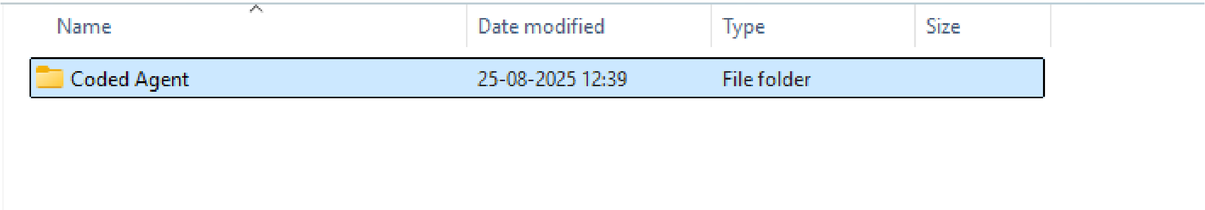
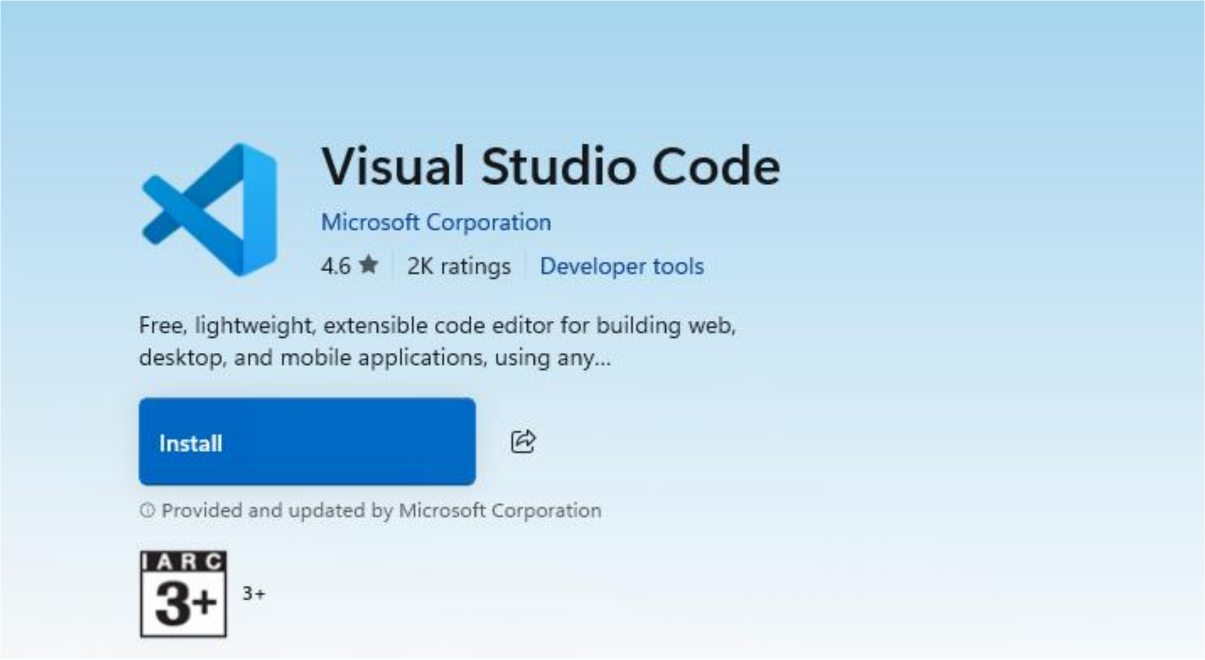
❖ HOW TO BUILD A CODED AGENT IN UIPATH

Start by creating a blank folder.



Name	Date modified	Type	Size
Coded Agent	25-08-2025 12:39	File folder	

Install Visual Studio Code from the Microsoft Store by searching for 'VS Code' and selecting Install."



Visual Studio Code

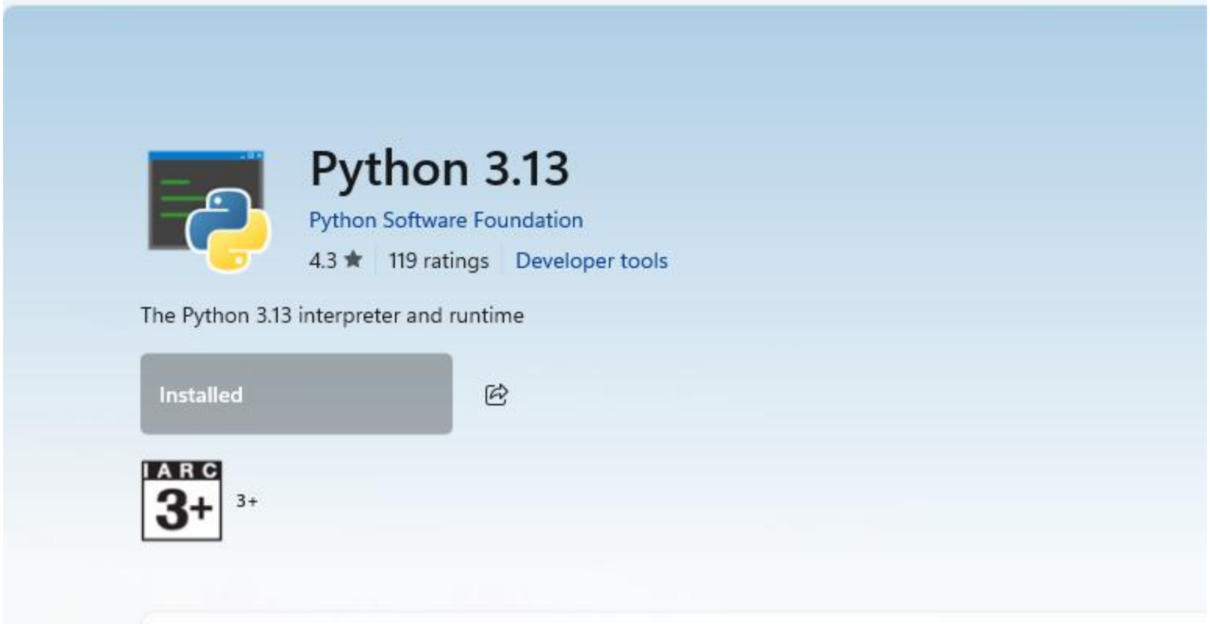
Microsoft Corporation

4.6 ★ | 2K ratings | Developer tools

Free, lightweight, extensible code editor for building web, desktop, and mobile applications, using any...

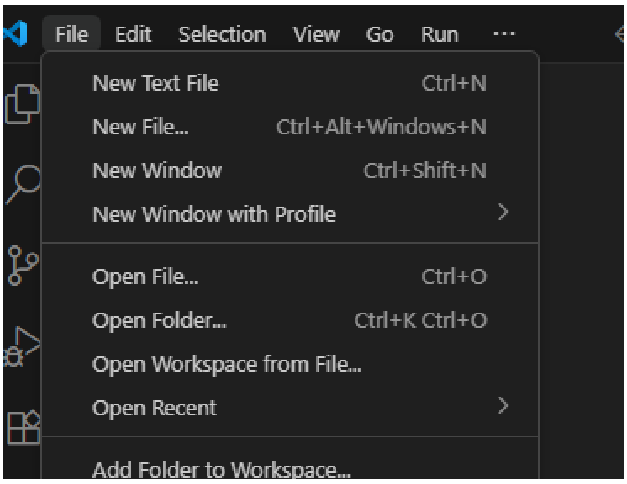
ⓘ Provided and updated by Microsoft Corporation

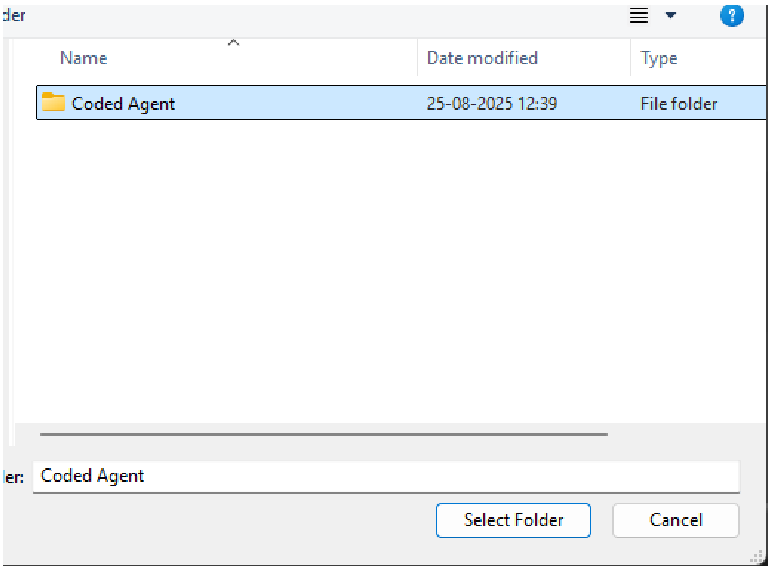
Install Python 3.10 or any newer version available.


Python 3.13
Python Software Foundation
4.3 ★ | 119 ratings | Developer tools
Installed
IARC 3+
3+

The Python 3.13 interpreter and runtime

In VS Code, open the empty folder you created earlier.

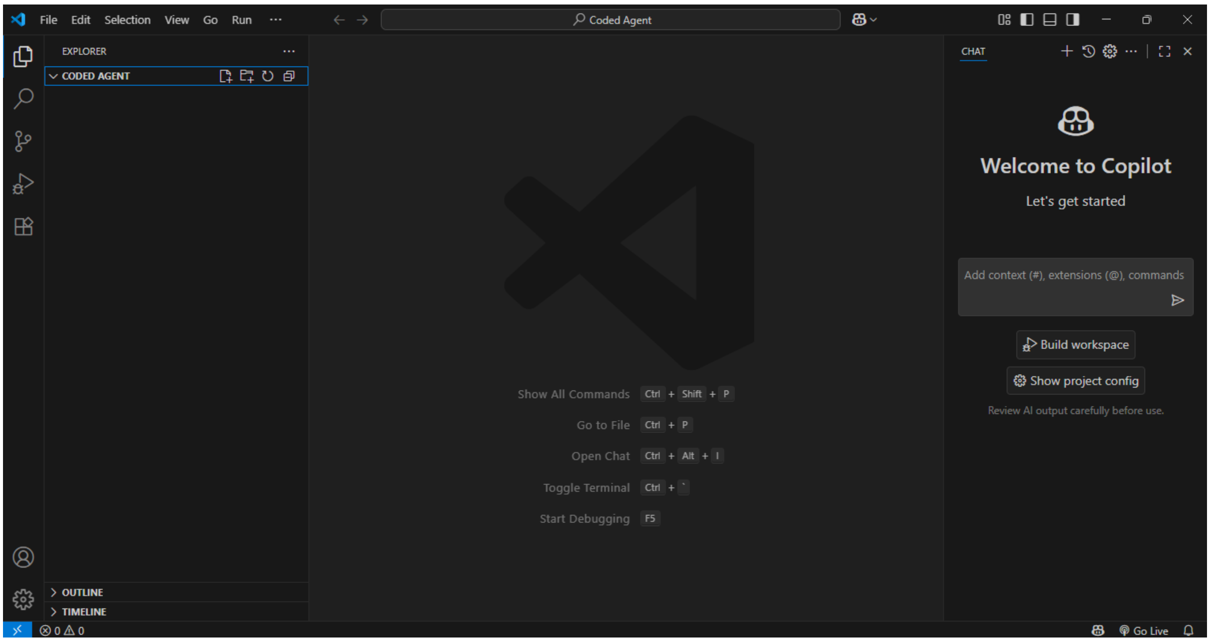

File Edit Selection View Go Run ···
New Text File Ctrl+N
New File... Ctrl+Alt+Windows+N
New Window Ctrl+Shift+N
New Window with Profile
Open File... Ctrl+O
Open Folder... Ctrl+K Ctrl+O
Open Workspace from File...
Open Recent
Add Folder to Workspace...



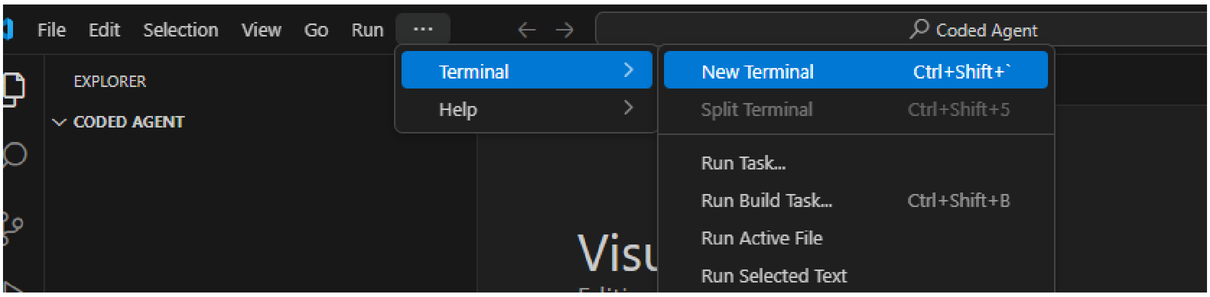
Name	Date modified	Type
Coded Agent	25-08-2025 12:39	File folder

er: Coded Agent

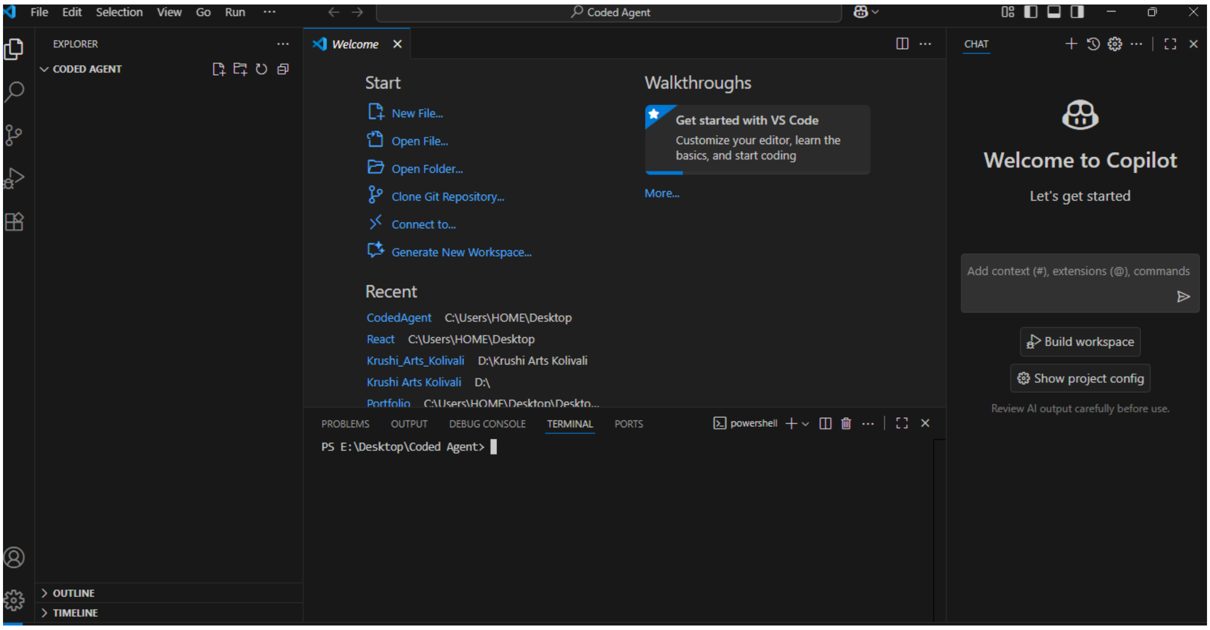
A blank project is opened in VS Code.



Click the three dots, select **Terminal**, and then click **New Terminal**.

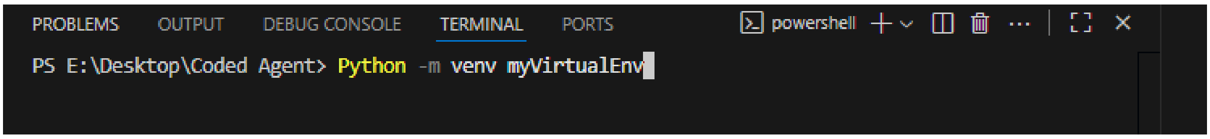


A blank terminal will appear at the bottom of VS Code.



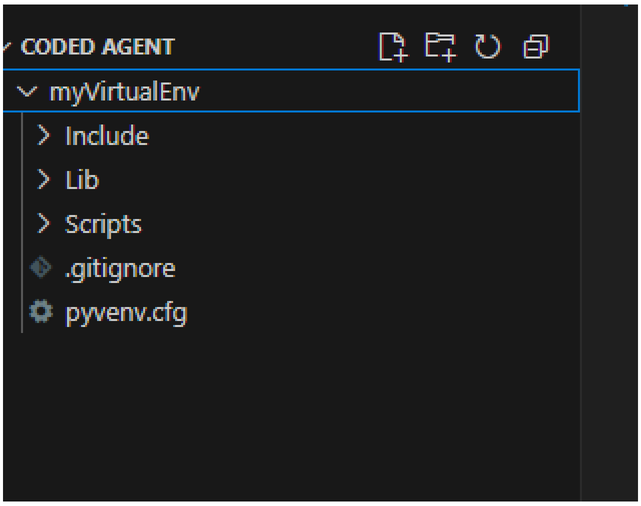
```
PS E:\Desktop\Coded Agent>
```

Now, we will create a virtual environment.

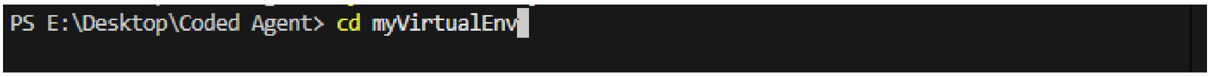


```
PS E:\Desktop\Coded Agent> Python -m venv myVirtualEnv
```

A virtual environment will be created, and a folder will appear on the left side as shown below.

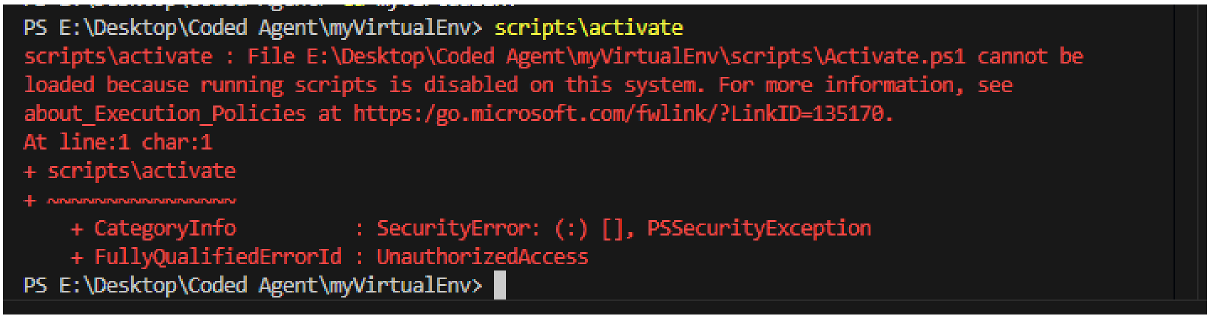


Go inside the environment folder.



```
PS E:\Desktop\Coded Agent> cd myVirtualEnv
```

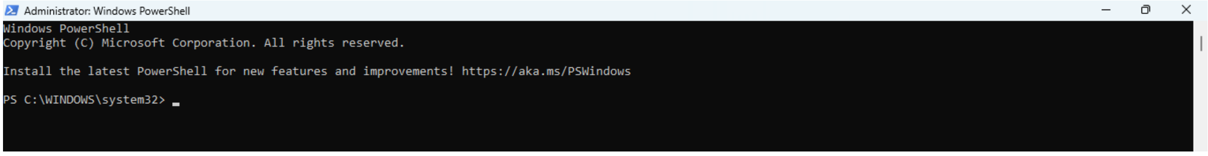
Now, we need to activate the virtual environment.



```
PS E:\Desktop\Coded Agent\myVirtualEnv> scripts\activate
scripts\activate : File E:\Desktop\Coded Agent\myVirtualEnv\scripts\Activate.ps1 cannot be
loaded because running scripts is disabled on this system. For more information, see
about_Execution_Policies at https:/go.microsoft.com/fwlink/?LinkID=135170.
At line:1 char:1
+ scripts\activate
+ ~~~~~~~~~~~~~~~~
    + CategoryInfo          : SecurityError: (:) [], PSSecurityException
    + FullyQualifiedErrorId : UnauthorizedAccess
PS E:\Desktop\Coded Agent\myVirtualEnv>
```

If you encounter an error like the one above, it is due to an execution policy issue.

Open PowerShell and run it as Administrator. The PowerShell window will open as shown below.



```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> _
```
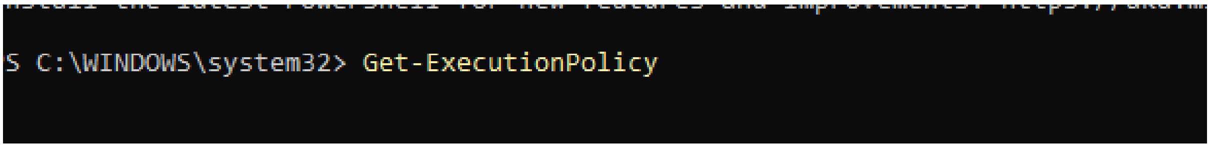
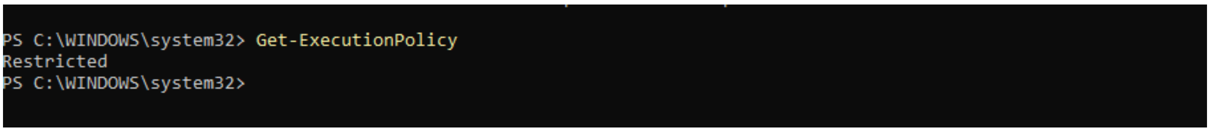

Enter the command below to check the execution policy.



```
S C:\WINDOWS\system32> Get-ExecutionPolicy
```

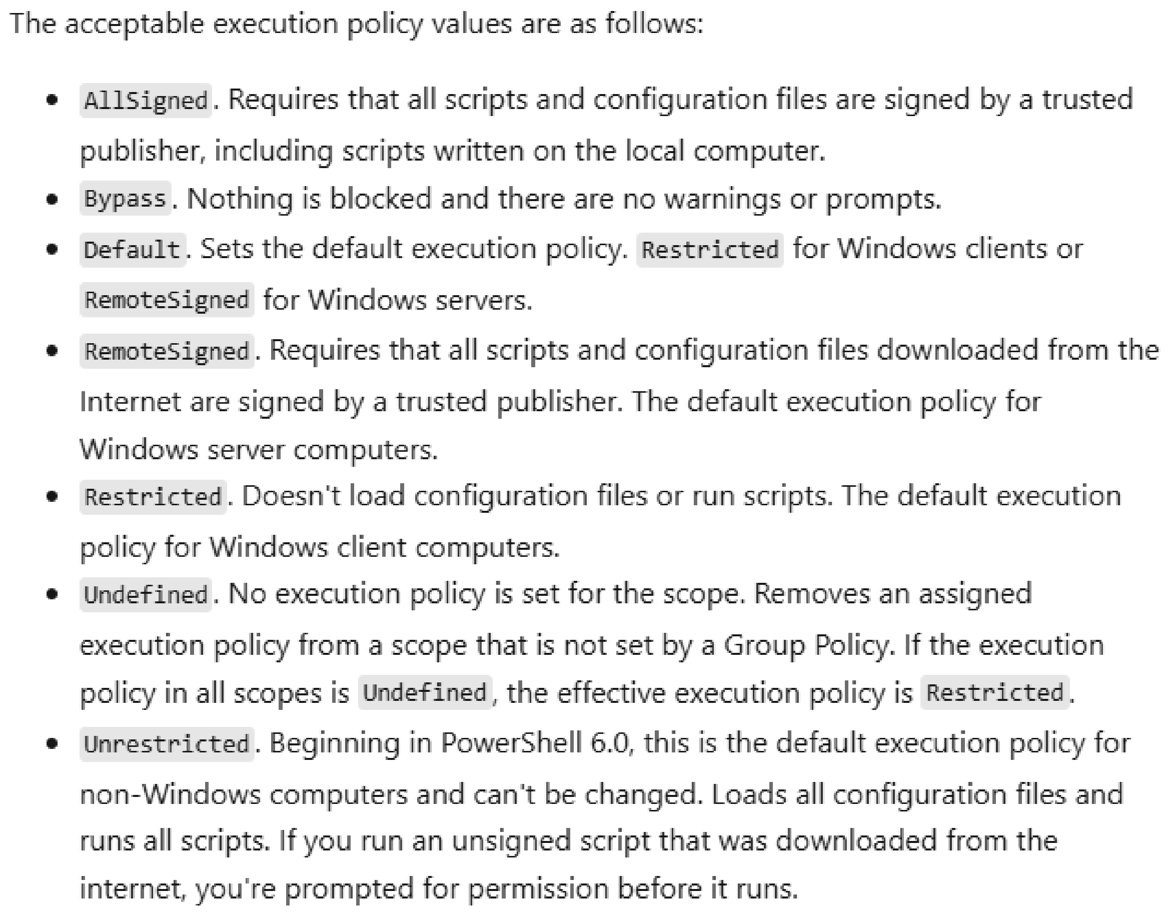
You will see the execution policy below. If it is set to 'Restricted,' follow the steps below to change it.



```
PS C:\WINDOWS\system32> Get-ExecutionPolicy
Restricted
PS C:\WINDOWS\system32>
```

The policies below are explained here.

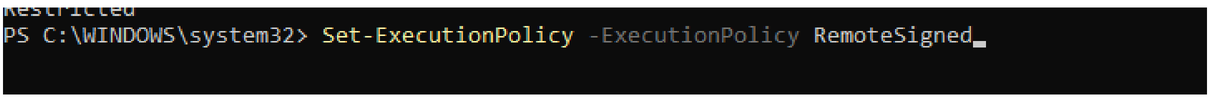
https://learn.microsoft.com/en-us/powershell/module/microsoft.powershell.security/set-executionpolicy?view=powershell-7.5



The acceptable execution policy values are as follows:

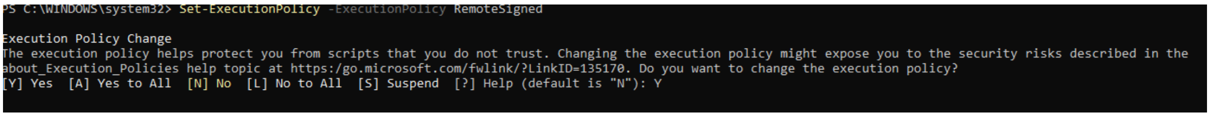
- `AllSigned`. Requires that all scripts and configuration files are signed by a trusted publisher, including scripts written on the local computer.
- `Bypass`. Nothing is blocked and there are no warnings or prompts.
- `Default`. Sets the default execution policy. `Restricted` for Windows clients or `RemoteSigned` for Windows servers.
- `RemoteSigned`. Requires that all scripts and configuration files downloaded from the Internet are signed by a trusted publisher. The default execution policy for Windows server computers.
- `Restricted`. Doesn't load configuration files or run scripts. The default execution policy for Windows client computers.
- `Undefined`. No execution policy is set for the scope. Removes an assigned execution policy from a scope that is not set by a Group Policy. If the execution policy in all scopes is `Undefined`, the effective execution policy is `Restricted`.
- `Unrestricted`. Beginning in PowerShell 6.0, this is the default execution policy for non-Windows computers and can't be changed. Loads all configuration files and runs all scripts. If you run an unsigned script that was downloaded from the internet, you're prompted for permission before it runs.

Change the execution policy to **RemoteSigned**.



```
Restricted
PS C:\WINDOWS\system32> Set-ExecutionPolicy -ExecutionPolicy RemoteSigned
```

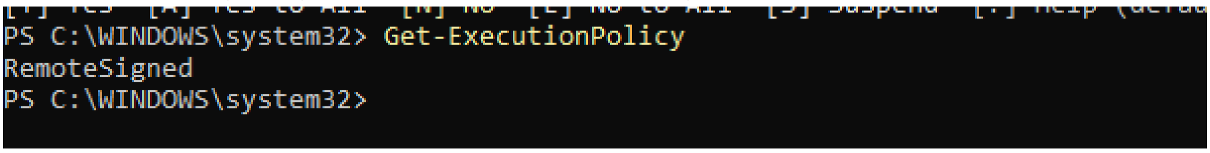
You will receive a prompt as shown below. Type **Y** to continue.



```
PS C:\WINDOWS\system32> Set-ExecutionPolicy -ExecutionPolicy RemoteSigned

Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the execution policy might expose you to the security risks described in the
about_Execution_Policies help topic at https:/go.microsoft.com/fwlink/?LinkID=135170. Do you want to change the execution policy?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "N"): Y
```

Check the execution policy again.

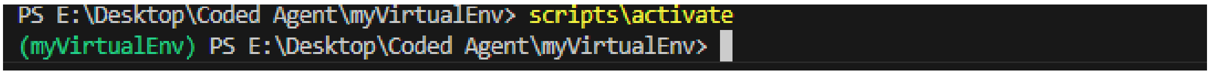
The execution policy has been set successfully.



```
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (defau
PS C:\WINDOWS\system32> Get-ExecutionPolicy
RemoteSigned
PS C:\WINDOWS\system32>
```

Note: If your environment is already activated, you do not need to follow the above steps to configure the execution policy.

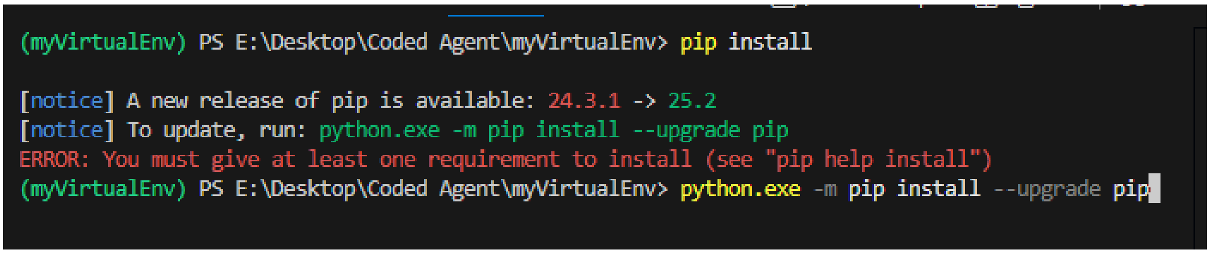
Now, we will activate the virtual environment.



```
PS E:\Desktop\Coded Agent\myVirtualEnv> scripts\activate
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv>
```

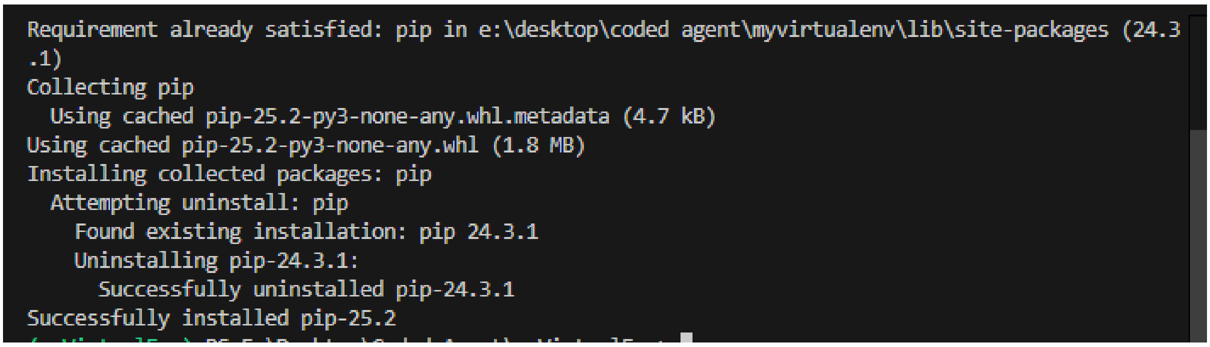
You will see that the environment is activated in green.

Now, we will upgrade pip to the latest version.



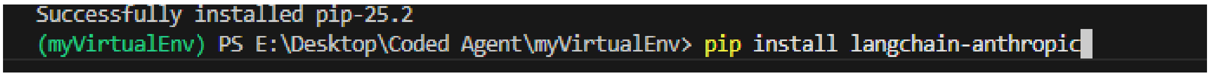
```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> pip install

[notice] A new release of pip is available: 24.3.1 -> 25.2
[notice] To update, run: python.exe -m pip install --upgrade pip
ERROR: You must give at least one requirement to install (see "pip help install")
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> python.exe -m pip install --upgrade pip
```

After running the command, you will see a message confirming that pip was upgraded successfully.



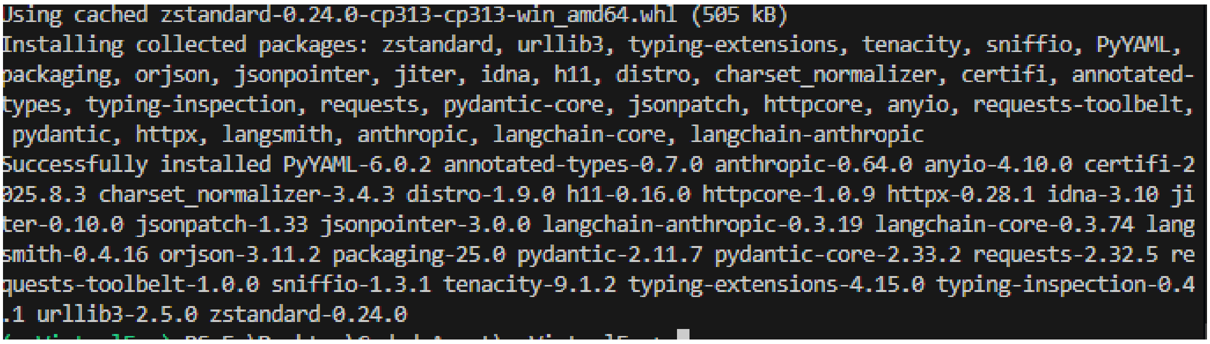
```
Requirement already satisfied: pip in e:\desktop\coded agent\myvirtualenv\lib\site-packages (24.3
.1)
Collecting pip
  Using cached pip-25.2-py3-none-any.whl.metadata (4.7 kB)
Using cached pip-25.2-py3-none-any.whl (1.8 MB)
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 24.3.1
    Uninstalling pip-24.3.1:
      Successfully uninstalled pip-24.3.1
Successfully installed pip-25.2
```

Now, we will install the langchain-anthropic package.



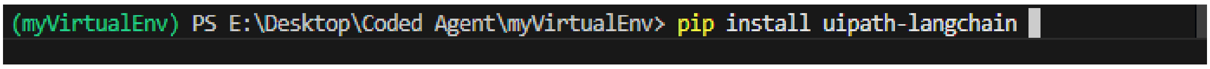
```
Successfully installed pip-25.2
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> pip install langchain-anthropic
```

You will see that the langchain-anthropic package has been installed successfully.



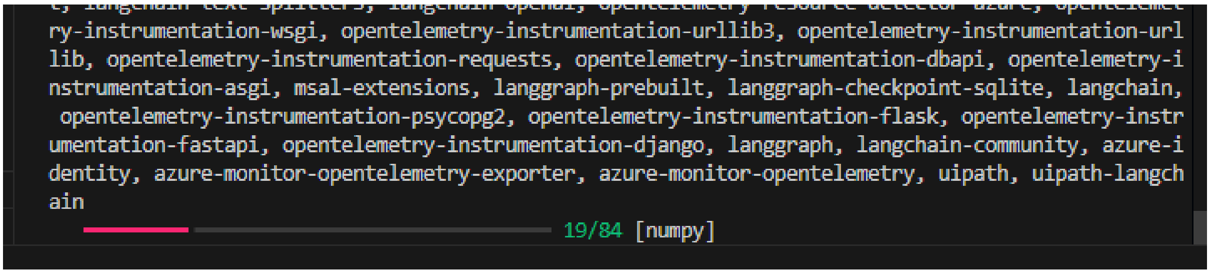
```
Using cached zstandard-0.24.0-cp313-cp313-win_amd64.whl (505 kB)
Installing collected packages: zstandard, urllib3, typing-extensions, tenacity, sniffio, PyYAML,
packaging, orjson, jsonpointer, jiter, idna, h11, distro, charset_normalizer, certifi, annotated-
types, typing-inspection, requests, pydantic-core, jsonpatch, httpcore, anyio, requests-toolbelt,
 pydantic, httpx, langsmith, anthropic, langchain-core, langchain-anthropic
Successfully installed PyYAML-6.0.2 annotated-types-0.7.0 anthropic-0.64.0 anyio-4.10.0 certifi-2
025.8.3 charset_normalizer-3.4.3 distro-1.9.0 h11-0.16.0 httpcore-1.0.9 httpx-0.28.1 idna-3.10 ji
ter-0.10.0 jsonpatch-1.33 jsonpointer-3.0.0 langchain-anthropic-0.3.19 langchain-core-0.3.74 lang
smith-0.4.16 orjson-3.11.2 packaging-25.0 pydantic-2.11.7 pydantic-core-2.33.2 requests-2.32.5 re
quests-toolbelt-1.0.0 sniffio-1.3.1 tenacity-9.1.2 typing-extensions-4.15.0 typing-inspection-0.4
.1 urllib3-2.5.0 zstandard-0.24.0
```

Now, we will install the uipath-langchain package.



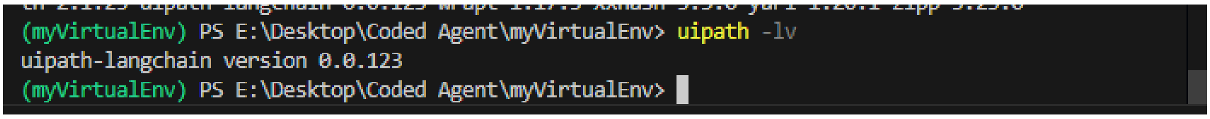
```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> pip install uipath-langchain
```

You will see the uipath-langchain package installing.



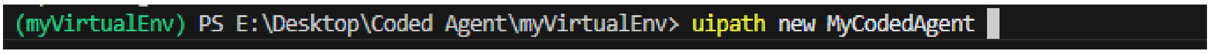
```
   ry-instrumentation-wsgi, opentelemetry-instrumentation-urllib3, opentelemetry-instrumentation-url
   lib, opentelemetry-instrumentation-requests, opentelemetry-instrumentation-dbapi, opentelemetry-i
   nstrumentation-asgi, msal-extensions, langgraph-prebuilt, langgraph-checkpoint-sqlite, langchain,
    opentelemetry-instrumentation-psycopg2, opentelemetry-instrumentation-flask, opentelemetry-instr
   umentation-fastapi, opentelemetry-instrumentation-django, langgraph, langchain-community, azure-i
   dentity, azure-monitor-opentelemetry-exporter, azure-monitor-opentelemetry, uipath, uipath-langch
   ain
                                                      19/84 [numpy]
```

Once installed, check the version to confirm that the uipath-langchain package was installed successfully using the command below.



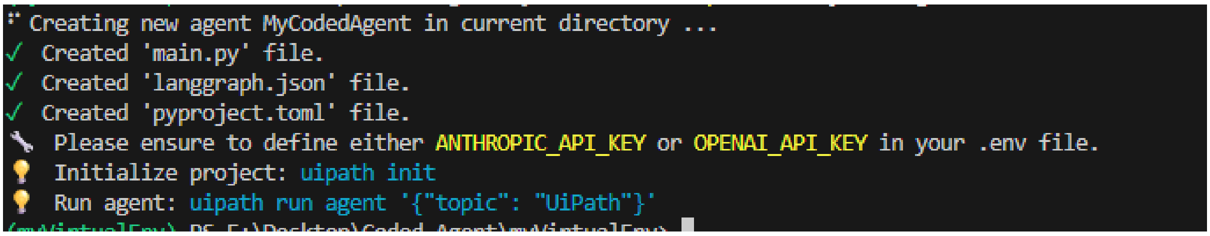
```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath -lv
uipath-langchain version 0.0.123
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv>
```

Create a new agent using the command: uipath new **YourAgentName.**



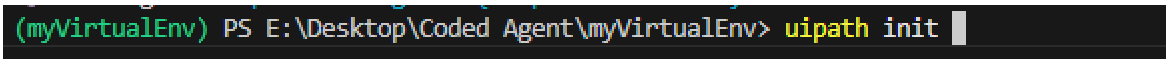
```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath new MyCodedAgent
```

Once the agent is created, the following files are generated.



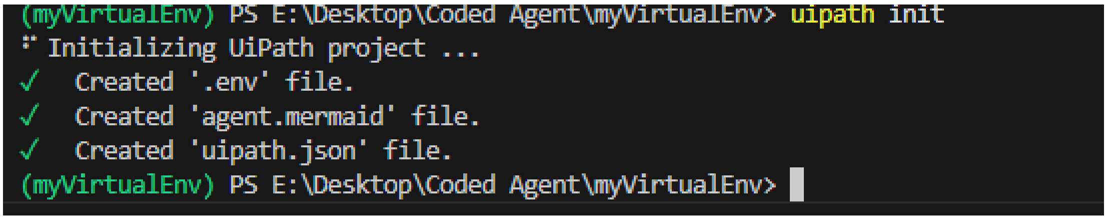
```
Creating new agent MyCodedAgent in current directory ...
✓ Created 'main.py' file.
✓ Created 'langgraph.json' file.
✓ Created 'pyproject.toml' file.
🔧 Please ensure to define either ANTHROPIC_API_KEY or OPENAI_API_KEY in your .env file.
💡 Initialize project: uipath init
💡 Run agent: uipath run agent '{"topic": "UiPath"}'
```

Now, we will initialize the project.



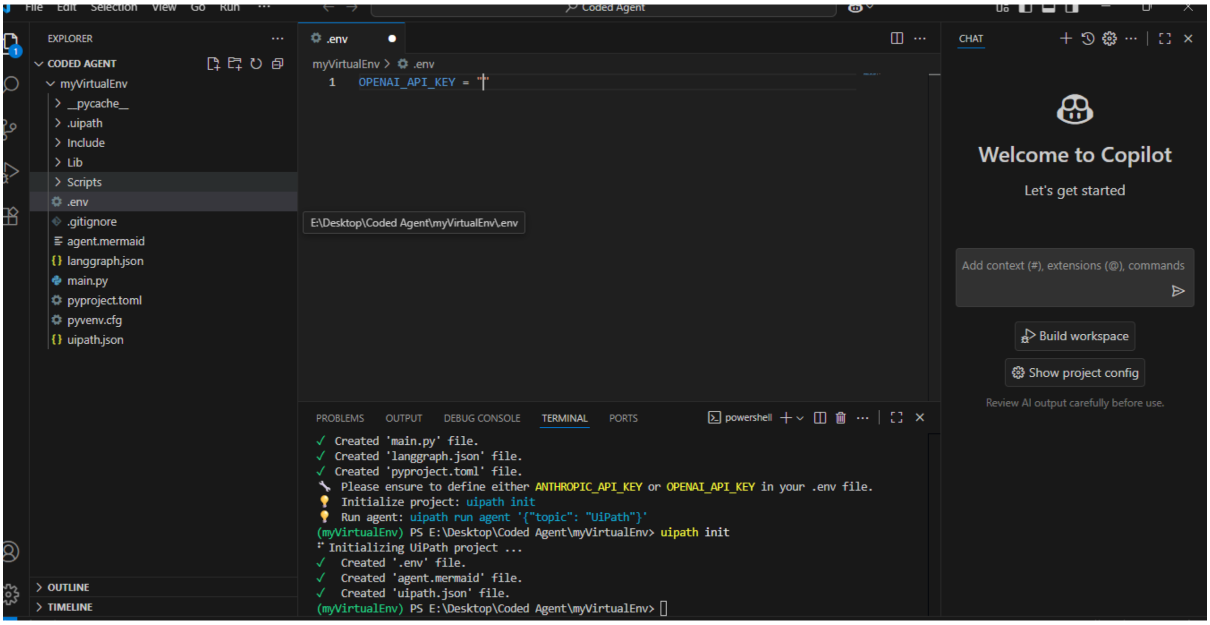
```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath init
```

Once initialized, the following files are created.



```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath init
⠋ Initializing UiPath project ...
✓  Created '.env' file.
✓  Created 'agent.mermaid' file.
✓  Created 'uipath.json' file.
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv>
```

Open the .env file and provide your ANTHROPIC_API_KEY or OPENAI_API_KEY.

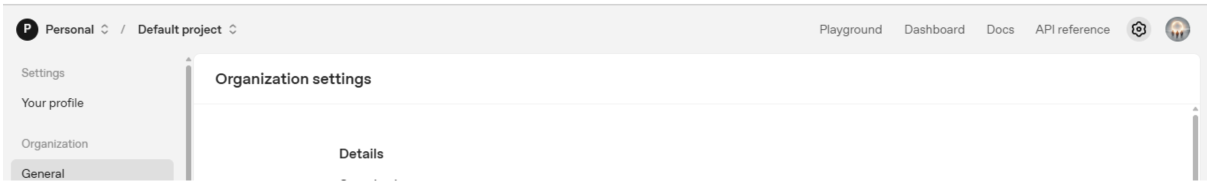


```
OPENAI_API_KEY =
```

```
✓ Created 'main.py' file.
✓ Created 'langgraph.json' file.
✓ Created 'pyproject.toml' file.
🔧 Please ensure to define either ANTHROPIC_API_KEY or OPENAI_API_KEY in your .env file.
💡 Initialize project: uipath init
💡 Run agent: uipath run agent '{"topic": "UiPath"}'
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath init
⠋ Initializing UiPath project ...
✓  Created '.env' file.
✓  Created 'agent.mermaid' file.
✓  Created 'uipath.json' file.
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv>
```

Open https://platform.openai.com/.

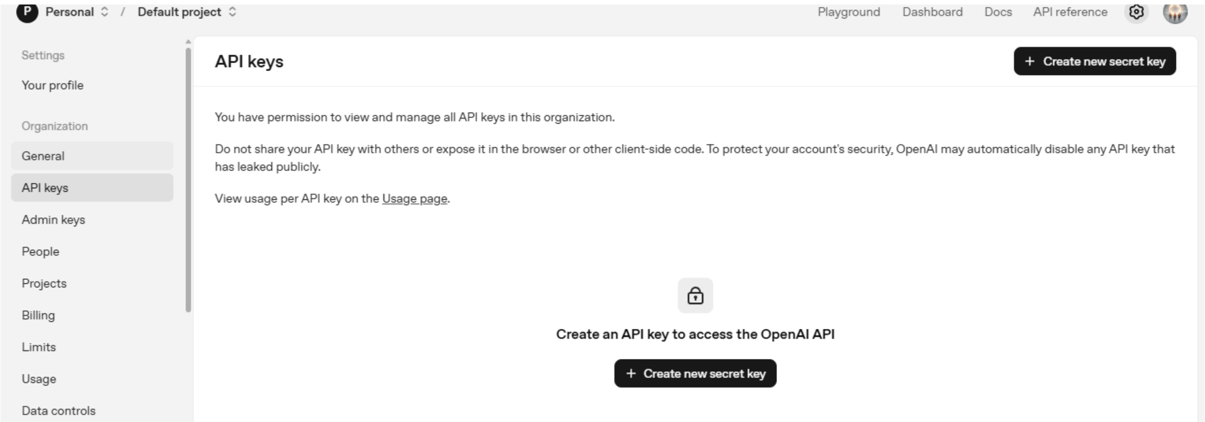
Sign in to your account on the OpenAI platform and click on **Settings**.



Organization settings

Details

Click on **API Keys** and then click **Create new secret key**.



API keys

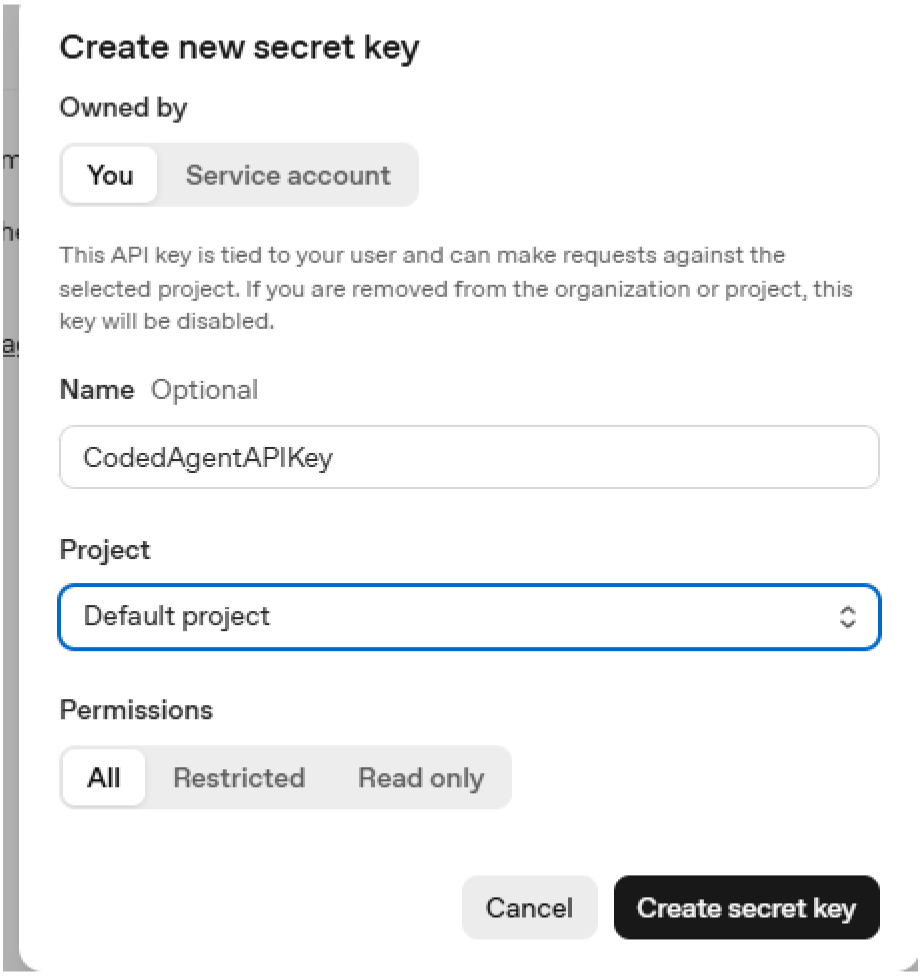
You have permission to view and manage all API keys in this organization.

Do not share your API key with others or expose it in the browser or other client-side code. To protect your account's security, OpenAI may automatically disable any API key that has leaked publicly.

View usage per API key on the Usage page.

Create an API key to access the OpenAI API

Create a new secret key as shown below.



Create new secret key

Owned by

You | Service account

This API key is tied to your user and can make requests against the selected project. If you are removed from the organization or project, this key will be disabled.

Name Optional

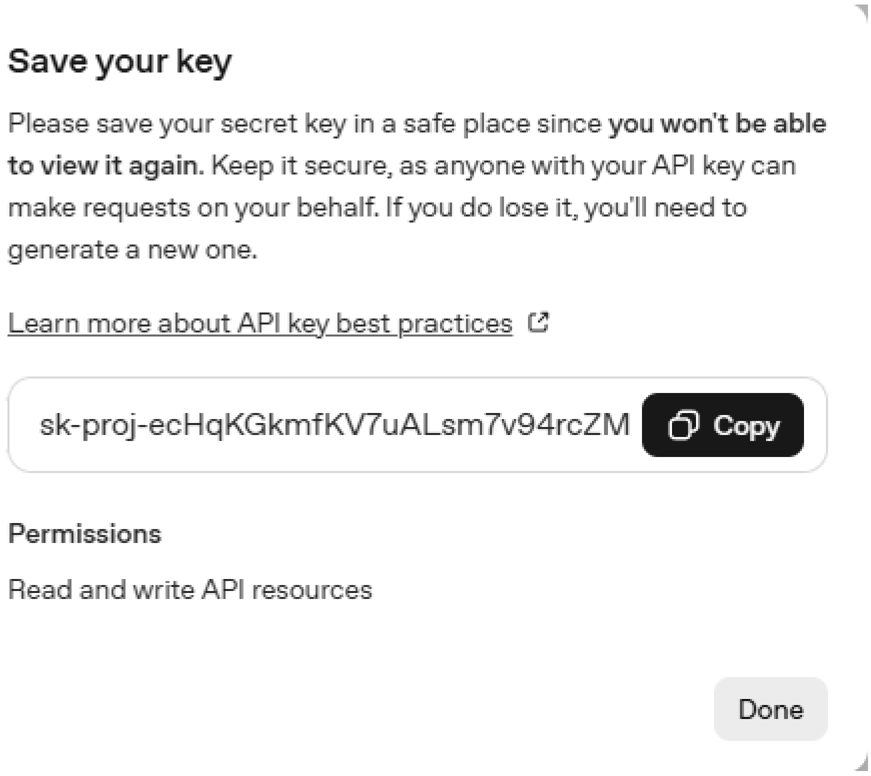
CodedAgentAPIKey

Project

Default project

Permissions

All | Restricted | Read only



Save your key

Please save your secret key in a safe place since **you won't be able to view it again.** Keep it secure, as anyone with your API key can make requests on your behalf. If you do lose it, you'll need to generate a new one.

Learn more about API key best practices

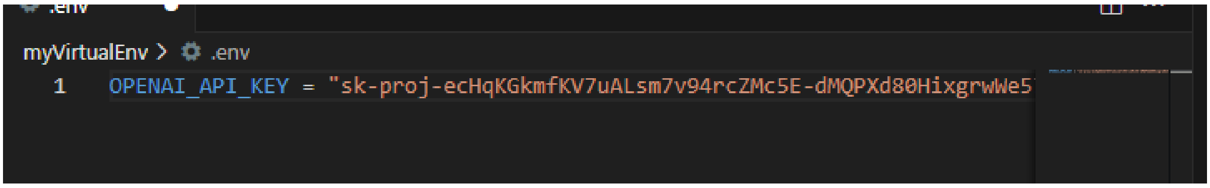
sk-proj-ecHqKGkmfKV7uALsm7v94rcZM

Permissions

Read and write API resources

A secret key is generated as shown above. Copy the secret key and save it for your reference.

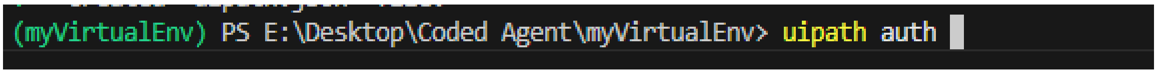
Enter the key–value pair as shown below, using OPENAI_API_KEY as the key and your generated key as the value.



myVirtualEnv > .env

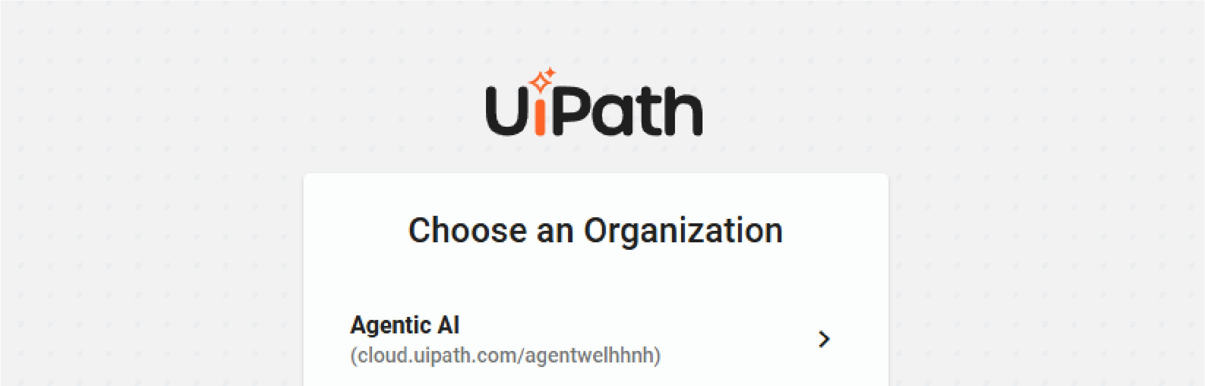
```
OPENAI_API_KEY = "sk-proj-ecHqKGkmfKV7uALsm7v94rcZMc5E-dMQPXd80HixgrwWe5
```

Now, we will authenticate by running the following command:



```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath auth
```

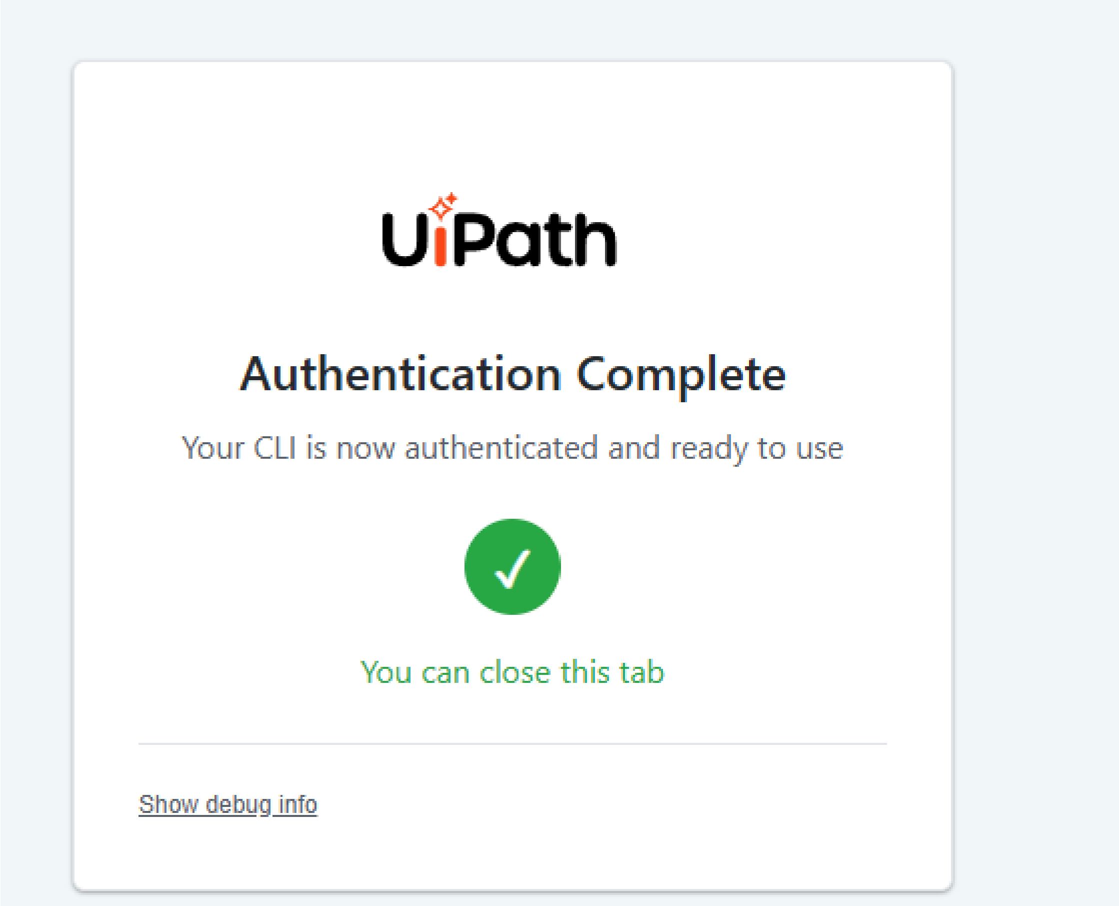
This will navigate to UiPath, where you need to select your organization to start the authentication.



Choose an Organization

Agentic AI
(cloud.uipath.com/agentwelhhnh)

Authentication will complete, and it will appear as shown below.

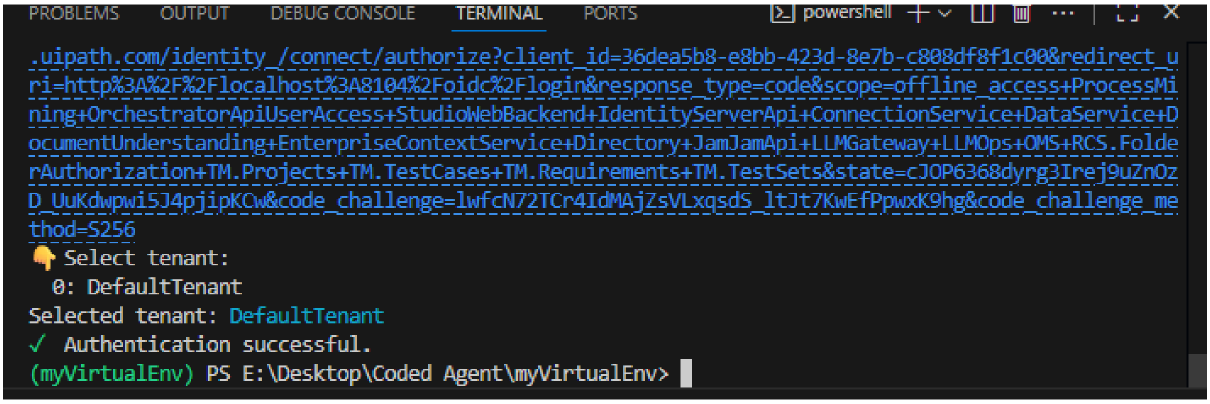


Authentication Complete

Your CLI is now authenticated and ready to use

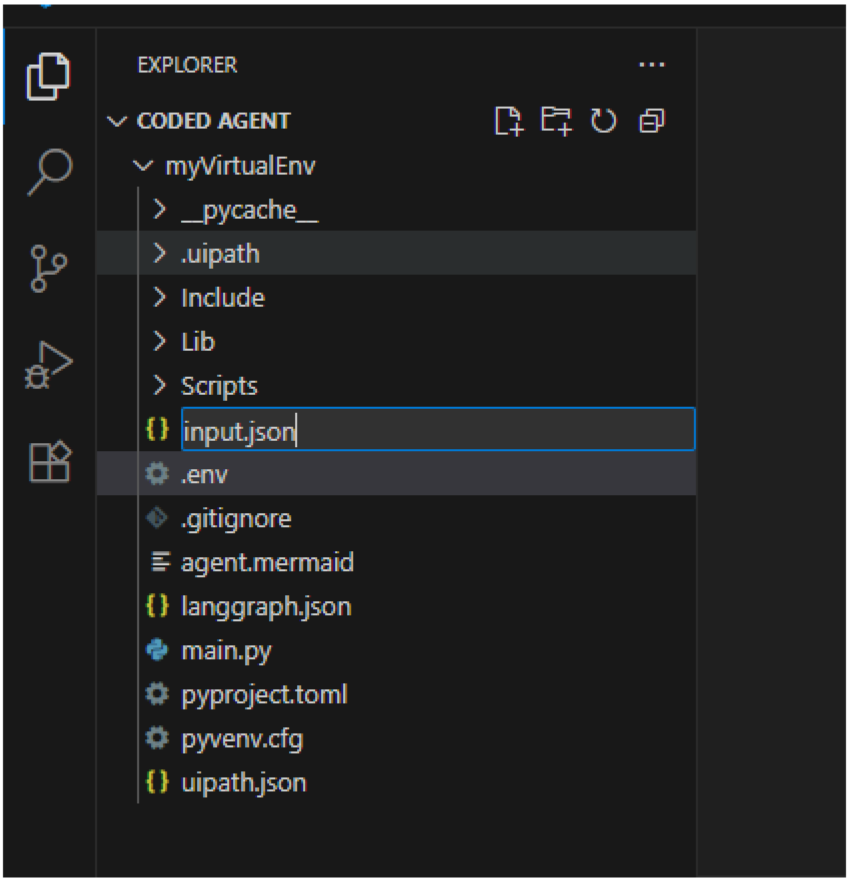
You can close this tab

If you have multiple tenants, they will be listed as index 0, 1, 2, etc. You can select the one you prefer.



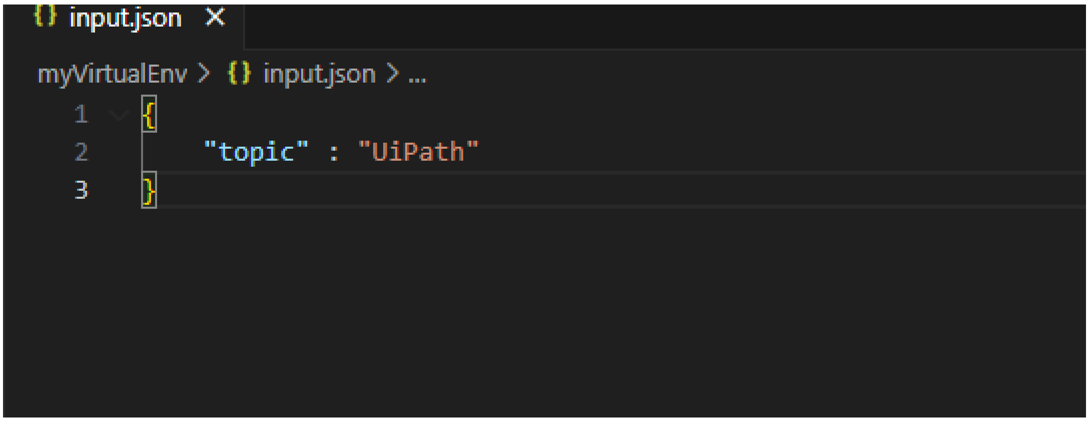
```
.uipath.com/identity_/connect/authorize?client_id=36dea5b8-e8bb-423d-8e7b-c808df8f1c00&redirect_u
ri=http%3A%2F%2Flocalhost%3A8104%2Foidc%2Flogin&response_type=code&scope=offline_access+ProcessMi
ning+OrchestratorApiUserAccess+StudioWebBackend+IdentityServerApi+ConnectionService+DataService+D
ocumentUnderstanding+EnterpriseContextService+Directory+JamJamApi+LLMGateway+LLMOps+OMS+RCS.Folde
rAuthorization+TM.Projects+TM.TestCases+TM.Requirements+TM.TestSets&state=cJOP6368dyrg3Irej9uZnOz
D_UuKdwpwi5J4pjipKCw&code_challenge=lwfcN72TCr4IdMAjZsVLxqsdS_ltJt7KwEfPpwxK9hg&code_challenge_me
thod=S256
👇 Select tenant:
  0: DefaultTenant
Selected tenant: DefaultTenant
✓ Authentication successful.
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv>
```

Now, to run our agent, we first need to create an input JSON file.



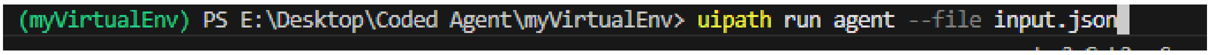
```
EXPLORER
CODED AGENT
  myVirtualEnv
    __pycache__
    .uipath
    Include
    Lib
    Scripts
    input.json
    .env
    .gitignore
    agent.mermaid
    langgraph.json
    main.py
    pyproject.toml
    pyvenv.cfg
    uipath.json
```

Enter the topic and provide its value, as shown below.



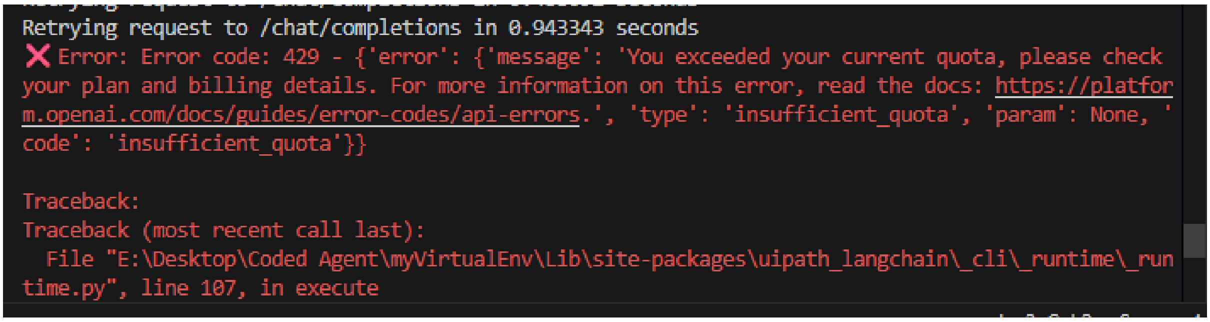
```json
{
    "topic" : "UiPath"
}
```

Run your agent using the command below.



```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath run agent --file input.json
```

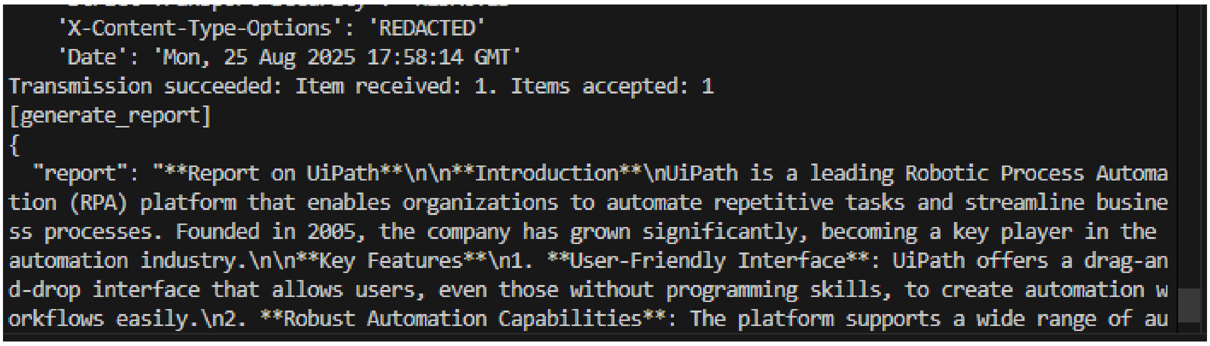
If you receive this error, it means your API key quota has been exceeded. To resolve this, create a new account as a community user, generate a new API key, and update it in the .env file.



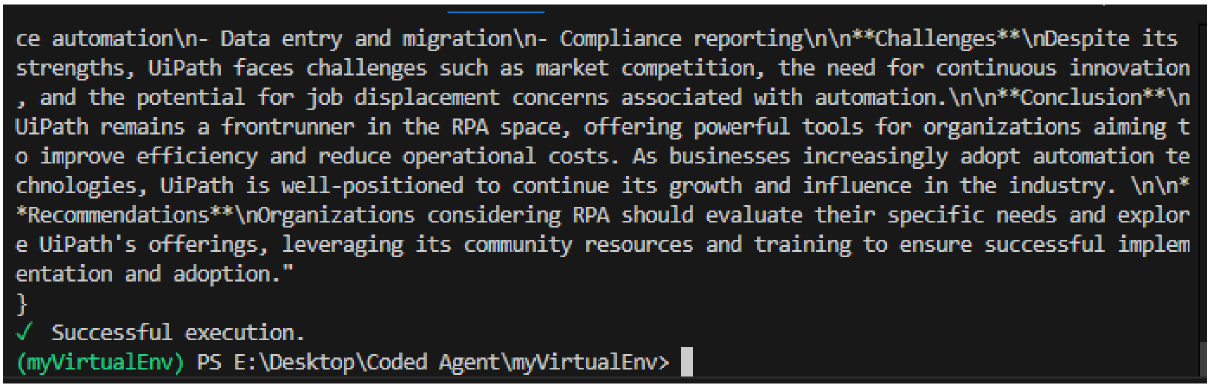
```
Retrying request to /chat/completions in 0.943343 seconds
❌ Error: Error code: 429 - {'error': {'message': 'You exceeded your current quota, please check
your plan and billing details. For more information on this error, read the docs: https://platfor
m.openai.com/docs/guides/error-codes/api-errors.', 'type': 'insufficient_quota', 'param': None, '
code': 'insufficient_quota'}}

Traceback:
Traceback (most recent call last):
  File "E:\Desktop\Coded Agent\myVirtualEnv\Lib\site-packages\uipath_langchain\_cli\_runtime\_run
time.py", line 107, in execute
```

Now, change the API key in the .env file with your new key.

Run the same command again to execute the agent.



```
    'X-Content-Type-Options': 'REDACTED'
    'Date': 'Mon, 25 Aug 2025 17:58:14 GMT'
Transmission succeeded: Item received: 1. Items accepted: 1
[generate_report]
{
  "report": "**Report on UiPath**\n\n**Introduction**\nUiPath is a leading Robotic Process Automa
tion (RPA) platform that enables organizations to automate repetitive tasks and streamline busine
ss processes. Founded in 2005, the company has grown significantly, becoming a key player in the
automation industry.\n\n**Key Features**\n1. **User-Friendly Interface**: UiPath offers a drag-an
d-drop interface that allows users, even those without programming skills, to create automation w
orkflows easily.\n2. **Robust Automation Capabilities**: The platform supports a wide range of au
```

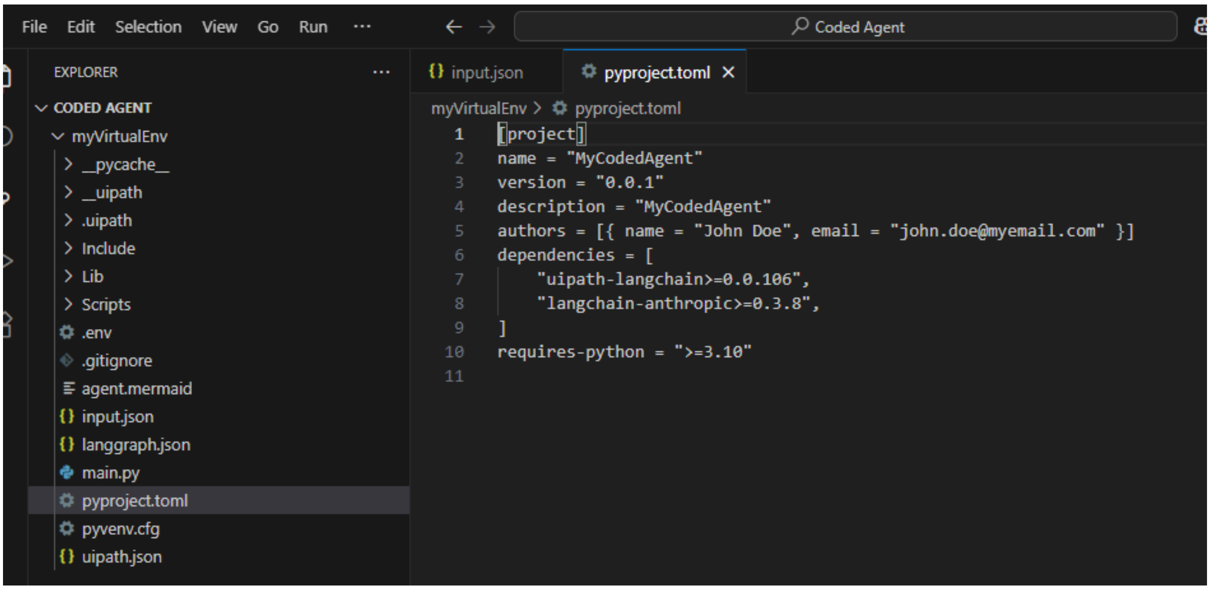


```
ce automation\n- Data entry and migration\n- Compliance reporting\n\n**Challenges**\nDespite its
strengths, UiPath faces challenges such as market competition, the need for continuous innovation
, and the potential for job displacement concerns associated with automation.\n\n**Conclusion**\n
UiPath remains a frontrunner in the RPA space, offering powerful tools for organizations aiming t
o improve efficiency and reduce operational costs. As businesses increasingly adopt automation te
chnologies, UiPath is well-positioned to continue its growth and influence in the industry. \n\n*
*Recommendations**\nOrganizations considering RPA should evaluate their specific needs and explor
e UiPath's offerings, leveraging its community resources and training to ensure successful implem
entation and adoption."
}
✓ Successful execution.
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv>
```

You will see the output as shown above.

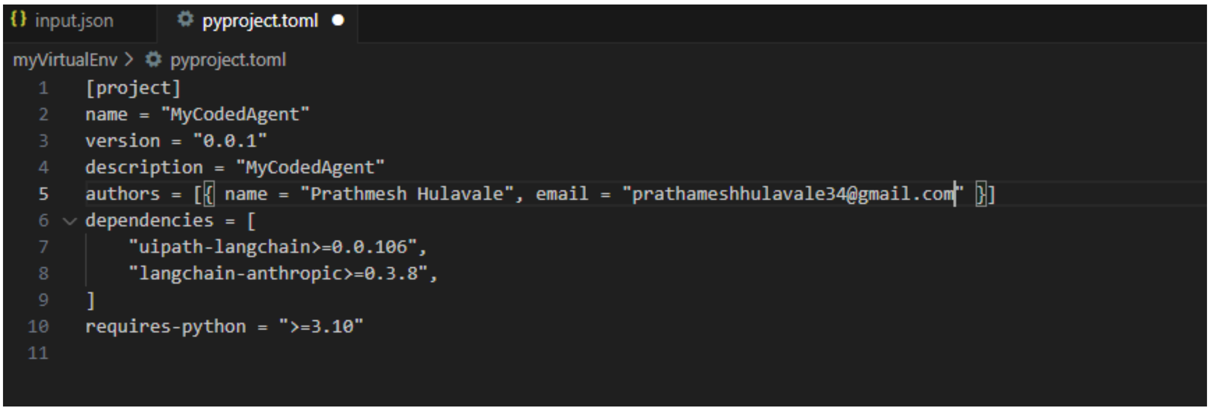
Once the project is run, it’s time to publish the agent to Orchestrator.

Update the pyproject.toml file with values such as author name, email, and other details.



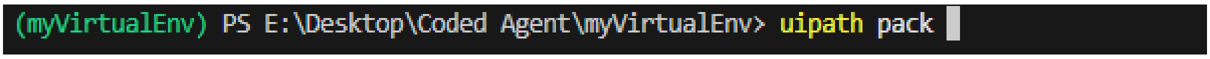
```toml
[project]
name = "MyCodedAgent"
version = "0.0.1"
description = "MyCodedAgent"
authors = [{ name = "John Doe", email = "john.doe@myemail.com" }]
dependencies = [
    "uipath-langchain>=0.0.106",
    "langchain-anthropic>=0.3.8",
]
requires-python = ">=3.10"
```

Update the Pyproject.toml



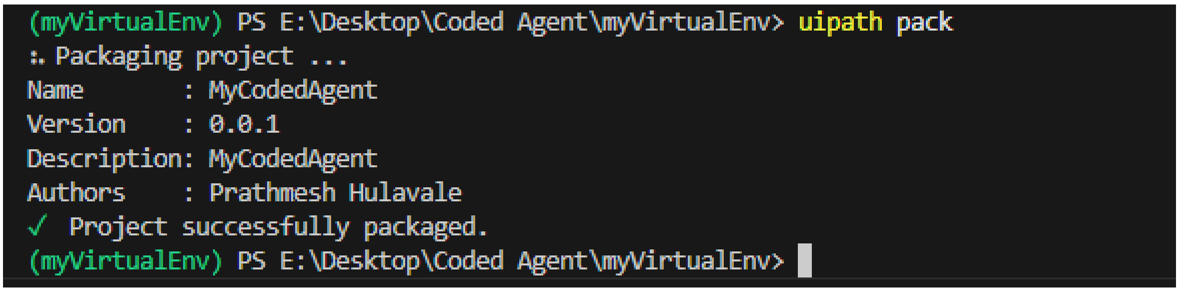
```toml
[project]
name = "MyCodedAgent"
version = "0.0.1"
description = "MyCodedAgent"
authors = [{ name = "Prathmesh Hulavale", email = "prathameshhulavale34@gmail.com" }]
dependencies = [
    "uipath-langchain>=0.0.106",
    "langchain-anthropic>=0.3.8",
]
requires-python = ">=3.10"
```

After updating the details, package your agent using the command below.



```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath pack
```

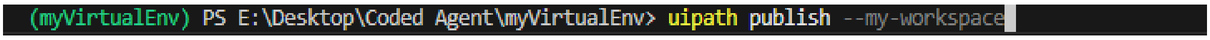
Once packaged, the output will appear as shown below.



```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath pack
:. Packaging project ...
Name       : MyCodedAgent
Version    : 0.0.1
Description: MyCodedAgent
Authors    : Prathmesh Hulavale
✓ Project successfully packaged.
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv>
```

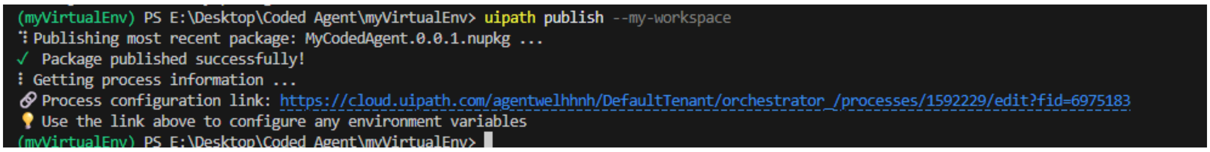
The next step is to publish your package to Orchestrator.

Select your workspace



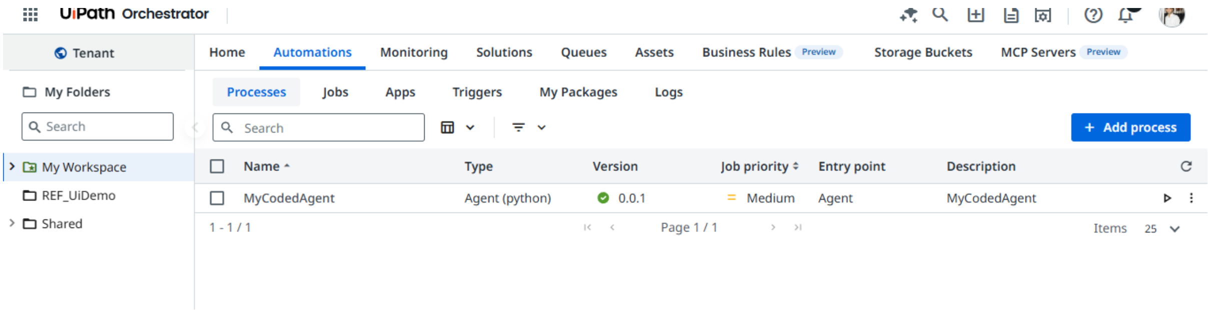
```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath publish --my-workspace
```

Once successfully published, the output will appear as shown below.



```
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> uipath publish --my-workspace
⠹ Publishing most recent package: MyCodedAgent.0.0.1.nupkg ...
✓  Package published successfully!
⠸ Getting process information ...
🔗 Process configuration link: https://cloud.uipath.com/agentwelhhnh/DefaultTenant/orchestrator_/processes/1592229/edit?fid=6975183
💡 Use the link above to configure any environment variables
(myVirtualEnv) PS E:\Desktop\Coded Agent\myVirtualEnv> 
```

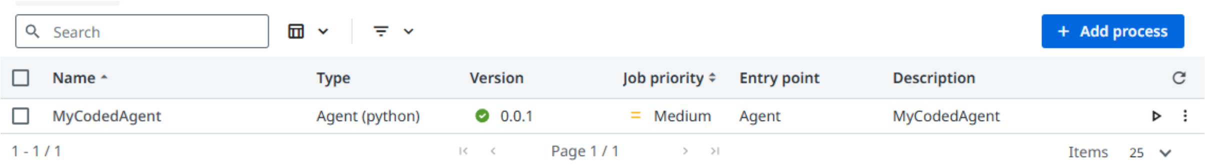
Go to your workspace to verify that the agent has been published successfully.



□	Name	Type	Version	Job priority	Entry point	Description
□	MyCodedAgent	Agent (python)	✓ 0.0.1	= Medium	Agent	MyCodedAgent

1 - 1 / 1   Page 1 / 1   Items 25

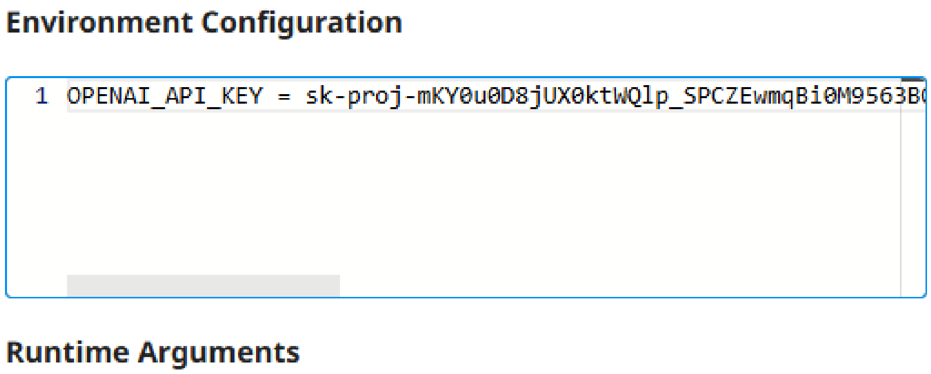
Now, click on the **Run** button (Play) to start the agent.



□	Name	Type	Version	Job priority	Entry point	Description
□	MyCodedAgent	Agent (python)	✓ 0.0.1	= Medium	Agent	MyCodedAgent

1 - 1 / 1   Page 1 / 1   Items 25

If you want to configure environment keys (like in the .env file), you can do so directly from here, as shown below.

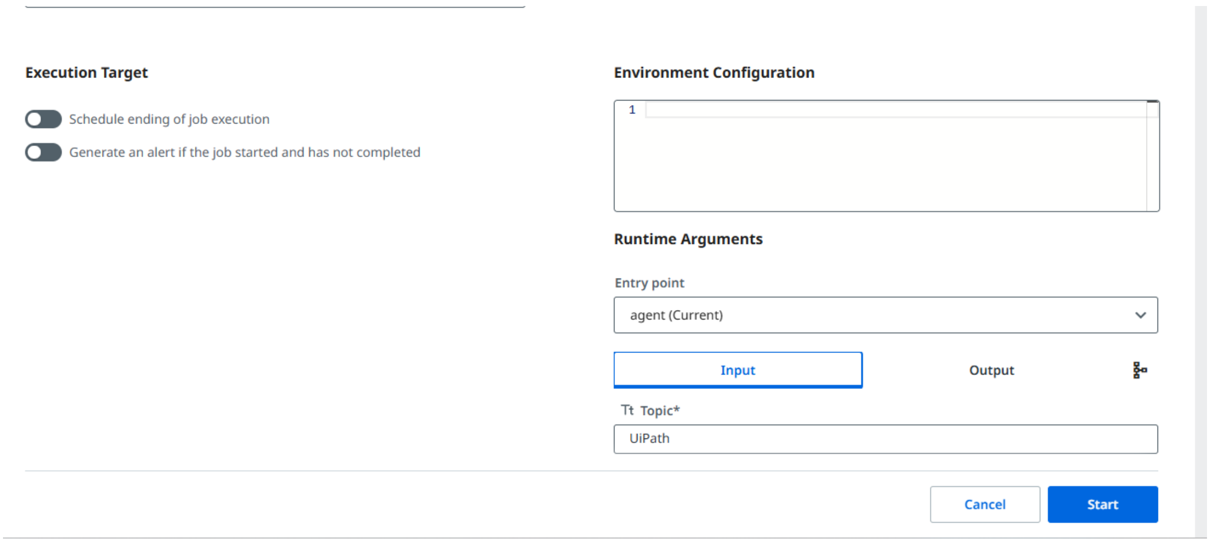


Environment Configuration

```
OPENAI_API_KEY = sk-proj-mKY0u0D8jUX0ktWQlp_SPCZEwmqBi0M9563B
```

Runtime Arguments

Provide an input value to start the agent and click **Start**.



Execution Target

○ Schedule ending of job execution

○ Generate an alert if the job started and has not completed

Environment Configuration

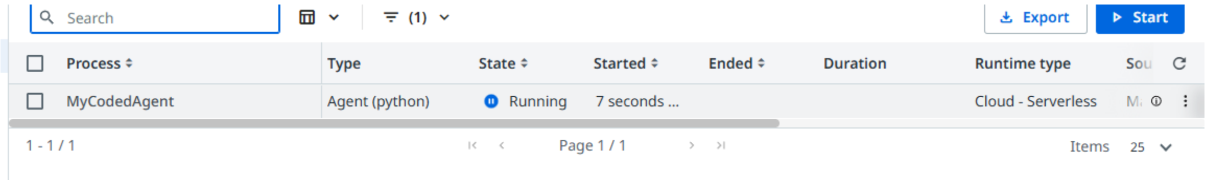
```
1
```

Runtime Arguments

Entry point: agent (Current)

Topic*: UiPath

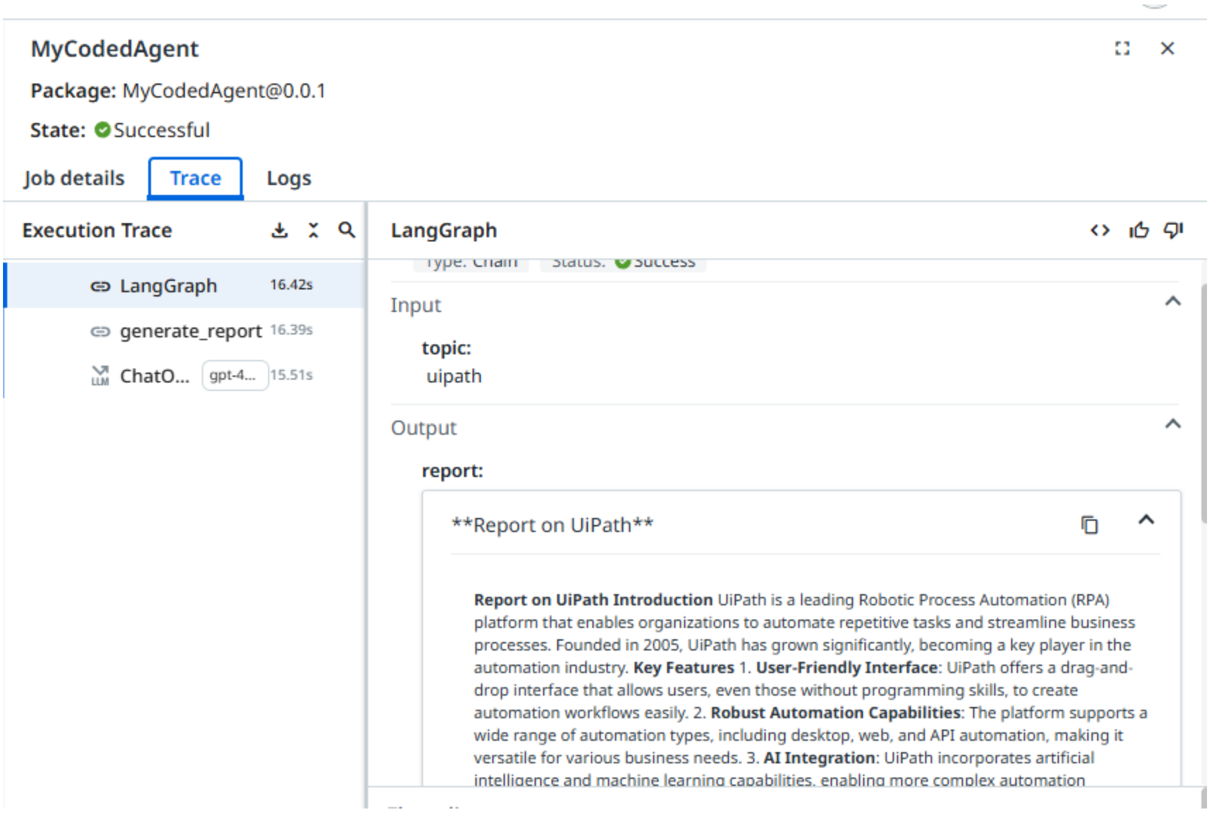
The agent will start, as shown below.



□	Process	Type	State	Started	Ended	Duration	Runtime type	Sou
□	MyCodedAgent	Agent (python)	Running	7 seconds ...			Cloud - Serverless	M

1 - 1 / 1 Page 1 / 1 Items 25

Once the agent runs successfully, you will see the output as shown below.



MyCodedAgent

Package: MyCodedAgent@0.0.1

State: Successful

LangGraph 16.42s

generate_report 16.39s

ChatO... gpt-4... 15.51s

LangGraph

Type: Chain Status: Success

Input

topic: uipath

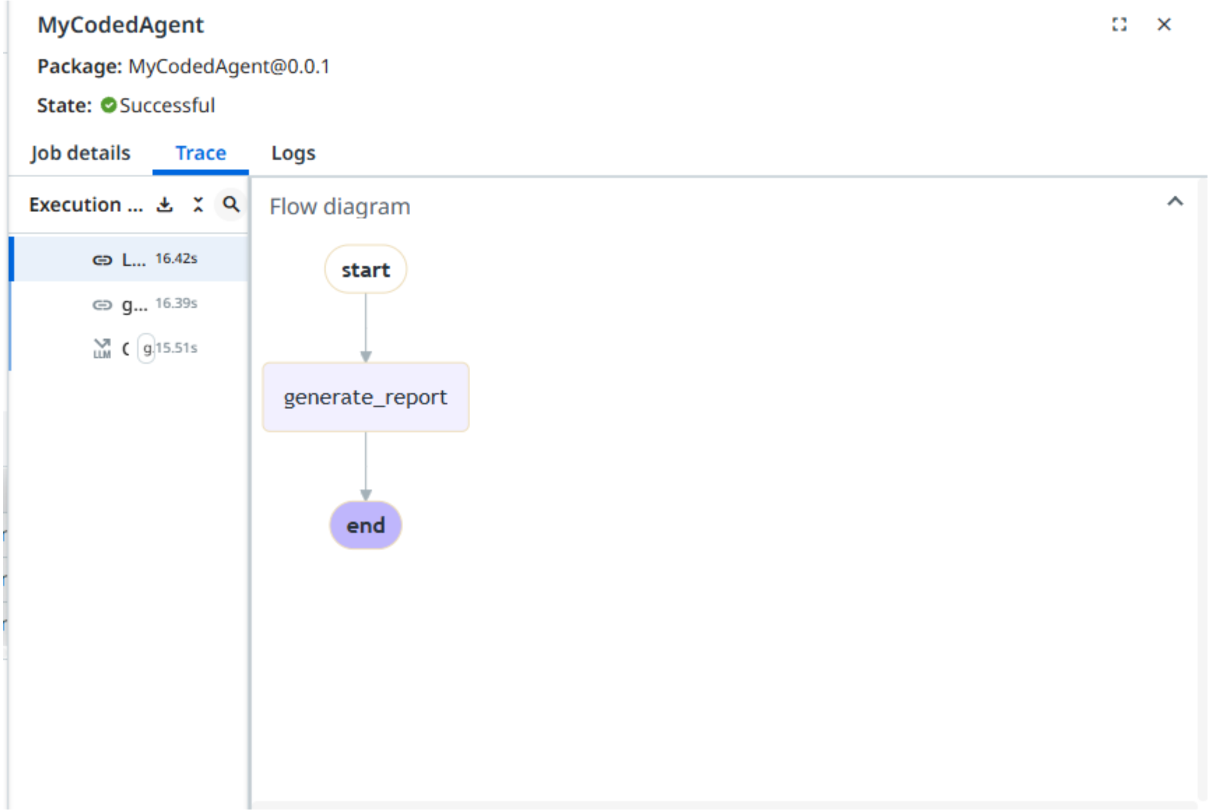
Output

report:

Report on UiPath

Report on UiPath Introduction UiPath is a leading Robotic Process Automation (RPA) platform that enables organizations to automate repetitive tasks and streamline business processes. Founded in 2005, UiPath has grown significantly, becoming a key player in the automation industry. **Key Features** 1. **User-Friendly Interface**: UiPath offers a drag-and-drop interface that allows users, even those without programming skills, to create automation workflows easily. 2. **Robust Automation Capabilities**: The platform supports a wide range of automation types, including desktop, web, and API automation, making it versatile for various business needs. 3. **AI Integration**: UiPath incorporates artificial intelligence and machine learning capabilities, enabling more complex automation

You can also view the flow diagram of the agent.



MyCodedAgent

Package: MyCodedAgent@0.0.1

State: Successful

Thanks for going through my document!

Portfolio Website: Prathamesh Hulavale