Ultimate CI/CD Pipeline on AWS

AWS CodePipeline |AWS CodeBuild | AWS CodeDeploy

Explore my project on GitHub:https://github.com/pratikshaa-01/CI-Python-Flask-Service.git

Project Overview:

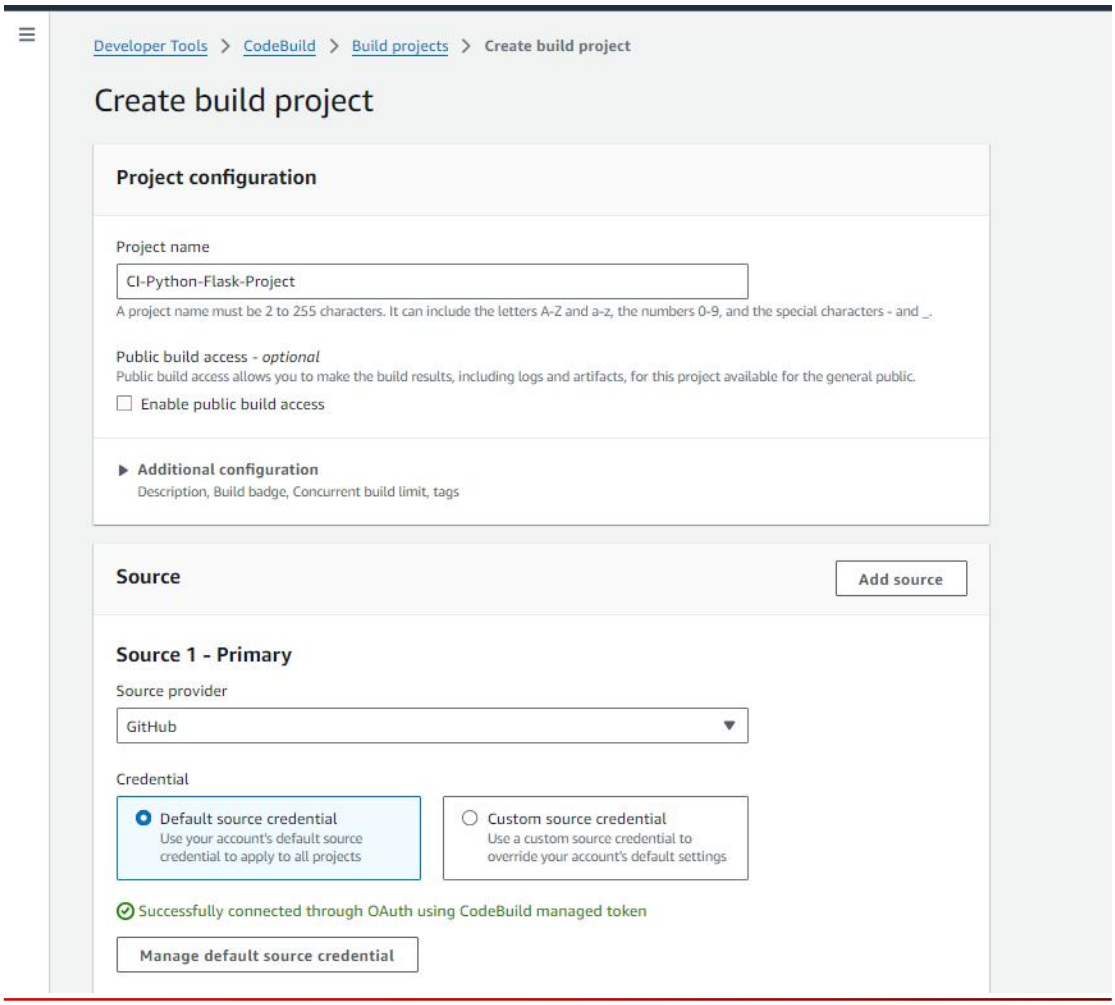
This repository showcases an advanced CI/CD pipeline built on AWS, designed to automate the deployment of a Python Flask application using Docker. All code is hosted on GitHub and integrated with AWS CodeDeploy for seamless deployments.

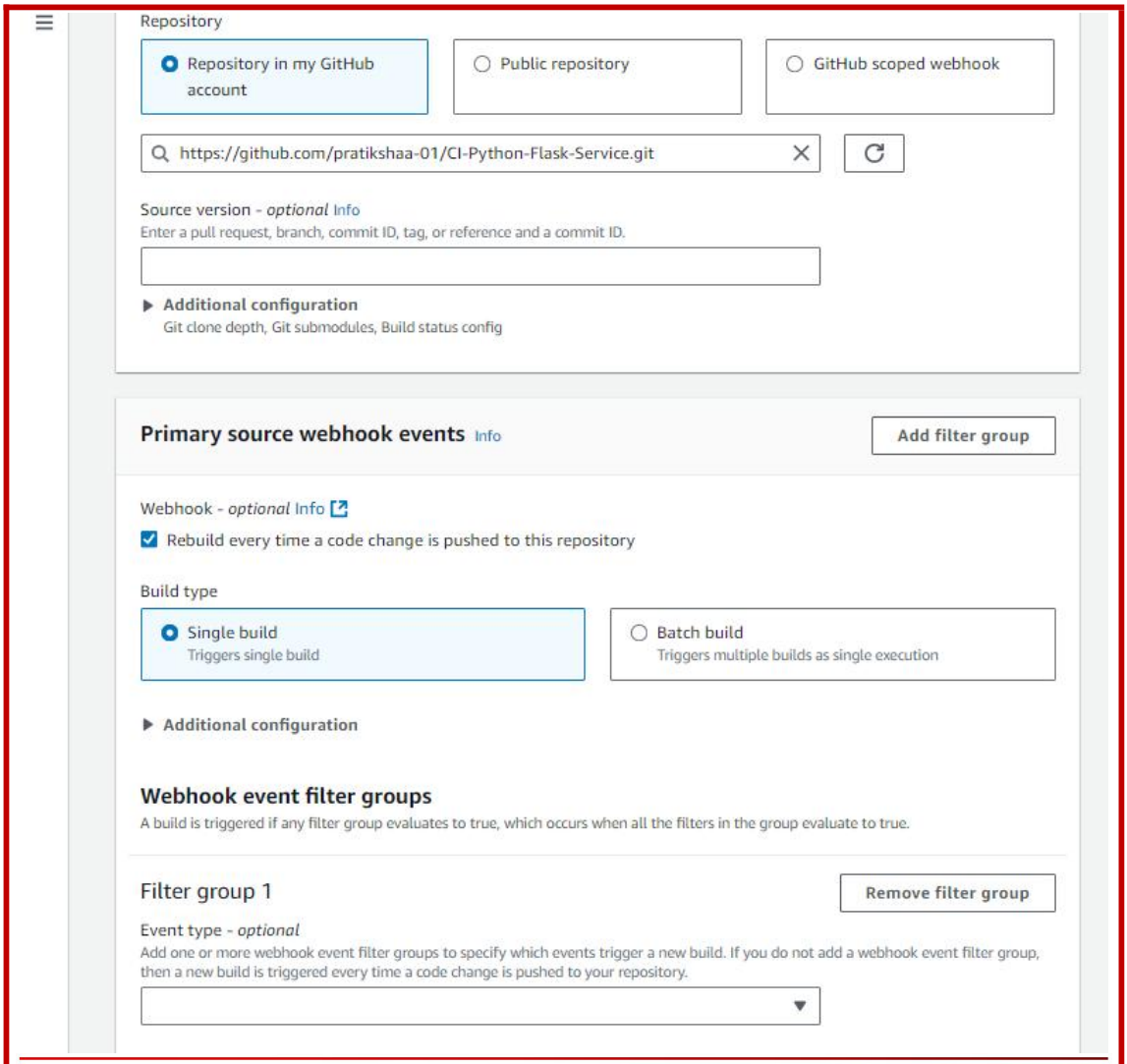
Key Features:

- Automated Workflows: Implemented AWS CodePipeline to manage the entire CI/CD process from code commit to production deployment.
- Build Automation: Utilized AWS CodeBuild to compile the Python Flask app, run tests, and build Docker images.
- Effortless Deployments: Leveraged AWS CodeDeploy to automatically deploy the Dockerized application to EC2 instances, enabling rolling updates and quick rollbacks.
- Version Control: All application code and Docker configurations are stored in a GitHub repository, ensuring easy collaboration and version tracking.

Technologies Used:

- AWS CodePipeline
- AWS CodeBuild
- AWS CodeDeploy
- Amazon EC2
- Docker
- Python Flask
- GitHub


Developer Tools > CodeBuild > Build projects > Create build project
Create build project
Project configuration
Project name
CI-Python-Flask-Project
A project name must be 2 to 255 characters. It can include the letters A-Z and a-z, the numbers 0-9, and the special characters - and _.
Public build access - optional
Public build access allows you to make the build results, including logs and artifacts, for this project available for the general public.
Enable public build access
Additional configuration
Description, Build badge, Concurrent build limit, tags
Source
Add source
Source 1 - Primary
Source provider
GitHub
Credential
Default source credential
Use your account's default source credential to apply to all projects
Custom source credential
Use a custom source credential to override your account's default settings
Successfully connected through OAuth using CodeBuild managed token
Manage default source credential


Repository
Repository in my GitHub account
Public repository
GitHub scoped webhook
https://github.com/pratikshaa-01/CI-Python-Flask-Service.git
Source version - optional Info
Enter a pull request, branch, commit ID, tag, or reference and a commit ID.
Additional configuration
Git clone depth, Git submodules, Build status config
Primary source webhook events Info
Add filter group
Webhook - optional Info
Rebuild every time a code change is pushed to this repository
Build type
Single build
Triggers single build
Batch build
Triggers multiple builds as single execution
Additional configuration
Webhook event filter groups
A build is triggered if any filter group evaluates to true, which occurs when all the filters in the group evaluate to true.
Filter group 1
Remove filter group
Event type - optional
Add one or more webhook event filter groups to specify which events trigger a new build. If you do not add a webhook event filter group, then a new build is triggered every time a code change is pushed to your repository.

Environment

Provisioning model Info

- (●) On-demand
  Automatically provision build infrastructure in response to new builds.
- ( ) Reserved capacity
  Use a dedicated fleet of instances for builds. A fleet's compute and environment type will be used for the project.

Environment image

- (●) Managed image
  Use an image managed by AWS CodeBuild
- ( ) Custom image
  Specify a Docker image

Compute

- (●) EC2
  Optimized for flexibility during action runs
- ( ) Lambda
  Optimized for speed and minimizes the start up time of workflow actions

Operating system

Ubuntu ▼

Runtime(s)

Standard ▼

Image

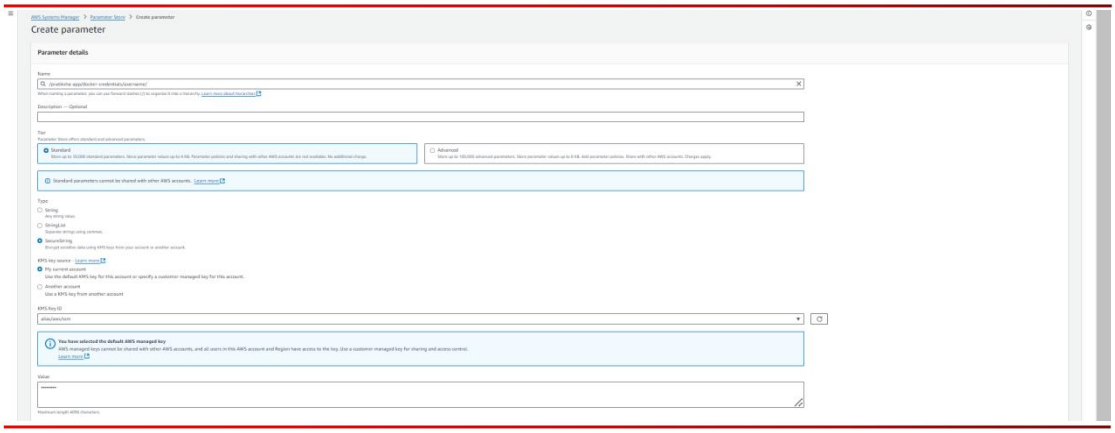
aws/codebuild/standard:7.0 ▼

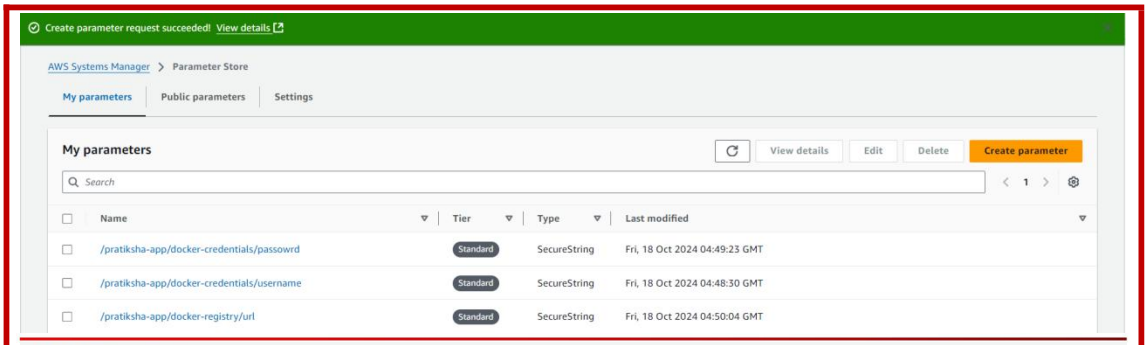
Image version

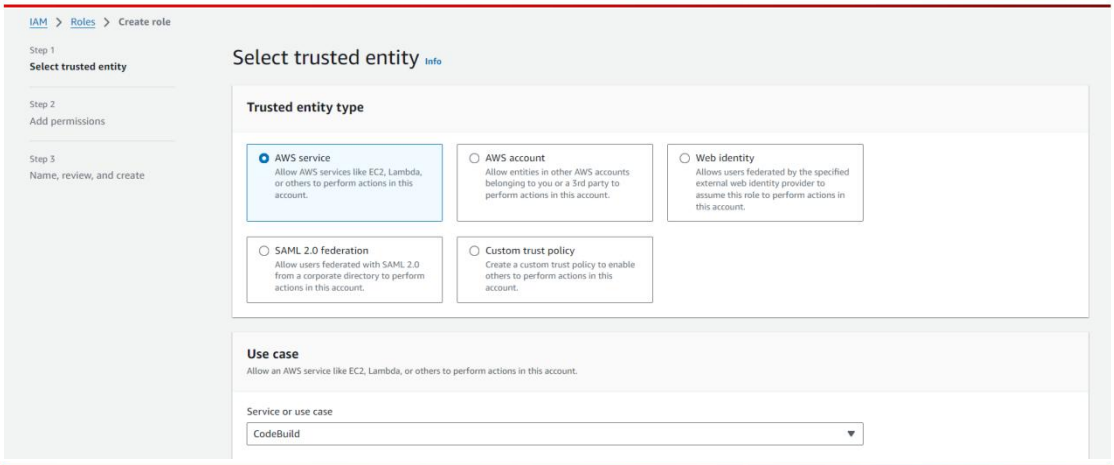
Always use the latest image for this runtime version ▼

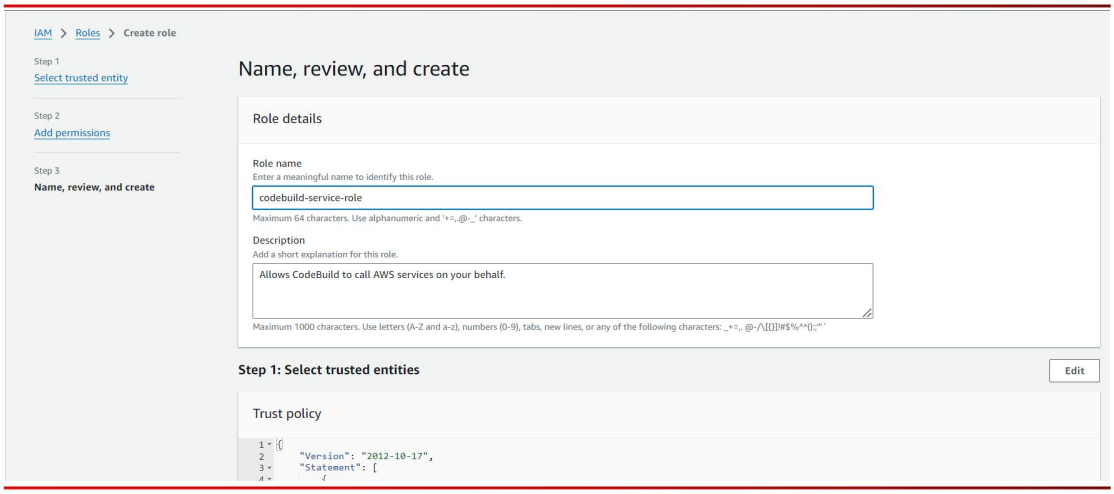
☐ Use GPU-enhanced compute

Service role




Create parameter request succeeded! View details
AWS Systems Manager > Parameter Store
My parameters
Public parameters
Settings
My parameters
View details
Edit
Delete
Create parameter
Search
1
Name
Tier
Type
Last modified
/pratiksha-app/docker-credentials/passowrd
Standard
SecureString
Fri, 18 Oct 2024 04:49:23 GMT
/pratiksha-app/docker-credentials/username
Standard
SecureString
Fri, 18 Oct 2024 04:48:30 GMT
/pratiksha-app/docker-registry/url
Standard
SecureString
Fri, 18 Oct 2024 04:50:04 GMT


IAM > Roles > Create role
Step 1
Select trusted entity
Step 2
Add permissions
Step 3
Name, review, and create
Select trusted entity Info
Trusted entity type
AWS service
Allow AWS services like EC2, Lambda, or others to perform actions in this account.
AWS account
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.
Web identity
Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.
SAML 2.0 federation
Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.
Custom trust policy
Create a custom trust policy to enable others to perform actions in this account.
Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.
Service or use case
CodeBuild


IAM > Roles > Create role
Step 1
Select trusted entity
Step 2
Add permissions
Step 3
Name, review, and create
Name, review, and create
Role details
Role name
Enter a meaningful name to identify this role.
codebuild-service-role
Maximum 64 characters. Use alphanumeric and '+=,.@-_' characters.
Description
Add a short explanation for this role.
Allows CodeBuild to call AWS services on your behalf.
Maximum 1000 characters. Use letters (A-Z and a-z), numbers (0-9), tabs, new lines, or any of the following characters: _+=,. @-/\[{}]!#$%^*();:'"`
Step 1: Select trusted entities
Edit
Trust policy
{
"Version": "2012-10-17",
"Statement": [
{

Operating system

Ubuntu

Runtime(s)

Standard

Image

aws/codebuild/standard:7.0

Image version

Always use the latest image for this runtime version

☐ Use GPU-enhanced compute

Service role

○ New service role
Create a service role in your account

◉ Existing service role
Choose an existing service role from your account

Role ARN

arn:aws:iam::891377249801:role/codebuild-service-role

☑ Allow AWS CodeBuild to modify this service role so it can be used with this build project

▶ **Additional configuration**
Timeout, privileged, certificate, VPC, compute type, environment variables, file systems

Project created
You have successfully created the following project: CI-Python-Flask-Project

Create a notification rule for this project

Developer Tools > CodeBuild > Build projects > CI-Python-Flask-Project

CI-Python-Flask-Project

Actions | Create trigger | Edit | Clone | Debug build | Start build with overrides | Start build

Configuration

Source provider	Primary repository	Artifacts upload location	Service role
GitHub	pratikshaa-01/CI-Python-Flask-Service	-	arn:aws:iam::891377249801:role/codebuild-service-role

Public builds
Disabled

Build history | Batch history | Project details | Build triggers | Metrics

Build history

Stop build | View artifacts | View logs | Delete builds | Retry build

1

Hours

1

Minutes

0

Timeout must be between 5 minutes and 36 hours

Queued timeout

Default time in build queue is 8 hours

Hours

8

Minutes

0

Timeout must be between 5 minutes and 8 hours

Privileged

☑ Enable this flag if you want to build Docker images or want your builds to get elevated privileges.

Report auto-discover Info

☐ Disable report auto-discover

Auto-discover directory - *optional*

**/*

CodeBuild will search for supported report file types in this directory. **/* by default

Certificate

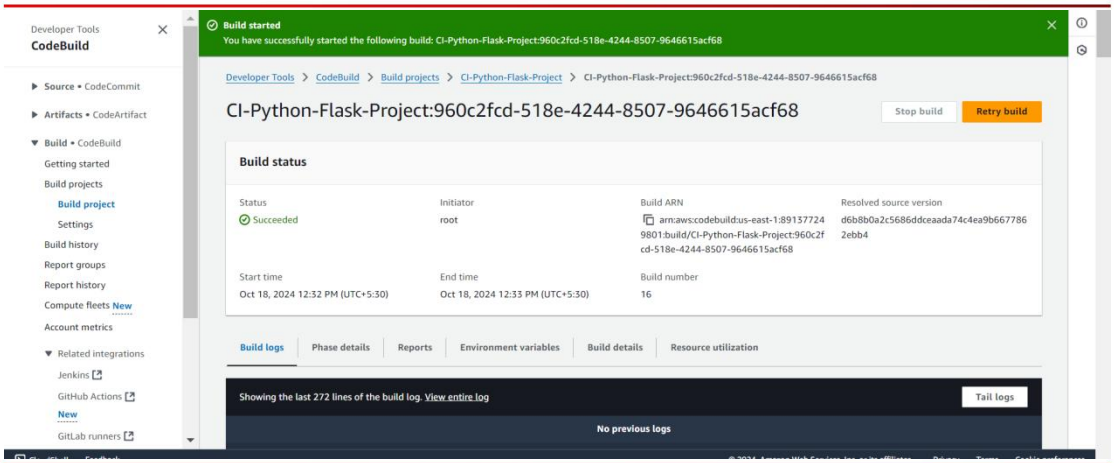
If you have a self-signed certificate or a certificate signed by a certification authority, choose the option to install it from your S3 bucket.

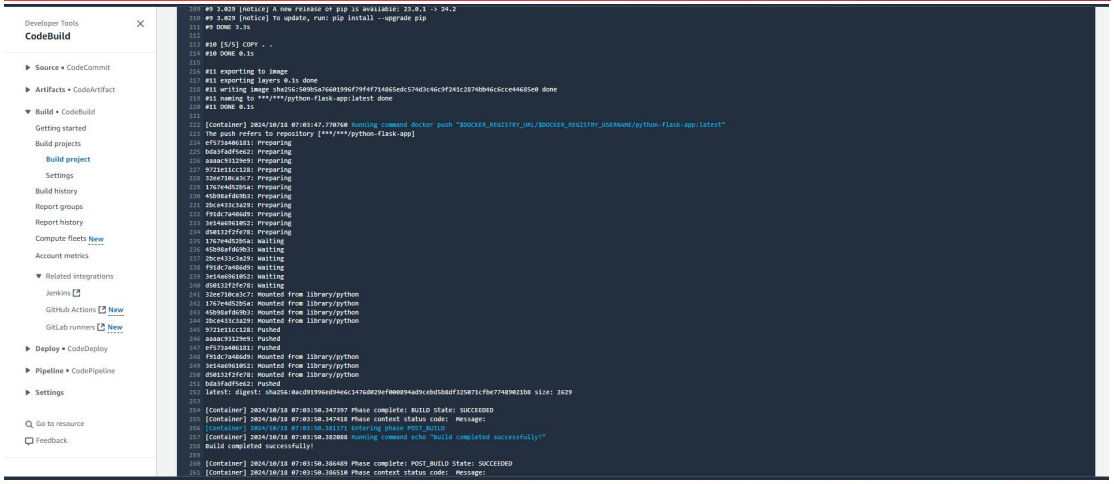
◉ Do not install any certificate

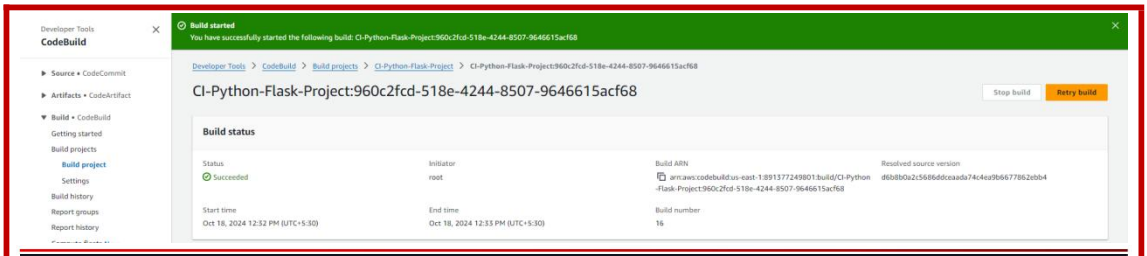
○ Install certificate from your S3 bucket

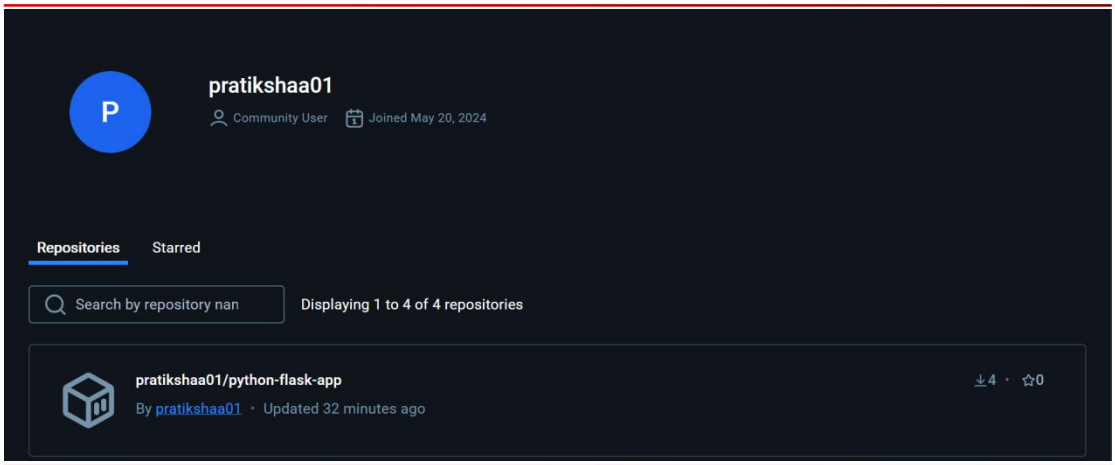
VPC

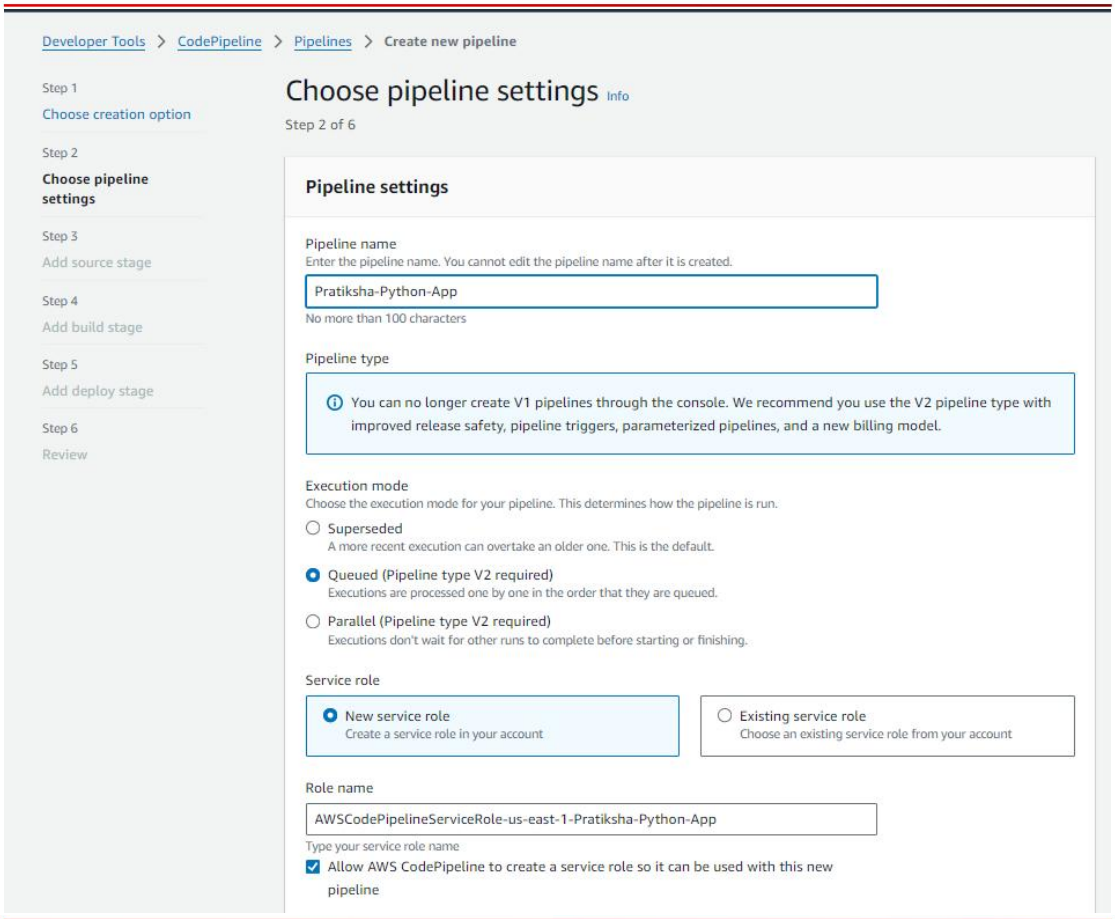
Select a VPC that your AWS CodeBuild project will access.

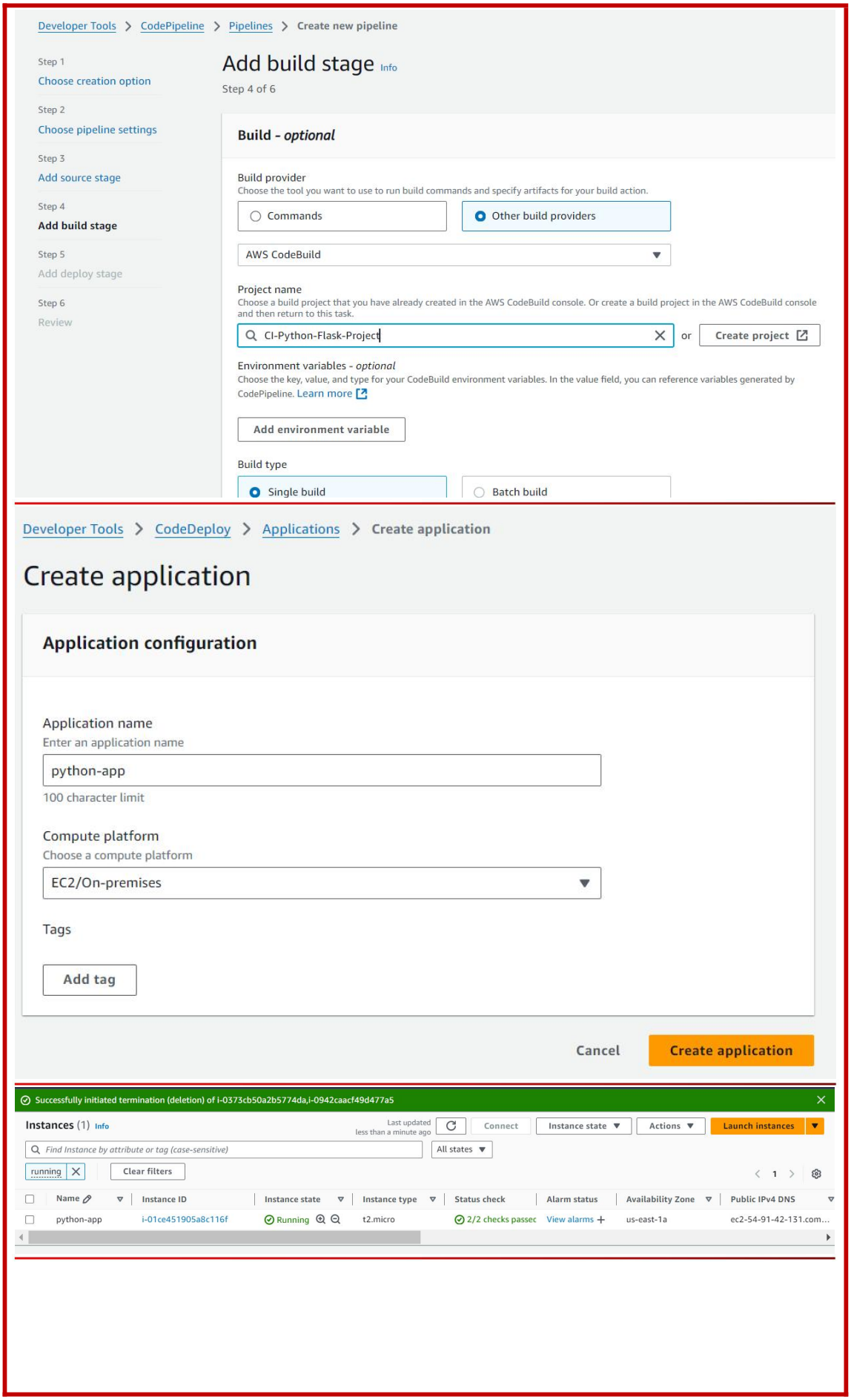


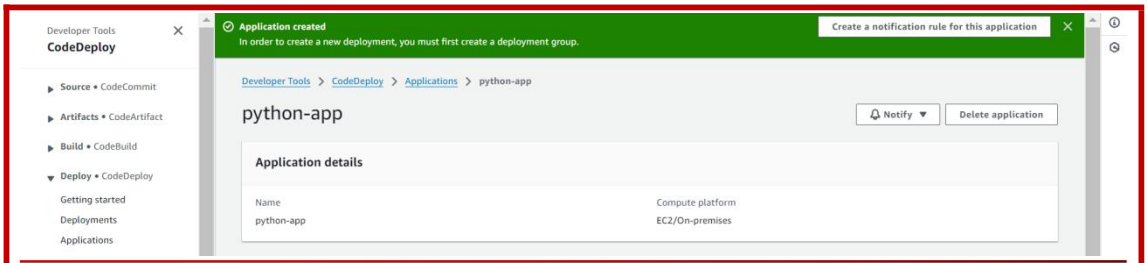



Developer Tools
CodeBuild
Build started
You have successfully started the following build: CI-Python-Flask-Project:960c2fcd-518e-4244-8507-9646615acf68
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Getting started
Build projects
Build project
Settings
Build history
Report groups
Report history
Developer Tools > CodeBuild > Build projects > CI-Python-Flask-Project > CI-Python-Flask-Project:960c2fcd-518e-4244-8507-9646615acf68
CI-Python-Flask-Project:960c2fcd-518e-4244-8507-9646615acf68
Stop build
Retry build
Build status
Status
Succeeded
Initiator
root
Build ARN
arn:aws:codebuild:us-east-1:891377249801:build/CI-Python-Flask-Project:960c2fcd-518e-4244-8507-9646615acf68
Resolved source version
d6b8b0a2c5686ddceaada74c4ea9b6677862ebb4
Start time
Oct 18, 2024 12:32 PM (UTC+5:30)
End time
Oct 18, 2024 12:33 PM (UTC+5:30)
Build number
16


P
pratikshaa01
Community User
Joined May 20, 2024
Repositories
Starred
Search by repository nan
Displaying 1 to 4 of 4 repositories
pratikshaa01/python-flask-app
By pratikshaa01 • Updated 32 minutes ago
4 • 0


Developer Tools > CodePipeline > Pipelines > Create new pipeline
Step 1
Choose creation option
Step 2
Choose pipeline settings
Step 3
Add source stage
Step 4
Add build stage
Step 5
Add deploy stage
Step 6
Review
Choose pipeline settings Info
Step 2 of 6
Pipeline settings
Pipeline name
Enter the pipeline name. You cannot edit the pipeline name after it is created.
Pratiksha-Python-App
No more than 100 characters
Pipeline type
You can no longer create V1 pipelines through the console. We recommend you use the V2 pipeline type with improved release safety, pipeline triggers, parameterized pipelines, and a new billing model.
Execution mode
Choose the execution mode for your pipeline. This determines how the pipeline is run.
Superseded
A more recent execution can overtake an older one. This is the default.
Queued (Pipeline type V2 required)
Executions are processed one by one in the order that they are queued.
Parallel (Pipeline type V2 required)
Executions don't wait for other runs to complete before starting or finishing.
Service role
New service role
Create a service role in your account
Existing service role
Choose an existing service role from your account
Role name
AWSCodePipelineServiceRole-us-east-1-Pratiksha-Python-App
Type your service role name
Allow AWS CodePipeline to create a service role so it can be used with this new pipeline


Developer Tools > CodePipeline > Pipelines > Create new pipeline
Step 1
Choose creation option
Step 2
Choose pipeline settings
Step 3
Add source stage
Step 4
Add build stage
Step 5
Add deploy stage
Step 6
Review
Add build stage Info
Step 4 of 6
Build - optional
Build provider
Choose the tool you want to use to run build commands and specify artifacts for your build action.
Commands
Other build providers
AWS CodeBuild
Project name
Choose a build project that you have already created in the AWS CodeBuild console. Or create a build project in the AWS CodeBuild console and then return to this task.
CI-Python-Flask-Project
or
Create project
Environment variables - optional
Choose the key, value, and type for your CodeBuild environment variables. In the value field, you can reference variables generated by CodePipeline. Learn more
Add environment variable
Build type
Single build
Batch build
Developer Tools > CodeDeploy > Applications > Create application
Create application
Application configuration
Application name
Enter an application name
python-app
100 character limit
Compute platform
Choose a compute platform
EC2/On-premises
Tags
Add tag
Cancel
Create application
Successfully initiated termination (deletion) of i-0373cb50a2b5774da,i-0942caacf49d477a5
Instances (1) Info
Last updated less than a minute ago
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
running
Clear filters
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
python-app
i-01ce451905a8c116f
Running
t2.micro
2/2 checks passed
View alarms
us-east-1a
ec2-54-91-42-131.com...



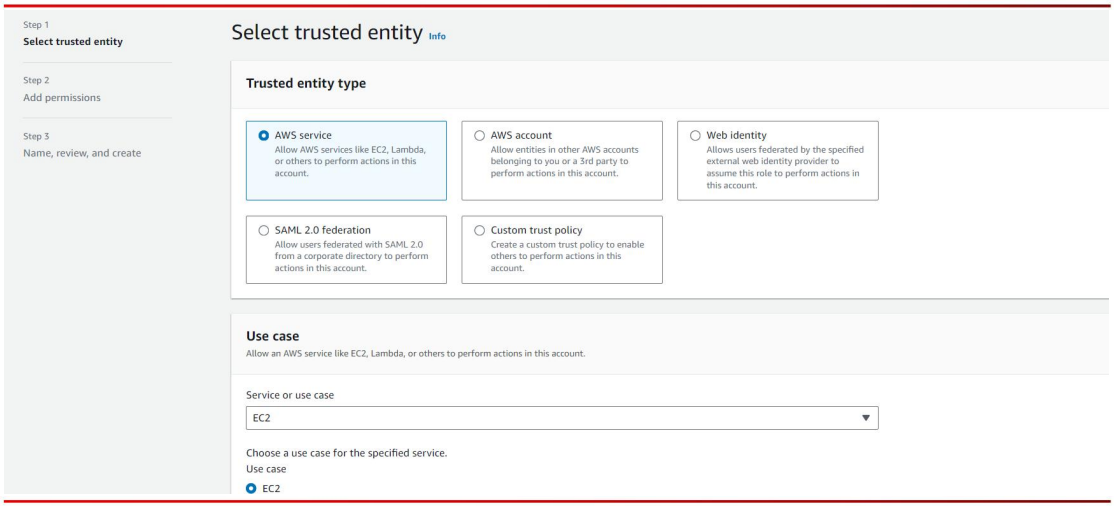

```
root@python: ~
root@python:~# sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [431 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [92.6 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [7224 B]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [5788 B]
Get:11 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [553 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:13 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [147 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [597 kB]
Get:20 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [51.9 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [146 kB]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [114 kB]
Get:23 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [13.5 kB]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [10.2 kB]
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [705 kB]
Get:26 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [388 kB]
```

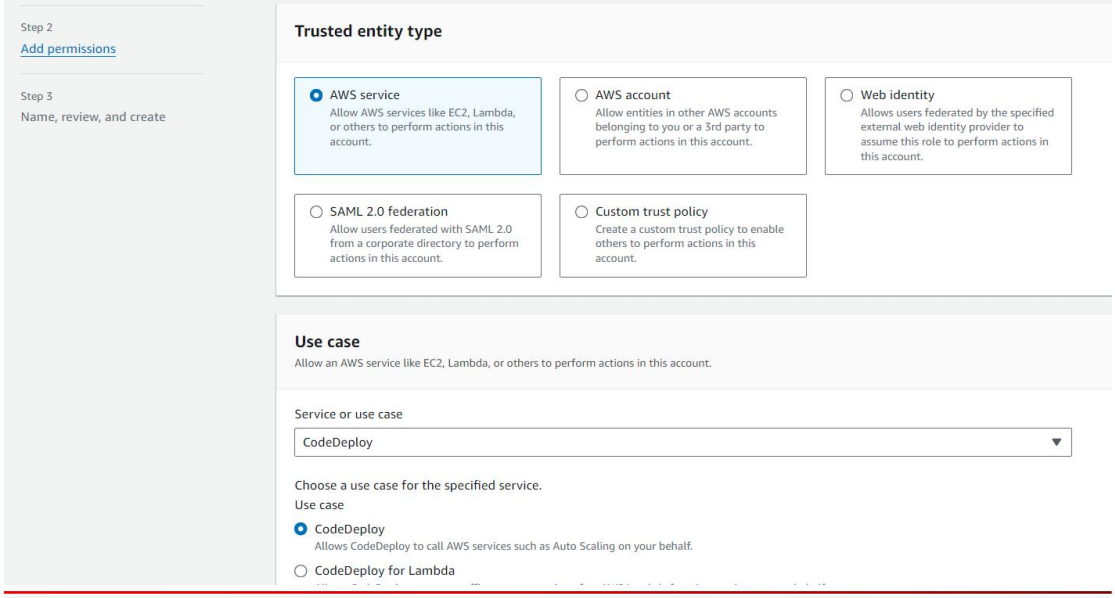
```
root@python: ~
root@python:~# sudo apt install ruby-full
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  fonts-lato javascript-common libgmp-dev libgmpxx4ldbl libjs-jquery libruby libruby3.2 rake ri ruby ruby-dev
  ruby-net-telnet ruby-rubygems ruby-sdbm ruby-webrick ruby-xmlrpc ruby3.2 ruby3.2-dev ruby3.2-doc
  rubygems-integration unzip zip
Suggested packages:
  apache2 | lighttpd | httpd gmp-doc libgmp10-doc libmpfr-dev bundler
The following NEW packages will be installed:
  fonts-lato javascript-common libgmp-dev libgmpxx4ldbl libjs-jquery libruby libruby3.2 rake ri ruby ruby-dev
  ruby-full ruby-net-telnet ruby-rubygems ruby-sdbm ruby-webrick ruby-xmlrpc ruby3.2 ruby3.2-dev ruby3.2-doc
  rubygems-integration unzip zip
0 upgraded, 23 newly installed, 0 to remove and 25 not upgraded.
Need to get 12.1 MB of archives.
After this operation, 65.4 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 fonts-lato all 2.015-1 [2781 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 javascript-common all 11+nmu1 [5936 B]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libgmpxx4ldbl amd64 2:6.3.0+dfsg-2ubuntu6 [988
4 B]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libgmp-dev amd64 2:6.3.0+dfsg-2ubuntu6 [340 kB
]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libjs-jquery all 3.6.1+dfsg+~3.5.14-1 [328 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 rubygems-integration all 1.18 [5336 B]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 ruby3.2 amd64 3.2.3-1ubuntu0.24.04.1 [
```

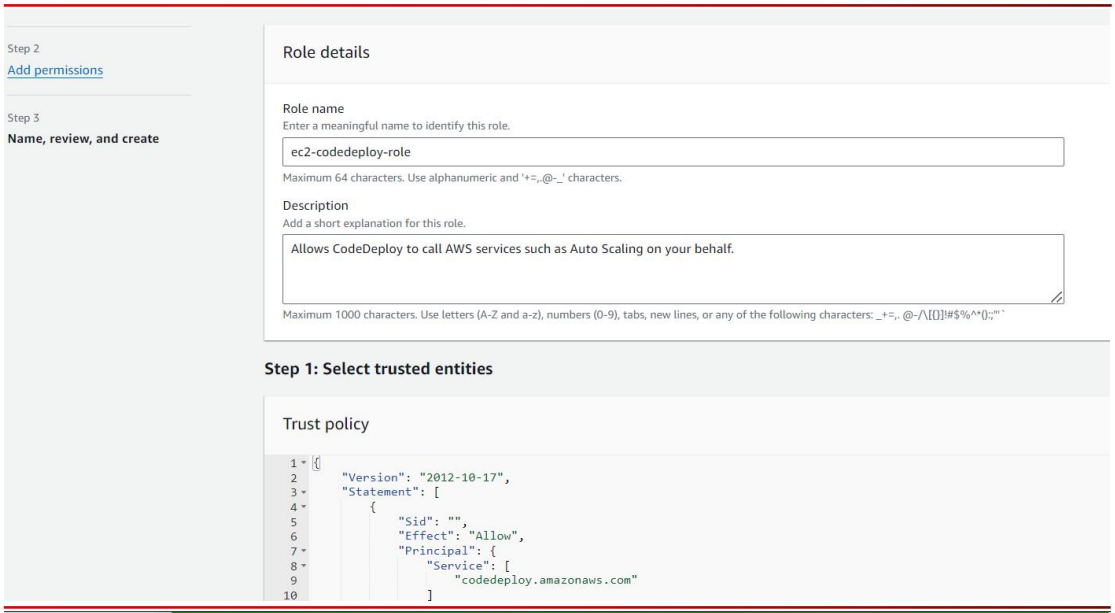
```
--2024-10-18 11:44:55--  https://aws-codedeploy-us-east-1.s3.amazonaws.com/latest/install
Resolving aws-codedeploy-us-east-1.s3.amazonaws.com (aws-codedeploy-us-east-1.s3.amazonaws.com)... 3.5.3.100, 52.216
.33.25, 52.216.217.89, ...
Connecting to aws-codedeploy-us-east-1.s3.amazonaws.com (aws-codedeploy-us-east-1.s3.amazonaws.com)|3.5.3.100|:443..
. connected.
HTTP request sent, awaiting response... 200 OK
Length: 19045 (19K) []
Saving to: 'install'

install                     100%[=========================================>]  18.60K  --.-KB/s    in 0.001s

2024-10-18 11:44:55 (17.3 MB/s) - 'install' saved [19045/19045]
```

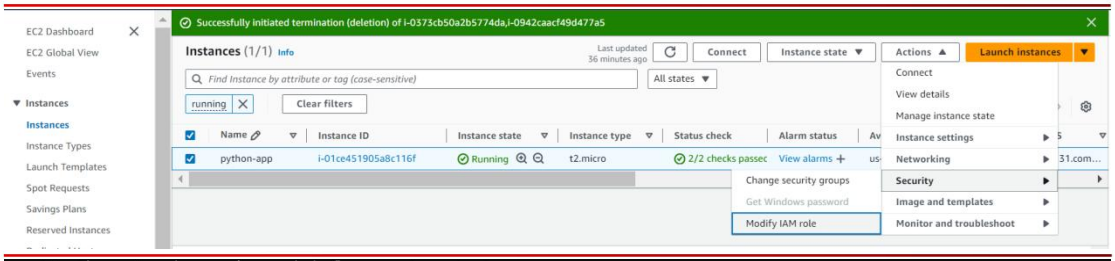
```
root@python:~# chmod +x ./install
root@python:~# sudo ./install auto
I, [2024-10-18T11:46:00.570615 #2020]  INFO -- : Starting Ruby version check.
W, [2024-10-18T11:46:00.570829 #2020]  WARN -- : The Ruby version in /usr/bin/ruby3.2 is 3.2.3, . Attempting to inst
all anyway.
I, [2024-10-18T11:46:00.570848 #2020]  INFO -- : Starting update check.
I, [2024-10-18T11:46:00.570861 #2020]  INFO -- : Attempting to automatically detect supported package manager type f
or system...
W, [2024-10-18T11:46:00.579424 #2020]  WARN -- : apt-get found but no gdebi. Installing gdebi with `apt-get install
gdebi-core -y`...
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  gdebi-core
0 upgraded, 1 newly installed, 0 to remove and 25 not upgraded.
Need to get 132 kB of archives.
After this operation, 861 kB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 gdebi-core all 0.9.5.7+nmu7 [132 kB]
Fetched 132 kB in 0s (9617 kB/s)
Selecting previously unselected package gdebi-core.
(Reading database ... 84852 files and directories currently installed.)
Preparing to unpack .../gdebi-core_0.9.5.7+nmu7_all.deb ...
Unpacking gdebi-core (0.9.5.7+nmu7) ...
Setting up gdebi-core (0.9.5.7+nmu7) ...
/usr/share/gdebi/GDebi/GDebiCli.py:159: SyntaxWarning: invalid escape sequence '\S'
```

```
root@python:~# systemctl status codedeploy-agent
● codedeploy-agent.service - LSB: AWS CodeDeploy Host Agent
     Loaded: loaded (/etc/init.d/codedeploy-agent; generated)
     Active: active (running) since Fri 2024-10-18 11:46:08 UTC; 39s ago
       Docs: man:systemd-sysv-generator(8)
    Process: 2307 ExecStart=/etc/init.d/codedeploy-agent start (code=exited, status=0/SUCCESS)
      Tasks: 3 (limit: 1130)
     Memory: 65.1M (peak: 65.2M)
        CPU: 891ms
     CGroup: /system.slice/codedeploy-agent.service
             ├─2313 "codedeploy-agent: master 2313"
             └─2316 "codedeploy-agent: InstanceAgent::Plugins::CodeDeployPlugin::CommandPoller of master 2313"

Oct 18 11:46:07 python.com systemd[1]: Starting codedeploy-agent.service - LSB: AWS CodeDeploy Host Agent...
Oct 18 11:46:08 python.com codedeploy-agent[2307]: Starting codedeploy-agent:
Oct 18 11:46:08 python.com systemd[1]: Started codedeploy-agent.service - LSB: AWS CodeDeploy Host Agent.
root@python:~#
```

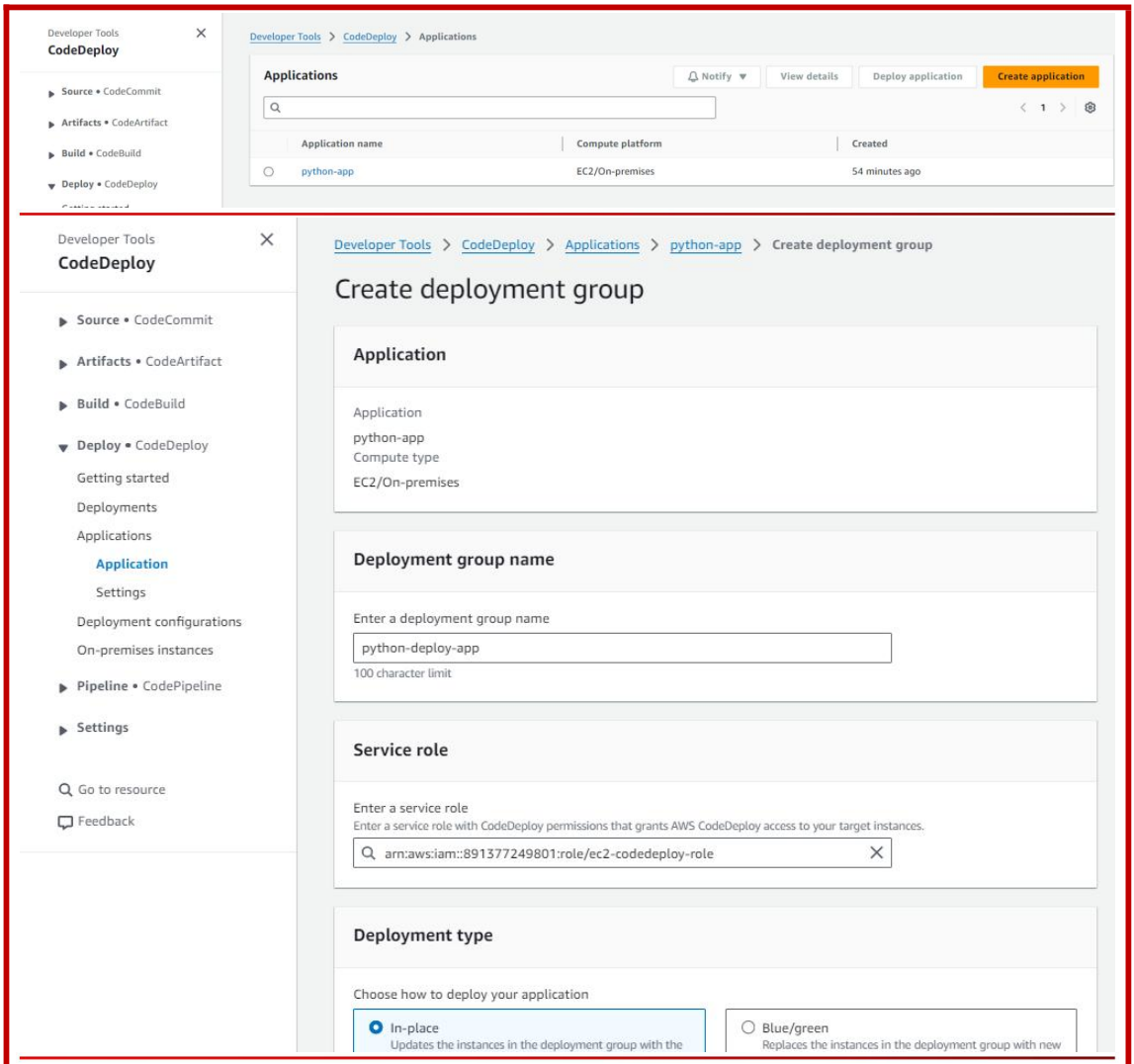


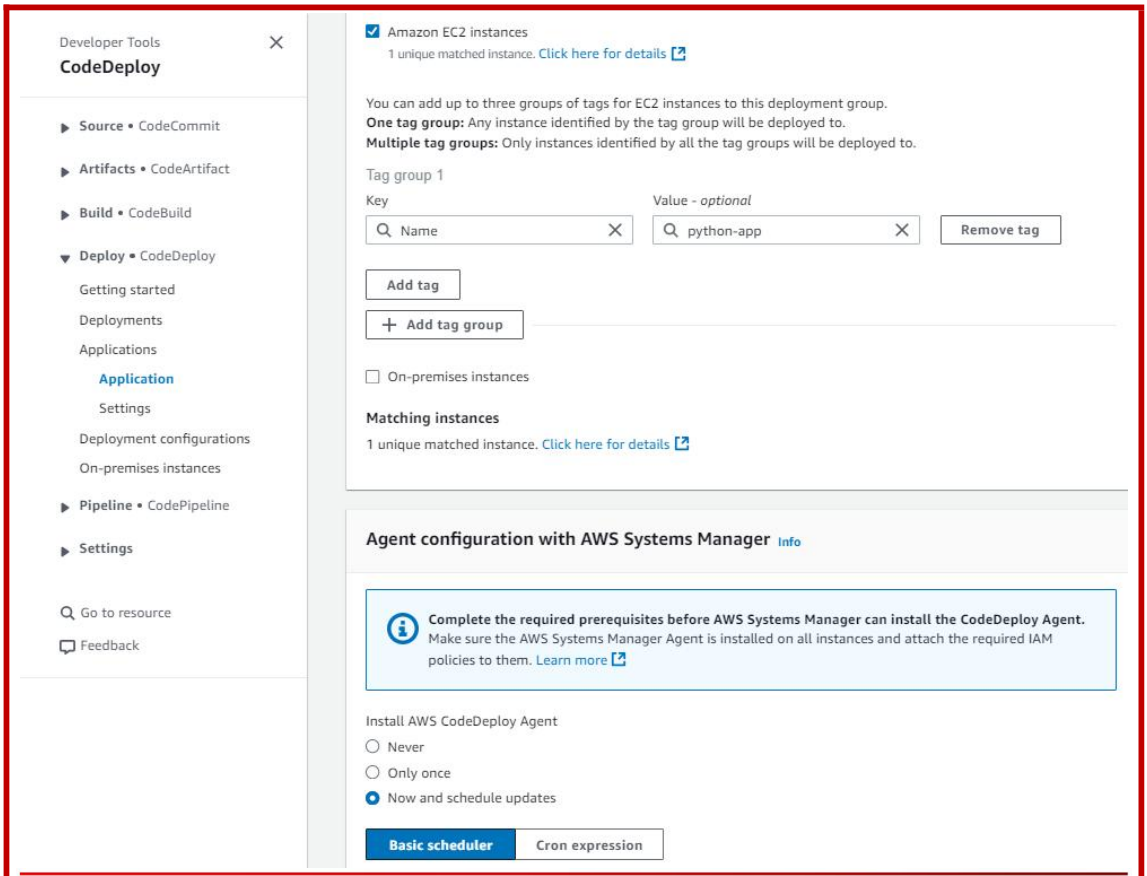


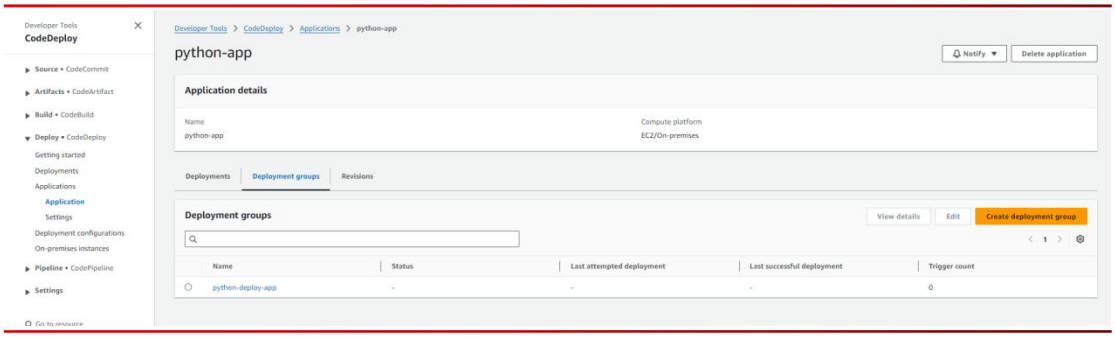


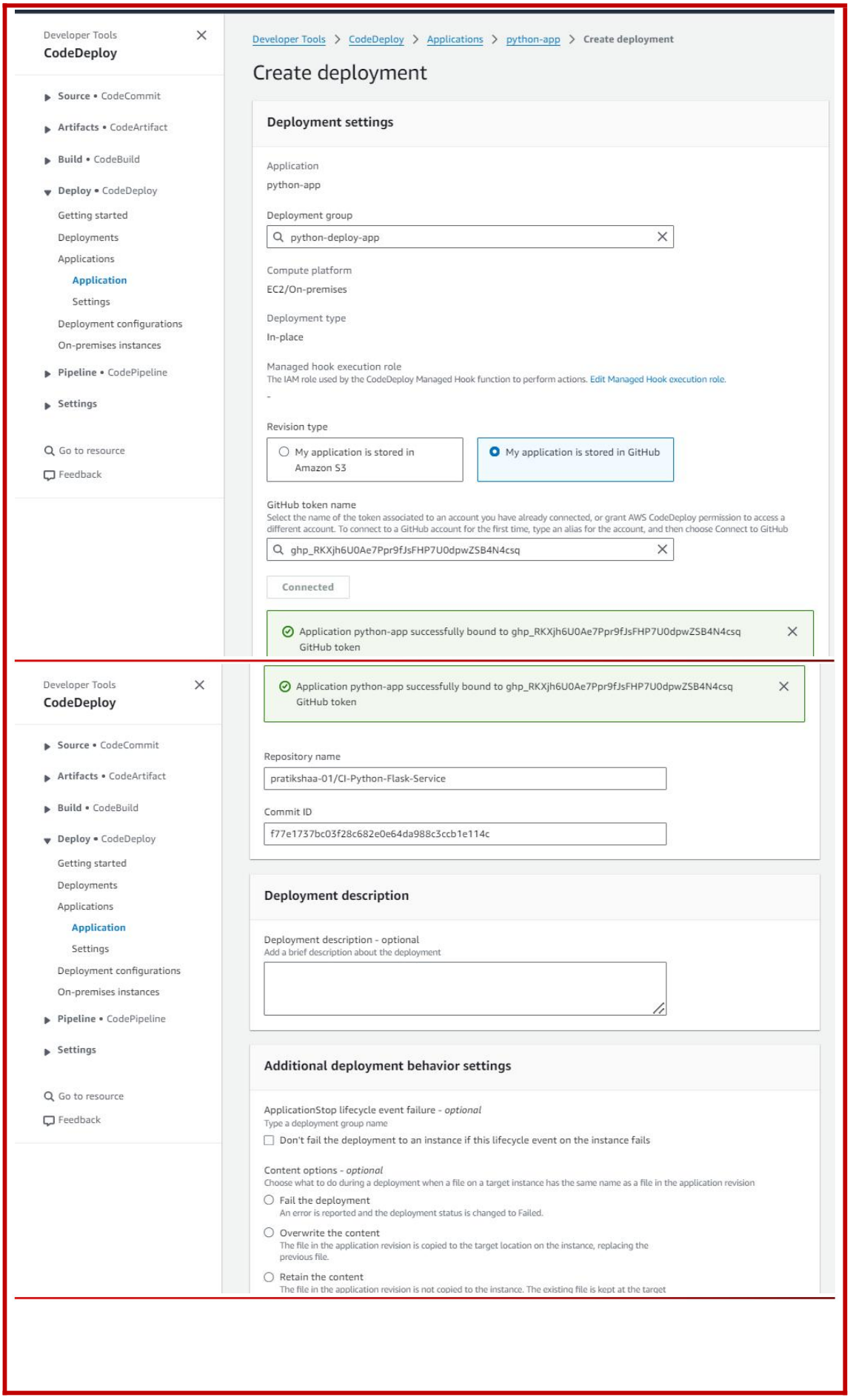


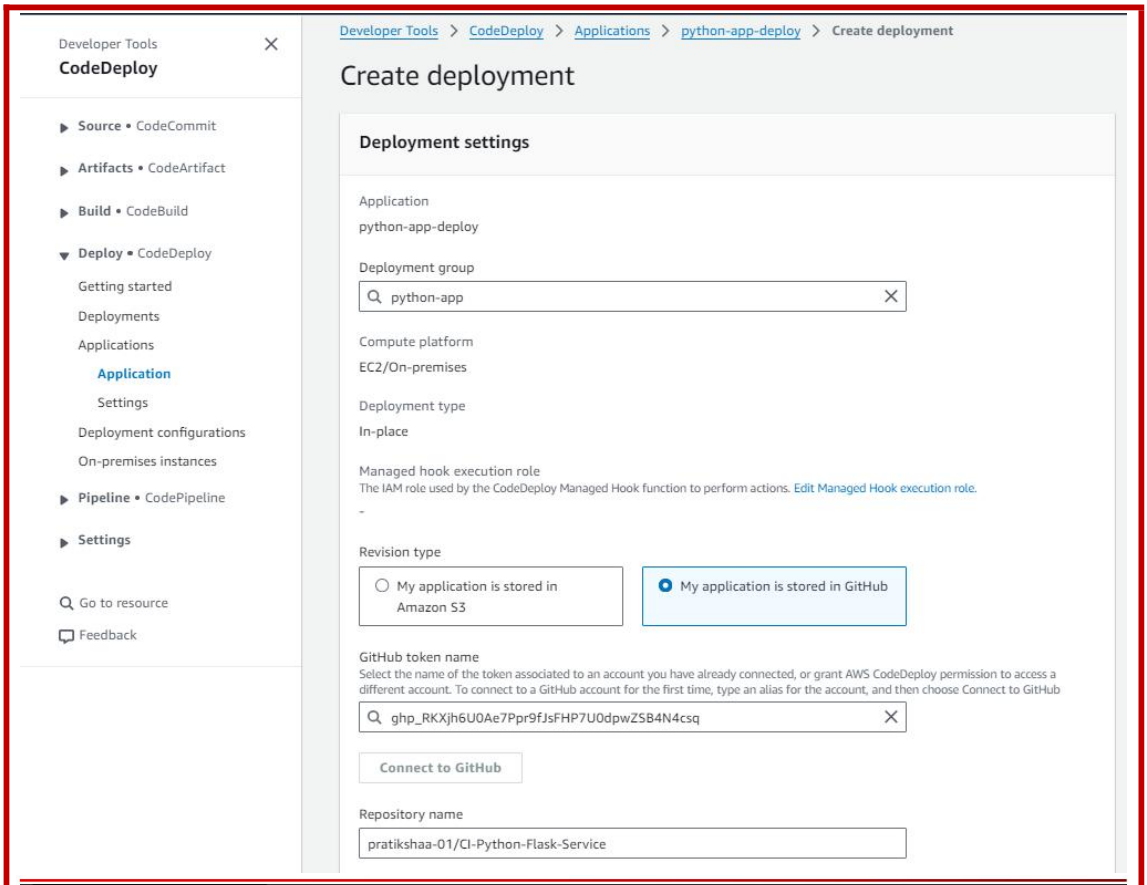

```
root@python:~# sudo service codedeploy-agent restart
root@python:~#  systemctl status codedeploy-agent
● codedeploy-agent.service - LSB: AWS CodeDeploy Host Agent
     Loaded: loaded (/etc/init.d/codedeploy-agent; generated)
     Active: active (running) since Fri 2024-10-18 11:59:05 UTC; 1min 10s ago
       Docs: man:systemd-sysv-generator(8)
    Process: 2425 ExecStart=/etc/init.d/codedeploy-agent start (code=exited, status=0/SUCCESS)
      Tasks: 3 (limit: 1130)
     Memory: 63.2M (peak: 63.3M)
        CPU: 868ms
     CGroup: /system.slice/codedeploy-agent.service
             ├─2432 "codedeploy-agent: master 2432"
             └─2435 "codedeploy-agent: InstanceAgent::Plugins::CodeDeployPlugin::CommandPoller of master 2432"

Oct 18 11:59:05 python.com systemd[1]: Starting codedeploy-agent.service - LSB: AWS CodeDeploy Host Agent...
Oct 18 11:59:05 python.com codedeploy-agent[2425]: Starting codedeploy-agent:
Oct 18 11:59:05 python.com systemd[1]: Started codedeploy-agent.service - LSB: AWS CodeDeploy Host Agent.
root@python:~#
```


Developer Tools
CodeDeploy
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Developer Tools > CodeDeploy > Applications
Applications
Notify
View details
Deploy application
Create application
Application name
Compute platform
Created
python-app
EC2/On-premises
54 minutes ago
Developer Tools
CodeDeploy
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Getting started
Deployments
Applications
Application
Settings
Deployment configurations
On-premises instances
Pipeline • CodePipeline
Settings
Go to resource
Feedback
Developer Tools > CodeDeploy > Applications > python-app > Create deployment group
Create deployment group
Application
Application
python-app
Compute type
EC2/On-premises
Deployment group name
Enter a deployment group name
python-deploy-app
100 character limit
Service role
Enter a service role
Enter a service role with CodeDeploy permissions that grants AWS CodeDeploy access to your target instances.
arn:aws:iam::891377249801:role/ec2-codedeploy-role
Deployment type
Choose how to deploy your application
In-place
Updates the instances in the deployment group with the
Blue/green
Replaces the instances in the deployment group with new

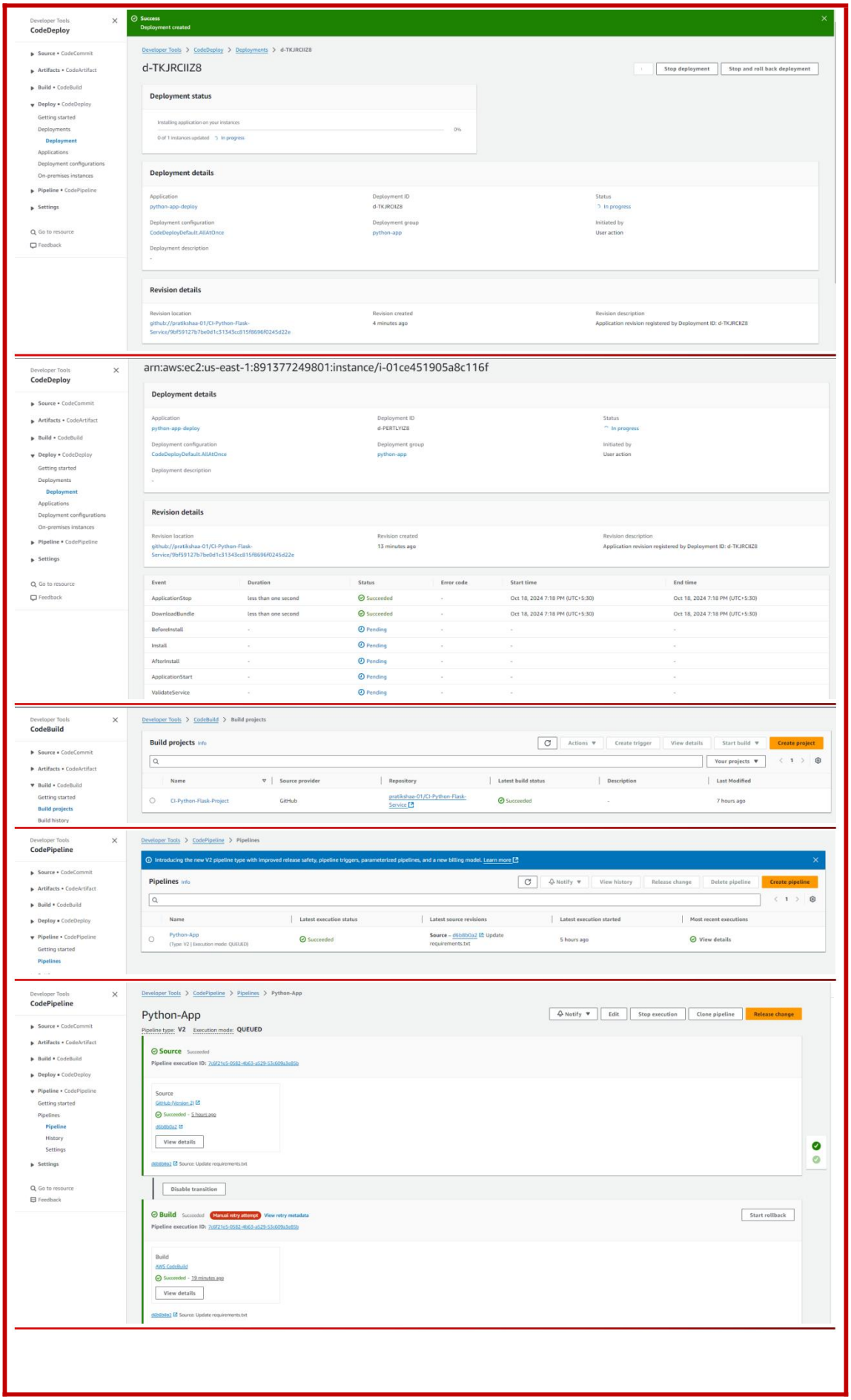

Developer Tools
CodeDeploy
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Getting started
Deployments
Applications
Application
Settings
Deployment configurations
On-premises instances
Pipeline • CodePipeline
Settings
Go to resource
Feedback
Amazon EC2 instances
1 unique matched instance. Click here for details
You can add up to three groups of tags for EC2 instances to this deployment group.
One tag group: Any instance identified by the tag group will be deployed to.
Multiple tag groups: Only instances identified by all the tag groups will be deployed to.
Tag group 1
Key
Value - optional
Name
python-app
Remove tag
Add tag
Add tag group
On-premises instances
Matching instances
1 unique matched instance. Click here for details
Agent configuration with AWS Systems Manager Info
Complete the required prerequisites before AWS Systems Manager can install the CodeDeploy Agent.
Make sure the AWS Systems Manager Agent is installed on all instances and attach the required IAM policies to them. Learn more
Install AWS CodeDeploy Agent
Never
Only once
Now and schedule updates
Basic scheduler
Cron expression

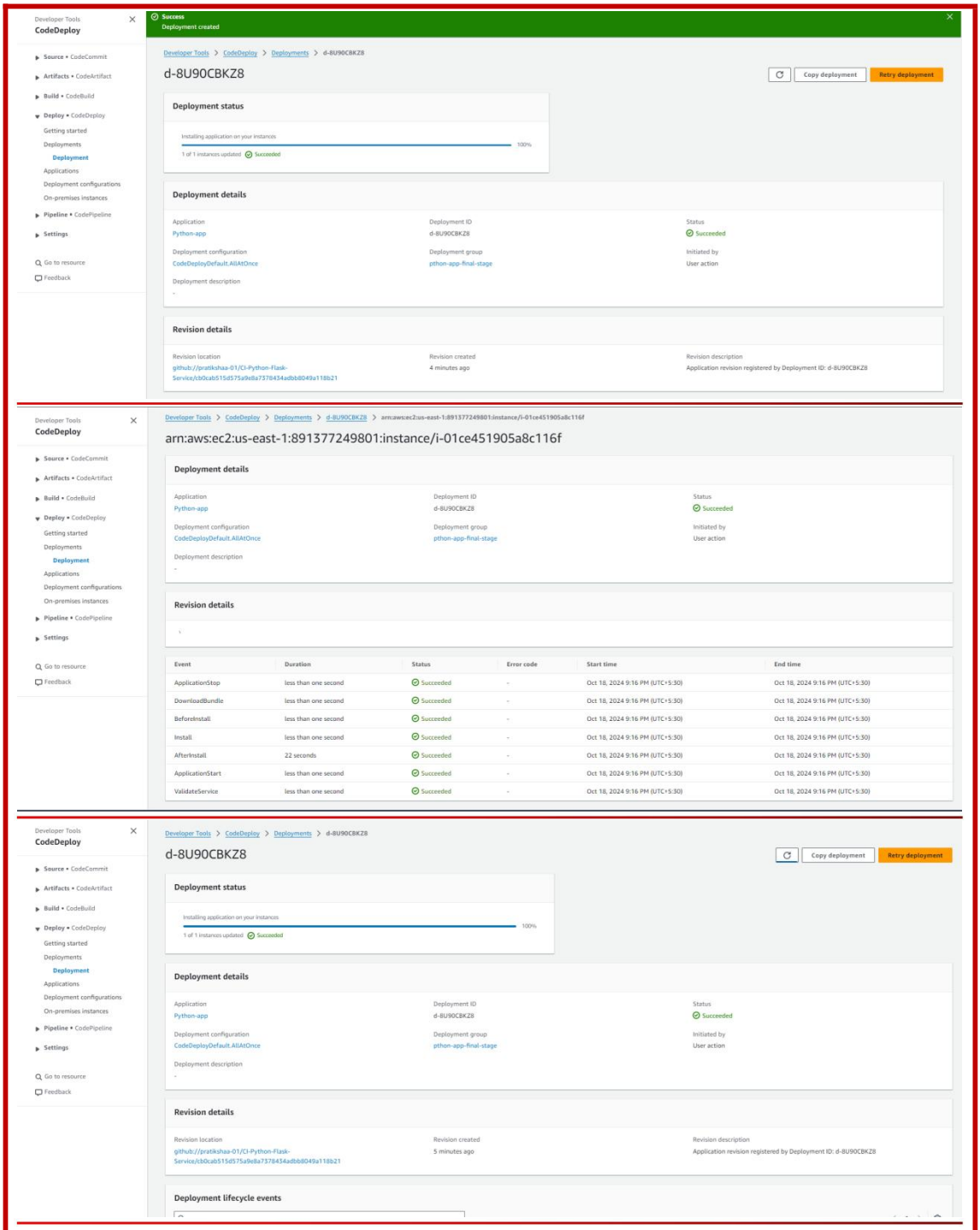

Developer Tools > CodeDeploy > Applications > python-app
python-app
Notify
Delete application
Application details
Name
python-app
Compute platform
EC2/On-premises
Deployments
Deployment groups
Revisions
Deployment groups
View details
Edit
Create deployment group
Name
Status
Last attempted deployment
Last successful deployment
Trigger count
python-deploy-app
0


Developer Tools
CodeDeploy
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Getting started
Deployments
Applications
Application
Settings
Deployment configurations
On-premises instances
Pipeline • CodePipeline
Settings
Go to resource
Feedback
Developer Tools > CodeDeploy > Applications > python-app > Create deployment
Create deployment
Deployment settings
Application
python-app
Deployment group
python-deploy-app
Compute platform
EC2/On-premises
Deployment type
In-place
Managed hook execution role
The IAM role used by the CodeDeploy Managed Hook function to perform actions. Edit Managed Hook execution role.
-
Revision type
My application is stored in Amazon S3
My application is stored in GitHub
GitHub token name
Select the name of the token associated to an account you have already connected, or grant AWS CodeDeploy permission to access a different account. To connect to a GitHub account for the first time, type an alias for the account, and then choose Connect to GitHub
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
Connected
Application python-app successfully bound to 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 GitHub token
Repository name
pratikshaa-01/CI-Python-Flask-Service
Commit ID
f77e1737bc03f28c682e0e64da988c3ccb1e114c
Deployment description
Deployment description - optional
Add a brief description about the deployment
Additional deployment behavior settings
ApplicationStop lifecycle event failure - optional
Type a deployment group name
Don't fail the deployment to an instance if this lifecycle event on the instance fails
Content options - optional
Choose what to do during a deployment when a file on a target instance has the same name as a file in the application revision
Fail the deployment
An error is reported and the deployment status is changed to Failed.
Overwrite the content
The file in the application revision is copied to the target location on the instance, replacing the previous file.
Retain the content
The file in the application revision is not copied to the instance. The existing file is kept at the target



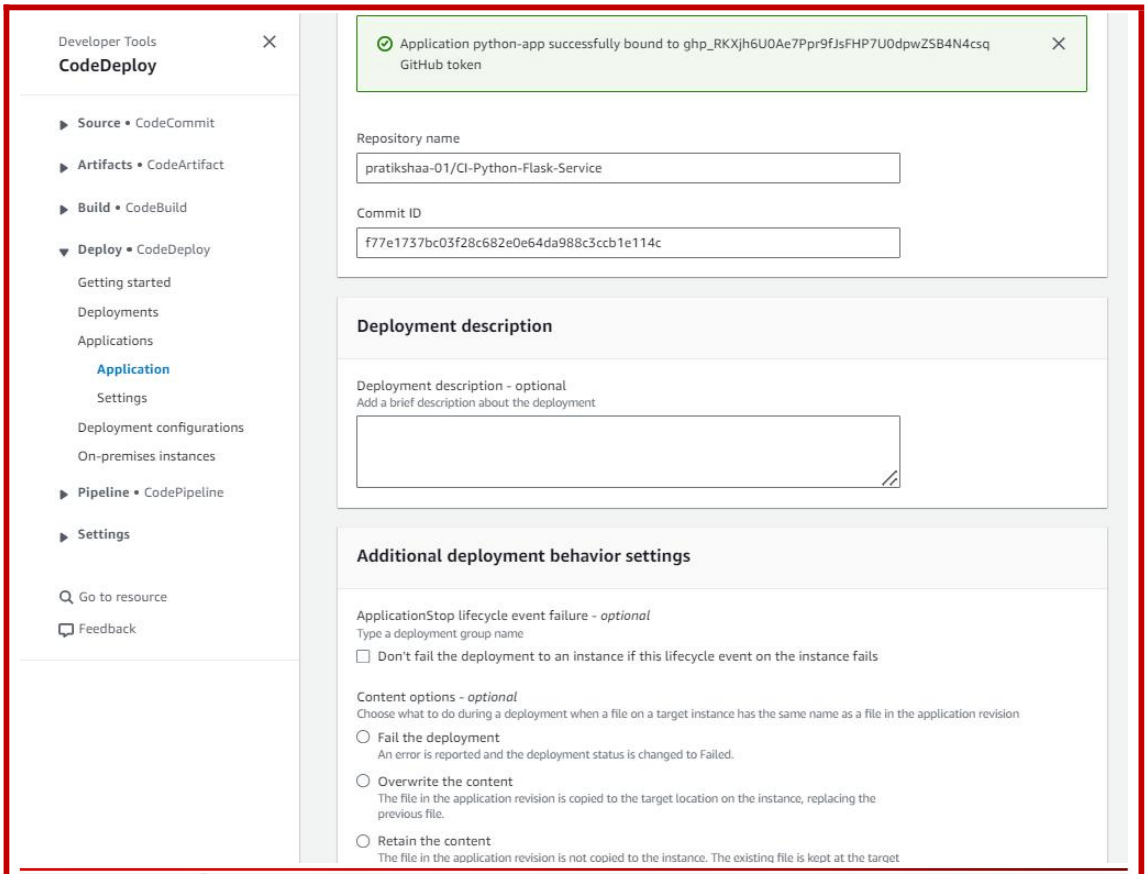

```
root@python: ~
root@python:~# sudo apt install docker.io -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base pigz runc ubuntu-fan
Suggested packages:
  ifupdown aufs-tools cgroupfs-mount | cgroup-lite debootstrap docker-buildx docker-compose-v2 docker-doc rinse
  zfs-fuse | zfsutils
The following NEW packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base docker.io pigz runc ubuntu-fan
0 upgraded, 8 newly installed, 0 to remove and 25 not upgraded.
Need to get 76.8 MB of archives.
After this operation, 289 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 pigz amd64 2.8-1 [65.6 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 bridge-utils amd64 1.7.1-1ubuntu2 [33.9 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 runc amd64 1.1.12-0ubuntu3.1 [8599 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 containerd amd64 1.7.12-0ubuntu4.1 [38
.6 MB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 dns-root-data all 2023112702~willsync1 [4450 B
]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 dnsmasq-base amd64 2.90-2build2 [375 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 docker.io amd64 24.0.7-0ubuntu4.1
[29.1 MB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 ubuntu-fan all 0.12.16 [35.2 kB]
Fetched 76.8 MB in 1s (57.9 MB/s)
Preconfiguring packages ...
```

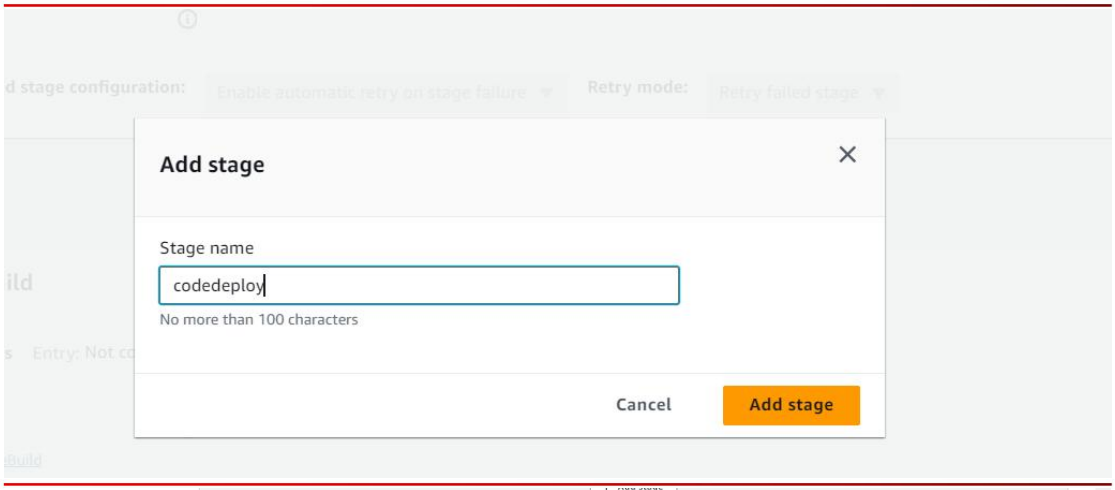

Developer Tools
CodeDeploy
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Getting started
Deployments
Deployment
Applications
Deployment configurations
On-premises instances
Pipeline • CodePipeline
Settings
Go to resource
Feedback
Success
Deployment created
Developer Tools > CodeDeploy > Deployments > d-TKJRCIIZ8
d-TKJRCIIZ8
Stop deployment
Stop and roll back deployment
Deployment status
Installing application on your instances
0%
0 of 1 instances updated
In progress
Deployment details
Application
python-app-deploy
Deployment ID
d-TKJRCIIZ8
Status
In progress
Deployment configuration
CodeDeployDefault.AllAtOnce
Deployment group
python-app
Initiated by
User action
Deployment description
-
Revision details
Revision location
github://pratikshaa-01/CI-Python-Flask-Service/9bf59127b7be0d1c31343cc815f8696f0245d22e
Revision created
4 minutes ago
Revision description
Application revision registered by Deployment ID: d-TKJRCIIZ8
arn:aws:ec2:us-east-1:891377249801:instance/i-01ce451905a8c116f
Deployment details
Application
python-app-deploy
Deployment ID
d-PERTLYIZ8
Status
In progress
Deployment configuration
CodeDeployDefault.AllAtOnce
Deployment group
python-app
Initiated by
User action
Deployment description
-
Revision details
Revision location
github://pratikshaa-01/CI-Python-Flask-Service/9bf59127b7be0d1c31343cc815f8696f0245d22e
Revision created
13 minutes ago
Revision description
Application revision registered by Deployment ID: d-TKJRCIIZ8
Event
Duration
Status
Error code
Start time
End time
ApplicationStop
less than one second
Succeeded
Oct 18, 2024 7:18 PM (UTC+5:30)
Oct 18, 2024 7:18 PM (UTC+5:30)
DownloadBundle
less than one second
Succeeded
Oct 18, 2024 7:18 PM (UTC+5:30)
Oct 18, 2024 7:18 PM (UTC+5:30)
BeforeInstall
Pending
Install
Pending
AfterInstall
Pending
ApplicationStart
Pending
ValidateService
Pending
Developer Tools
CodeBuild
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Getting started
Build projects
Build history
Developer Tools > CodeBuild > Build projects
Build projects
Info
Actions
Create trigger
View details
Start build
Create project
Your projects
Name
Source provider
Repository
Latest build status
Description
Last Modified
CI-Python-Flask-Project
GitHub
pratikshaa-01/CI-Python-Flask-Service
Succeeded
7 hours ago
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Developer Tools > CodePipeline > Pipelines
Introducing the new V2 pipeline type with improved release safety, pipeline triggers, parameterized pipelines, and a new billing model. Learn more
Pipelines
Info
Notify
View history
Release change
Delete pipeline
Create pipeline
Name
Latest execution status
Latest source revisions
Latest execution started
Most recent executions
Python-App
(Type: V2 | Execution mode: QUEUED)
Succeeded
Source – d60d0b0a2 Update requirements.txt
5 hours ago
View details
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Developer Tools > CodePipeline > Pipelines > Python-App
Python-App
Notify
Edit
Stop execution
Clone pipeline
Release change
Pipeline type: V2
Execution mode: QUEUED
Source
Succeeded
Pipeline execution ID: 7c6f21c5-0582-4663-a629-53c609a3e85b
Source
GitHub (Version 2)
Succeeded - 5 hours ago
d60d0b0a2
View details
d60d0b0a2
Source: Update requirements.txt
Disable transition
Build
Succeeded
Manual retry attempt
View retry metadata
Pipeline execution ID: 7c6f21c5-0582-4663-a629-53c609a3e85b
Start rollback
Build
AWS CodeBuild
Succeeded - 19 minutes ago
View details
d60d0b0a2
Source: Update requirements.txt

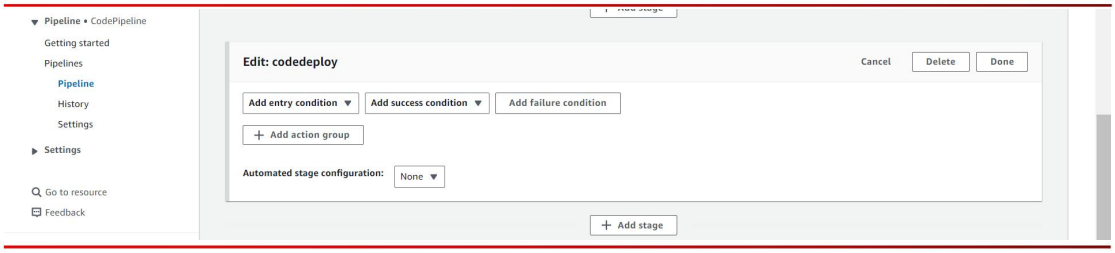

Developer Tools
CodeDeploy
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Getting started
Deployments
Deployment
Applications
Deployment configurations
On-premises instances
Pipeline • CodePipeline
Settings
Go to resource
Feedback
Success
Deployment created
Developer Tools > CodeDeploy > Deployments > d-8U90CBKZ8
d-8U90CBKZ8
Copy deployment
Retry deployment
Deployment status
Installing application on your instances
100%
1 of 1 instances updated
Succeeded
Deployment details
Application
Python-app
Deployment ID
d-8U90CBKZ8
Status
Succeeded
Deployment configuration
CodeDeployDefault.AllAtOnce
Deployment group
pthon-app-final-stage
Initiated by
User action
Deployment description
-
Revision details
Revision location
github://pratikshaa-01/CI-Python-Flask-Service/cb0cab515d575a9e8a7378434adbb8049a118b21
Revision created
4 minutes ago
Revision description
Application revision registered by Deployment ID: d-8U90CBKZ8

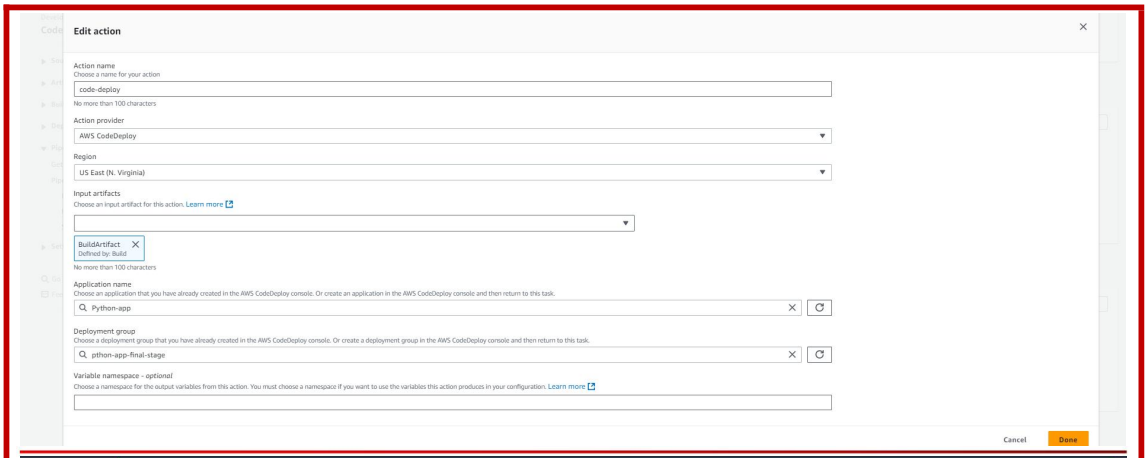
Developer Tools > CodeDeploy > Deployments > d-8U90CBKZ8 > arn:aws:ec2:us-east-1:891377249801:instance/i-01ce451905a8c116f
arn:aws:ec2:us-east-1:891377249801:instance/i-01ce451905a8c116f
Deployment details
Application
Python-app
Deployment ID
d-8U90CBKZ8
Status
Succeeded
Deployment configuration
CodeDeployDefault.AllAtOnce
Deployment group
pthon-app-final-stage
Initiated by
User action
Deployment description
-
Revision details
Event
Duration
Status
Error code
Start time
End time
ApplicationStop
less than one second
Succeeded
-
Oct 18, 2024 9:16 PM (UTC+5:30)
Oct 18, 2024 9:16 PM (UTC+5:30)
DownloadBundle
less than one second
Succeeded
-
Oct 18, 2024 9:16 PM (UTC+5:30)
Oct 18, 2024 9:16 PM (UTC+5:30)
BeforeInstall
less than one second
Succeeded
-
Oct 18, 2024 9:16 PM (UTC+5:30)
Oct 18, 2024 9:16 PM (UTC+5:30)
Install
less than one second
Succeeded
-
Oct 18, 2024 9:16 PM (UTC+5:30)
Oct 18, 2024 9:16 PM (UTC+5:30)
AfterInstall
22 seconds
Succeeded
-
Oct 18, 2024 9:16 PM (UTC+5:30)
Oct 18, 2024 9:16 PM (UTC+5:30)
ApplicationStart
less than one second
Succeeded
-
Oct 18, 2024 9:16 PM (UTC+5:30)
Oct 18, 2024 9:16 PM (UTC+5:30)
ValidateService
less than one second
Succeeded
-
Oct 18, 2024 9:16 PM (UTC+5:30)
Oct 18, 2024 9:16 PM (UTC+5:30)

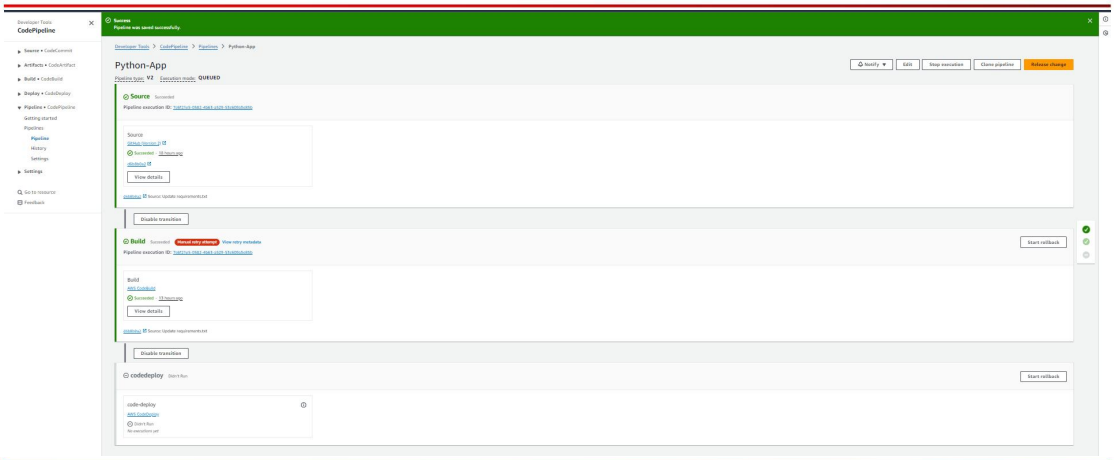
Developer Tools > CodeDeploy > Deployments > d-8U90CBKZ8
d-8U90CBKZ8
Copy deployment
Retry deployment
Deployment status
Installing application on your instances
100%
1 of 1 instances updated
Succeeded
Deployment details
Application
Python-app
Deployment ID
d-8U90CBKZ8
Status
Succeeded
Deployment configuration
CodeDeployDefault.AllAtOnce
Deployment group
pthon-app-final-stage
Initiated by
User action
Deployment description
-
Revision details
Revision location
github://pratikshaa-01/CI-Python-Flask-Service/cb0cab515d575a9e8a7378434adbb8049a118b21
Revision created
5 minutes ago
Revision description
Application revision registered by Deployment ID: d-8U90CBKZ8
Deployment lifecycle events

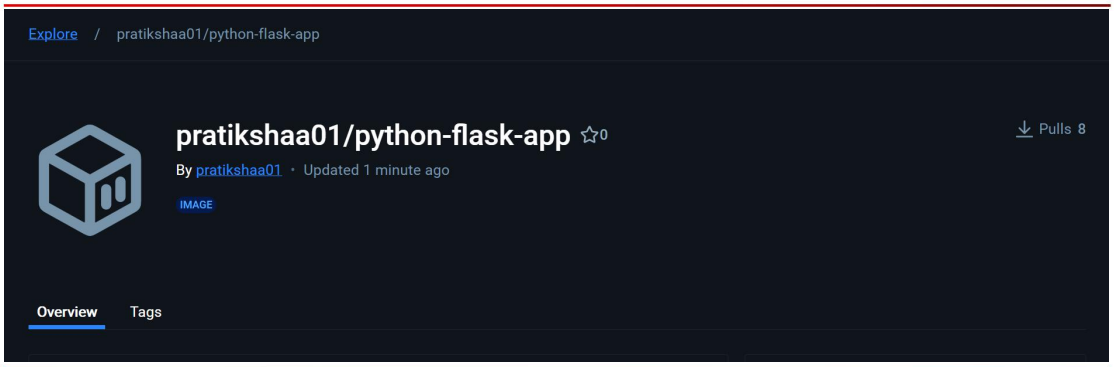

Developer Tools
CodeDeploy
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Getting started
Deployments
Applications
Application
Settings
Deployment configurations
On-premises instances
Pipeline • CodePipeline
Settings
Go to resource
Feedback
Application python-app successfully bound to 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 GitHub token
Repository name
pratikshaa-01/CI-Python-Flask-Service
Commit ID
f77e1737bc03f28c682e0e64da988c3ccb1e114c
Deployment description
Deployment description - optional
Add a brief description about the deployment
Additional deployment behavior settings
ApplicationStop lifecycle event failure - optional
Type a deployment group name
Don't fail the deployment to an instance if this lifecycle event on the instance fails
Content options - optional
Choose what to do during a deployment when a file on a target instance has the same name as a file in the application revision
Fail the deployment
An error is reported and the deployment status is changed to Failed.
Overwrite the content
The file in the application revision is copied to the target location on the instance, replacing the previous file.
Retain the content
The file in the application revision is not copied to the instance. The existing file is kept at the target


Add stage
Stage name
codedeploy
No more than 100 characters
Cancel
Add stage


Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
Edit: codedeploy
Cancel
Delete
Done
Add entry condition
Add success condition
Add failure condition
Add action group
Automated stage configuration:
None
Add stage








```
root@python:~# docker images
REPOSITORY                      TAG       IMAGE ID       CREATED             SIZE
pratikshaa01/python-flask-app   latest    e6c3ddb585ed   41 minutes ago      1.01GB
pratikshaa01/python-flask-app   <none>    3ca148c44ce3   About an hour ago   1.01GB
pratikshaa01/python-flask-app   <none>    7444999468e16   16 hours ago        1.01GB
root@python:~# docker ps
CONTAINER ID   IMAGE                           COMMAND       CREATED          STATUS          PORTS     NAMES
9942fae9314e   pratikshaa01/python-flask-app   "/bin/bash"   5 minutes ago    Up 5 minutes    8000/tcp   distracted_al
len
root@python:~#
```

By : Pratiksha Pawar