Final Assessment

MCQ

1. What does WSL stand for in the context of Windows?

a. Windows Software Locator

b. Windows System Locator

c. Windows Subsystem for Linux

d. Windows Shell Language

2. What is the primary goal of continuous integration (CI) in DevOps?

a. Automating manual testing

b. Frequent integration of code changes

c. Managing cloud infrastructure

d. Monitoring server performance

3. In the Linux command line, what does the cd command do?

a. Copy files and directories

b. Change the working directory

c. Create a new directory

d. Calculate directory size

4. Which of the following is not a Linux distribution?

a. Ubuntu

b. CentOS

c. Docker

d. Debian

5. What is Docker primarily used for in DevOps and containerization?

a. Managing cloud infrastructure

b. Running virtual machines

c. Packaging and deploying applications in containers

d. Managing network security

6. What is the primary purpose of Azure DevOps?

a. Infrastructure management

b. Software development and delivery

c. Network security

d. Virtualization

7. Which components are part of Azure DevOps?

a. Azure App Service and Azure Functions

b. Azure Monitor and Azure Security Center

c. Azure Boards and Azure Pipelines

d. Azure Virtual Machines and Azure SQL Database

8. How does Azure DevOps support version control in software development?

a. It provides automated database backups.

b. It tracks changes in source code and manages versions

c. It monitors server performance.

d. It optimizes network configurations.

9. In Linux, what is the primary role of the root user?

a. Managing user accounts

b. Running GUI applications

c. Administrative tasks with superuser privileges

d. Monitoring network traffic

10. In Azure DevOps, which component is used to define, build, test, and deploy

applications?

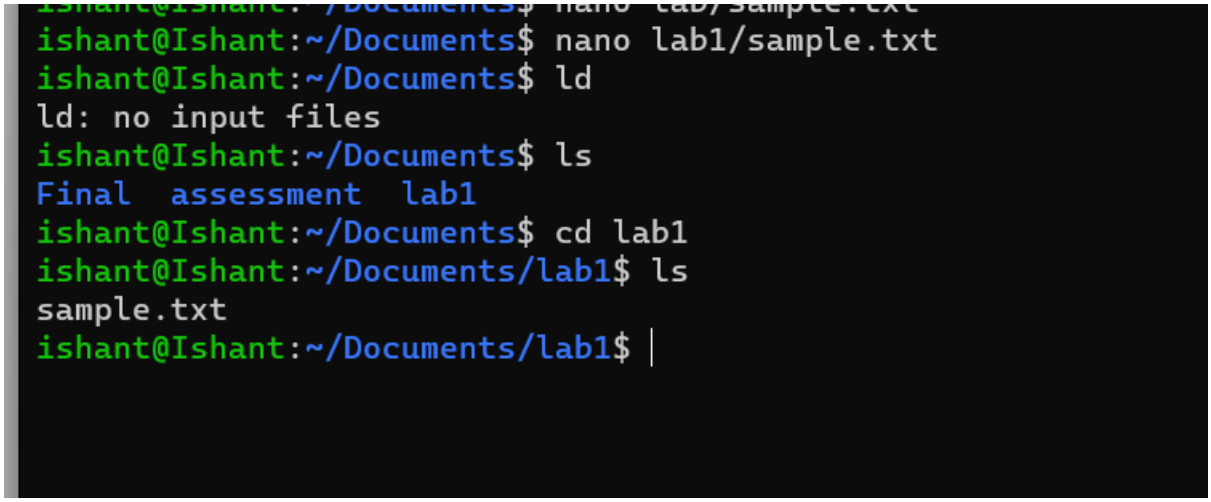
a. Azure Boards

b. Azure Repos

c. Azure Pipelines

d. Azure Artifacts

Lab 1



```
ishant@Ishant:~/Documents/lab1$ ls
sample.txt
ishant@Ishant:~/Documents/lab1$ cp lab1/sample.txt lab1/sample_copy.txt
cp: cannot stat 'lab1/sample.txt': No such file or directory
ishant@Ishant:~/Documents/lab1$
ishant@Ishant:~/Documents/lab1$ cd ..
ishant@Ishant:~/Documents$ cp lab1/sample.txt lab1/sample_copy.txt
ishant@Ishant:~/Documents$ mv lab1/sample_copy.txt lab1/new_sample.txt
ishant@Ishant:~/Documents$ ls lab1
new_sample.txt  sample.txt
ishant@Ishant:~/Documents$
```

Lab 2

```
ishant@Ishant:~/Documents$ mkdir lab2
ishant@Ishant:~/Documents$ touch lab2/secret.txt
ishant@Ishant:~/Documents$
ishant@Ishant:~/Documents$ ls
Final  assessment  lab1  lab2
ishant@Ishant:~/Documents$ cd lab2
ishant@Ishant:~/Documents/lab2$ ls
secret.txt
ishant@Ishant:~/Documents/lab2$
```

```
ishant@Ishant:~/Documents$ cd lab2
ishant@Ishant:~/Documents/lab2$ ls
secret.txt
ishant@Ishant:~/Documents/lab2$ nano secret.txt
ishant@Ishant:~/Documents/lab2$ nano secret.txt
ishant@Ishant:~/Documents/lab2$ chmod 600 secret.txt
ishant@Ishant:~/Documents/lab2$ ls -l secret.txt
-rw------- 1 ishant ishant 0 Oct 20 16:20 secret.txt
ishant@Ishant:~/Documents/lab2$
```

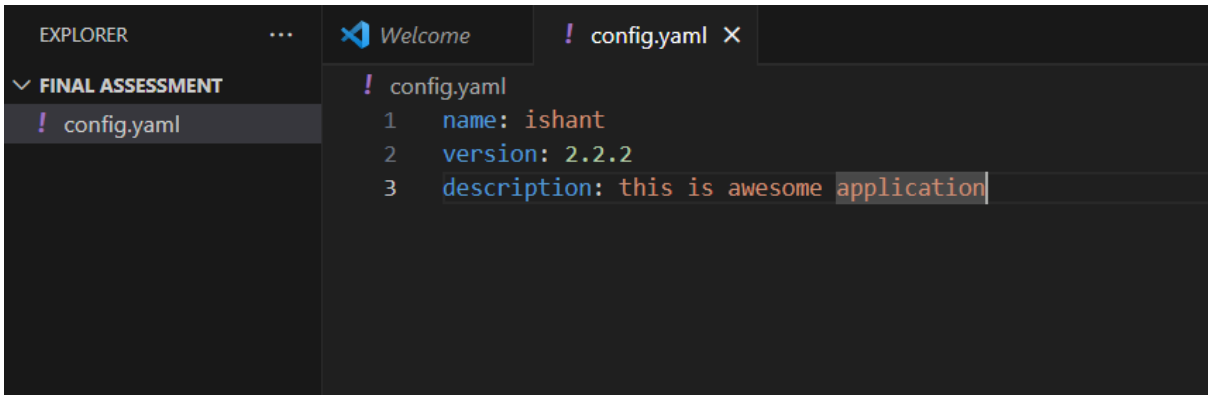
```
ishant@Ishant:~/Documents/lab2$ nano secret.txt
ishant@Ishant:~/Documents/lab2$ chmod 600 secret.txt
ishant@Ishant:~/Documents/lab2$ ls -l secret.txt
-rw------- 1 ishant ishant 0 Oct 20 16:20 secret.txt
ishant@Ishant:~/Documents/lab2$ sudo useradd testlab2
[sudo] password for ishant:
ishant@Ishant:~/Documents/lab2$ sudo chown testlab2:testlab2 secret.txt
ishant@Ishant:~/Documents/lab2$ ls -l secret.txt
-rw------- 1 testlab2 testlab2 0 Oct 20 16:20 secret.txt
ishant@Ishant:~/Documents/lab2$ ls -n secret.txt
-rw------- 1 1001 1001 0 Oct 20 16:20 secret.txt
ishant@Ishant:~/Documents/lab2$
```

Lab 3

```
ishant@Ishant:~/Documents/lab3$ grep "atmosphere" test.txt
In common usage, climate change describes global warming—the ongoing increase in global average temperature—and its effe
cts on Earth's climate system. Climate change in a broader sense also includes previous long-term changes to Earth's cli
mate. The current rise in global average temperature is more rapid than previous changes, and is primarily caused by hum
ans burning fossil fuels.[2][3] Fossil fuel use, deforestation, and some agricultural and industrial practices add to gr
eenhouse gases, notably carbon dioxide and methane.[4] Greenhouse gases absorb some of the heat that the Earth radiates
after it warms from sunlight. Larger amounts of these gases trap more heat in Earth's lower atmosphere, causing global w
arming.
ishant@Ishant:~/Documents/lab3$
```

```
ishant@Ishant:~/Documents/lab3$ sed -i 's/atmosphere/🤌/g' test.txt
ishant@Ishant:~/Documents/lab3$ grep "🤌" test.txt
In common usage, climate change describes global warming—the ongoing increase in global average temperature—and its effe
cts on Earth's climate system. Climate change in a broader sense also includes previous long-term changes to Earth's cli
mate. The current rise in global average temperature is more rapid than previous changes, and is primarily caused by hum
ans burning fossil fuels.[2][3] Fossil fuel use, deforestation, and some agricultural and industrial practices add to gr
eenhouse gases, notably carbon dioxide and methane.[4] Greenhouse gases absorb some of the heat that the Earth radiates
after it warms from sunlight. Larger amounts of these gases trap more heat in Earth's lower 🤌, causing global warming.
ishant@Ishant:~/Documents/lab3$ wc text.txt
wc: text.txt: No such file or directory
ishant@Ishant:~/Documents/lab3$ wc test.txt
  1 106 726 test.txt
ishant@Ishant:~/Documents/lab3$
```

Lab 4



YAML Lint

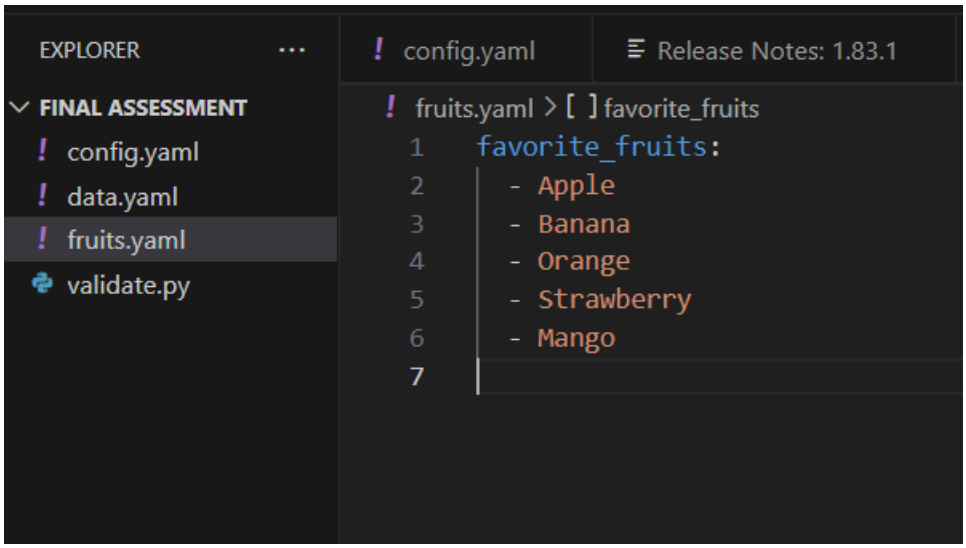
Paste in your YAML and click "Go" - we'll tell you if it's valid or not, and give you a nice clean UTF-8 version of it.

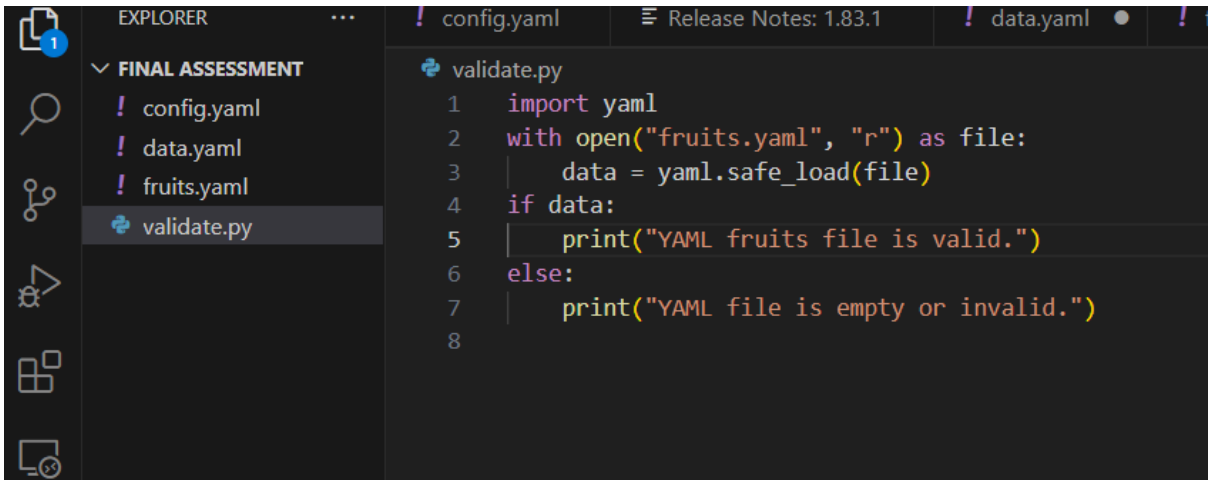
```
---
name: ishant
version: 2.2.2
description: this is awesome application
```

Go ☑ Reformat (strips comments) ☑ Resolve aliases

Valid YAML!

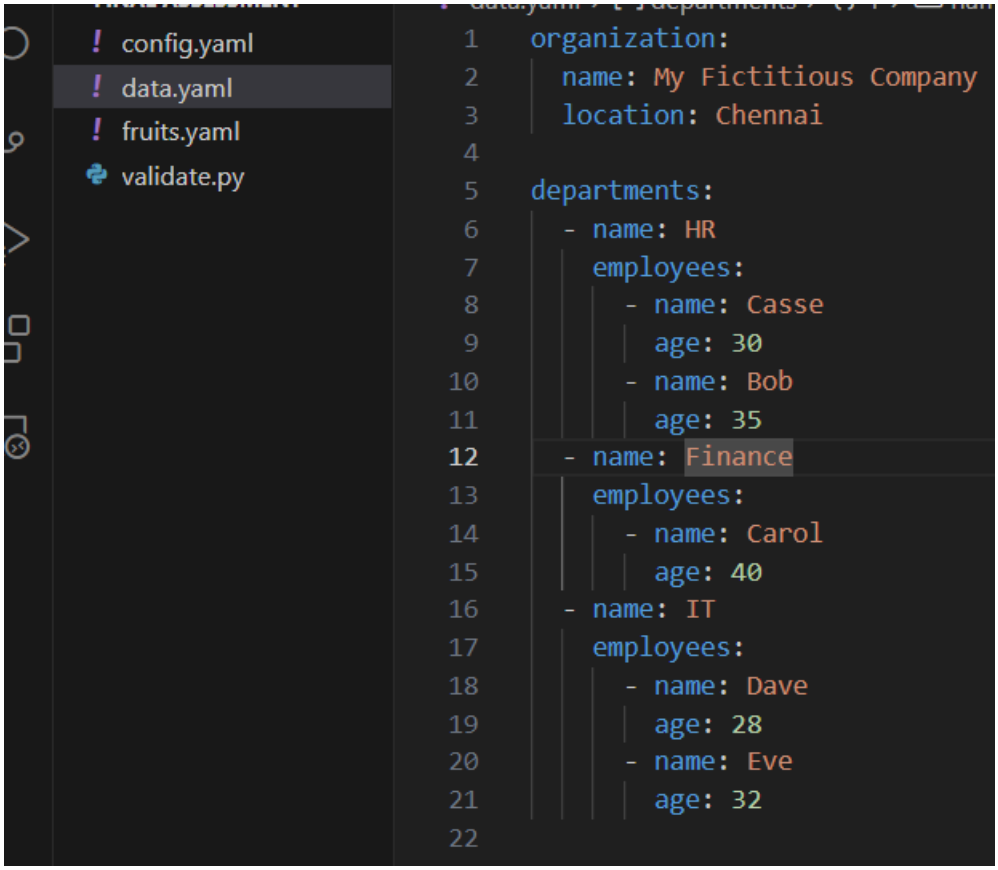
Lab 5

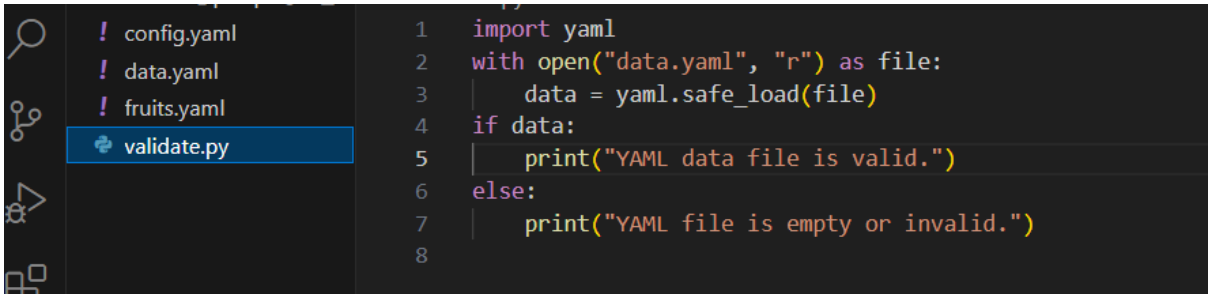




```
C:\Users\ishan\Downloads\Final assessment>python validate.py
YAML fruits file is valid.

C:\Users\ishan\Downloads\Final assessment>
```

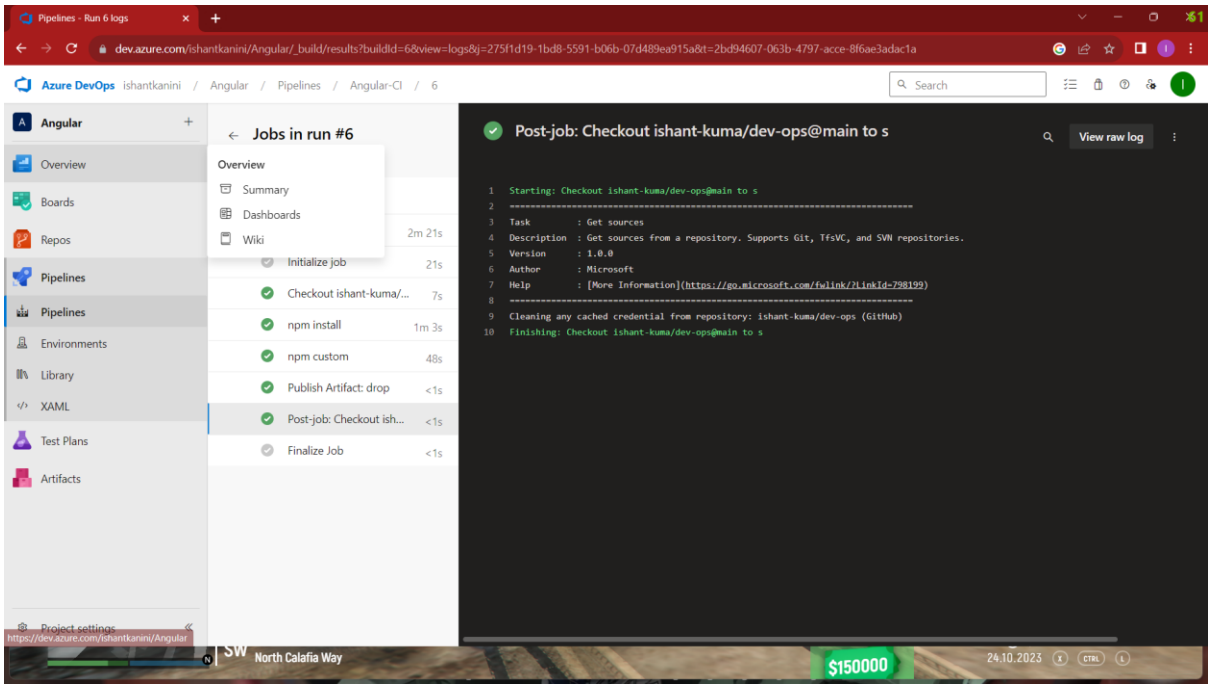
Lab 6





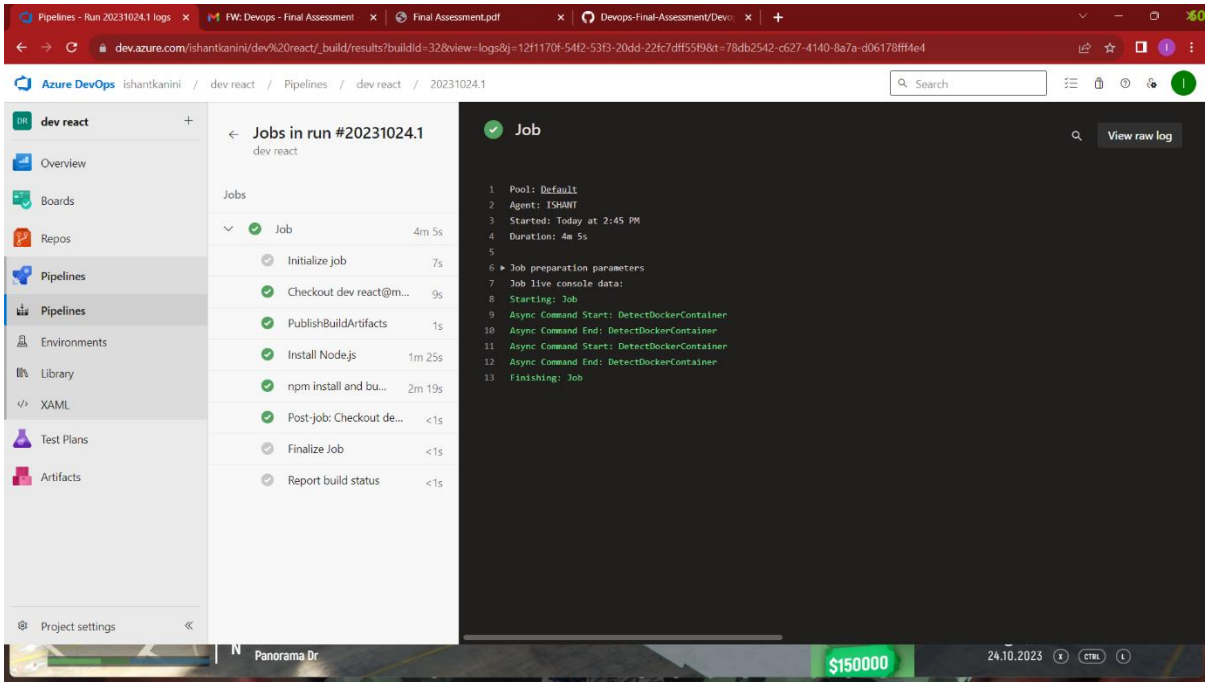

```
C:\Users\ishan\Downloads\Final assessment>python validate.py
YAML data file is valid.

C:\Users\ishan\Downloads\Final assessment>
```

Lab 7

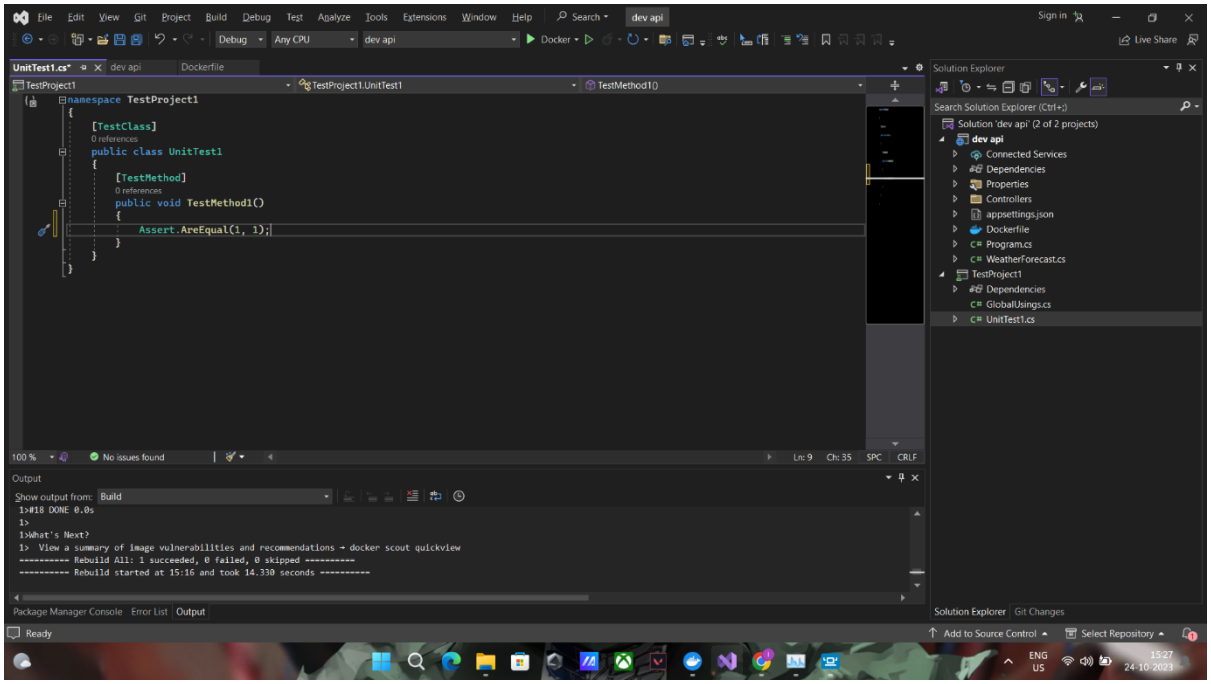


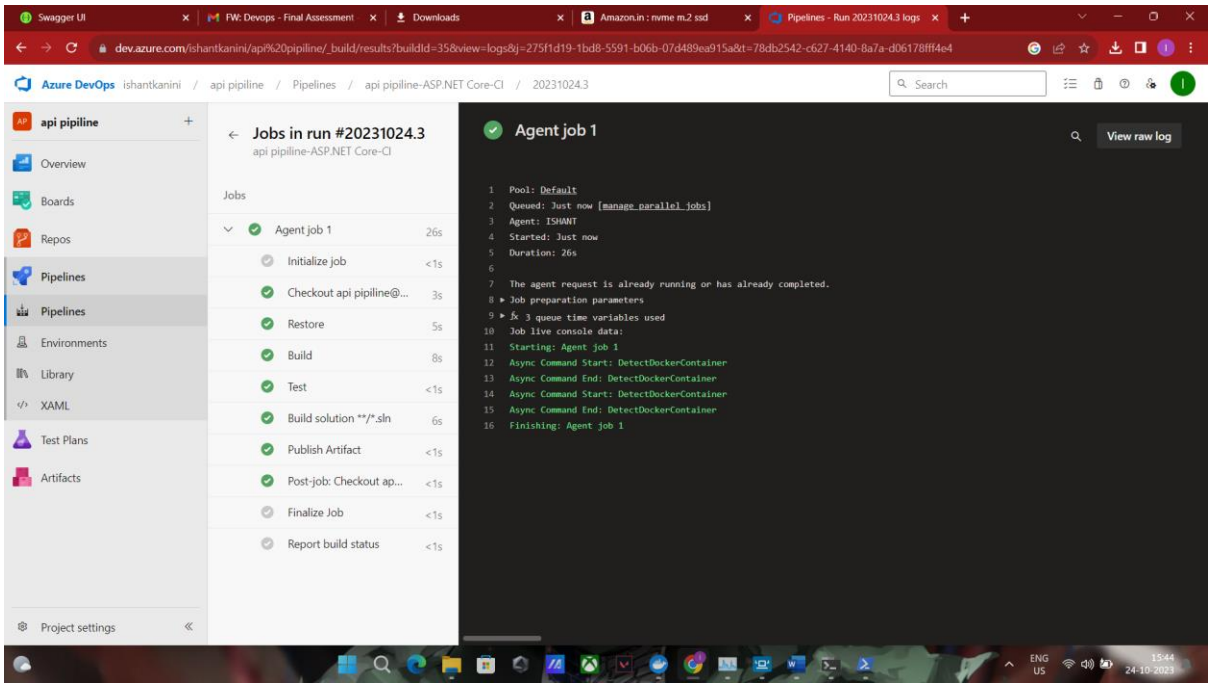

Administrator: Windows PowerShell
Succeeded: Removing .agent
PS C:\agent> .\config.cmd
>>
agent v3.227.2
(commit 9667e03)
Security warning! The group BUILTIN\Users has access to write/modify the agent folder. Please examine the log for more details.
>> Connect:
Enter server URL > https://dev.azure.com/ishantkanini
Enter authentication type (press enter for PAT) >
Enter personal access token > **********
Connecting to server ...
>> Register Agent:
Enter agent pool (press enter for default) >
Enter agent name (press enter for ISHANT) >
Scanning for tool capabilities.
Connecting to the server.
Successfully added the agent
Testing agent connection.
Enter work folder (press enter for _work) > C:\Users\ishan\Downloads\devops
2023-10-23 08:35:15Z: Settings Saved.
Enter run agent as service? (Y/N) (press enter for N) >
Enter configure autologon and run agent on startup? (Y/N) (press enter for N) >
PS C:\agent> .\run.cmd
Scanning for tool capabilities.
Connecting to the server.
2023-10-23 08:39:49Z: Listening for Jobs
2023-10-23 09:03:45Z: Running job: Agent job 1
2023-10-23 09:06:28Z: Job Agent job 1 completed with result: Succeeded
$150000
23.10.2023

Lab 8


Pipelines - Run 20231024.1 logs
FW: Devops - Final Assessment
Final Assessment.pdf
Devops-Final-Assessment/Devo
dev.azure.com/ishantkanini/dev%20react/_build/results?buildId=32&view=logs&j=12f1170f-54f2-53f3-20dd-22fc7dff55f9&t=78db2542-c627-4140-8a7a-d06178fff4e4
Azure DevOps ishantkanini / dev react / Pipelines / dev react / 20231024.1
Search
dev react
Overview
Boards
Repos
Pipelines
Pipelines
Environments
Library
XAML
Test Plans
Artifacts
Project settings
Jobs in run #20231024.1
dev react
Jobs
Job 4m 5s
Initialize job 7s
Checkout dev react@m... 9s
PublishBuildArtifacts 1s
Install Node.js 1m 25s
npm install and bu... 2m 19s
Post-job: Checkout de... <1s
Finalize Job <1s
Report build status <1s
Job
View raw log
1 Pool: Default
2 Agent: ISHANT
3 Started: Today at 2:45 PM
4 Duration: 4m 5s
5
6 ▸ Job preparation parameters
7 Job live console data:
8 Starting: Job
9 Async Command Start: DetectDockerContainer
10 Async Command End: DetectDockerContainer
11 Async Command Start: DetectDockerContainer
12 Async Command End: DetectDockerContainer
13 Finishing: Job
Panorama Dr
$150000
24.10.2023

Lab 9


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
dev api
Sign in
Live Share
Debug
Any CPU
dev api
Docker
UnitTest1.cs*
dev api
Dockerfile
TestProject1
TestProject1.UnitTest1
TestMethod1()
namespace TestProject1
{
[TestClass]
0 references
public class UnitTest1
{
[TestMethod]
0 references
public void TestMethod1()
{
Assert.AreEqual(1, 1);
}
}
}
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'dev api' (2 of 2 projects)
dev api
Connected Services
Dependencies
Properties
Controllers
appsettings.json
Dockerfile
Program.cs
WeatherForecast.cs
TestProject1
Dependencies
GlobalUsings.cs
UnitTest1.cs
100 %
No issues found
Ln: 9
Ch: 35
SPC
CRLF
Output
Show output from: Build
1>#18 DONE 0.0s
1>
1>What's Next?
1> View a summary of image vulnerabilities and recommendations → docker scout quickview
========== Rebuild All: 1 succeeded, 0 failed, 0 skipped ==========
========== Rebuild started at 15:16 and took 14.330 seconds ==========
Package Manager Console
Error List
Output
Solution Explorer
Git Changes
Ready
Add to Source Control
Select Repository
ENG
US
15:27
24-10-2023


Swagger UI
FW: Devops - Final Assessment
Downloads
Amazon.in : nvme m.2 ssd
Pipelines - Run 20231024.3 logs
dev.azure.com/ishantkanini/api%20pipiline/_build/results?buildId=35&view=logs&j=275f1d19-1bd8-5591-b06b-07d489ea915a&t=78db2542-c627-4140-8a7a-d06178fff4e4
Azure DevOps
ishantkanini / api pipiline / Pipelines / api pipiline-ASP.NET Core-CI / 20231024.3
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api pipiline
Overview
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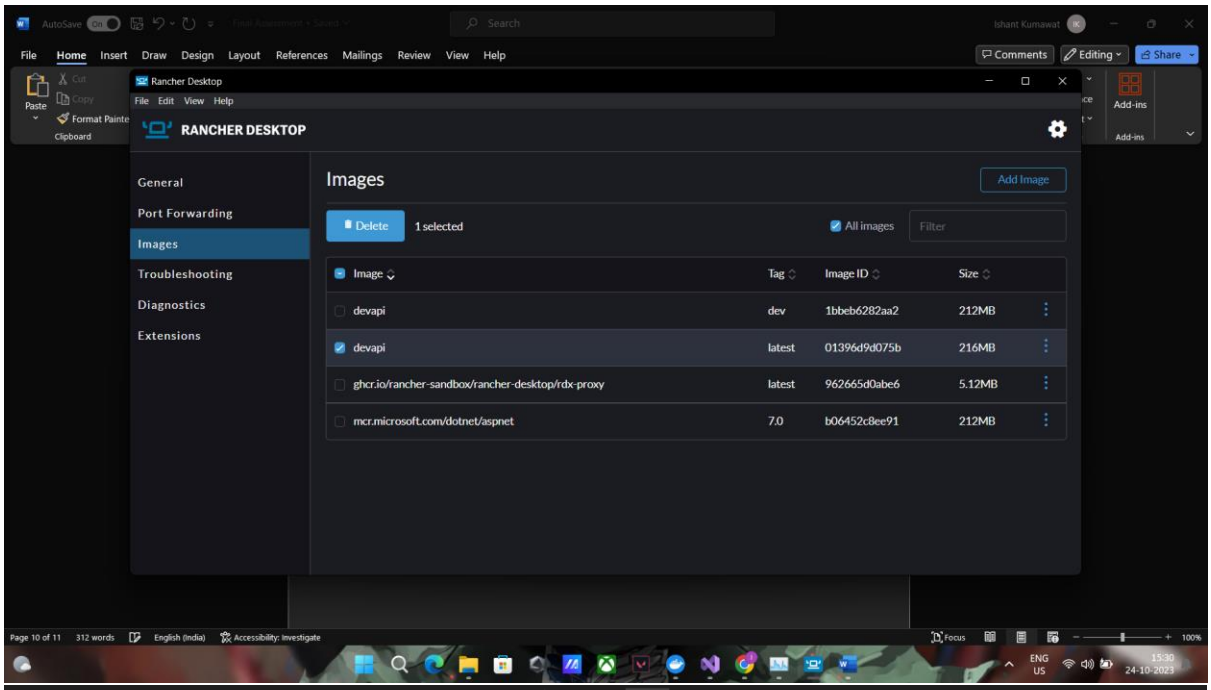
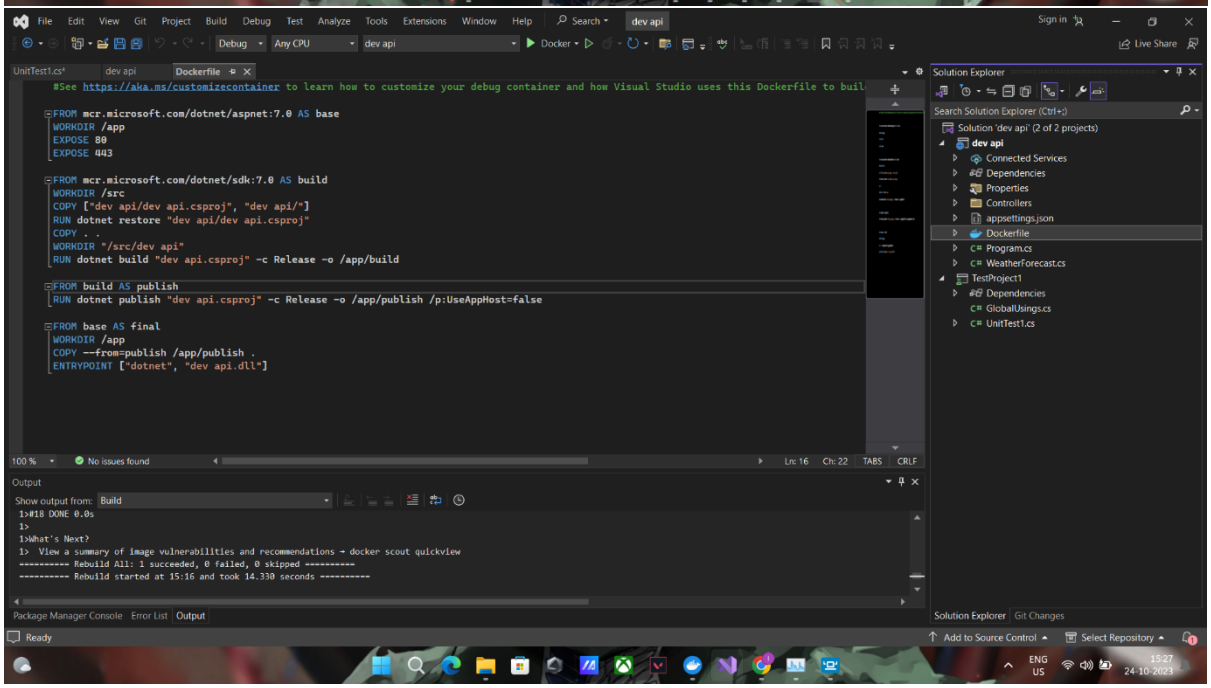
Artifacts
Project settings
Jobs in run #20231024.3
api pipiline-ASP.NET Core-CI
Jobs
Agent job 1 26s
Initialize job <1s
Checkout api pipiline@... 3s
Restore 5s
Build 8s
Test <1s
Build solution **/*.sln 6s
Publish Artifact <1s
Post-job: Checkout ap... <1s
Finalize Job <1s
Report build status <1s
Agent job 1
View raw log
1 Pool: Default
2 Queued: Just now [manage parallel jobs]
3 Agent: ISHANT
4 Started: Just now
5 Duration: 26s
6
7 The agent request is already running or has already completed.
8 ▸ Job preparation parameters
9 ▸ fx 3 queue time variables used
10 Job live console data:
11 Starting: Agent job 1
12 Async Command Start: DetectDockerContainer
13 Async Command End: DetectDockerContainer
14 Async Command Start: DetectDockerContainer
15 Async Command End: DetectDockerContainer
16 Finishing: Agent job 1
ENG
US
15:44
24-10-2023

Lab 10


Rancher Desktop
File Edit View Help
RANCHER DESKTOP
General
Port Forwarding
Images
Troubleshooting
Diagnostics
Extensions
Images
Add Image
Delete
1 selected
All images
Filter
Image
Tag
Image ID
Size
devapi dev 1bbeb6282aa2 212MB
devapi latest 01396d9d075b 216MB
ghcr.io/rancher-sandbox/rancher-desktop/rdx-proxy latest 962665d0abe6 5.12MB
mcr.microsoft.com/dotnet/aspnet 7.0 b06452c8ee91 212MB


#See https://aka.ms/customizecontainer to learn how to customize your debug container and how Visual Studio uses this Dockerfile to buil
FROM mcr.microsoft.com/dotnet/aspnet:7.0 AS base
WORKDIR /app
EXPOSE 80
EXPOSE 443
FROM mcr.microsoft.com/dotnet/sdk:7.0 AS build
WORKDIR /src
COPY ["dev api/dev api.csproj", "dev api/"]
RUN dotnet restore "dev api/dev api.csproj"
COPY . .
WORKDIR "/src/dev api"
RUN dotnet build "dev api.csproj" -c Release -o /app/build
FROM build AS publish
RUN dotnet publish "dev api.csproj" -c Release -o /app/publish /p:UseAppHost=false
FROM base AS final
WORKDIR /app
COPY --from=publish /app/publish .
ENTRYPOINT ["dotnet", "dev api.dll"]
Solution Explorer
Solution 'dev api' (2 of 2 projects)
dev api
Connected Services
Dependencies
Properties
Controllers
appsettings.json
Dockerfile
Program.cs
WeatherForecast.cs
TestProject1
Dependencies
GlobalUsings.cs
UnitTest1.cs
Output
Show output from: Build
1>#18 DONE 0.0s
1>What's Next?
1> View a summary of image vulnerabilities and recommendations → docker scout quickview
---------- Rebuild All: 1 succeeded, 0 failed, 0 skipped ----------
---------- Rebuild started at 15:16 and took 14.330 seconds ----------
Ready