<center>Assignment -4</center>

<center>Platform Engineering</center>

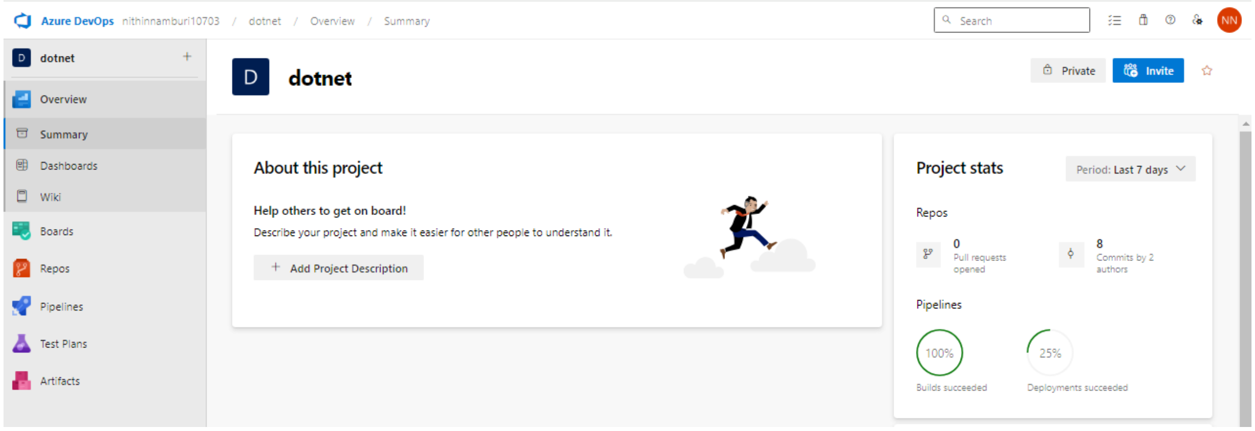
N.V.Nithin Kumar

1433832

1) Deploy .net app in azure dev ops from azure demo generator.

Ans)

Step-1: First we have to create a project.



Help others to get on board!

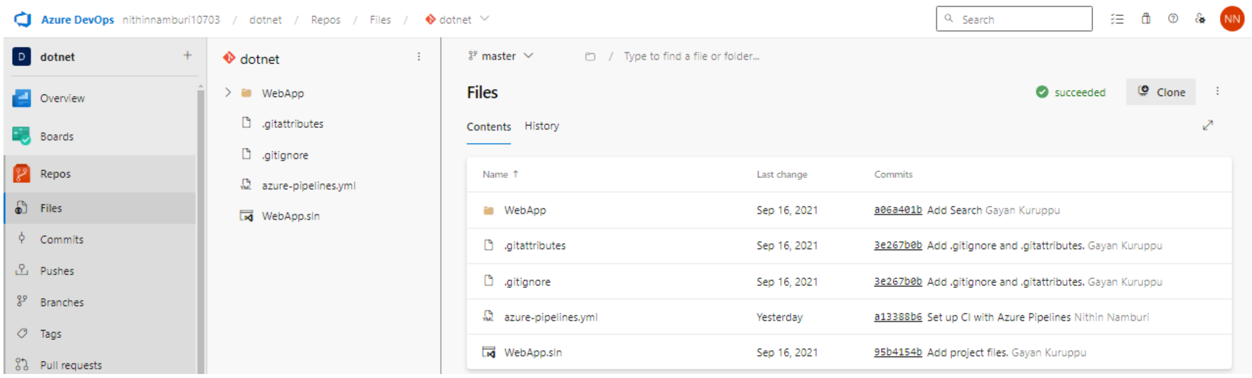
Describe your project and make it easier for other people to understand it.

0 Pull requests opened

8 Commits by 2 authors

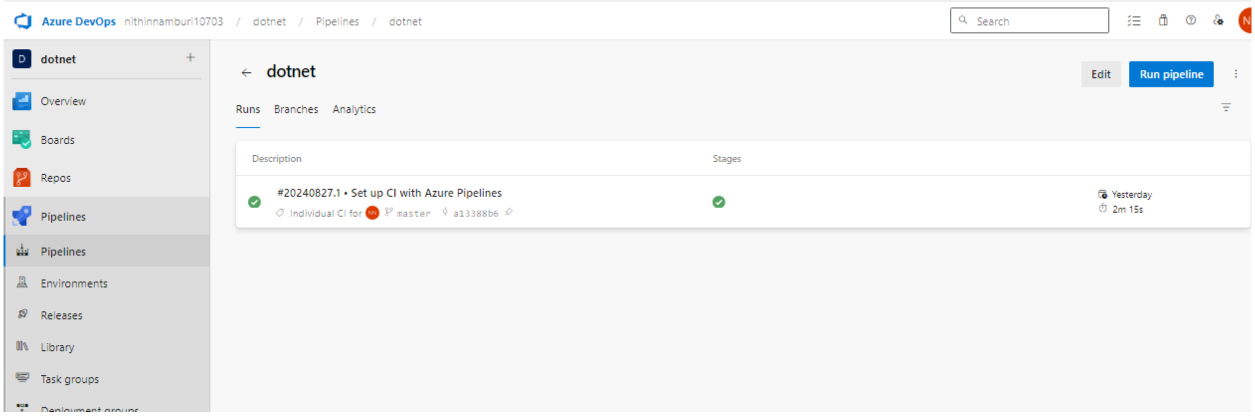
Step-2:Go to the repo and import a repository of the website.

https://github.com/nithinnamburi2003/asp-net-core-simple-web-app



Name ↑	Last change	Commits
WebApp	Sep 16, 2021	a06a401b Add Search Gayan Kuruppu
.gitattributes	Sep 16, 2021	3e267b0b Add .gitignore and .gitattributes. Gayan Kuruppu
.gitignore	Sep 16, 2021	3e267b0b Add .gitignore and .gitattributes. Gayan Kuruppu
azure-pipelines.yml	Yesterday	a13388b6 Set up CI with Azure Pipelines Nithin Namburi
WebApp.sln	Sep 16, 2021	95b4154b Add project files. Gayan Kuruppu

Step-3: create a release pipeline with below YAML code.

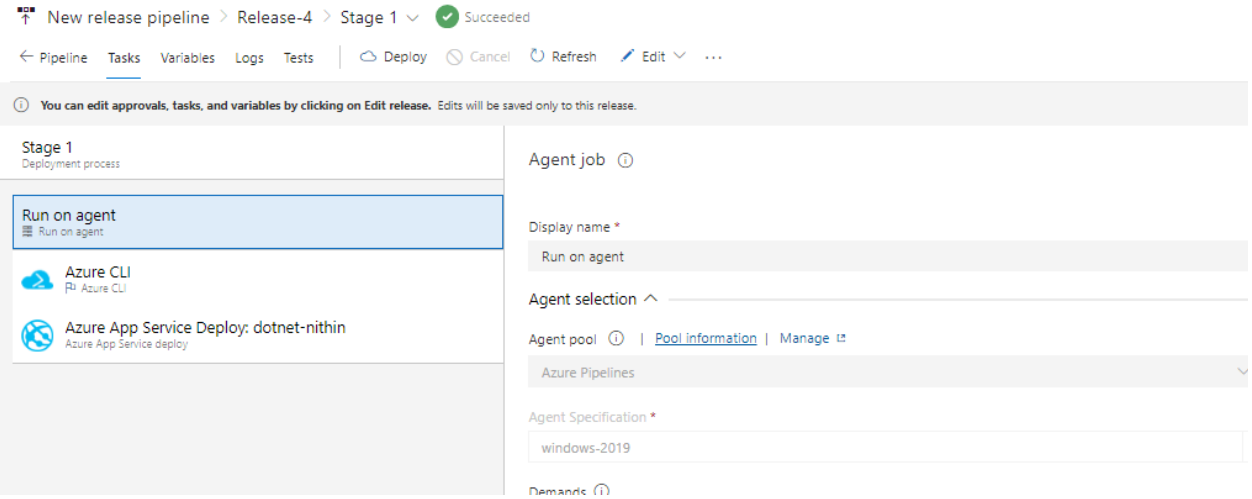


Description	Stages	
#20240827.1 • Set up CI with Azure Pipelines Individual CI for master a13388b6	✓	Yesterday 2m 15s

Step-4:Add the YAML file of the dotnet app service.

```
trigger:
- main

pool:
  vmImage: 'windows-latest'

variables:
  solution: '**/*.sln'
  buildPlatform: 'Any CPU'
  buildConfiguration: 'Release'

steps:
- task: NuGetToolInstaller@1

- task: NuGetCommand@2
  inputs:
    restoreSolution: '$(solution)'

- task: VSBuild@1
  inputs:
    solution: '$(solution)'

    msbuildArgs: '/p:DeployOnBuild=true /p:WebPublishMethod=Package /p:PackageAsSingleFile=true /p:SkipInvalidConfigurations=true /p:PackageLocation="$(build.artifactStagingDirectory)"'

    platform: '$(buildPlatform)'

    configuration: '$(buildConfiguration)'


- task: PublishBuildArtifacts@1

  inputs:

    PathtoPublish: '$(build.artifactStagingDirectory)'

    ArtifactName: 'drop'

    publishLocation: 'Container'
```

Step-5: Now go to the Release pipeline and create a new one and add stage and add run on agent for Azure CLI and azure app deploy service.



New release pipeline > Release-4 > Stage 1 ✓ Succeeded

You can edit approvals, tasks, and variables by clicking on Edit release. Edits will be saved only to this release.

Stage 1
Deployment process

Run on agent
Run on agent

Azure CLI
Azure CLI

Azure App Service Deploy: dotnet-nithin
Azure App Service deploy

Agent job

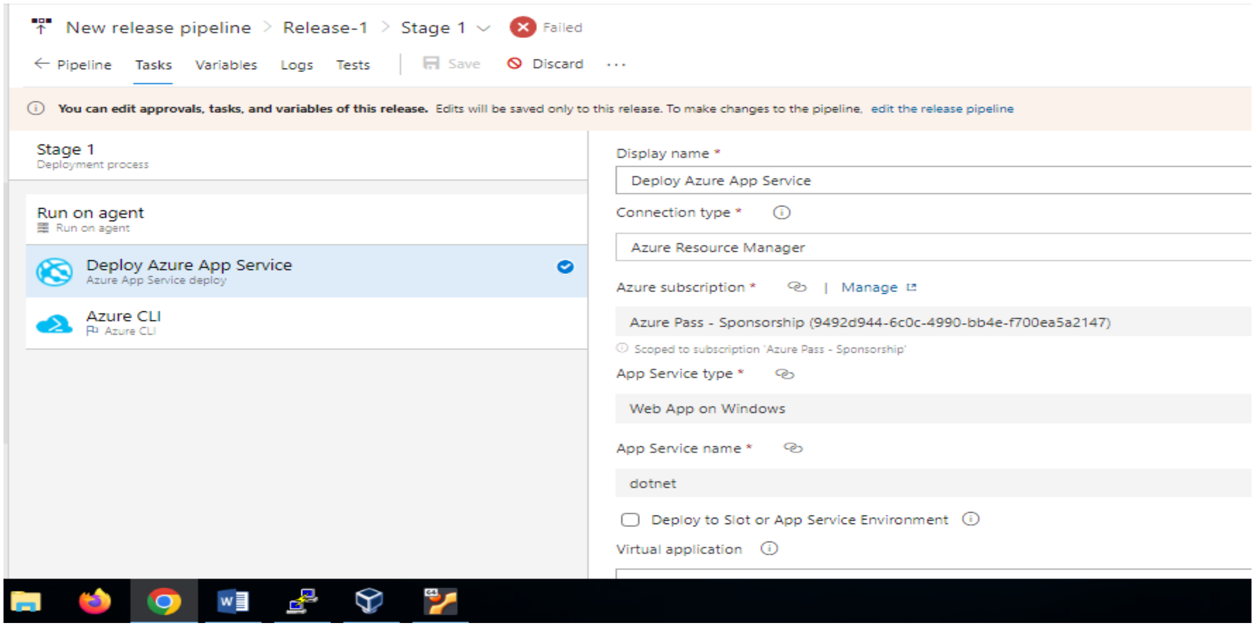
Display name *
Run on agent

Agent selection

Agent pool | Pool information | Manage
Azure Pipelines

Agent Specification *
windows-2019

Demands



ⓘ **You can edit approvals, tasks, and variables of this release.** Edits will be saved only to this release. To make changes to the pipeline, edit the release pipeline

Stage 1
Deployment process

Run on agent
Run on agent

Deploy Azure App Service
Azure App Service deploy

Azure CLI
Azure CLI

Display name *
Deploy Azure App Service

Connection type * ⓘ
Azure Resource Manager

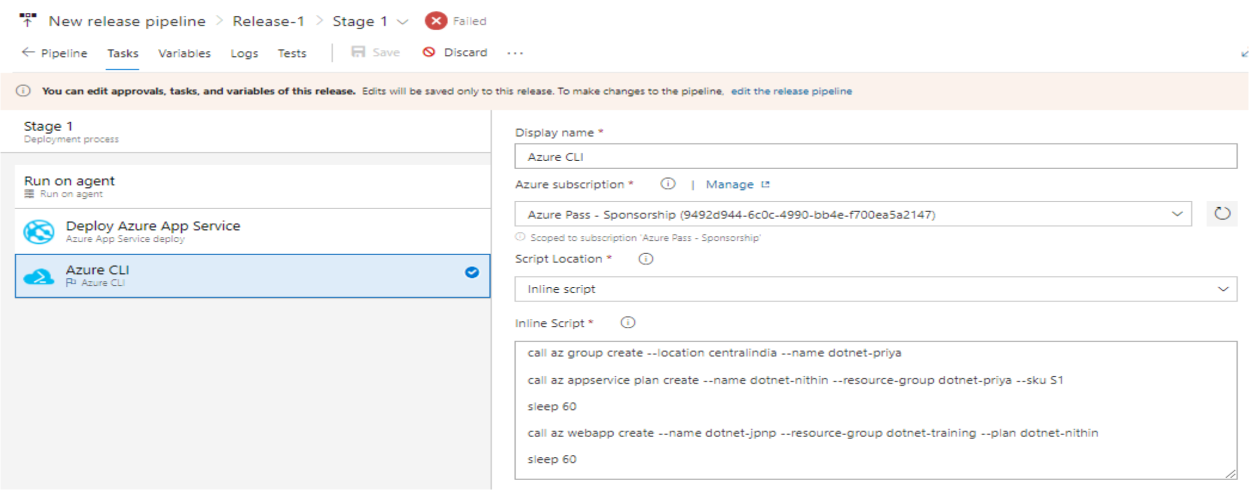
Azure subscription * | Manage
Azure Pass - Sponsorship (9492d944-6c0c-4990-bb4e-f700ea5a2147)
Scoped to subscription 'Azure Pass - Sponsorship'

App Service type *
Web App on Windows

App Service name *
dotnet

□ Deploy to Slot or App Service Environment ⓘ

Virtual application ⓘ



ⓘ **You can edit approvals, tasks, and variables of this release.** Edits will be saved only to this release. To make changes to the pipeline, edit the release pipeline

Stage 1
Deployment process

Run on agent
Run on agent

Deploy Azure App Service
Azure App Service deploy

Azure CLI
Azure CLI

Display name *
Azure CLI

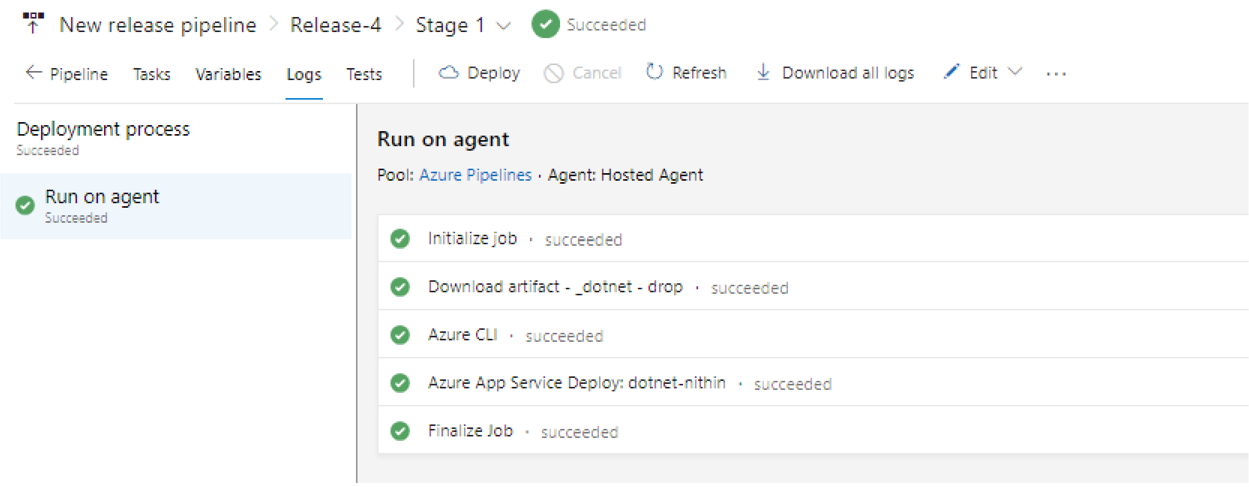
Azure subscription * ⓘ | Manage
Azure Pass - Sponsorship (9492d944-6c0c-4990-bb4e-f700ea5a2147)
Scoped to subscription 'Azure Pass - Sponsorship'

Script Location * ⓘ
Inline script

Inline Script * ⓘ

```
call az group create --location centralindia --name dotnet-priya

call az appservice plan create --name dotnet-nithin --resource-group dotnet-priya --sku S1

sleep 60

call az webapp create --name dotnet-jpnp --resource-group dotnet-training --plan dotnet-nithin

sleep 60
```

Step-6 : Now click on the create release.



Deployment process
Succeeded

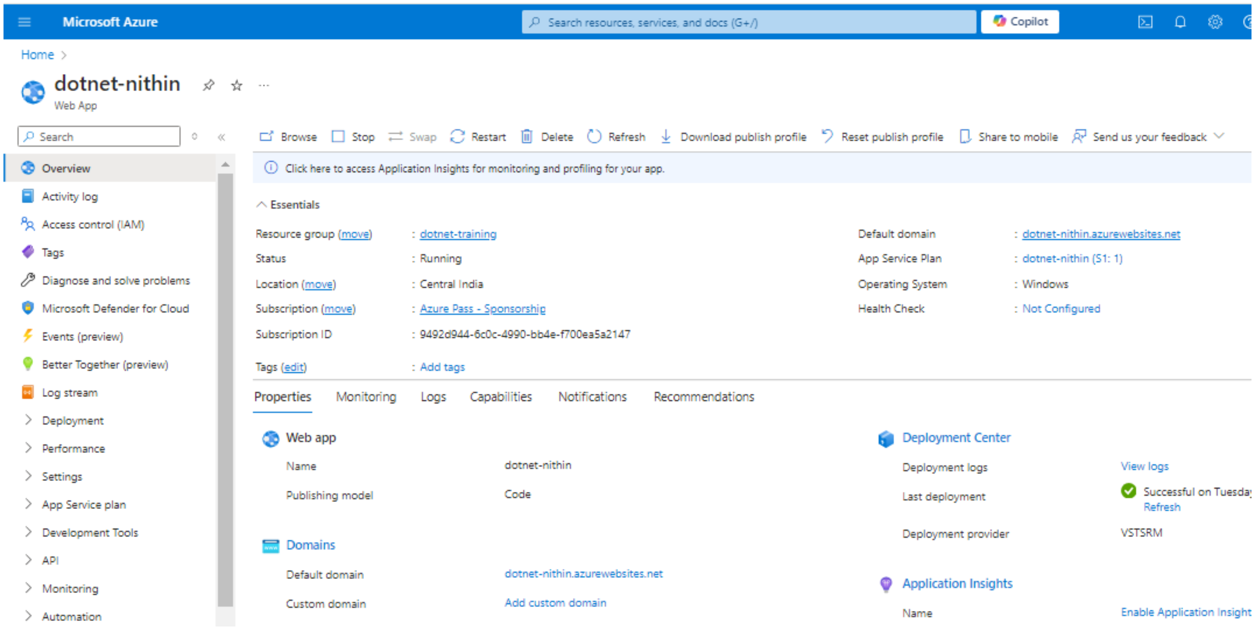
Run on agent
Succeeded

Run on agent

Pool: Azure Pipelines · Agent: Hosted Agent

- ✓ Initialize job · succeeded
- ✓ Download artifact - _dotnet - drop · succeeded
- ✓ Azure CLI · succeeded
- ✓ Azure App Service Deploy: dotnet-nithin · succeeded
- ✓ Finalize Job · succeeded

Step-7: Go to the webapp created in the azure and click on the browse.



dotnet-nithin

Web App

Click here to access Application Insights for monitoring and profiling for your app.

Essentials

Resource group (move)	: dotnet-training	Default domain	: dotnet-nithin.azurewebsites.net
Status	: Running	App Service Plan	: dotnet-nithin (S1: 1)
Location (move)	: Central India	Operating System	: Windows
Subscription (move)	: Azure Pass - Sponsorship	Health Check	: Not Configured
Subscription ID	: 9492d944-6c0c-4990-bb4e-f700ea5a2147		
Tags (edit)	: Add tags		

Web app

Name	dotnet-nithin
Publishing model	Code

Domains

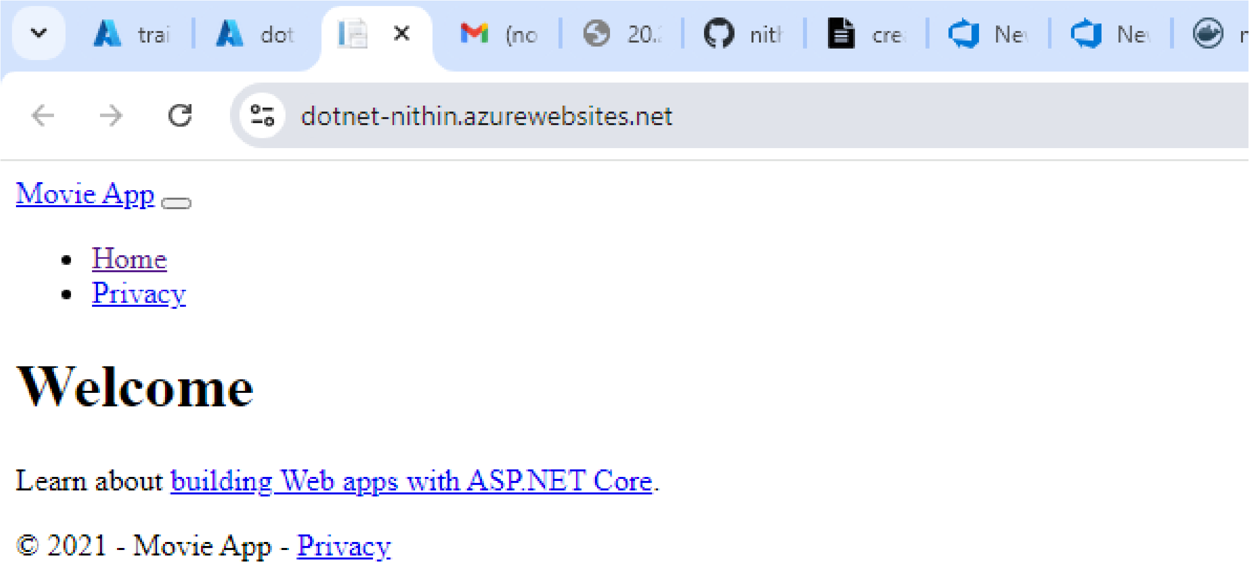
Default domain	dotnet-nithin.azurewebsites.net
Custom domain	Add custom domain

Deployment Center

Deployment logs	View logs
Last deployment	Successful on Tuesday Refresh
Deployment provider	VSTSRM

Application Insights

Name	Enable Application Insight



dotnet-nithin.azurewebsites.net

Movie App

- Home
- Privacy

Welcome

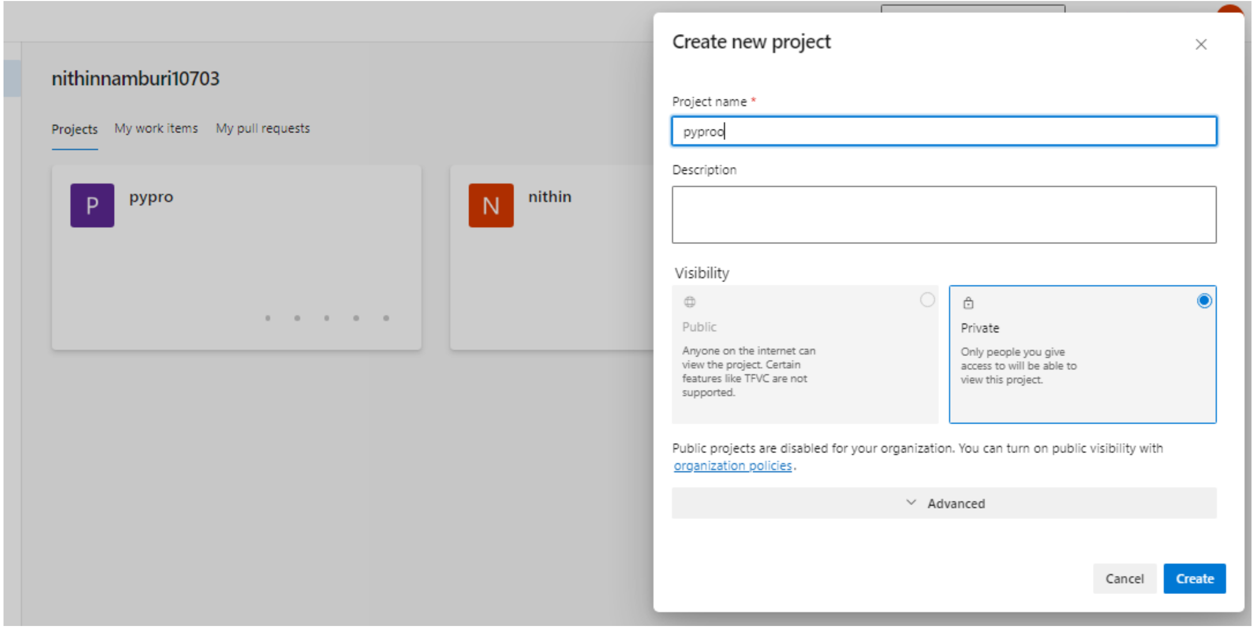
Learn about building Web apps with ASP.NET Core.

© 2021 - Movie App - Privacy

2) Deploy the pet clinic in azure dev ops.

Ans)

Step-1:Create a new a project.



Create new project

Project name *

pyproc

Description

Visibility

○ Public

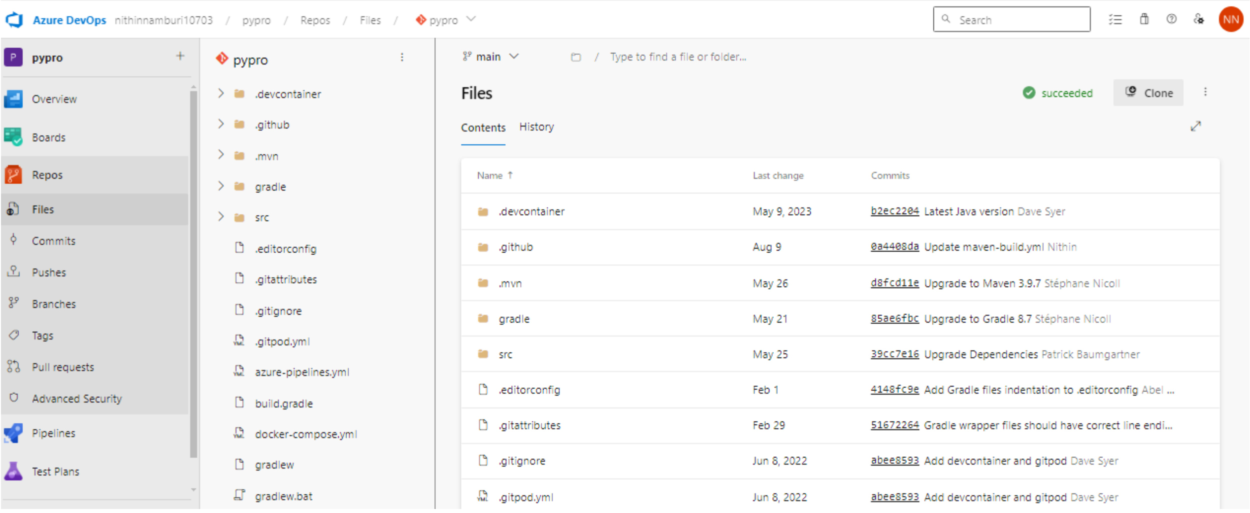
Anyone on the internet can view the project. Certain features like TFVC are not supported.

● Private

Only people you give access to will be able to view this project.

Public projects are disabled for your organization. You can turn on public visibility with organization policies.

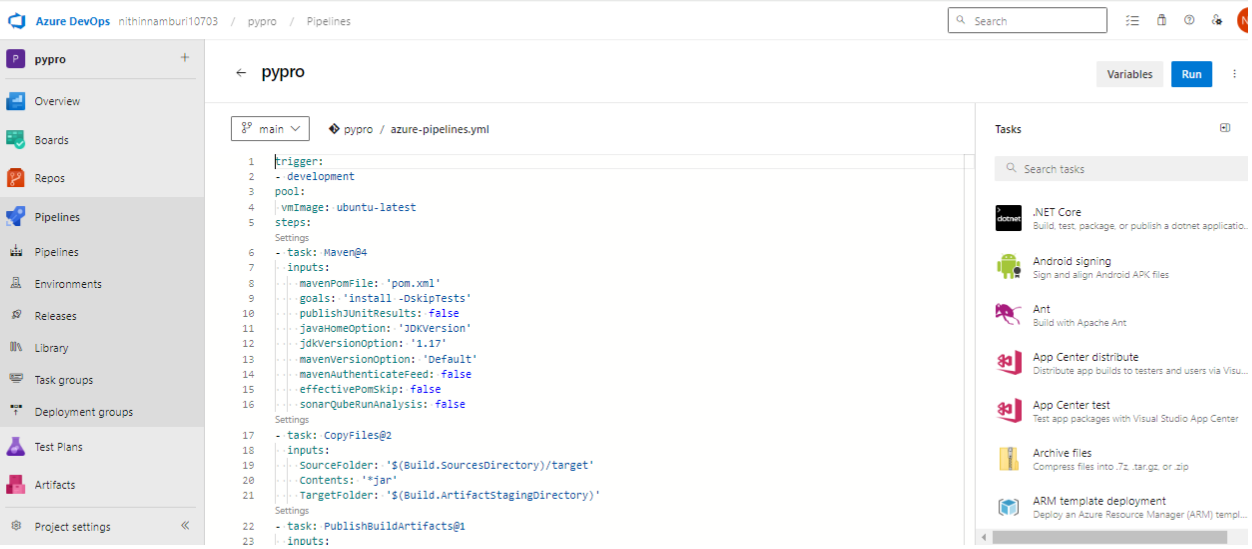
Step-2: Import the github repository.



Files

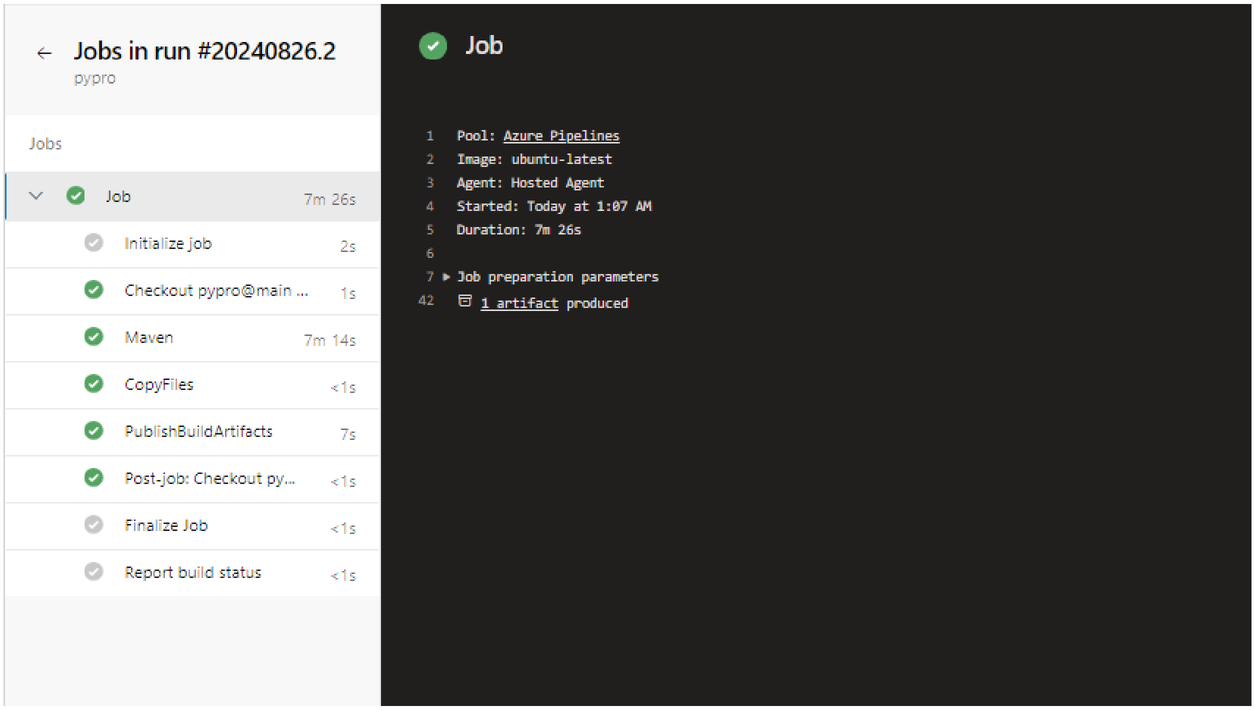
Name ↑	Last change	Commits
.devcontainer	May 9, 2023	b2ec2204 Latest Java version Dave Syer
.github	Aug 9	0a4408da Update maven-build.yml Nithin
.mvn	May 26	d8fcd11e Upgrade to Maven 3.9.7 Stéphane Nicoll
gradle	May 21	85ae6fbc Upgrade to Gradle 8.7 Stéphane Nicoll
src	May 25	39cc7e16 Upgrade Dependencies Patrick Baumgartner
.editorconfig	Feb 1	4148fc9e Add Gradle files indentation to .editorconfig Abel ...
.gitattributes	Feb 29	51672264 Gradle wrapper files should have correct line endi...
.gitignore	Jun 8, 2022	abee8593 Add devcontainer and gitpod Dave Syer
.gitpod.yml	Jun 8, 2022	abee8593 Add devcontainer and gitpod Dave Syer

Step -3:Create a build pipeline with the Spring pet clininc Yml file.


Azure DevOps
nithinnamburi10703 / pypro / Pipelines
Search
pypro
Overview
Boards
Repos
Pipelines
Pipelines
Environments
Releases
Library
Task groups
Deployment groups
Test Plans
Artifacts
Project settings
pypro
Variables
Run
main
pypro / azure-pipelines.yml
Tasks
Search tasks
.NET Core
Build, test, package, or publish a dotnet applicatio...
Android signing
Sign and align Android APK files
Ant
Build with Apache Ant
App Center distribute
Distribute app builds to testers and users via Visu...
App Center test
Test app packages with Visual Studio App Center
Archive files
Compress files into .7z, .tar.gz, or .zip
ARM template deployment
Deploy an Azure Resource Manager (ARM) templ...

```
trigger:
- development
pool:
 vmImage: ubuntu-latest
steps:
Settings
- task: Maven@4
  inputs:
    mavenPomFile: 'pom.xml'
    goals: 'install -DskipTests'
    publishJUnitResults: false
    javaHomeOption: 'JDKVersion'
    jdkVersionOption: '1.17'
    mavenVersionOption: 'Default'
    mavenAuthenticateFeed: false
    effectivePomSkip: false
    sonarQubeRunAnalysis: false
Settings
- task: CopyFiles@2
  inputs:
    SourceFolder: '$(Build.SourcesDirectory)/target'
    Contents: '*jar'
    TargetFolder: '$(Build.ArtifactStagingDirectory)'
Settings
- task: PublishBuildArtifacts@1
  inputs:
```

Step-4: Now click on the Save and run.



Jobs in run #20240826.2

pypro

Jobs

Job 7m 26s

Initialize job 2s

Checkout pypro@main ... 1s

Maven 7m 14s

CopyFiles <1s

PublishBuildArtifacts 7s

Post-job: Checkout py... <1s

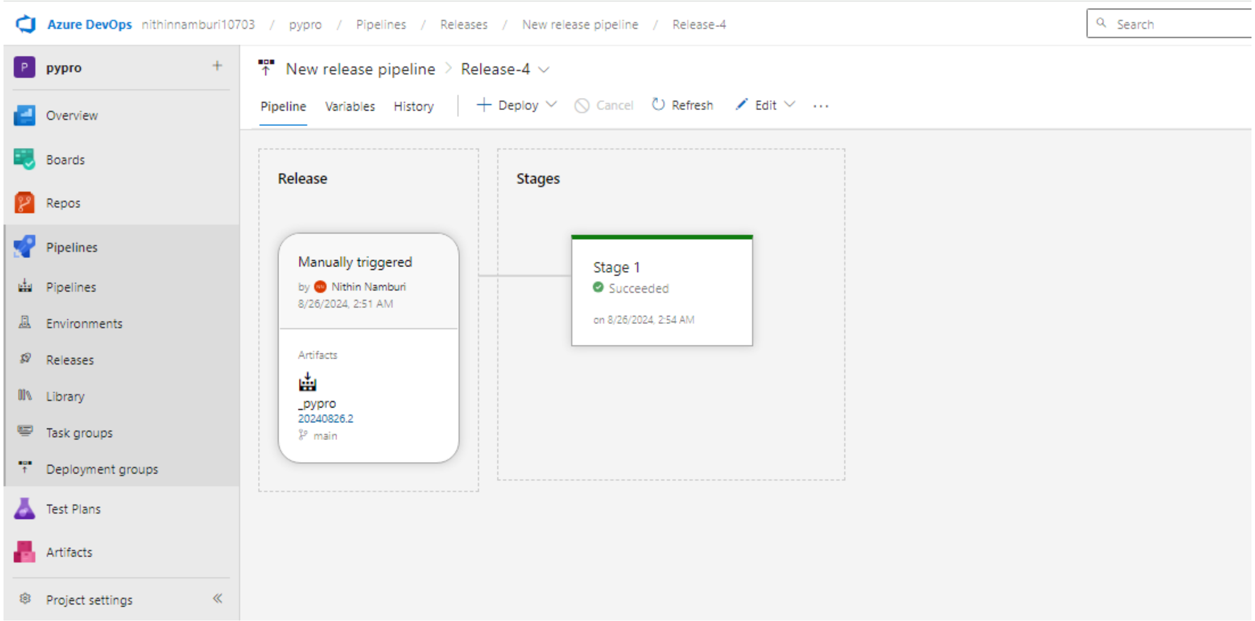
Finalize Job <1s

Report build status <1s

Job

```
Pool: Azure Pipelines
Image: ubuntu-latest
Agent: Hosted Agent
Started: Today at 1:07 AM
Duration: 7m 26s

▸ Job preparation parameters
1 artifact produced
```

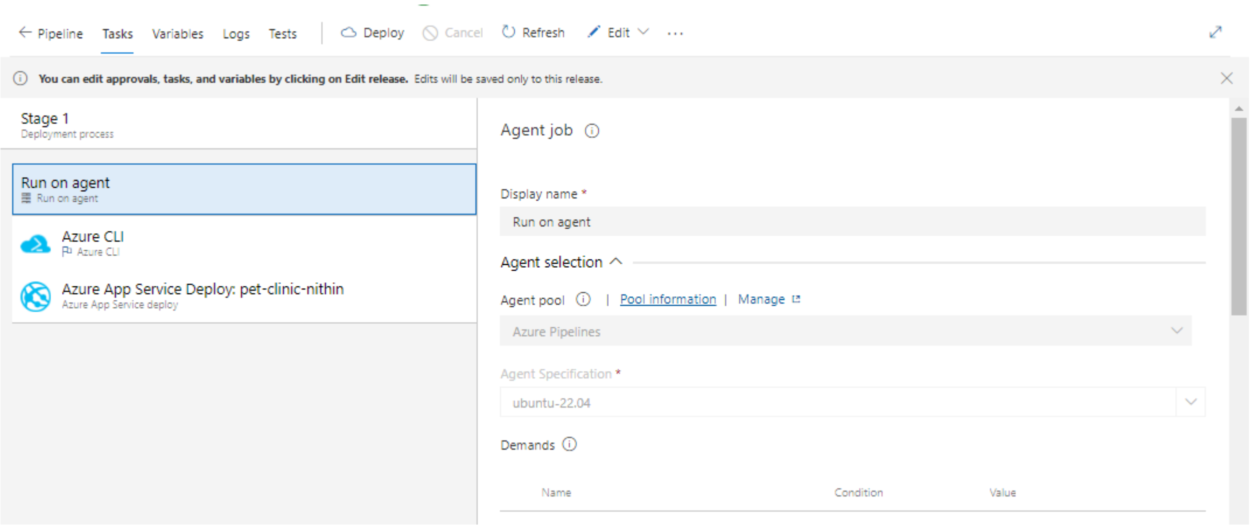
Step-5:Now create the release pipeline and set run on agent(linux),azure app deploy services and azure CLI.



Manually triggered
by Nithin Namburi
8/26/2024, 2:51 AM

Artifacts
_pypro
20240826.2
main

Stage 1
Succeeded
on 8/26/2024, 2:54 AM



You can edit approvals, tasks, and variables by clicking on Edit release. Edits will be saved only to this release.

Stage 1
Deployment process

Run on agent
Run on agent

Azure CLI
Azure CLI

Azure App Service Deploy: pet-clinic-nithin
Azure App Service deploy

Agent job

Display name *
Run on agent

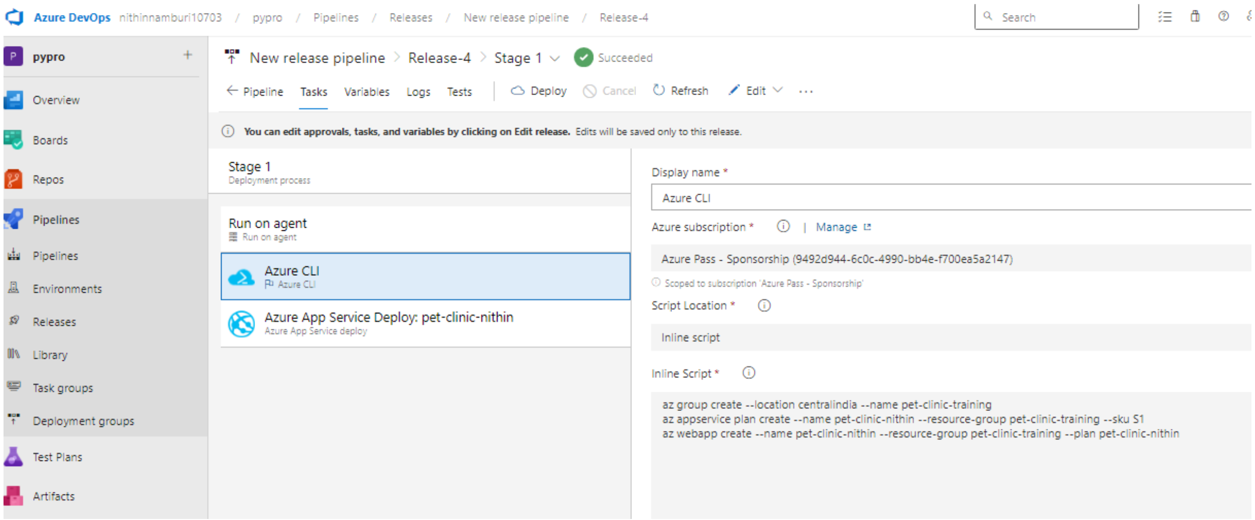
Agent selection

Agent pool | Pool information | Manage
Azure Pipelines

Agent Specification *
ubuntu-22.04

Demands

Name	Condition	Value



You can edit approvals, tasks, and variables by clicking on Edit release. Edits will be saved only to this release.

Stage 1
Deployment process

Run on agent
Run on agent

Azure CLI
Azure CLI

Azure App Service Deploy: pet-clinic-nithin
Azure App Service deploy

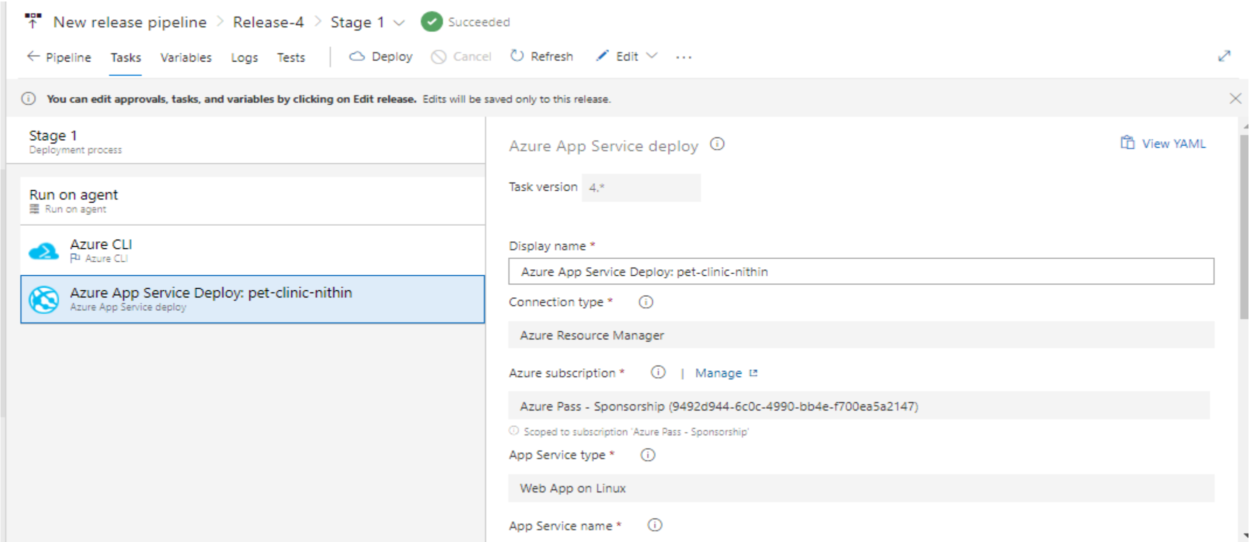
Display name *
Azure CLI

Azure subscription * | Manage
Azure Pass - Sponsorship (9492d944-6c0c-4990-bb4e-f700ea5a2147)
Scoped to subscription 'Azure Pass - Sponsorship'

Script Location *
Inline script

Inline Script *

```
az group create --location centralindia --name pet-clinic-training
az appservice plan create --name pet-clinic-nithin --resource-group pet-clinic-training --sku S1
az webapp create --name pet-clinic-nithin --resource-group pet-clinic-training --plan pet-clinic-nithin
```



New release pipeline > Release-4 > Stage 1 ✓ Succeeded

You can edit approvals, tasks, and variables by clicking on Edit release. Edits will be saved only to this release.

Stage 1
Deployment process

Run on agent
Run on agent

Azure CLI
Azure CLI

Azure App Service Deploy: pet-clinic-nithin
Azure App Service deploy

Azure App Service deploy

View YAML

Task version: 4.*

Display name *: Azure App Service Deploy: pet-clinic-nithin

Connection type *: Azure Resource Manager

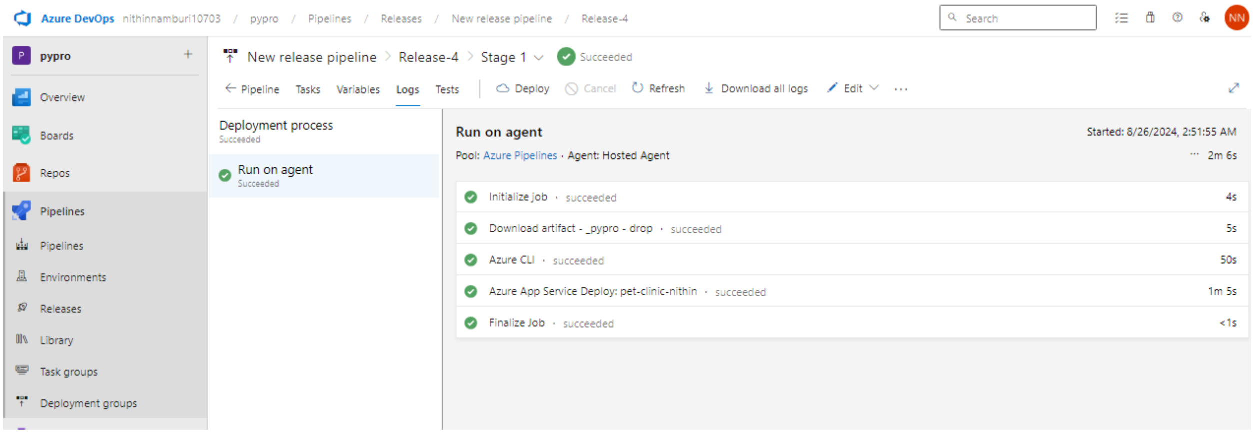
Azure subscription * | Manage: Azure Pass - Sponsorship (9492d944-6c0c-4990-bb4e-f700ea5a2147)

Scoped to subscription 'Azure Pass - Sponsorship'

App Service type *: Web App on Linux

App Service name *

Step-6:: Now click on the save and create release.



Azure DevOps / nithinnamburi10703 / pypro / Pipelines / Releases / New release pipeline / Release-4

New release pipeline > Release-4 > Stage 1 ✓ Succeeded

Deployment process
Succeeded

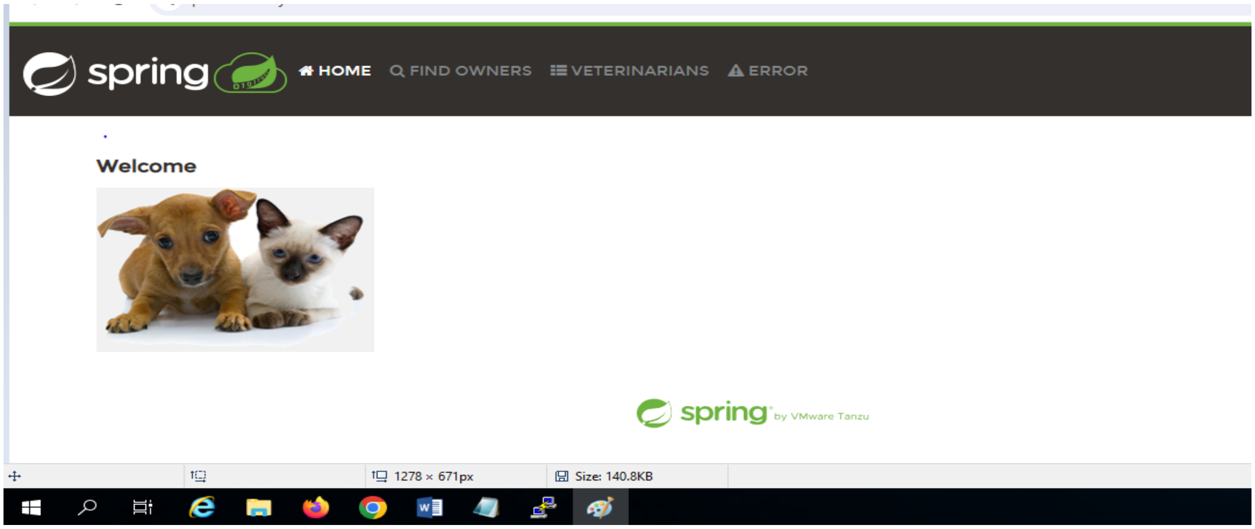
✓ Run on agent
Succeeded

Run on agent — Started: 8/26/2024, 2:51:55 AM

Pool: Azure Pipelines · Agent: Hosted Agent — 2m 6s

✓ Initialize job · succeeded	4s
✓ Download artifact - _pypro - drop · succeeded	5s
✓ Azure CLI · succeeded	50s
✓ Azure App Service Deploy: pet-clinic-nithin · succeeded	1m 5s
✓ Finalize Job · succeeded	<1s

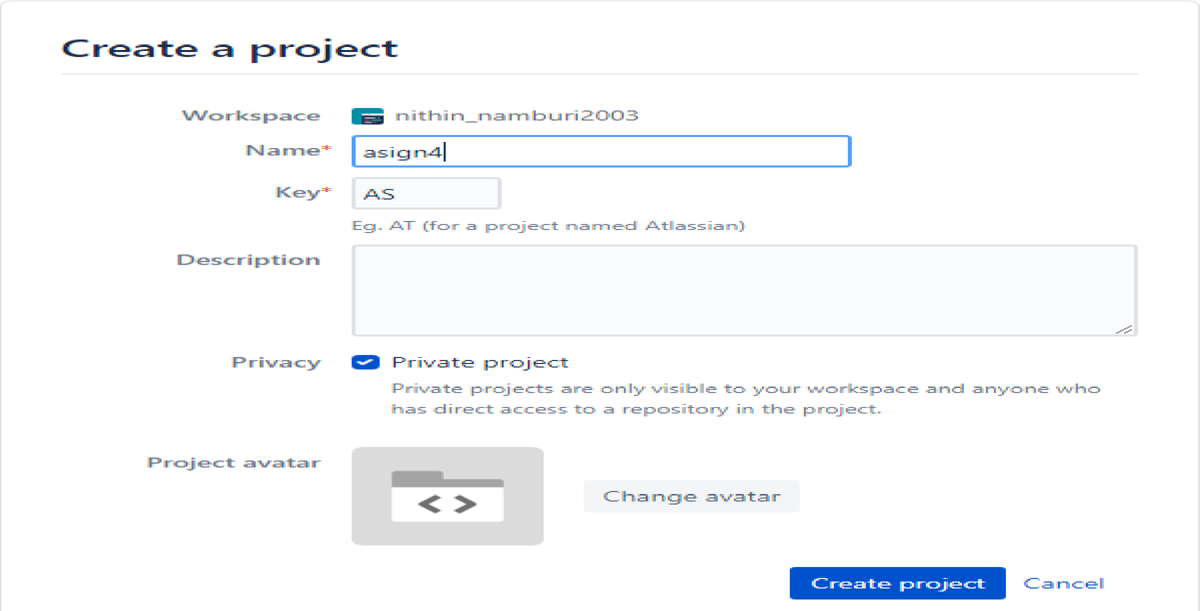
Step-7: Pipeline got successfully released ,now go to the VM and click browse.



3)Bitucket task

Ans)

Step-1: Create a project in the bitbucket.



Create a project

Workspace: nithin_namburi2003

Name*: asign4

Key*: AS

Eg. AT (for a project named Atlassian)

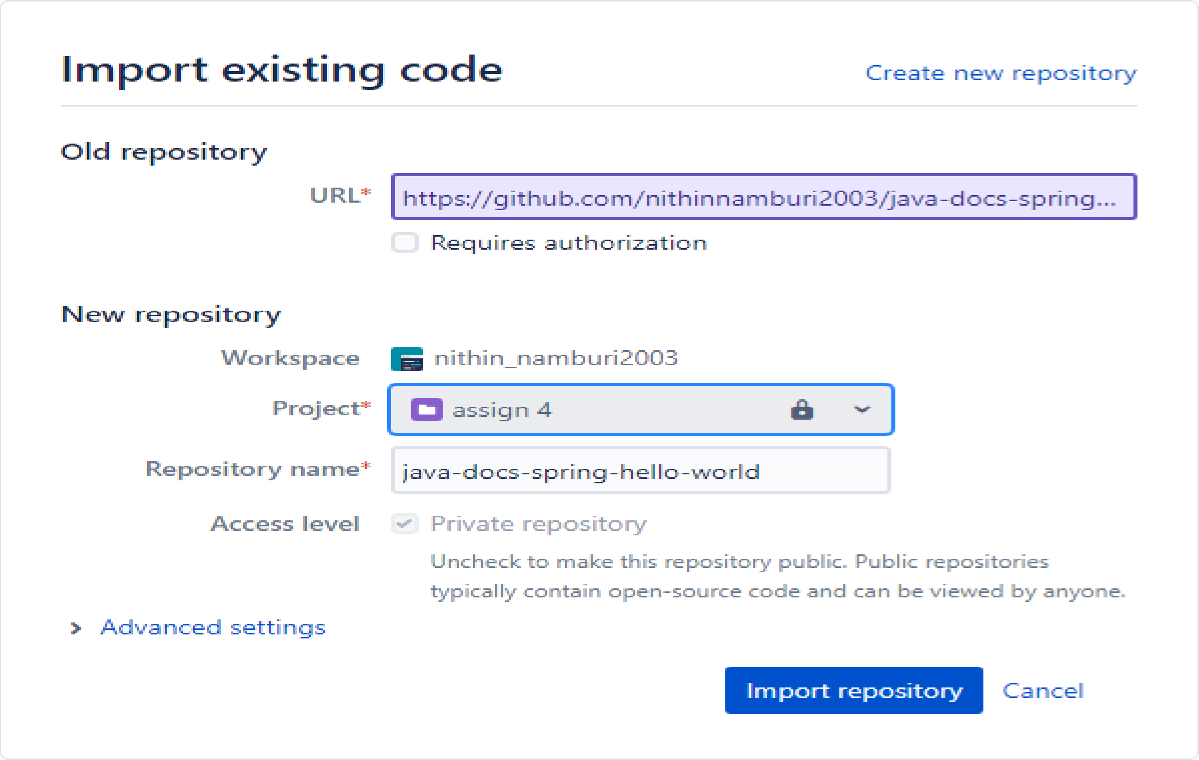
Description:

Privacy: ☑ Private project

Private projects are only visible to your workspace and anyone who has direct access to a repository in the project.

Project avatar

Step-2:Now click on the add repository and click on the import repository option.



Import existing code

Old repository

URL*: https://github.com/nithinnamburi2003/java-docs-spring...

□ Requires authorization

New repository

Workspace: nithin_namburi2003

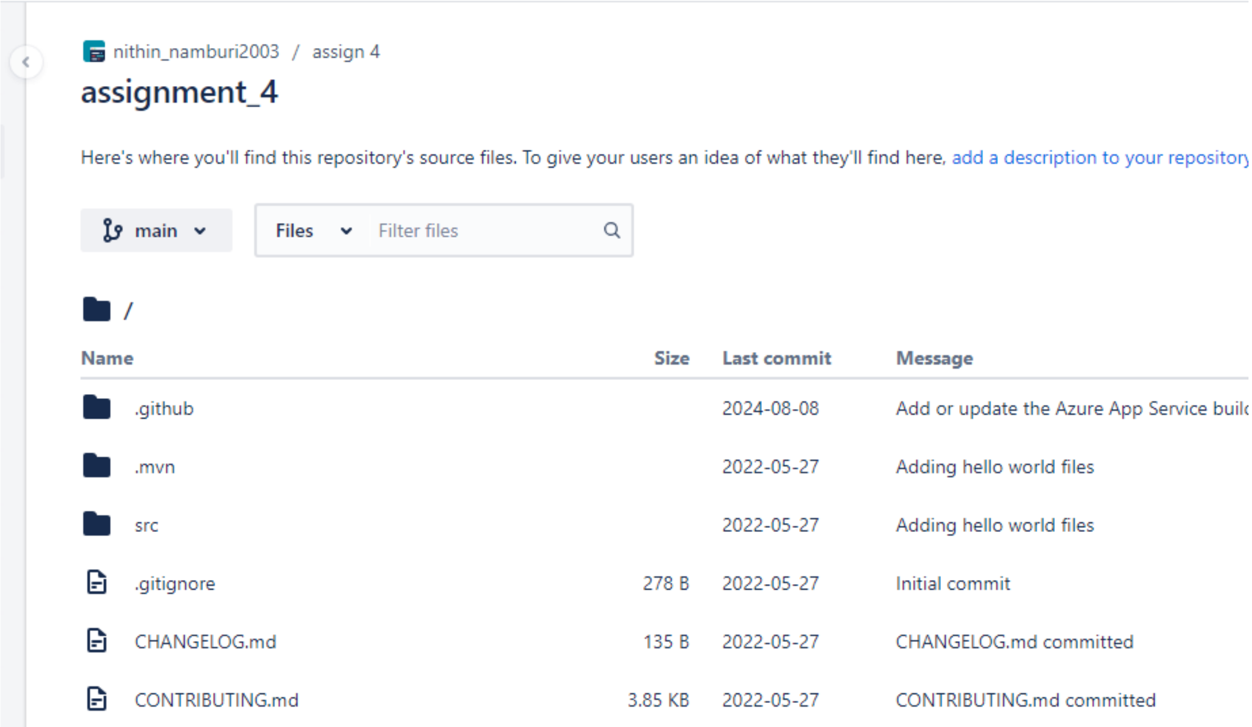
Project*: assign 4

Repository name*: java-docs-spring-hello-world

Access level: ☑ Private repository

Uncheck to make this repository public. Public repositories typically contain open-source code and can be viewed by anyone.

Step-3: Now we already push the existing repository in to the bitbucket so we already pushed some codes in to it.



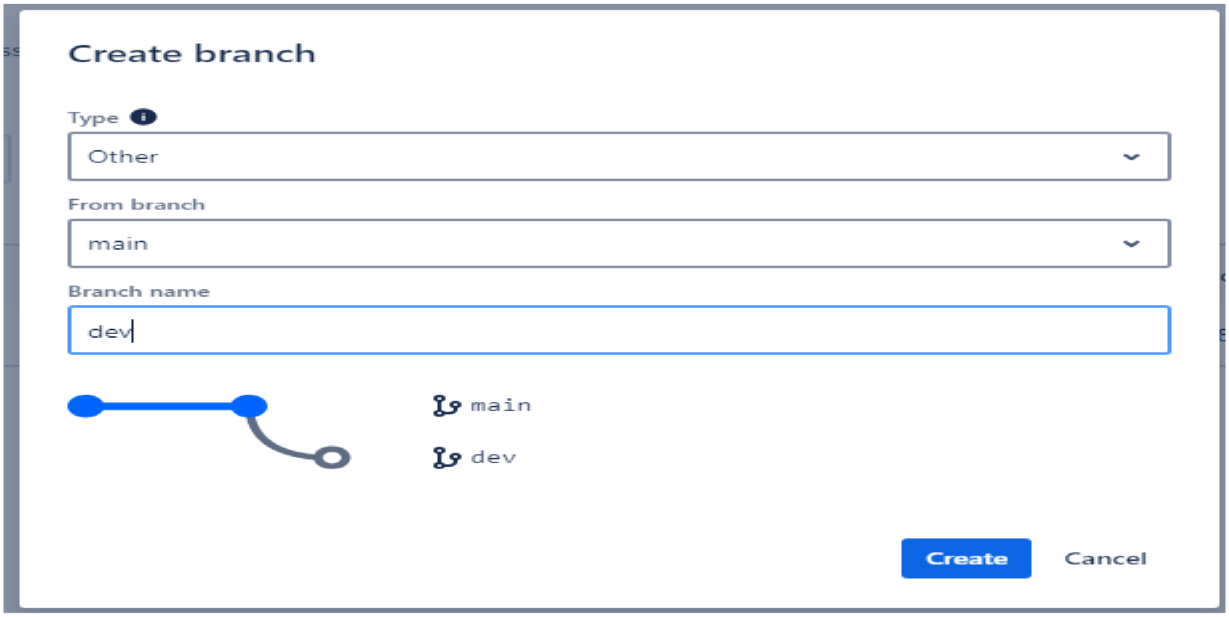
nithin_namburi2003 / assign 4

assignment_4

Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, add a description to your repositor

Name	Size	Last commit	Message
.github		2024-08-08	Add or update the Azure App Service buil
.mvn		2022-05-27	Adding hello world files
src		2022-05-27	Adding hello world files
.gitignore	278 B	2022-05-27	Initial commit
CHANGELOG.md	135 B	2022-05-27	CHANGELOG.md committed
CONTRIBUTING.md	3.85 KB	2022-05-27	CONTRIBUTING.md committed

Step-4: now we have to create a branch. For that we have click on the branches option available in the repository and add a new branch.



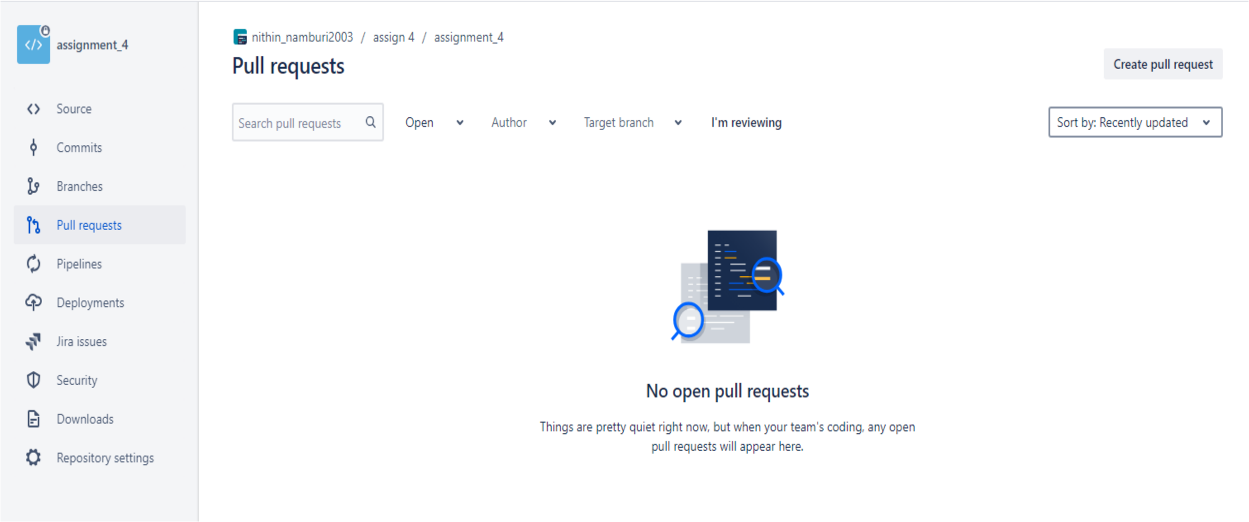
Create branch

Type: Other

From branch: main

Branch name: dev

Step-5:Now we have to create a pull request.



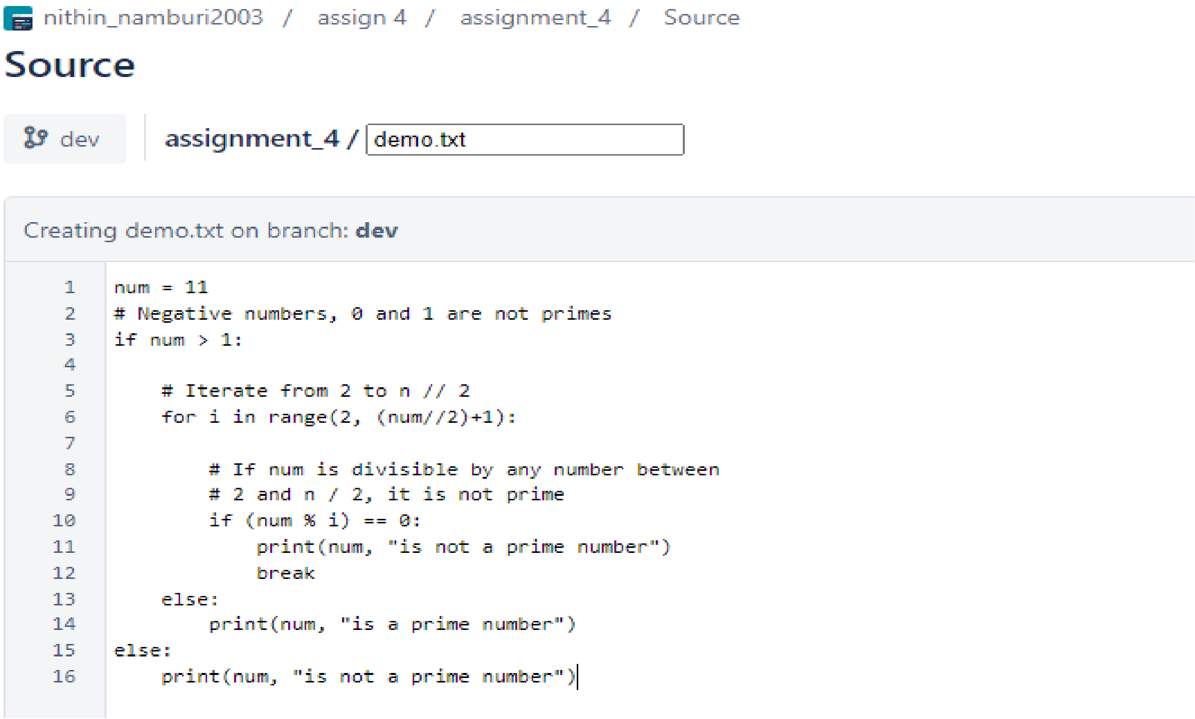
Pull requests

No open pull requests

Things are pretty quiet right now, but when your team's coding, any open pull requests will appear here.

Step-6: we have to create a file in the dev branch so that there is going to be a difference between two branches.

For the file creation we have to go to source page of repo and change branch to dev and click on the new file.



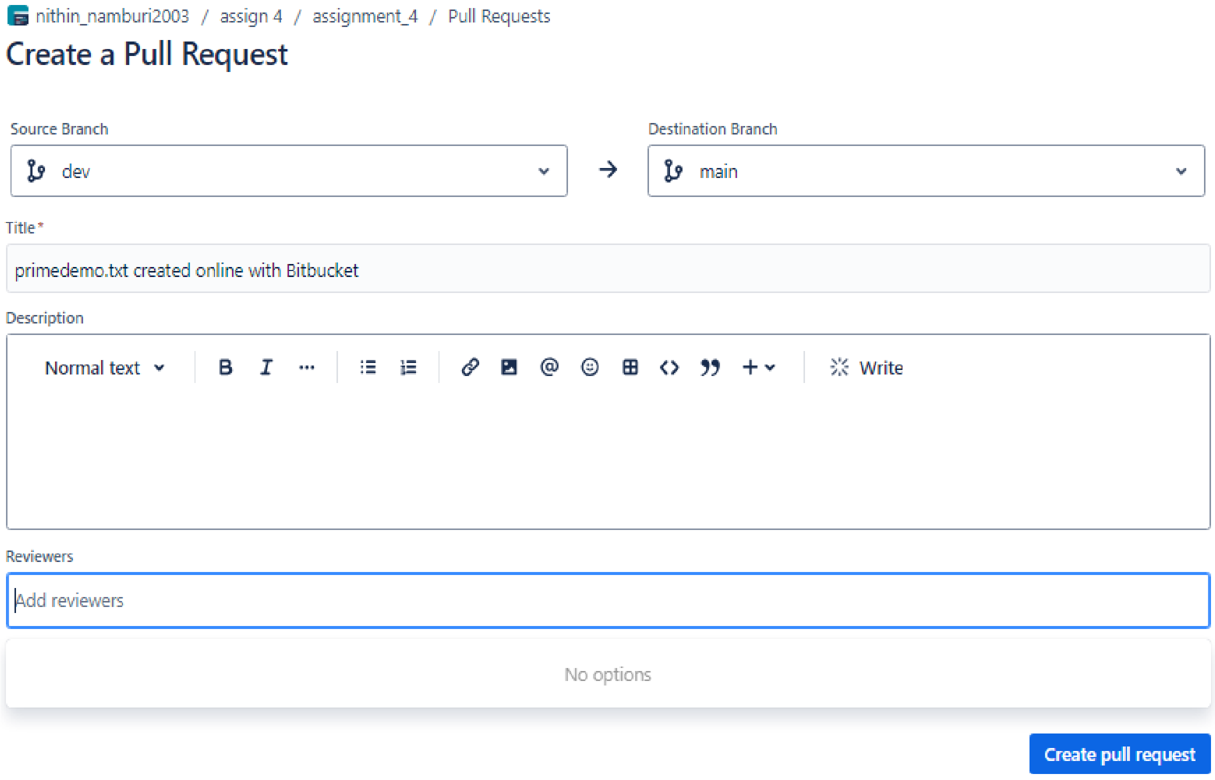
Source

assignment_4 / demo.txt

Creating demo.txt on branch: **dev**

```
num = 11
# Negative numbers, 0 and 1 are not primes
if num > 1:

    # Iterate from 2 to n // 2
    for i in range(2, (num//2)+1):

        # If num is divisible by any number between
        # 2 and n / 2, it is not prime
        if (num % i) == 0:
            print(num, "is not a prime number")
            break
    else:
        print(num, "is a prime number")
else:
    print(num, "is not a prime number")
```

Step-7: Set the pull request.



nithin_namburi2003 / assign 4 / assignment_4 / Pull Requests

Create a Pull Request

Source Branch: dev → Destination Branch: main

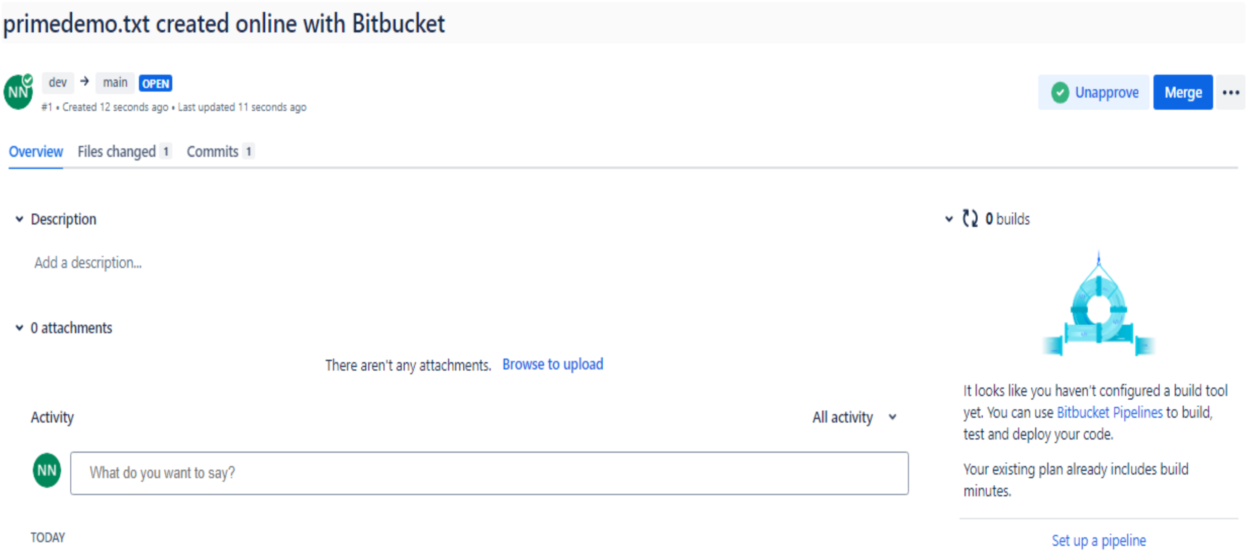
Title*: primedemo.txt created online with Bitbucket

Description

Reviewers: Add reviewers

No options

Step-8: Now click on the approve option and click merge to see if there are any conflicts.



primedemo.txt created online with Bitbucket

dev → main OPEN

#1 • Created 12 seconds ago • Last updated 11 seconds ago

Description

Add a description...

0 attachments

There aren't any attachments. Browse to upload

Activity

What do you want to say?

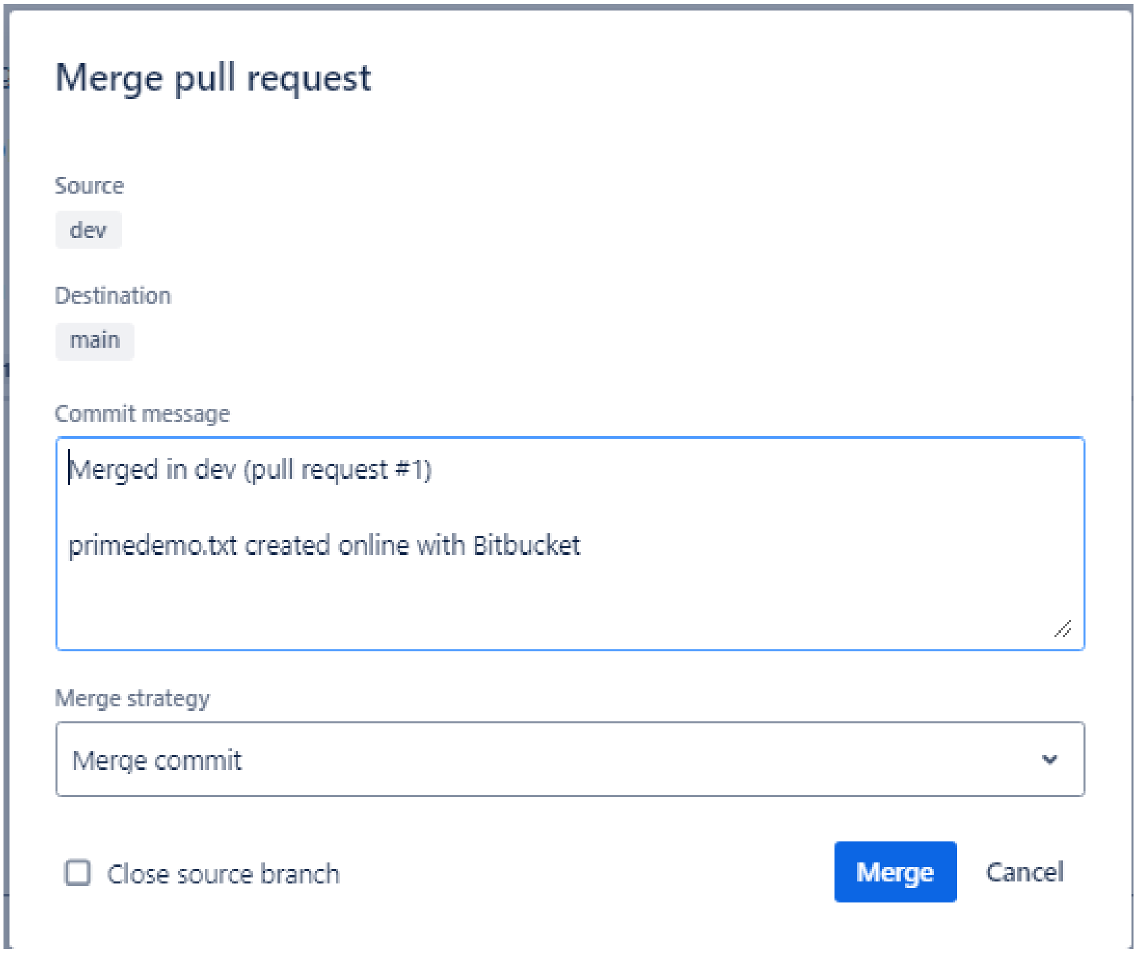
TODAY

0 builds

It looks like you haven't configured a build tool yet. You can use Bitbucket Pipelines to build, test and deploy your code.

Your existing plan already includes build minutes.

Step-9: we haven’t seen any merge coflicts so click on the merge.



Merge pull request

Source

dev

Destination

main

Commit message

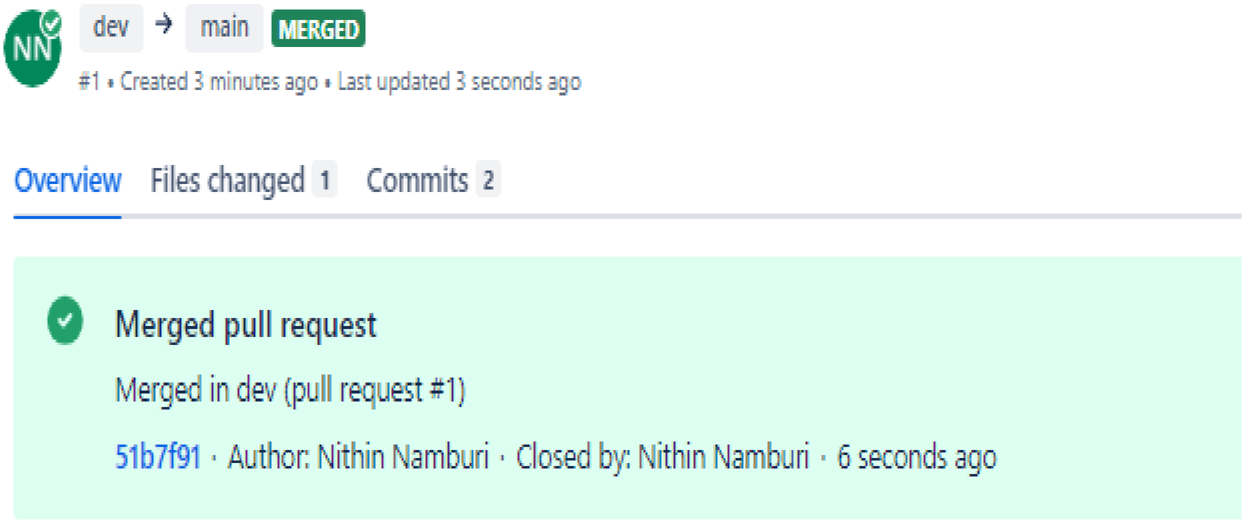
Merged in dev (pull request #1)

primedemo.txt created online with Bitbucket

Merge strategy

Merge commit

□ Close source branch



dev → main MERGED

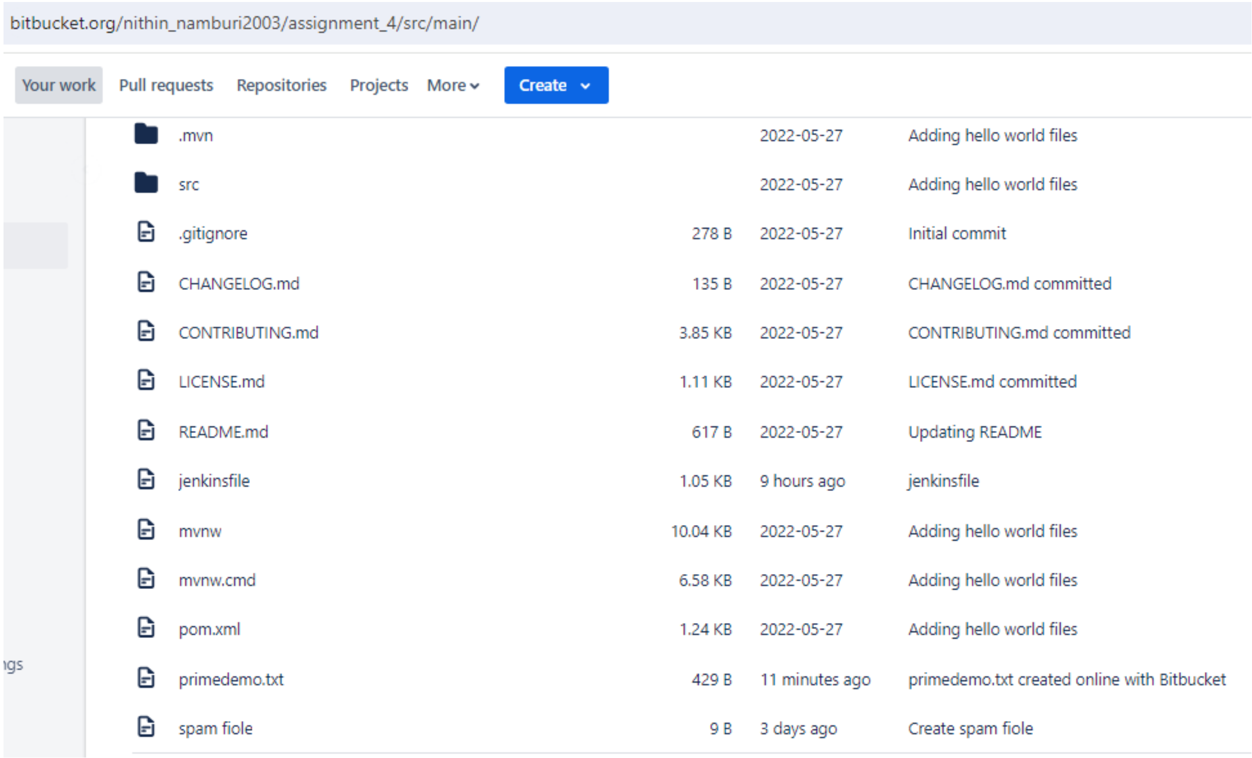
#1 • Created 3 minutes ago • Last updated 3 seconds ago

Merged pull request

Merged in dev (pull request #1)

51b7f91 · Author: Nithin Namburi · Closed by: Nithin Namburi · 6 seconds ago

Step-10: check whether the merged file is available on the main branch or not.



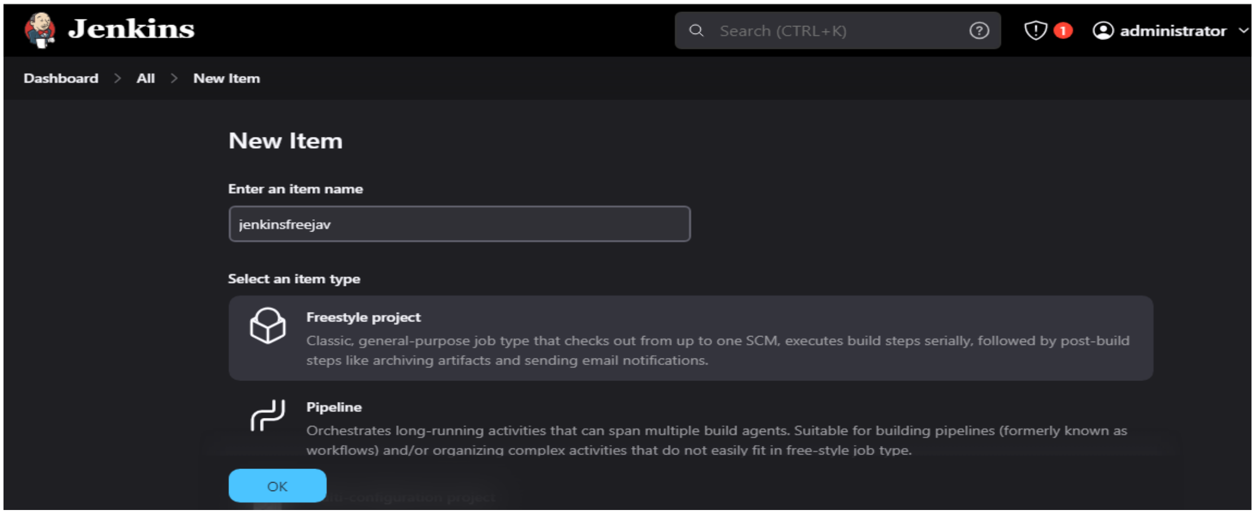
.mvn		2022-05-27	Adding hello world files
src		2022-05-27	Adding hello world files
.gitignore	278 B	2022-05-27	Initial commit
CHANGELOG.md	135 B	2022-05-27	CHANGELOG.md committed
CONTRIBUTING.md	3.85 KB	2022-05-27	CONTRIBUTING.md committed
LICENSE.md	1.11 KB	2022-05-27	LICENSE.md committed
README.md	617 B	2022-05-27	Updating README
jenkinsfile	1.05 KB	9 hours ago	jenkinsfile
mvnw	10.04 KB	2022-05-27	Adding hello world files
mvnw.cmd	6.58 KB	2022-05-27	Adding hello world files
pom.xml	1.24 KB	2022-05-27	Adding hello world files
primedemo.txt	429 B	11 minutes ago	primedemo.txt created online with Bitbucket
spam fiole	9 B	3 days ago	Create spam fiole

Merge was successfully created.

4) Create jenkins freestyle pipeline - spring pet clinic jar creation.

Ans)

Step-1: Firstly create a new item using the freestyle setting.



New Item

Enter an item name

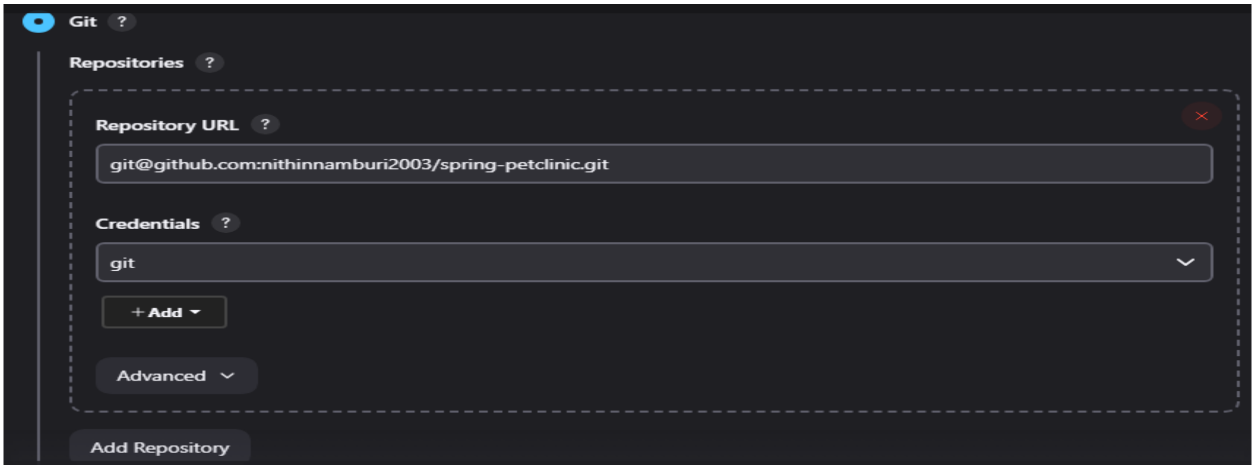
jenkinsfreejav

Select an item type

Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Step-2:Goto git hub repository and copy the SSH URL and change the branch specifier to main.

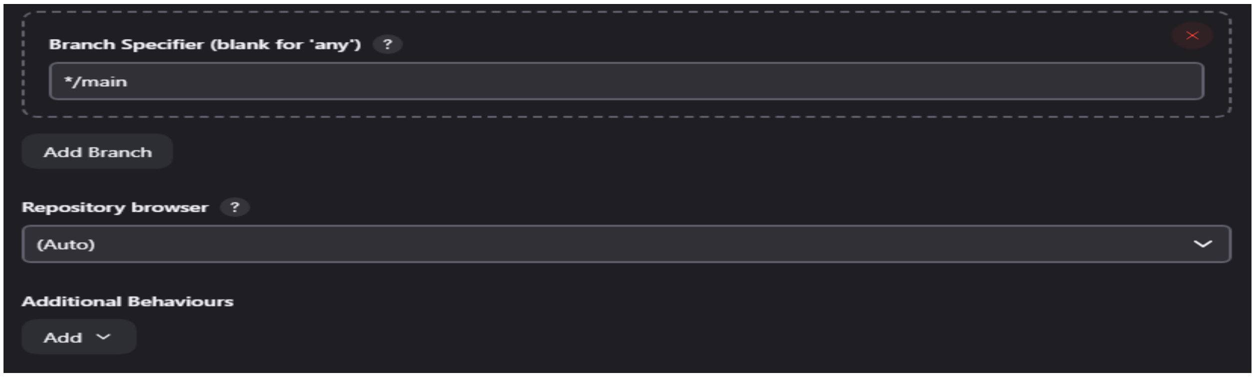


Repository URL

git@github.com:nithinnamburi2003/spring-petclinic.git

Credentials

git



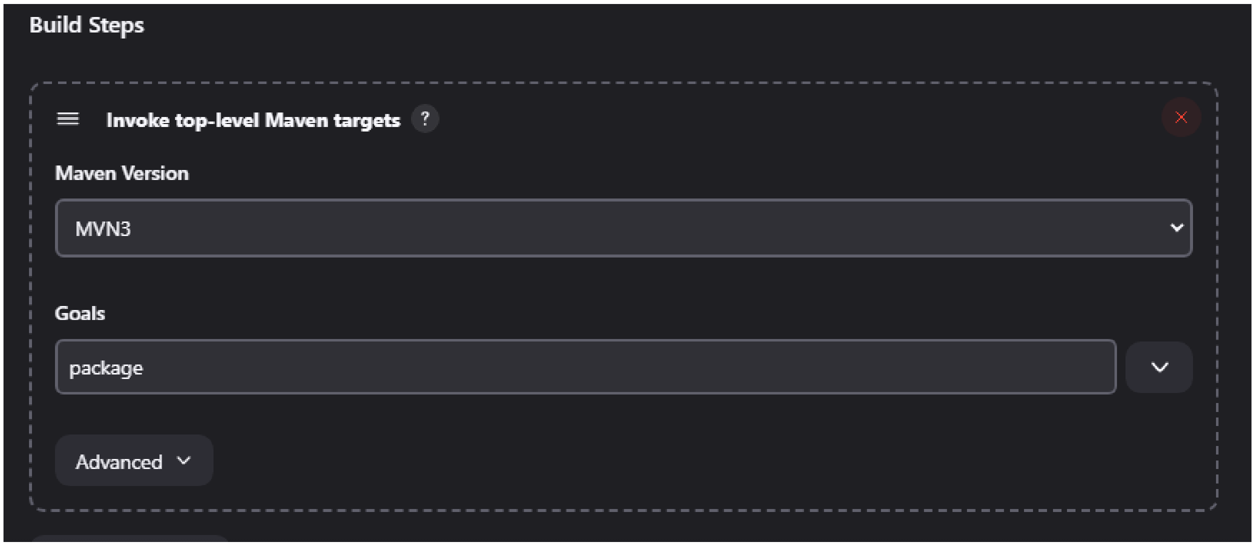
Branch Specifier (blank for 'any')

*/main

Repository browser

(Auto)

Step-3:Select the Invoke top level Maven Targets and select MVN3 and write goal as package.



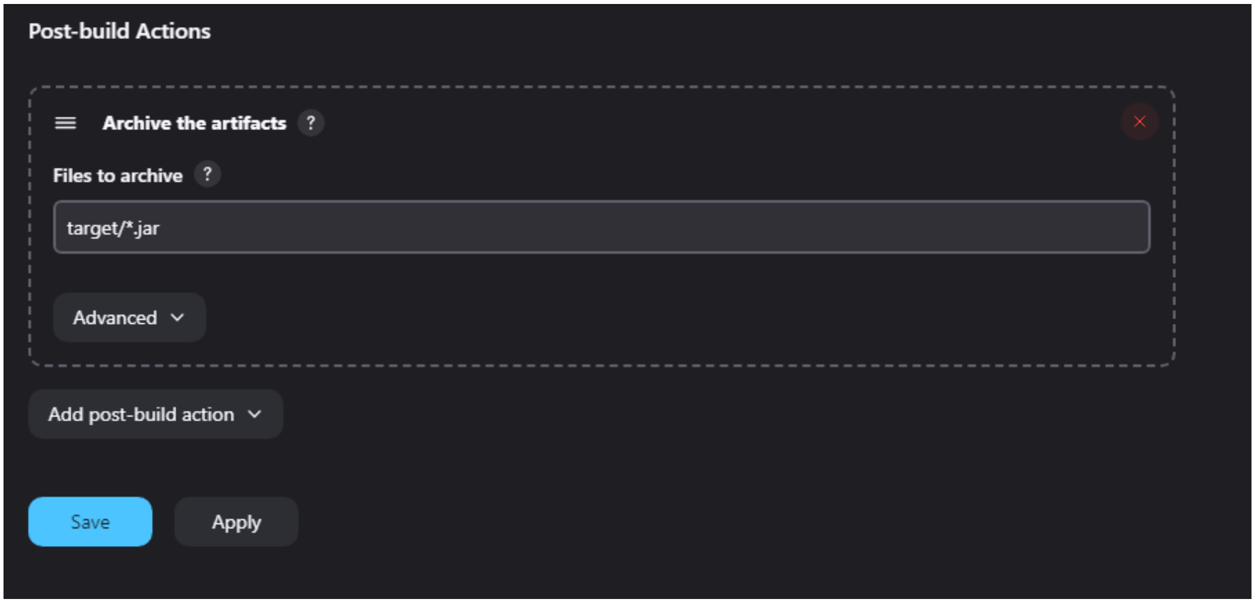
Build Steps

Invoke top-level Maven targets

Maven Version: MVN3

Goals: package

Step-4: We have to create a post build action stating the file type as jar and click on save.

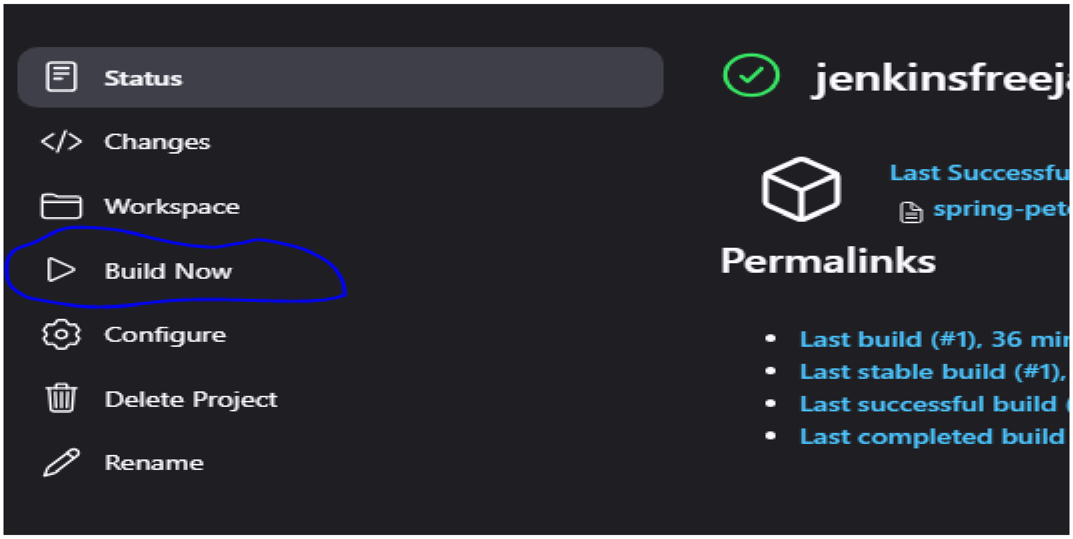


Post-build Actions

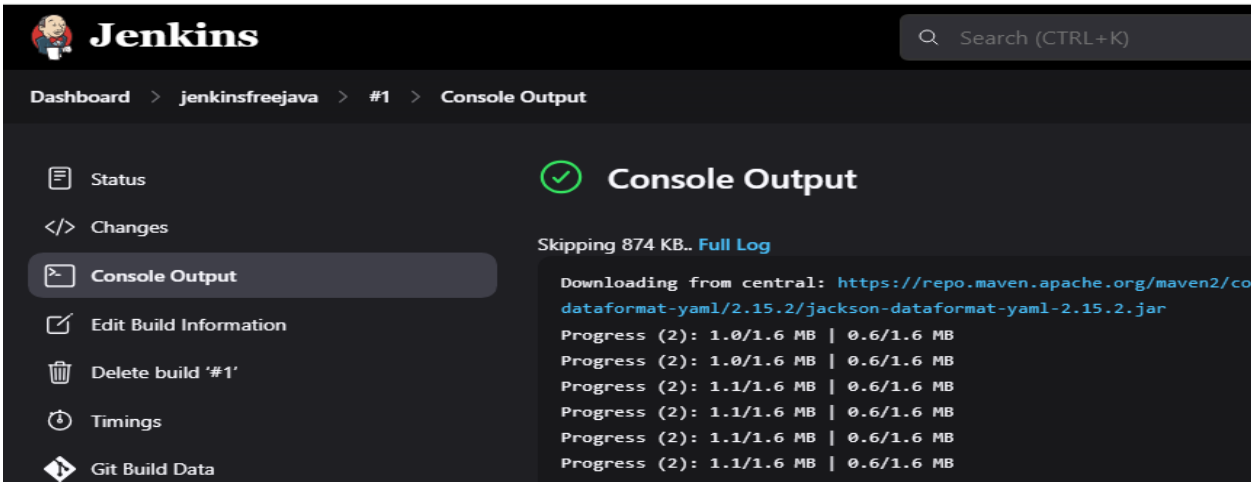
Archive the artifacts

Files to archive: target/*.jar

Step-5:Click on the Build Now.



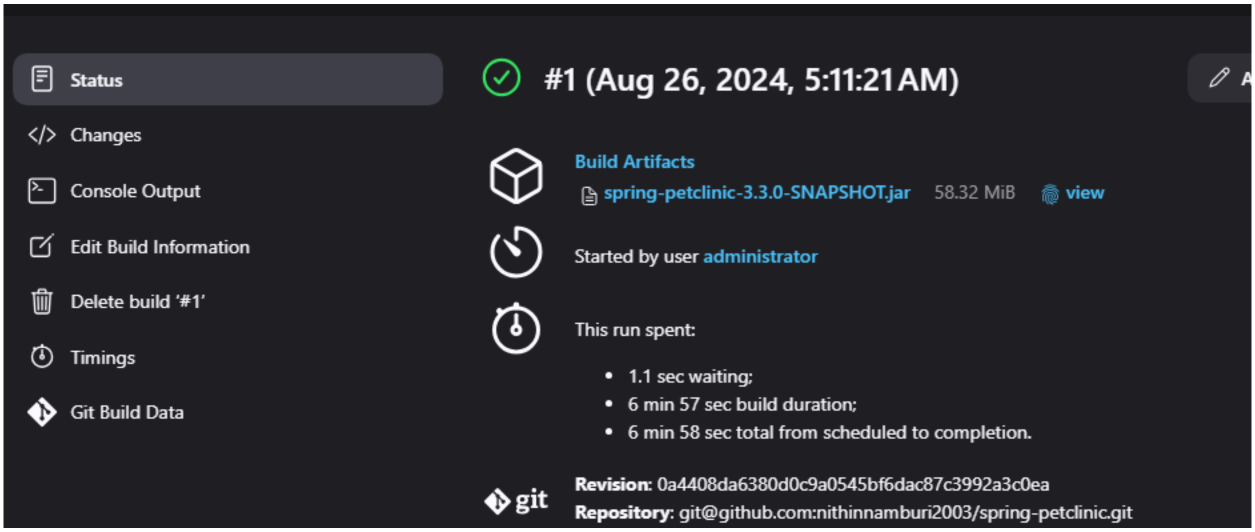
- Last build (#1), 36 mi
- Last stable build (#1),
- Last successful build (
- Last completed build



Console Output

Skipping 874 KB.. Full Log

```
Downloading from central: https://repo.maven.apache.org/maven2/co
dataformat-yaml/2.15.2/jackson-dataformat-yaml-2.15.2.jar
Progress (2): 1.0/1.6 MB | 0.6/1.6 MB
Progress (2): 1.0/1.6 MB | 0.6/1.6 MB
Progress (2): 1.1/1.6 MB | 0.6/1.6 MB
Progress (2): 1.1/1.6 MB | 0.6/1.6 MB
Progress (2): 1.1/1.6 MB | 0.6/1.6 MB
Progress (2): 1.1/1.6 MB | 0.6/1.6 MB
```



#1 (Aug 26, 2024, 5:11:21 AM)

Build Artifacts
spring-petclinic-3.3.0-SNAPSHOT.jar 58.32 MiB view

Started by user administrator

This run spent:

- 1.1 sec waiting;
- 6 min 57 sec build duration;
- 6 min 58 sec total from scheduled to completion.

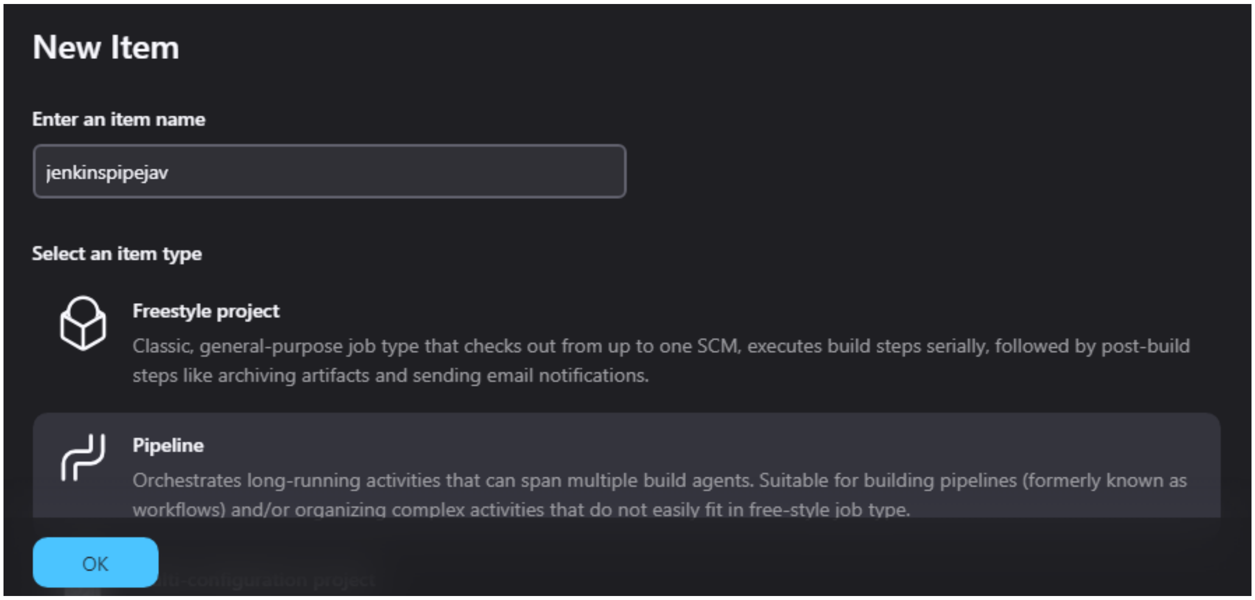
Revision: 0a4408da6380d0c9a0545bf6dac87c3992a3c0ea
Repository: git@github.com:nithinnamburi2003/spring-petclinic.git

Jenkins freestyle pipeline was successfully got created.

5) Create a pipeline in jenkins-spring pet clinic jar creation.

Ans)

Step-1: create a new item using the pipeline setting.



New Item

Enter an item name

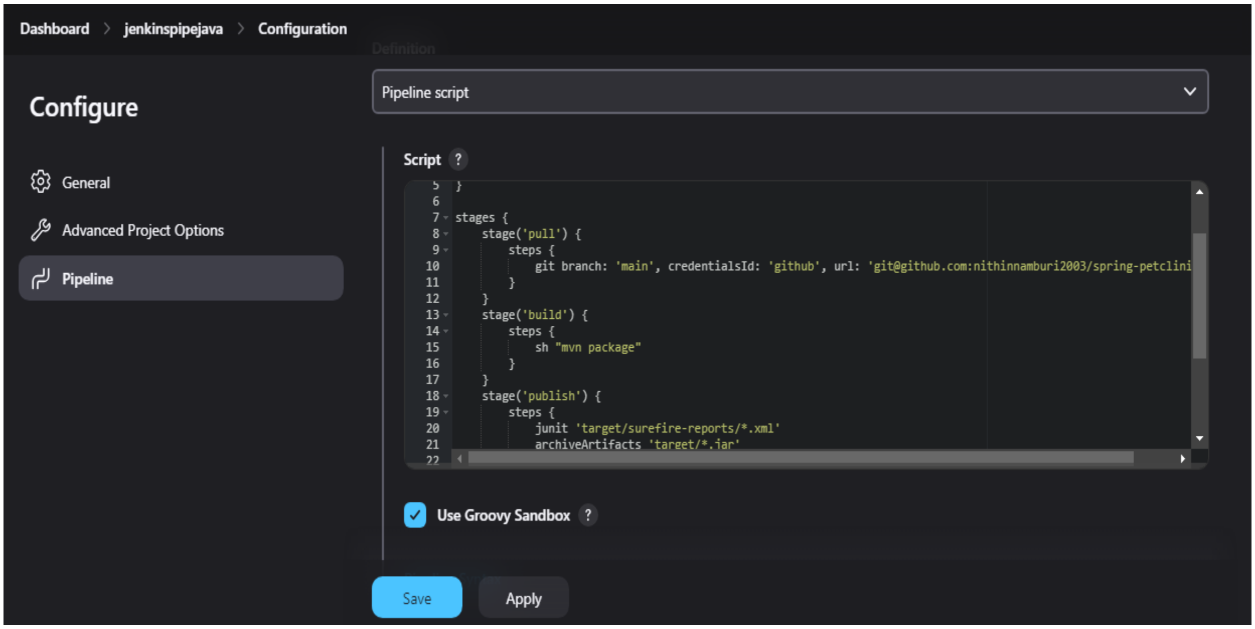
jenkinspipejav

Select an item type

Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Step-2: Add the script in the pipeline that should be executed.



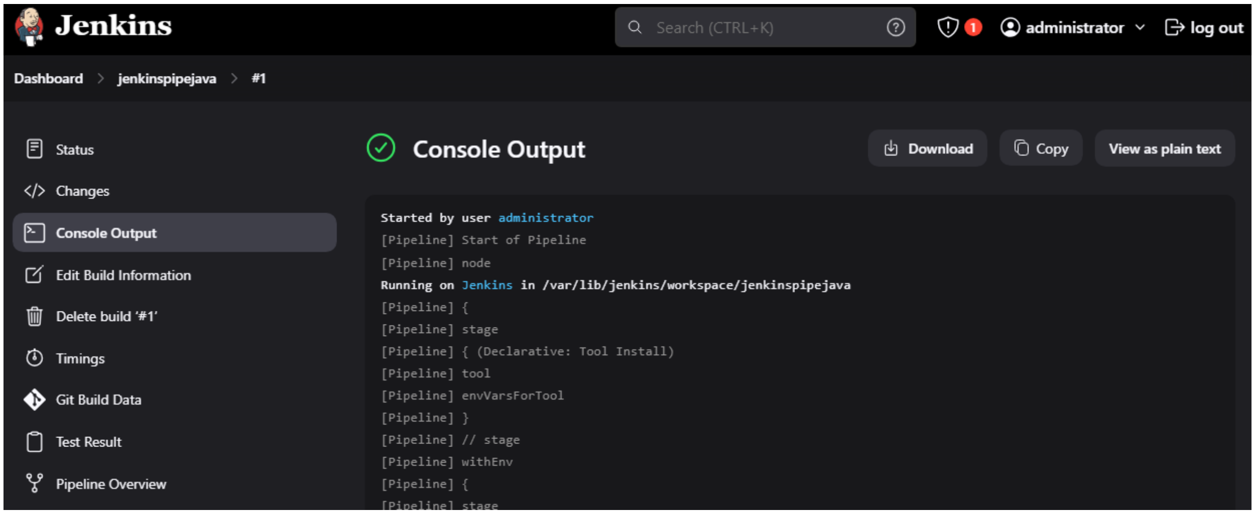
Definition: Pipeline script

Script

```
}

stages {
    stage('pull') {
        steps {
            git branch: 'main', credentialsId: 'github', url: 'git@github.com:nithinnamburi2003/spring-petclini
        }
    }
    stage('build') {
        steps {
            sh "mvn package"
        }
    }
    stage('publish') {
        steps {
            junit 'target/surefire-reports/*.xml'
            archiveArtifacts 'target/*.jar'
```

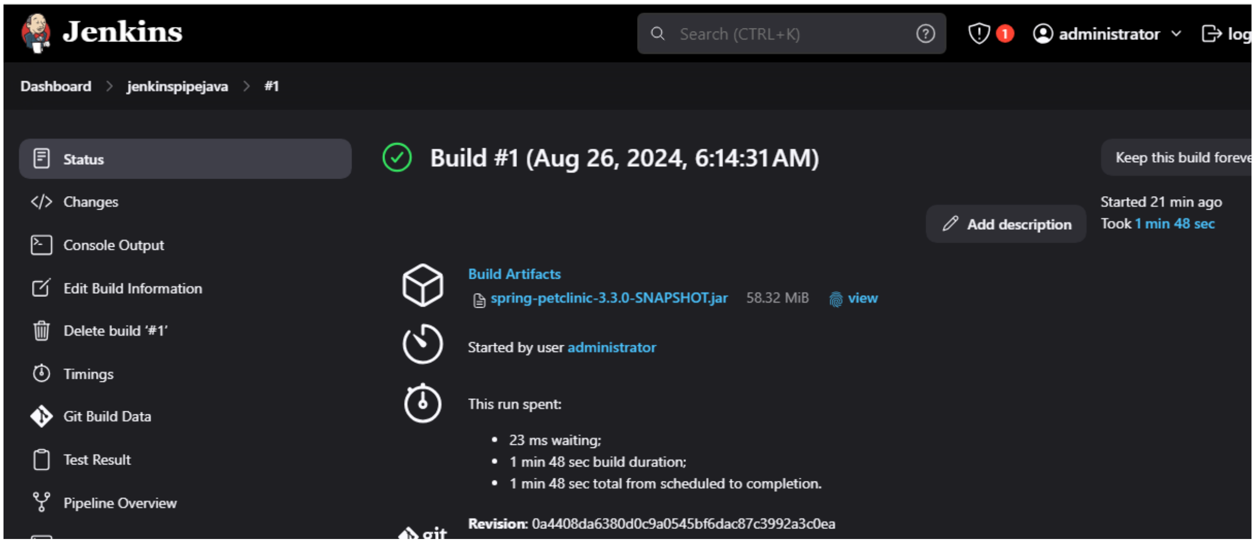
☑ Use Groovy Sandbox

Step-3:Goto console and check for the status.



Console Output

```
Started by user administrator
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/jenkinspipejava
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Tool Install)
[Pipeline] tool
[Pipeline] envVarsForTool
[Pipeline] }
[Pipeline] // stage
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
```



Build #1 (Aug 26, 2024, 6:14:31 AM)

Started 21 min ago
Took 1 min 48 sec

Build Artifacts
spring-petclinic-3.3.0-SNAPSHOT.jar 58.32 MiB view

Started by user administrator

This run spent:

- 23 ms waiting;
- 1 min 48 sec build duration;
- 1 min 48 sec total from scheduled to completion.

Revision: 0a4408da6380d0c9a0545bf6dac87c3992a3c0ea