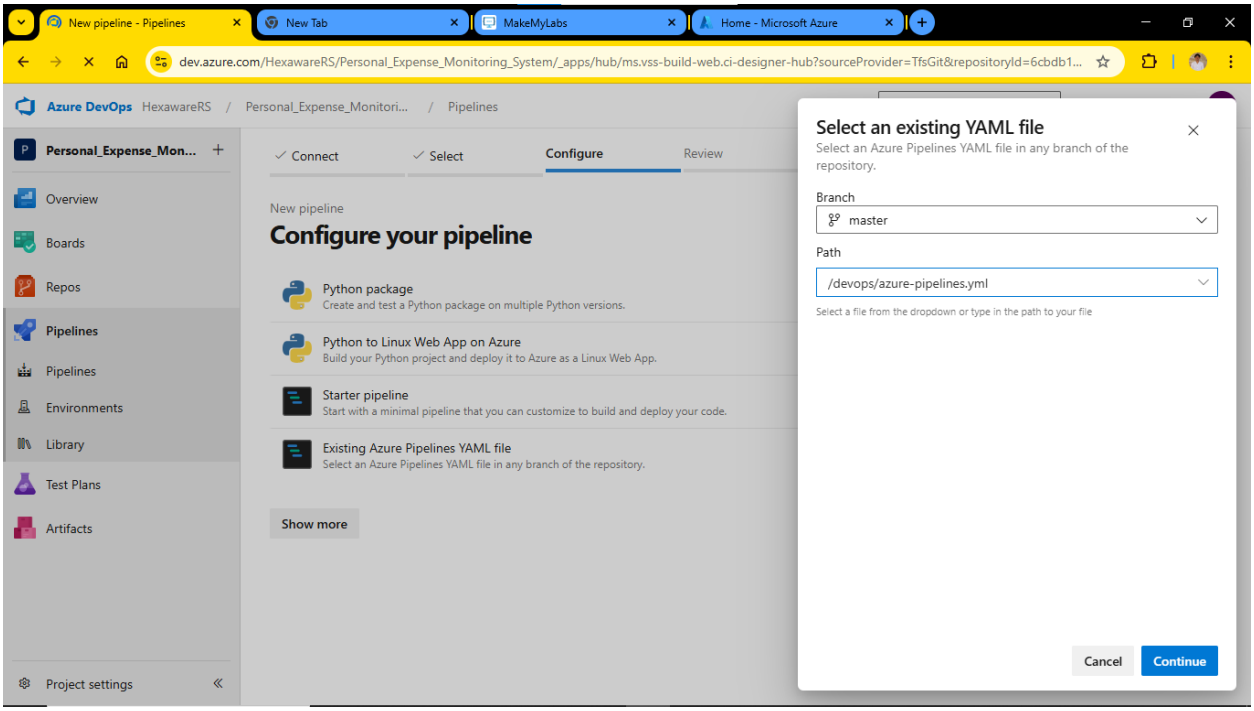
git push -u origin main



Step 4: Configure and Run the Azure Pipeline

1. Go back to your Azure DevOps project.
2. Navigate to **Pipelines** → Click **Create Pipeline**.
3. Choose:
    - **Code in Azure Repos Git**
    - Select your repository
    - Choose **"Existing Azure Pipelines YAML file"**
4. Select:
    - **Branch:** main
    - **Path:** /devops/azure-pipelines.yml
5. Click **Continue**, then **Run** the pipeline.




New pipeline - Pipelines
New Tab
MakeMyLabs
Home - Microsoft Azure
dev.azure.com/HexawareRS/Personal_Expense_Monitoring_System/_apps/hub/ms.vss-build-web.ci-designer-hub?sourceProvider=TfsGit&repositoryId=6cbdb1...
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Personal_Expense_Mon...
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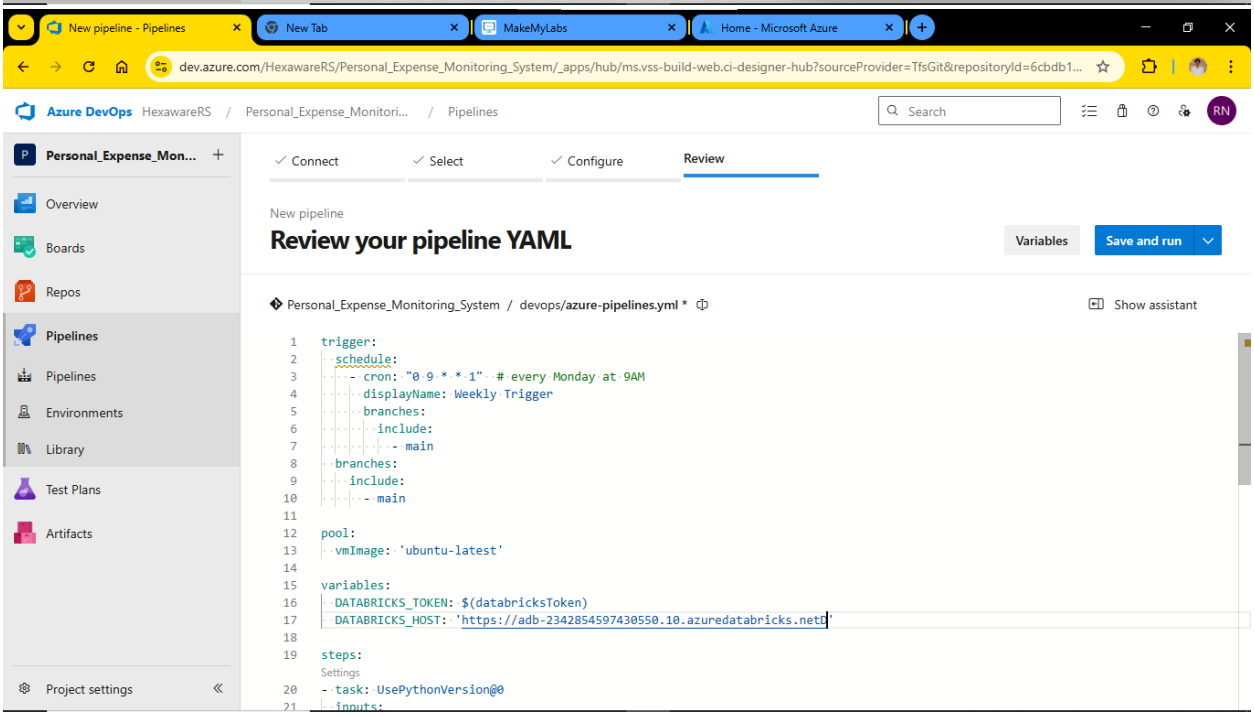
Connect
Select
Configure
Review
New pipeline
Configure your pipeline
Python package
Create and test a Python package on multiple Python versions.
Python to Linux Web App on Azure
Build your Python project and deploy it to Azure as a Linux Web App.
Starter pipeline
Start with a minimal pipeline that you can customize to build and deploy your code.
Existing Azure Pipelines YAML file
Select an Azure Pipelines YAML file in any branch of the repository.
Show more
Select an existing YAML file
Select an Azure Pipelines YAML file in any branch of the repository.
Branch
master
Path
/devops/azure-pipelines.yml
Select a file from the dropdown or type in the path to your file
Cancel
Continue


New pipeline - Pipelines
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dev.azure.com/HexawareRS/Personal_Expense_Monitoring_System/_apps/hub/ms.vss-build-web.ci-designer-hub?sourceProvider=TfsGit&repositoryId=6cbdb1...
Azure DevOps HexawareRS / Personal_Expense_Monitori... / Pipelines
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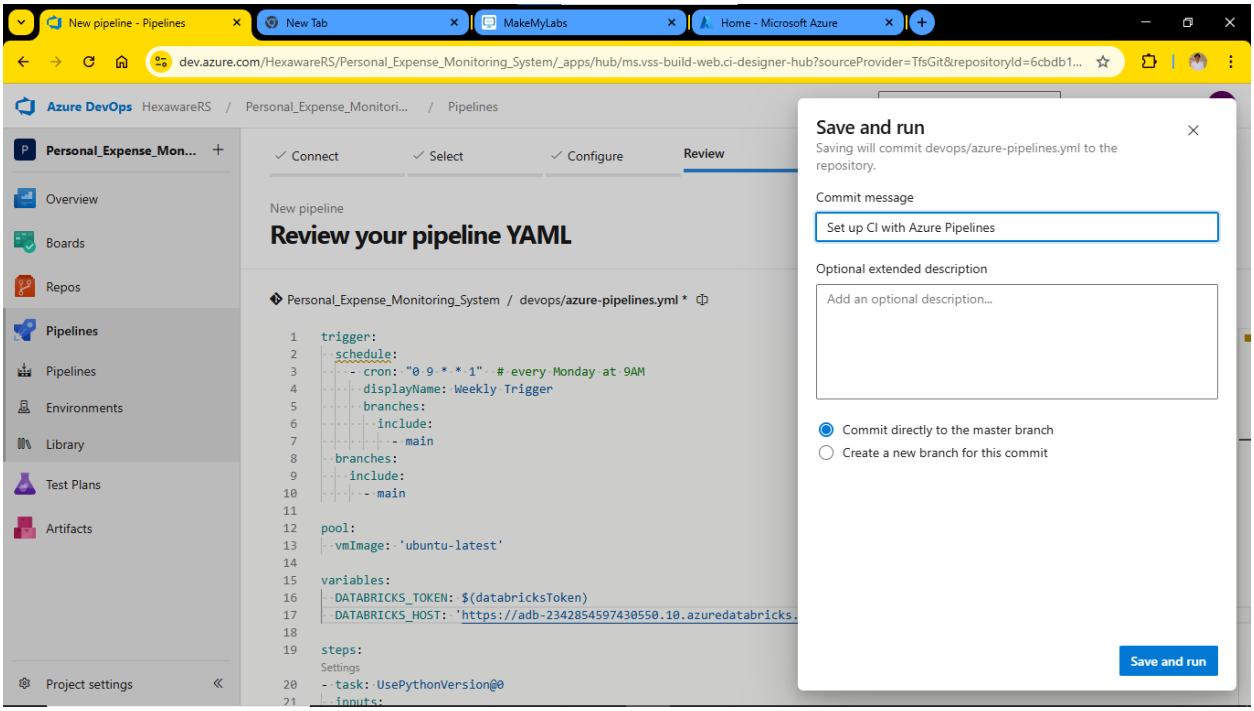
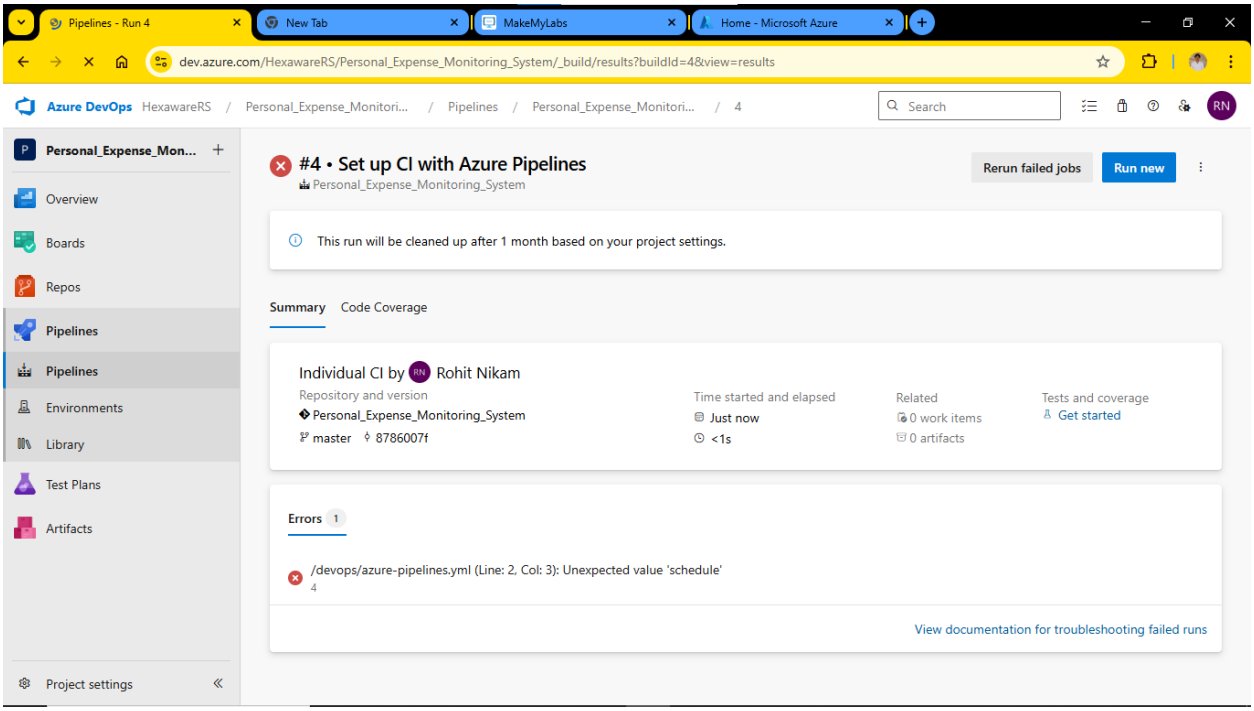
Connect
Select
Configure
Review
New pipeline
Review your pipeline YAML
Variables
Save and run
Personal_Expense_Monitoring_System / devops/azure-pipelines.yml *
Show assistant
trigger:
schedule:
- cron: "0 9 * * 1" # every Monday at 9AM
displayName: Weekly Trigger
branches:
include:
- main
branches:
include:
- main
pool:
vmImage: 'ubuntu-latest'
variables:
DATABRICKS_TOKEN: $(databricksToken)
DATABRICKS_HOST: 'https://adb-2342854597430550.10.azuredatabricks.net'
steps:
Settings
- task: UsePythonVersion@0
inputs:



✅ Final Output

- The pipeline will run automatically.
- It will set up the environment, run your all file and alert.py, and display output in logs.
- If everything is set correctly, you'll see **“Successfully Run” and “Expense Alert”** message.


Pipelines - Run 4
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dev.azure.com/HexawareRS/Personal_Expense_Monitoring_System/_build/results?buildId=4&view=results
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Search
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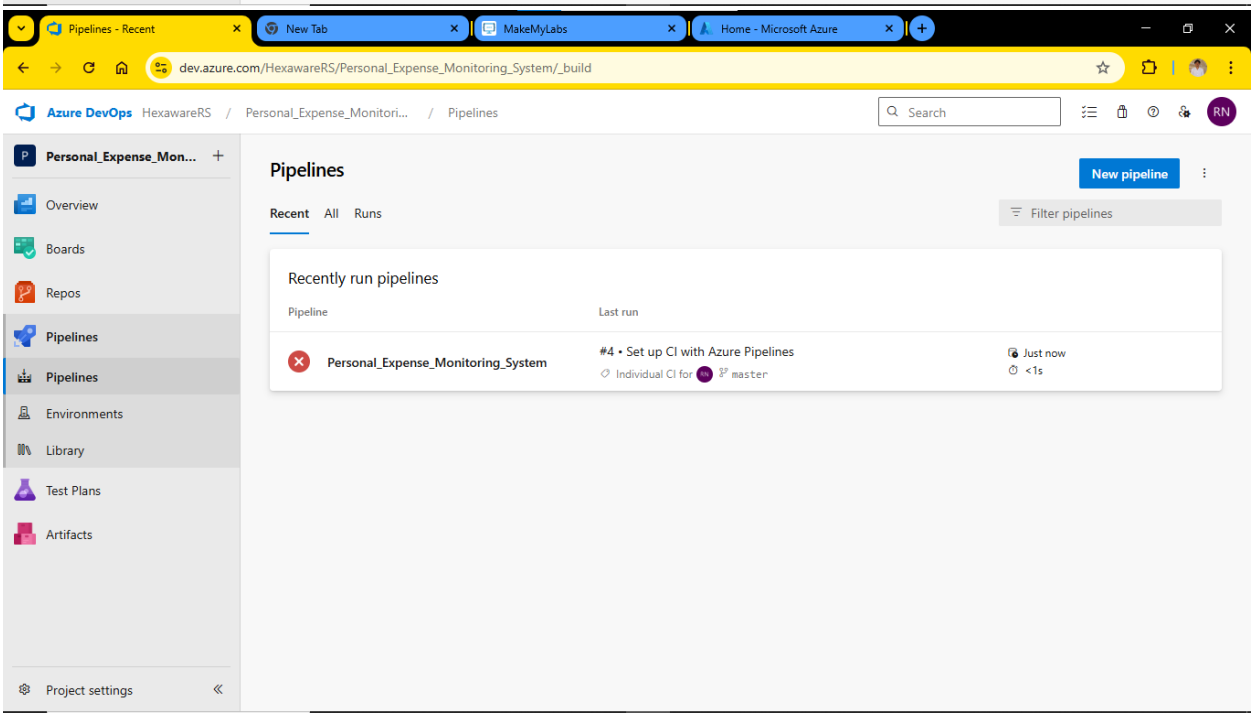
Project settings
#4 • Set up CI with Azure Pipelines
Personal_Expense_Monitoring_System
Rerun failed jobs
Run new
This run will be cleaned up after 1 month based on your project settings.
Summary
Code Coverage
Individual CI by RN Rohit Nikam
Repository and version
Personal_Expense_Monitoring_System
master 8786007f
Time started and elapsed
Just now
<1s
Related
0 work items
0 artifacts
Tests and coverage
Get started
Errors 1
/devops/azure-pipelines.yml (Line: 2, Col: 3): Unexpected value 'schedule'
4
View documentation for troubleshooting failed runs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Recently run pipelines
Pipeline
Last run
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#4 • Set up CI with Azure Pipelines
Individual CI for RN master
Just now
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