

Manan Chathli (INMCMU) Case Study – Unnext Foundational Bootcamp

1) Setting up the VM via Azure with specified configuration

This screenshot shows the first step of the Azure VM creation process. The page is titled 'Create a virtual machine' and includes three help buttons: 'Help me create a low cost VM', 'Help me create a VM optimized for high availability', and 'Help me choose the right VM size for my workload'. The 'Project details' section requires selecting a subscription and resource group, both set to 'RDBI'. The 'Instance details' section includes the virtual machine name 'MananCaseStudyVM', the region '(US) East US 2', and the availability options set to 'Availability zone'. An 'Estimated monthly cost' of ₹4,017.30 is displayed on the right. Navigation buttons at the bottom include '< Previous', 'Next : Disks >', and 'Review + create'.

Microsoft Azure

Home > Virtual machines >

Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Project details
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Resource group * [Create new](#)

Instance details

Virtual machine name *

Region *

Availability options

Estimated monthly cost: ₹4,017.30 / month

[View cost details](#)

< Previous | Next : Disks > | Review + create

[Give feedback](#)

This screenshot shows the second step of the Azure VM creation process. The 'Security type' is set to 'Standard'. The 'Image' dropdown is set to 'Windows 10 Pro, version 22H2 - x64 Gen2'. A note indicates this image is compatible with additional security features. The 'VM architecture' section has 'x64' selected, with a note that 'Arm64 is not supported with the selected image'. The 'Run with Azure Spot discount' checkbox is unchecked. The 'Size' dropdown is set to 'Standard_B2s - 2 vcpus, 4 GiB memory (₹2,526.46/month)'. The 'Estimated monthly cost' remains at ₹4,017.30. Navigation buttons at the bottom include '< Previous', 'Next : Disks >', and 'Review + create'.

Microsoft Azure

Home > Virtual machines >

Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Security type

Image * [See all images](#) | [Configure VM generation](#)

☒ This image is compatible with additional security features. [Click here to swap to the Trusted launch security type.](#)

VM architecture

☐ Arm64

☒ x64

Run with Azure Spot discount ☐

Size * [See all sizes](#)

Estimated monthly cost: ₹4,017.30 / month

[View cost details](#)

< Previous | Next : Disks > | Review + create

[Give feedback](#)

Create a virtual machine - Micros

https://portal.azure.com/#create/Microsoft.VirtualMachine-ARM

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

shuser68@ravinsofttech...
RAVINSOFTTECH (RAVINSOFTTE...

Home > Virtual machines >

Create a virtual machine

Help me create a low cost VM

Help me create a VM optimized for high availability

Help me choose the right VM size for my workload

Administrator account

Username *

Password *

Confirm password *

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ☐ None ☒ Allow selected ports

Select inbound ports *

< Previous

Next: Disks >

Review + create

Give feedback

Estimated monthly cost

₹4,017.30 / month

[View cost details](#)

Create a virtual machine - Micros

https://portal.azure.com/#create/Microsoft.VirtualMachine-ARM

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

shuser68@ravinsofttech...
RAVINSOFTTECH (RAVINSOFTTE...

Home > Virtual machines >

Create a virtual machine

Help me create a low cost VM

Help me create a VM optimized for high availability

Help me choose the right VM size for my workload

OS disk

OS disk size

OS disk type *
The selected VM size supports premium disks. We recommend Premium SSD for high IOPS workloads. Virtual machines with Premium SSD disks qualify for the 99.9% connectivity SLA.

Delete with VM ☒

Key management

Enable Ultra Disk compatibility ☐

Data disks for MananCaseStudyVM

< Previous

Next: Networking >

Review + create

Give feedback

Estimated monthly cost

₹3,016.31 / month

[View cost details](#)

Create a virtual machine - Microsoft Azure

Home > Virtual machines >

Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Network interface
When creating a virtual machine, a network interface will be created for you.

Virtual network * (new) Mananvm
Subnet * (new) default (10.4.0.0/24)
Public IP (new) MananCaseStudyVM-ip
NIC network security group ☐ None ☒ Basic ☐ Advanced
Public inbound ports * ☐ None

Estimated monthly cost: ₹3,985.52 / month
View cost details

< Previous | Next: Management > | Review + create | Give feedback

CreateVm-MicrosoftWindowsDesktop.Windows-10-win10-20240906100532 | Overview

Deployment is in progress

Deployment name: CreateVm-MicrosoftWindowsDesk... Start time: 06/09/2024, 10:09:28
Subscription: RDBI Correlation ID: 73dadeab-0fcc-410f-4...

Resource group: RDBI

Resource	Type	Status	Operation detail
MananCaseStudyVM	Microsoft.Compute/vir...	Created	Operation detail
manancasesystudyvm799_	Microsoft.Network/net...	Created	Operation detail
Mananvm	Microsoft.Network/virt...	OK	Operation detail
MananCaseStudyVM-nsg	Microsoft.Network/net...	OK	Operation detail
MananCaseStudyVM-ip	Microsoft.Network/pu...	OK	Operation detail

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Find an Azure expert >

CreateVm-MicrosoftWindowsDesk x

https://portal.azure.com/#view/HubsExtension/DeploymentDetailsBlade/~/overview/id/%2Fsubscriptions%2...

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

shuser68@ravinsofttech...
RAVINSOFTTECH (RAVINSOFTTE...

Home >

CreateVm-MicrosoftWindowsDesktop.Windows-10-win10-20240906100532 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name: CreateVm-MicrosoftWindowsDesk...

Subscription: RDBI

Resource group: RDBI

Start time: 06/09/2024, 10:09:28

Correlation ID: 73dadeab-0fcc-410f-4...

Deployment details

Next steps

Setup auto-shutdown Recommended

Monitor VM health, performance and network dependencies Recommended

Run a script inside the virtual machine Recommended

Go to resource

Create another VM

Give feedback

Tell us about your experience with deployment

Cost Management

Get notified to stay within your budget and prevent unexpected charges on your bill.

Set up cost alerts >

Microsoft Defender for Cloud

Secure your apps and infrastructure

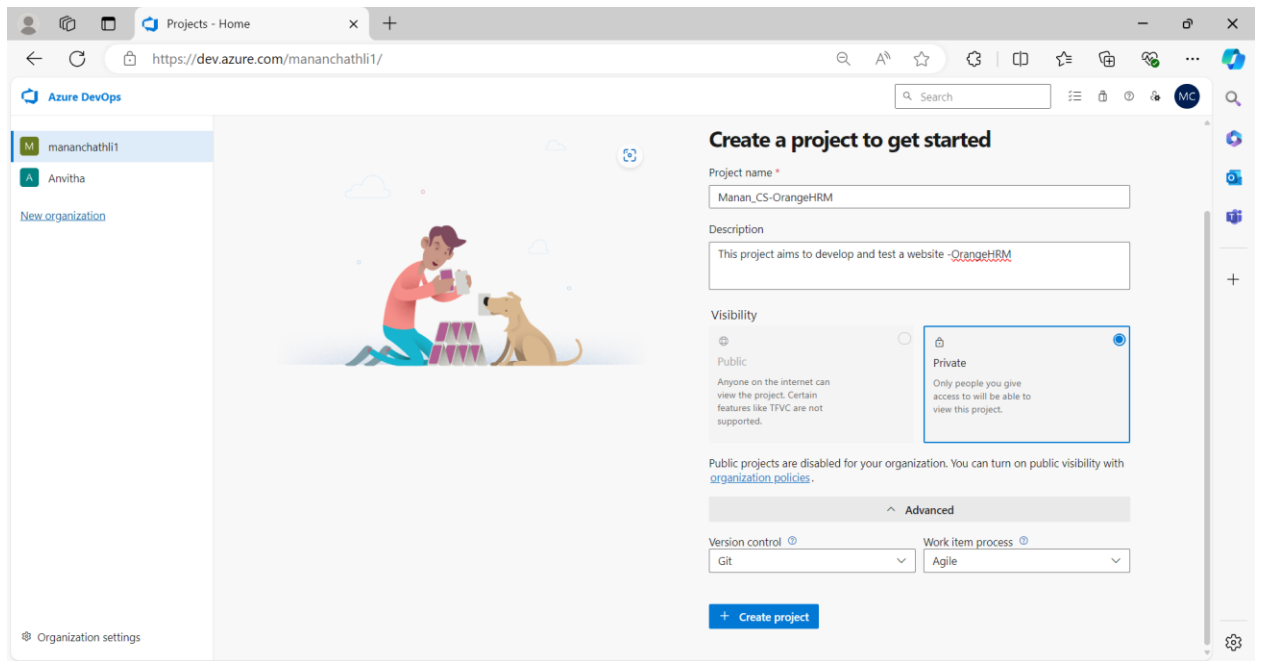
Go to Microsoft Defender for Cloud >

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2) Making the sprints, user stories, test cases and bugs for Website Orange HRM / Time

Creating a project in Azure DevOps

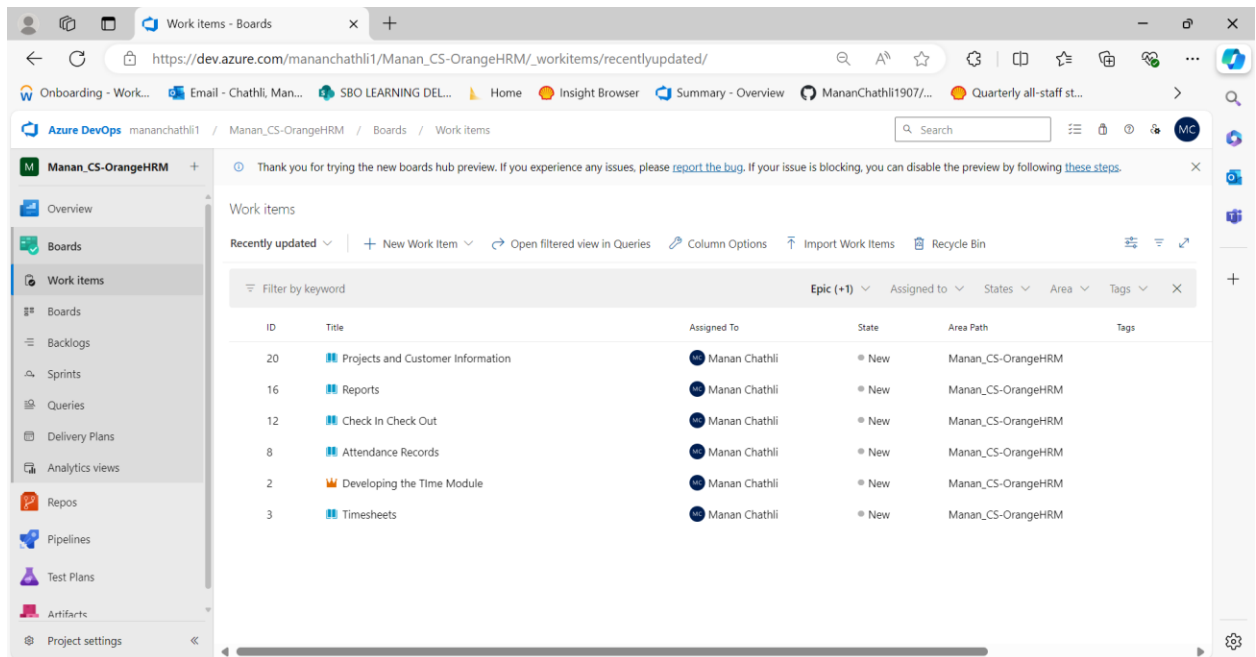


The screenshot shows the Azure DevOps web interface for creating a new project. The browser address bar shows the URL <https://dev.azure.com/mananchathli1/>. The left sidebar shows the organization 'mananchathli1' and a user 'Anvitha'. The main content area is titled 'Create a project to get started' and contains the following fields:

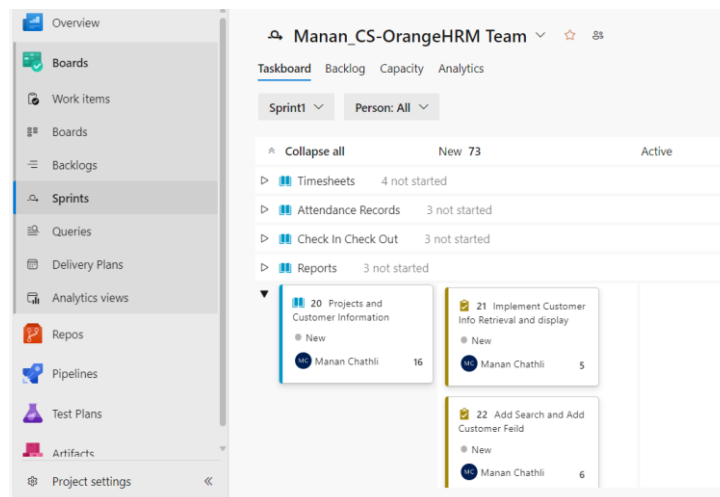
- Project name ***: Manan_CS-OrangeHRM
- Description**: This project aims to develop and test a website -OrangeHRM
- Visibility**: Private (selected). The 'Public' option is also visible with a description: 'Anyone on the internet can view the project. Certain features like TFVC are not supported.'
- Advanced settings**:
 - Version control**: Git
 - Work item process**: Agile

A blue button labeled '+ Create project' is located at the bottom of the form. An illustration of a person sitting on the ground with a dog is visible in the background of the form.

This project includes one epic and five user stories. The epic focuses on the Time Module of the website, and the five user stories cover the following functionalities: timesheets, attendance records, check-in/check-out, reports, and customer and project information.



Each user story consists of 3-4 tasks. The developer tasks are assigned to Manan, while the testing tasks, along with their respective durations, remain unassigned.



25 test cases have been defined, with 5 for each user story, covering various aspects of functionality.

The screenshot shows the Azure DevOps interface for the 'Manan_CS-OrangeHRM' project. The 'Work items' board is active, displaying a list of bugs. The table has columns for ID, Title, Assigned To, State, Area Path, and Tags. All items are assigned to 'Manan Chathli' and are in the 'Design' state.

ID	Title	Assigned To	State	Area Path
43	Validate view button US4	Manan Chathli	Design	Manan_CS-OrangeHRM
32	Validate view button US2	Manan Chathli	Design	Manan_CS-OrangeHRM
28	Validate time sheet creation and submission US1	Manan Chathli	Design	Manan_CS-OrangeHRM
26	Validate time period US1	Manan Chathli	Design	Manan_CS-OrangeHRM
50	Validate Search in Projects USS	Manan Chathli	Design	Manan_CS-OrangeHRM
34	Validate requirement of adding date US2	Manan Chathli	Design	Manan_CS-OrangeHRM
33	Validate Record checking for a holiday US2	Manan Chathli	Design	Manan_CS-OrangeHRM
39	Validate punch out after punching in US3	Manan Chathli	Design	Manan_CS-OrangeHRM
46	Validate full screen viewing US4	Manan Chathli	Design	Manan_CS-OrangeHRM
30	Validate Date US2	Manan Chathli	Design	Manan_CS-OrangeHRM
49	Validate Customer add Save button USS	Manan Chathli	Design	Manan_CS-OrangeHRM

Some bugs were also identified

29	Empty Time sheet submitting US1	Unassigned	New	Manan_CS-OrangeHRM
40	Date is accepting a future date for punch in	Unassigned	New	Manan_CS-OrangeHRM
41	Cant punch out if entered a prev date than punch in	Unassigned	New	Manan_CS-OrangeHRM

Some example of test case:

The screenshot shows the details of Test Case 42, 'Invalidate view button US4', in the Azure DevOps interface. The test case is assigned to 'Manan Chathli' and is in the 'Design' state. It includes a list of steps for testing the functionality.

Steps	Action	Expected result
1.	Login to OrangeHRM (orangehrmlive.com)	Website should open
2.	Navigate to Time/Reports/Project Reports	Relevant pages should open
3.	Leave all fields empty	
4.	Click on view	Error message - required

Additional details visible include the test case title 'TEST CASE 42', the area 'Manan_CS-OrangeHRM', and the iteration 'Manan_CS-OrangeHRMSprint1'. The test case is currently in the 'Development' deployment state.

Test Case 47 Invalidate Add custo: x

https://dev.azure.com/mananchathli1/Manan_CS-OrangeHRM/_workitems/edit/47/

Onboarding - Work... Email - Chathli, Man... SBO LEARNING DEL... Home Insight Browser Summary - Overview MananChathli1907/... Quarterly all-staff st...

Azure DevOps mananchathli1 / Manan_CS-OrangeHRM / Boards / Work items

Manan_CS-OrangeHRM

Overview

Boards

Work items

Boards

Backlogs

Sprints

Queries

Delivery Plans

Analytics views

Repos

Pipelines

Test Plans

Artifacts

Project settings

Recently updated

Back to Work Items

5 of 28

TEST CASE 47

47 Invalidate Add customer Save Button US5

Manan Chathli

0 Comments Add Tag

Save Follow

Updated by Manan Chathli 35m ago

Status Design Area Manan_CS-OrangeHRM Reason New Iteration Manan_CS-OrangeHRM/Sprint1

Steps Summary Associated Automation

Steps

Steps	Action	Expected result
1.	Login to OrangeHRM (orangehrmlive.com)	Website should open
2.	Navigate to Time/Project Info/Customers	Relevant page should open
3.	Click on Add	A new customer entry box should open
4.	Leave all fields empty	All fields should be empty
5.	Click on Save	Error Message - Required

Parameter values

Deployment

Development

Related Work

Add link

Add an existing work item as a parent

Test Case

20 Projects and Customer Information

Updated 3h ago

New

Status

Priority

Example of Bugs:

Bug 29 Empty Time sheet submit: x

https://dev.azure.com/mananchathli1/Manan_CS-OrangeHRM/_workitems/edit/29

Onboarding - Work... Email - Chathli, Man... SBO LEARNING DEL... Home Insight Browser Summary - Overview MananChathli1907/... Quarterly all-staff st...

Azure DevOps mananchathli1 / Manan_CS-OrangeHRM / Boards / Work items

Manan_CS-OrangeHRM

Overview

Boards

Work items

Boards

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Repos

Pipelines

Test Plans

Artifacts

Project settings

Recently updated

Back to Work Items

23 of 28

BUG 29

29 Empty Time sheet submitting US1

No one selected

0 Comments Add Tag

Save Follow

Updated by Manan Chathli 2h ago

Details

Repro Steps

- Login to OrangeHRM (orangehrmlive.com)
- Navigate to Time/Timesheets/My Timesheet
- Click on create a new time sheet in a period where there is no timesheet
- Submit without adding rows to the timesheet

Expected: Error Message - "Please input rows in time sheet before submitting"

Actual: Submission Passes

System Info

Planning

Resolved Reason

Story Points

Priority 2

Severity 3 - Medium

Activity

Deployment

Development

Related Work

Add link

Parent

3 Timesheets

Updated 4h ago

New

System Info

Found in Build

Integrated in Build

Effort (Hours)

Original Estimate

OrangeHRM

https://opensource-demo.orangehrmlive.com/web/index.php/time/viewMyTimesheet

Onboarding - Work... | Email - Chatli, Man... | SBO LEARNING DEL... | Home | Insight Browser | Summary - Overview | MananChathli1907... | Quarterly all-staff st...

orangeHRM

Search

Admin

PIM

Leave

Time

Recruitment

My Info

Performance

Dashboard

Directory

Maintenance

Time / Timesheets

Upgrade

Ivano Ivanovich

Timesheets

Attendance

Reports

Project Info

My Timesheet

Timesheet Period

2024-11-03 to 2024-17-03

Project	Activity	11 Mon	12 Tue	13 Wed	14 Thu	15 Fri	16 Sat	17 Sun	Total
No Records Found									

Status: Submitted

Edit

Actions Performed on the Timesheet

Actions	Performed By	Date	Comment
Submitted	Ivano Ivanovich	2024-06-09	

Bug 40 Date is accepting a future

https://dev.azure.com/mananchathli1/Manan_CS-OrangeHRM/_workitems/edit/40

Onboarding - Work... Email - Chathli, Man... SBO LEARNING DEL... Home Insight Browser Summary - Overview MananChathli1907/... Quarterly all-staff st...

Azure DevOps mananchathli1 / Manan_CS-OrangeHRM / Boards / Work items

Manan_CS-OrangeHRM

Overview

Boards

Work items

Boards

Backlogs

Sprints

Queries

Delivery Plans

Analytics views

Repos

Pipelines

Test Plans

Artifacts

Project settings

Recently updated

Back to Work Items

12 of 28

BUG 40

40 Date is accepting a future date for punch in

No one selected

0 Comments Add Tag

Save Follow

Updated by Manan Chathli 2h ago

Area: Manan_CS-OrangeHRM

Reason: New

Iteration: Manan_CS-OrangeHRM\Sprint1

Details

Repro Steps

- Login to OrangeHRM (orangehrmlive.com)
- Navigate to Time/Attendance/Punch In/Out
- Fill other fields correctly
- Put date as a future date
- Click on IN

Expected:
Error Message- Cant punch in on a Future Date

Actual:
Successful punch in

System Info

Planning

Resolved Reason

Story Points

Priority: 2

Severity: 3 - Medium

Activity

Deployment

Development

Related Work

Add link

Parent

12 Check In Check Out
Updated 3h ago New

System Info

Found in Build

Effort (Hours)

Original Estimate

Integrated in Build

OrangeHRM

https://opensource-demo.orangehrmlive.com/web/index.php/attendance/punchIn

Onboarding - Work... Email - Chathli, Man... SBO LEARNING DEL... Home Insight Browser Summary - Overview MananChathli1907/... Quarterly all-staff st...

Attendance / Attendance

Upgrade

Ivano Ivanovich

Timesheets Attendance Reports Project Info

Punch In

Date* 2025-15-01

Time* 02:06 AM

Note

Type here

* Required

In

OrangeHRM

https://opensource-demo.orangehrmlive.com/web/index.php/attendance/punchOut

Onboarding - Work...Email - Chatli, Man...SBO LEARNING DEL...HomeInsight BrowserSummary - OverviewMananChathli1907/...Quarterly all-staff st...

OrangeHRM

Attendance

UpgradeIvano Ivanovich

TimesheetsAttendanceReportsProject Info

Punch Out

Punched in time

2025-15-01 - 02:06 AM (GMT +05:30)

Date*Time*

2024-06-0902:06 PM

Punch out Time Should Be Later Than Punch in Time

Note

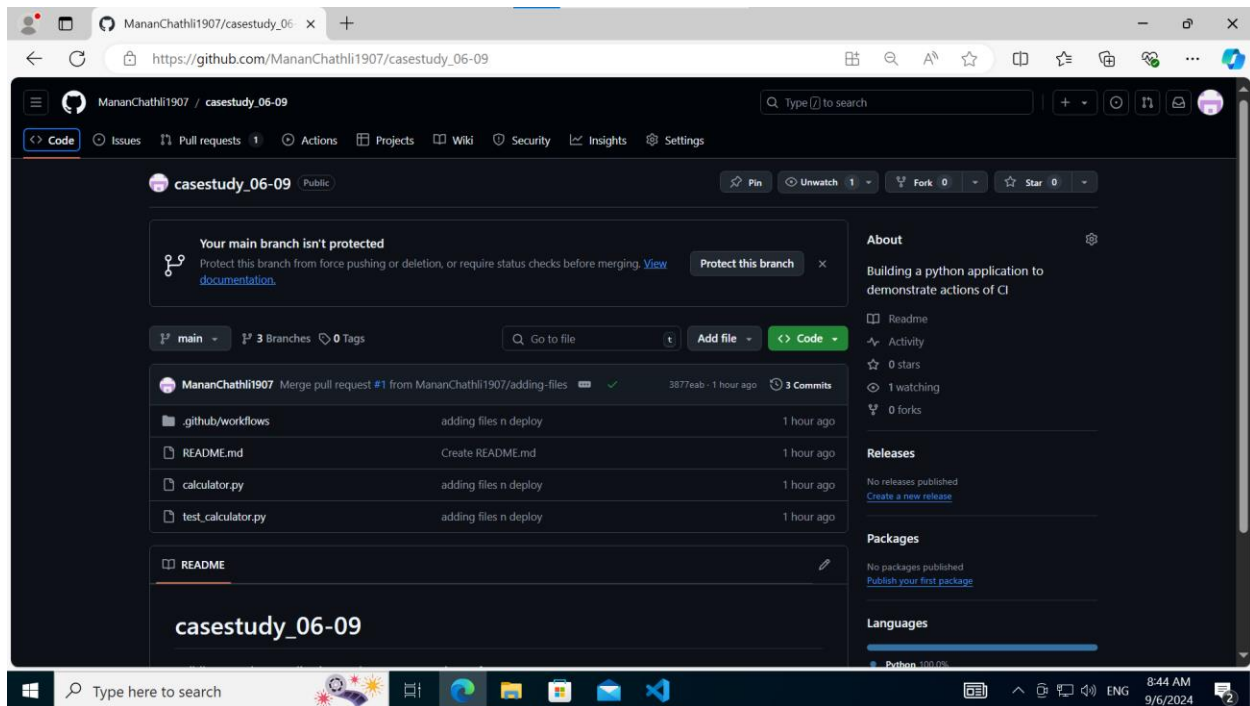
Type here

* Required

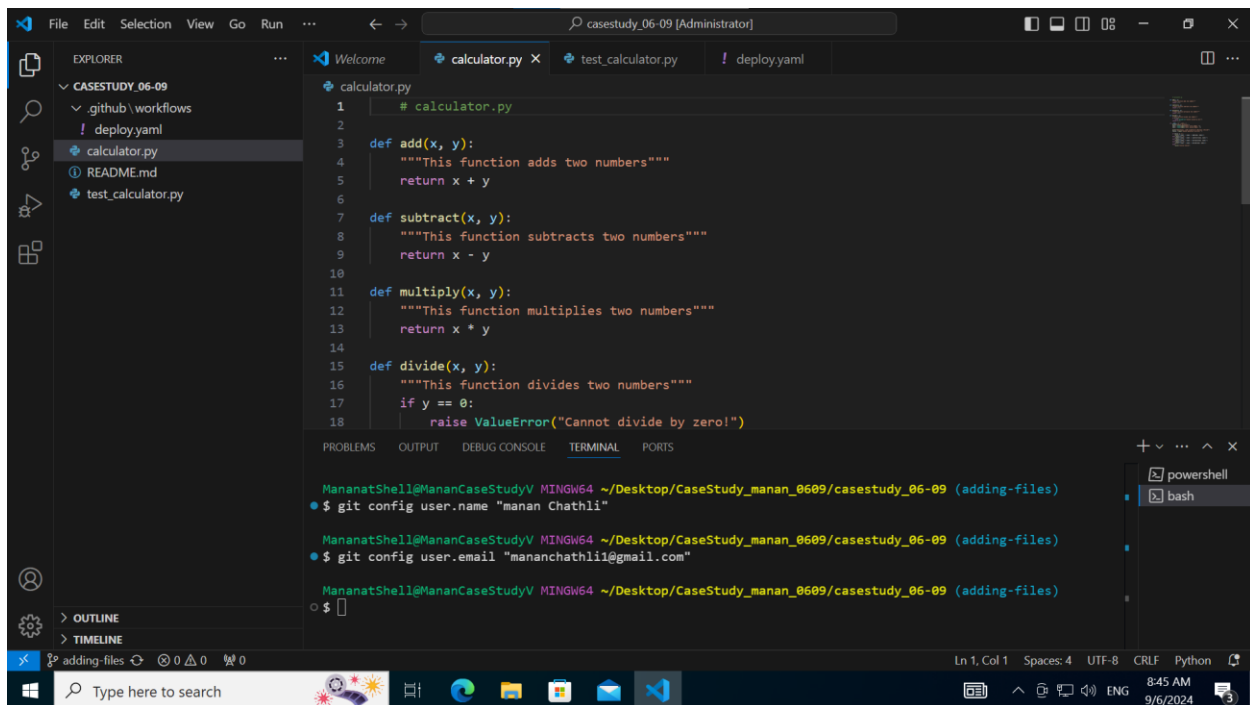
Out

3) Implement CI/CD using Github Actions

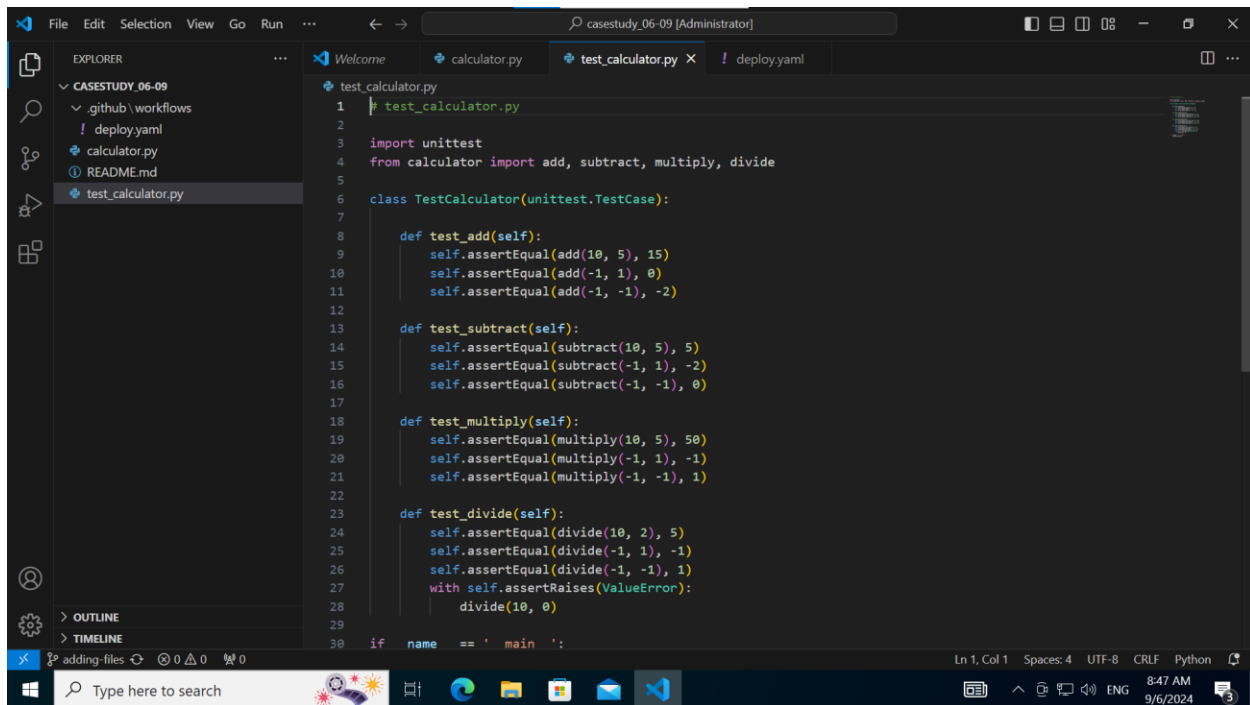
Made a new repository, casestudy_0609 to implement this github actions



Cloned repository in VS Code, Created a branch and added files like calculator.py



Added Unit test file test_calculator.py

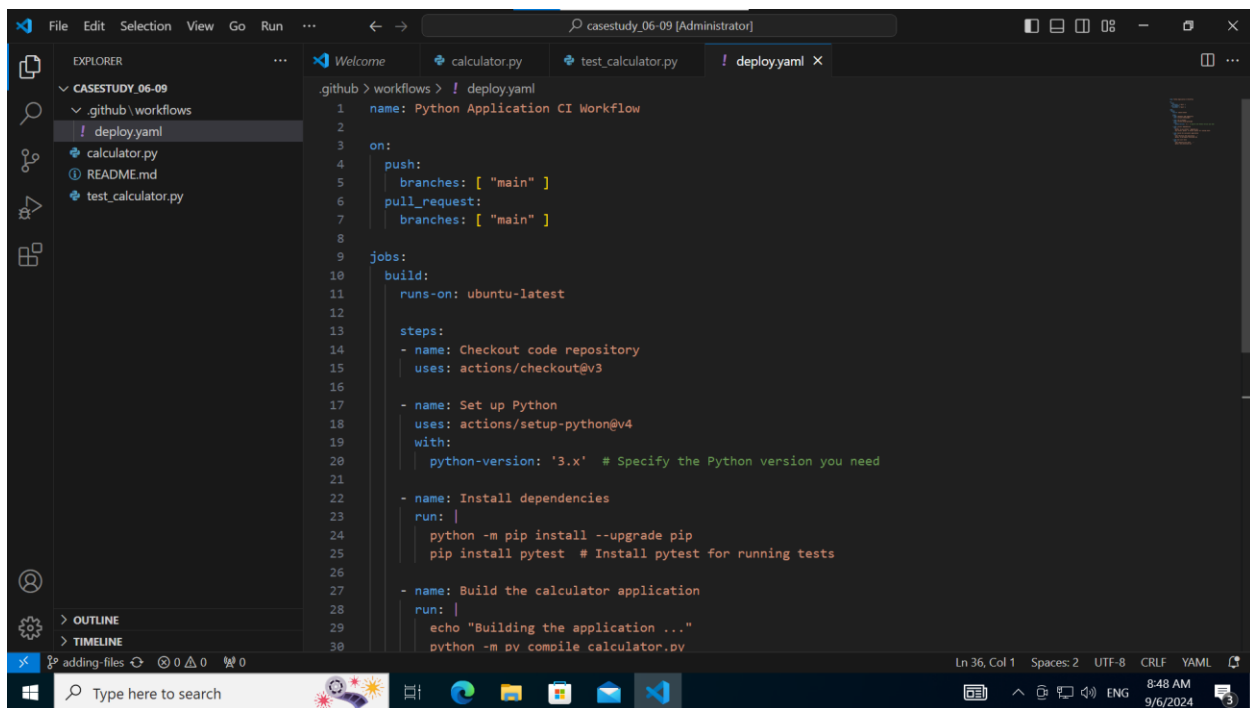


This screenshot shows the Visual Studio Code editor with the file `test_calculator.py` open. The Explorer sidebar on the left shows the project structure for `CASESTUDY_06-09`, including `.github/workflows`, `deploy.yaml`, `calculator.py`, `README.md`, and `test_calculator.py`. The main editor area displays the following Python code:

```
1 # test_calculator.py
2
3 import unittest
4 from calculator import add, subtract, multiply, divide
5
6 class TestCalculator(unittest.TestCase):
7
8     def test_add(self):
9         self.assertEqual(add(10, 5), 15)
10        self.assertEqual(add(-1, 1), 0)
11        self.assertEqual(add(-1, -1), -2)
12
13    def test_subtract(self):
14        self.assertEqual(subtract(10, 5), 5)
15        self.assertEqual(subtract(-1, 1), -2)
16        self.assertEqual(subtract(-1, -1), 0)
17
18    def test_multiply(self):
19        self.assertEqual(multiply(10, 5), 50)
20        self.assertEqual(multiply(-1, 1), -1)
21        self.assertEqual(multiply(-1, -1), 1)
22
23    def test_divide(self):
24        self.assertEqual(divide(10, 2), 5)
25        self.assertEqual(divide(-1, 1), -1)
26        self.assertEqual(divide(-1, -1), 1)
27        with self.assertRaises(ValueError):
28            divide(10, 0)
29
30 if __name__ == '__main__':
```

The status bar at the bottom indicates the cursor is at line 1, column 1, with 4 spaces, UTF-8 encoding, CRLF line endings, and the Python language mode.

Added Deploy.yaml

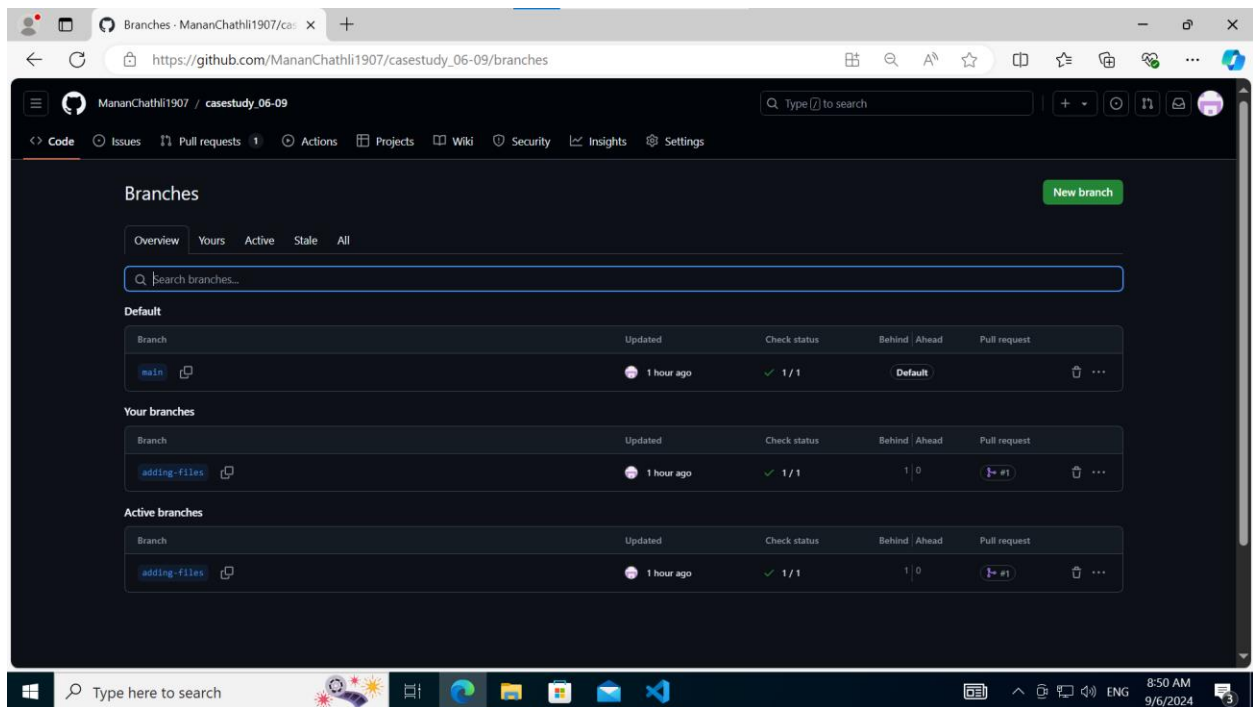


This screenshot shows the Visual Studio Code editor with the file `.github/workflows/deploy.yaml` open. The Explorer sidebar on the left shows the project structure, with `deploy.yaml` selected under `.github/workflows`. The main editor area displays the following YAML code:

```
github > workflows > ! deploy.yaml
1 name: Python Application CI Workflow
2
3 on:
4   push:
5     branches: [ "main" ]
6   pull_request:
7     branches: [ "main" ]
8
9 jobs:
10  build:
11    runs-on: ubuntu-latest
12
13    steps:
14      - name: Checkout code repository
15        uses: actions/checkout@v3
16
17      - name: Set up Python
18        uses: actions/setup-python@v4
19        with:
20          python-version: '3.x' # Specify the Python version you need
21
22      - name: Install dependencies
23        run: |
24          python -m pip install --upgrade pip
25          pip install pytest # Install pytest for running tests
26
27      - name: Build the calculator application
28        run: |
29          echo "Building the application ..."
30          python -m py_compile calculator.py
```

The status bar at the bottom indicates the cursor is at line 36, column 1, with 2 spaces, UTF-8 encoding, CRLF line endings, and the YAML language mode.

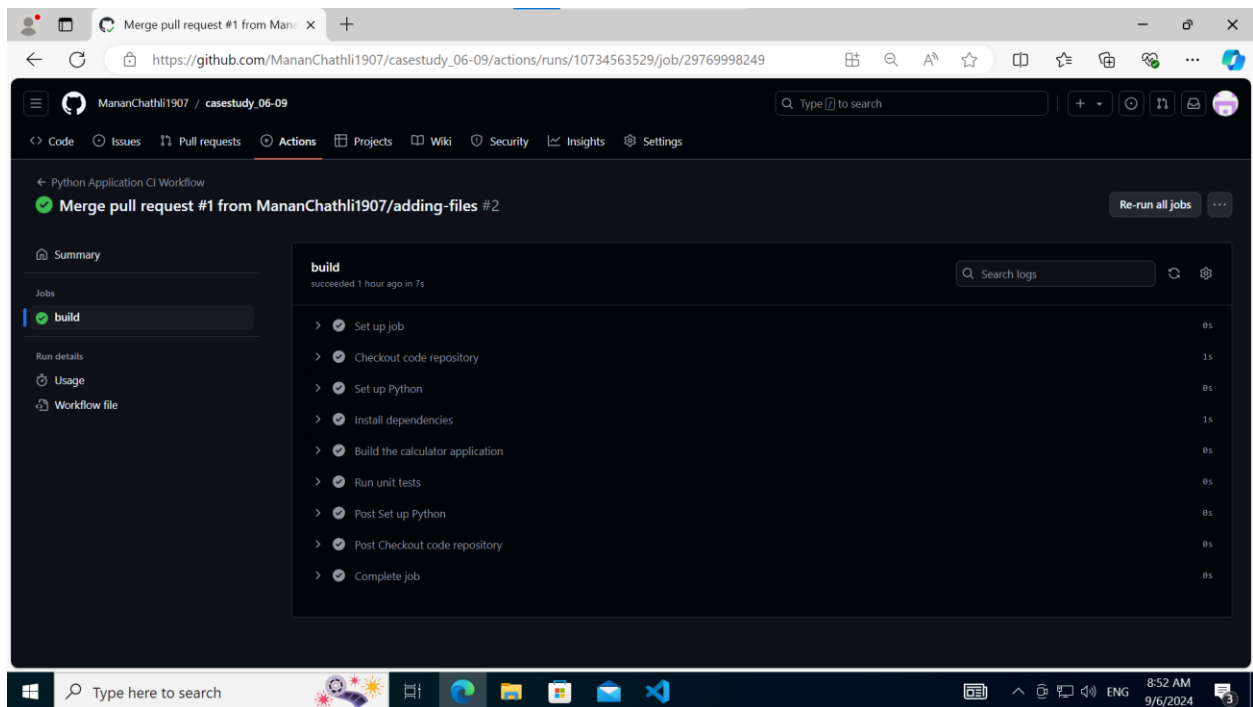
Pushed branches into github and merged with main



The screenshot shows the GitHub repository page for 'MananChathli1907 / casestudy_06-09'. The 'Branches' tab is selected, displaying a table of branches. The 'main' branch is the default, and a new branch 'adding-files' has been created and pushed 1 hour ago. The 'adding-files' branch is also shown under 'Your branches' and 'Active branches'.

Branch	Updated	Check status	Behind / Ahead	Pull request
main	1 hour ago	✓ 1 / 1	Default	
adding-files	1 hour ago	✓ 1 / 1	1 0	#1

Using Github actions implemented CI



The screenshot shows the GitHub Actions workflow page for 'Merge pull request #1 from MananChathli1907/adding-files #2'. The workflow is named 'Python Application CI Workflow' and is currently running. The 'build' job is shown as successful, with a list of steps including 'Set up job', 'Checkout code repository', 'Set up Python', 'Install dependencies', 'Build the calculator application', 'Run unit tests', 'Post Set up Python', 'Post Checkout code repository', and 'Complete job'.

Step	Duration
Set up job	0s
Checkout code repository	1s
Set up Python	0s
Install dependencies	1s
Build the calculator application	0s
Run unit tests	0s
Post Set up Python	0s
Post Checkout code repository	0s
Complete job	0s

