

1. Creating EC2 server and install jenkins

The screenshot displays the AWS Management Console interface for launching an EC2 instance. The browser address bar shows the URL: `ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:`. The console header includes the AWS logo, a search bar, and account information for 'Azariah' with Account ID: 8725-1526-5854.

The main content area is titled 'Launch an instance' and is divided into two main sections:

- Name and tags:** A text input field contains 'jenkins-ec2'. A link 'Add additional tags' is present.
- Application and OS Images (Amazon Machine Image):** This section includes a search bar and a 'Quick Start' tab. Under 'Quick Start', several AMI options are displayed as cards: Amazon Linux, macOS, Ubuntu (selected), Windows, Red Hat, and SUSE Linux. A 'Browse more AMIs' link is also visible.

On the right side, a 'Summary' panel provides details about the configuration:

- Number of instances:** 1
- Software Image (AMI):** Canonical, Ubuntu, 24.04, amd64...[read more](#) (ami-02d26659fd82cf299)
- Virtual server type (instance type):** t2.micro
- Firewall (security group):** New security group
- Storage (volumes):** 1 volume(s) - 8 GiB

At the bottom of the Summary panel, there are two buttons: 'Cancel' and 'Launch instance' (highlighted in orange). A 'Preview code' link is also present.

The bottom of the screen shows a Windows taskbar with the search bar, task view button, and several application icons (Edge, File Explorer, Chrome). The system tray displays the date and time as 21:42 on 02-09-2025, along with weather information (30°C Mostly clear) and system icons.

2. Select Instance Type t2.medium

The screenshot shows the AWS Management Console interface for launching an EC2 instance. The browser tabs include 'Inbox (2,208)', 'Home - Google', 'Launch an instance', 'GUVI', 'Jenkins Task-2', 'install jenkins on', and 'Linux'. The address bar shows the URL: `ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:`. The AWS header bar displays the account ID: 8725-1526-5854 and the region: Asia Pacific (Mumbai).

The main content area is titled 'Launch an instance' and includes a breadcrumb trail: `EC2 > Instances > Launch an instance`. The 'Instance type' section is expanded, showing the 't2.medium' instance type. The details for 't2.medium' are:

- Family: t2
- 2 vCPU
- 4 GiB Memory
- Current generation: true

Additional pricing information is listed:

- On-Demand Linux base pricing: 0.0496 USD per Hour
- On-Demand Ubuntu Pro base pricing: 0.0531 USD per Hour
- On-Demand Windows base pricing: 0.0676 USD per Hour
- On-Demand RHEL base pricing: 0.0784 USD per Hour
- On-Demand SUSE base pricing: 0.1496 USD per Hour

A note states: 'Additional costs apply for AMIs with pre-installed software'. There is a toggle for 'All generations' and a link to 'Compare instance types'.

The 'Key pair (login)' section is expanded, showing a message: 'You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.' The 'Key pair name - required' dropdown is set to 'my_first_server_key_pair', and there is a 'Create new key pair' button.

The 'Network settings' section is also expanded, with an 'Edit' button.

The 'Summary' section on the right provides a overview of the configuration:

- Number of instances:** 1
- Software Image (AMI):** Canonical, Ubuntu, 24.04, amd64...read more (ami-02d26659fd82cf299)
- Virtual server type (instance type):** t2.medium
- Firewall (security group):** New security group
- Storage (volumes):** 1 volume(s) - 8 GiB

At the bottom of the summary, there are buttons for 'Cancel', 'Launch instance', and 'Preview code'.

The footer of the console shows the copyright notice: '© 2025, Amazon Web Services, Inc. or its affiliates.' and links for 'Privacy', 'Terms', and 'Cookie preferences'. The Windows taskbar at the bottom shows the date and time: 21:43, 02-09-2025, and the weather: 30°C Mostly clear.

3. User commands to install jenkins

```
sudo apt update -y
sudo apt install fontconfig openjdk-21-jre -y
java -version
openjdk version "21.0.3" 2024-04-16
OpenJDK Runtime Environment (build 21.0.3+11-Debian-2)
OpenJDK 64-Bit Server VM (build 21.0.3+11-Debian-2, mixed mode, sharing)
```

```
sudo wget -O /etc/apt/keyrings/jenkins-keyring.asc \
  https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
echo "deb [signed-by=/etc/apt/keyrings/jenkins-keyring.asc] \
  https://pkg.jenkins.io/debian-stable binary/" | sudo tee \
  /etc/apt/sources.list.d/jenkins.list > /dev/null
sudo apt-get update -y
sudo apt-get install jenkins -y
```

```
sudo systemctl enable jenkins
sudo systemctl start jenkins
sudo systemctl status jenkins
```

4.Jenkins installed successfully

The screenshot displays the Jenkins web interface in a browser. The address bar shows the URL `13.235.27.57:8080` with a 'Not secure' warning. The Jenkins logo and name are at the top left. A sidebar on the left contains links for 'New Item' and 'Build History', along with a 'Build Queue' section indicating 'No builds in the queue.' and a 'Build Executor Status' section showing '0/2'. The main content area features a 'Welcome to Jenkins!' message, followed by instructions on how to start building software projects. It includes a 'Create a job' button, a 'Set up a distributed build' section with options to 'Set up an agent', 'Configure a cloud', and 'Learn more about distributed builds', and a 'REST API' link. The bottom of the page shows the Jenkins version '2.516.2'.

Jenkins

+ New Item

Build History

Build Queue

No builds in the queue.

Build Executor Status 0/2

Welcome to Jenkins!

This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.

Start building your software project

Create a job

Set up a distributed build

Set up an agent

Configure a cloud

Learn more about distributed builds

REST API Jenkins 2.516.2

Installing python in EC2 server : commands: `sudo apt update` `sudo apt install nginx python3 python3-pip`

Adding github credentials [personal access token]

Manage Jenkins > Credentials > Domains [Global] > Add Credentials

13.235.27.57:8080/manage/credentials/store/system/domain/_/

Jenkins / Manage Jenkins / Credentials / System / Global credentials (unrestricted)

Global credentials (unrestricted)

+ Add Credentials

Credentials that should be available irrespective of domain specification to requirements matching.

ID	Name	Kind	Description
This credential domain is empty. How about adding some credentials?			

Icon: S M L

REST API Jenkins 2.516.2

13.235.27.57:8080/manage/credentials/store/system/domain/_/newCredentials

Type here to search

27°C Mostly clear

22:19 02-09-2025

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⚠ Not secure

13.235.27.57:8080/manage/credentials/store/system/domain/_/newCredentials

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 **Jenkins**

/ Manage Jenkins / Credentials / System / Global credentials (unrestricted)

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New credentials

Kind

Username with password

Scope ?

Global (Jenkins, nodes, items, all child items, etc)



Username ?


Blank username; did you mean to use secret text credentials instead?

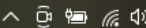
☐ Treat username as secret ?


Password ?

Create

 Type here to search 

 27°C Mostly clear

 ENG

22:40
02-09-2025 



Jenkins

Manage Jenkins

Credentials

System



Global credentials (unrestricted)



Global credentials (unrestricted)

+ Add Credentials

Credentials that should be available irrespective of domain specification to requirements matching.

ID	Name	Kind	Description
 github-credentials	gtazariah/***** (git)	Username with password	git 

Icon: S M L

REST API

Jenkins 2.516.2

Install plugins Manage Jenkins > Plugins

GitHub plugin

Email Extension Plugin

Mailer plugin

Pipeline stage view plugin

Blue ocean

Dashboard for Blue Ocean

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Inbox (

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 **Jenkins**

Manage Jenkins / Plugins

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👤

Plugins

📁 Updates

📁 Available plugins

⚙️ Installed plugins

⚙️ Advanced settings


🔍 github

×

Name ↓	Health	Enabled	
Blue Ocean 1.27.21 BlueOcean Aggregator Report an issue with this plugin	97	<input checked="" type="checkbox"/>	×
GitHub API Plugin 1.321-488.v9b_c0da_9533f8 This plugin provides GitHub API for other plugins. Report an issue with this plugin	100	<input checked="" type="checkbox"/>	×
GitHub Branch Source Plugin 1848.v42f74f7f4500 Multibranch projects and organization folders from GitHub. Maintained by CloudBees, Inc. Report an issue with this plugin	100	<input checked="" type="checkbox"/>	×
GitHub Pipeline for Blue Ocean 1.27.21 BlueOcean GitHub organization pipeline creator Report an issue with this plugin	97	<input checked="" type="checkbox"/>	×
GitHub plugin 1.44.0 This plugin integrates GitHub to Jenkins. Report an issue with this plugin	97	<input checked="" type="checkbox"/>	×
Pipeline implementation for Blue Ocean 1.27.21			

Windows

🔍 Type here to search



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22:54
02-09-2025

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Creating Gmail App Password to integrate with Jenkins

The screenshot shows a web browser window with the Google Account 'App passwords' page. The browser's address bar shows the URL: `myaccount.google.com/apppasswords?rapt=AEjHL4OysuAaSJlvRPf52leFQsLXUxRKW8AmPoVUWohy84xenESUGjS7SWf0CaQYtO0X9eq9Dr-3biOpfVq3b2-EPGomFZkNYAVPY...`. The page title is 'App passwords'. Below the title, there is explanatory text about app passwords and a 'Learn more' link. A section titled 'Your app passwords' contains a table with one entry: 'Mail', created on '6:37 AM', with a delete icon. Below the table, there is a prompt to create a new app-specific password by typing a name into a text box labeled 'App name'.

Google Account

← App passwords

App passwords help you sign into your Google Account on older apps and services that don't support modern security standards.

App passwords are less secure than using up-to-date apps and services that use modern security standards. Before you create an app password, you should check to see if your app needs this in order to sign in. [Learn more](#)

Your app passwords

Mail	Created on 6:37 AM	
------	--------------------	--

To create a new app specific password, type a name for it below...

Windows taskbar: Type here to search, 26°C Mostly cloudy, 06:39 04-09-2025

Manage Jenkins > System > Scroll to “Email Notification” setting

The screenshot shows the Jenkins web interface in a browser. The address bar indicates the URL is `3.109.62.68:8080/manage/configure`. The page title is "Jenkins" and the breadcrumb navigation shows "Manage Jenkins" > "System".

The "E-mail Notification" section is active. It contains the following fields:

- SMTP server:** `smtp.gmail.com`
- Default user e-mail suffix:** `@gmail.com`

Below these fields is an "Advanced" section, which is currently collapsed. It contains the following settings:

- ☒ **Use SMTP Authentication**
- User Name:** `azariah.gt@gmail.com`
- Password:** (Field is obscured by a blurred box)


A warning message is displayed below the User Name field: "For security when using authentication it is recommended to enable either TLS or SSL".

At the bottom of the configuration section are two buttons: "Save" and "Apply".

The Windows taskbar at the bottom shows the system clock as 06:58 on 04-09-2025, with a temperature of 26°C and weather "Mostly cloudy".

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← → ↻ Not secure 3.109.62.68:8080/manage/configure 🔑 ☆ 👤 ⋮

 **Jenkins** / Manage Jenkins / System

🔍 ⚙️ ☰ 👤

Advanced ^ ✎ Edited

☒ Use SMTP Authentication ?

User Name

azariah.gt@gmail.com

Password

.....

☒ Use SSL ?

☐ Use TLS

SMTP Port ?

465


Reply-To Address

Save

Apply

Windows logo

Type here to search



26°C Mostly cloudy

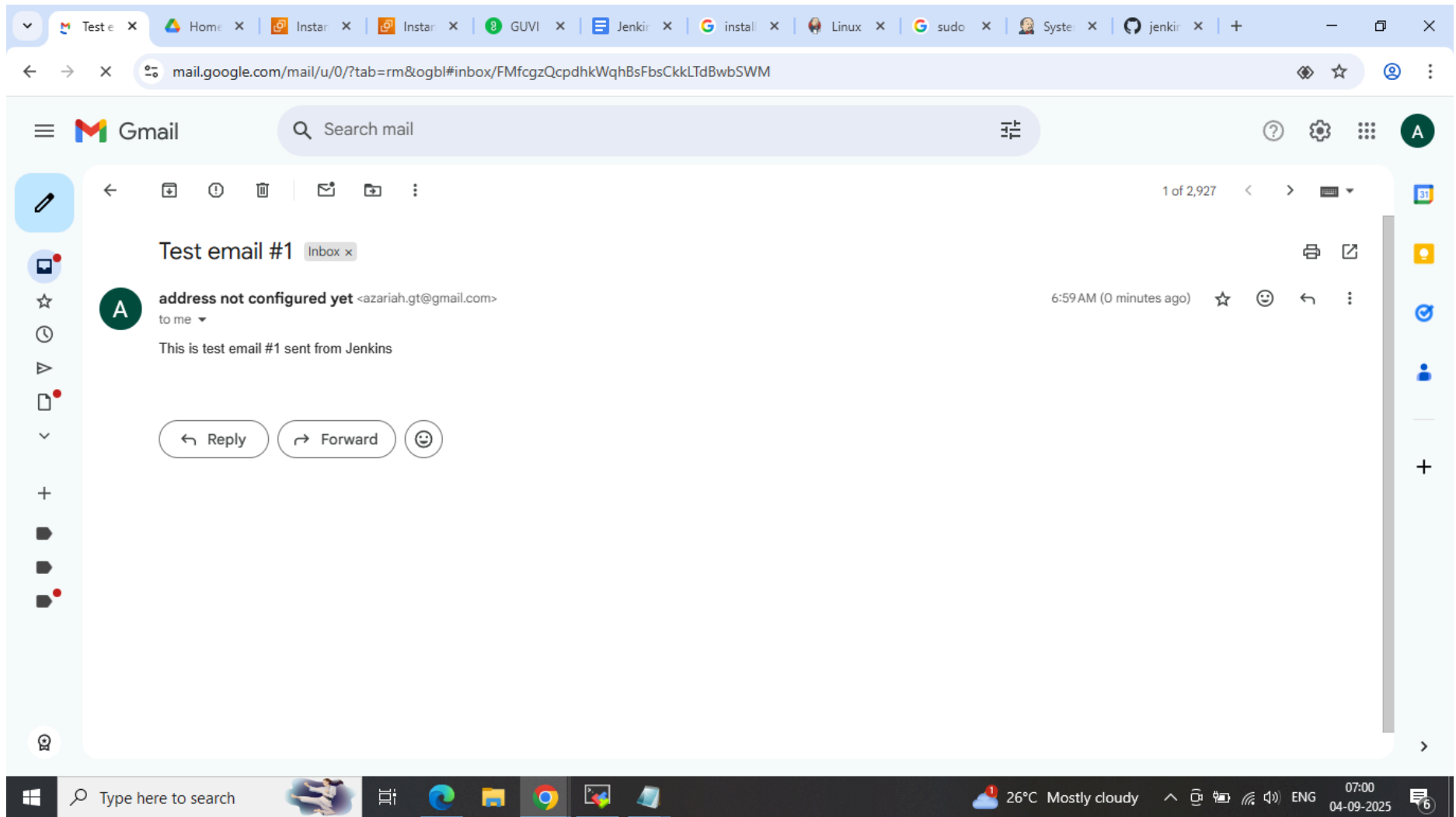
07:01

04-09-2025

ENG

6

Test Email Received



Setting up Webhook in Github Account

Select the Repository > Settings > Webhooks > Enter the pay load URL > Select send me every thing

The screenshot shows a web browser window with multiple tabs open. The active tab is 'Add v x'. The address bar shows the URL 'github.com/gtazariah/jenkins-python-script-project/settings/hooks/new'. The left sidebar contains a navigation menu with the following items: General, Access, Collaborators, Moderation options, Code and automation, Branches, Tags, Rules, Actions, Models (with a 'Preview' button), Webhooks (highlighted), Copilot, Environments, Codespaces, Pages, Security, Advanced Security, Deploy keys, Secrets and variables, and Integrations. The main content area is titled 'Webhooks / Add webhook'. It contains the following fields and options: 'Payload URL *' with the value 'http://3.109.62.68:8080/github-webhook/', 'Content type *' set to 'application/x-www-form-urlencoded', a 'Secret' field, 'SSL verification' with 'Enable SSL verification' selected, and 'Which events would you like to trigger this webhook?' with 'Send me everything.' selected. The bottom of the screen shows a Windows taskbar with the search bar, task view button, and several application icons. The system tray on the right shows the temperature (26°C), weather (Mostly cloudy), language (ENG), and date/time (07:17, 04-09-2025).

Webhooks / Add webhook

We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, etc). More information can be found in [our developer documentation](#).

Payload URL *
http://3.109.62.68:8080/github-webhook/

Content type *
application/x-www-form-urlencoded

Secret

SSL verification
By default, we verify SSL certificates when delivering payloads.
☒ Enable SSL verification ☐ Disable (not recommended)

Which events would you like to trigger this webhook?
☐ Just the push event.
☒ Send me everything.
☐ Let me select individual events.

Webhook created successfully

The screenshot shows a web browser window with multiple tabs open. The active tab is 'Webhook'. The address bar shows the URL: `github.com/gtazariah/jenkins-python-script-project/settings/hooks`. The page title is 'jenkins-python-script-project'. The left sidebar contains a menu with options: Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings (which is highlighted). The main content area is titled 'Webhooks' and includes an 'Add webhook' button. Below this, a text block explains: 'Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our [Webhooks Guide](#).' A table lists one webhook with the URL `http://3.109.62.68:8080/github-web...` and the event type `(all events)`. Below the URL, it states 'Last delivery was successful.' and provides 'Edit' and 'Delete' buttons. The Windows taskbar at the bottom shows the search bar, task view button, and several application icons. The system tray on the right displays the temperature (26°C), weather (Mostly cloudy), time (07:19), date (04-09-2025), and language (ENG).

Test e x Home x Instar x Instar x GUVI x Jenkir x install x Linux x sudo x Dashl x Webhook x

github.com/gtazariah/jenkins-python-script-project/settings/hooks

gtazariah / jenkins-python-script-project

Type to search

<> Code Issues Pull requests Actions Projects Wiki Security Insights Settings

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

Models Preview

Webhooks

Copilot

Environments

Codespaces

Pages

Security

Advanced Security

Webhooks

Add webhook

Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our [Webhooks Guide](#).

✓ <code>http://3.109.62.68:8080/github-web...</code> (all events)	Edit Delete
---	-------------

Last delivery was successful.

26°C Mostly cloudy 07:19 04-09-2025 ENG

Jenkins job creation

The screenshot shows the Jenkins web interface in a browser. The address bar indicates the URL is `3.109.62.68:8080/view/all/newJob`. The page title is "New Item". Below the title, there is a text input field labeled "Enter an item name" containing the text "python-project". Underneath, there is a section titled "Select an item type" with four options: "Freestyle project", "Pipeline", "Multi-configuration project", and "Folder". The "Pipeline" option is highlighted with a blue background. At the bottom of the page, there is a blue "OK" button. The Windows taskbar is visible at the bottom of the screen, showing the time as 07:22 on 04-09-2025.





Jenkins / All / New Item

New Item

Enter an item name

python-project

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.
-  **Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.
-  **Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter.

OK

Select “Github hook trigger for GITScm polling”

The screenshot shows the Jenkins web interface for configuring a job named "python-project". The browser's address bar indicates the URL is "3.109.62.68:8080/job/python-project/configure". The left sidebar contains the "Configure" section with sub-tabs: "General", "Triggers", "Pipeline", and "Advanced". The "Triggers" tab is active, displaying a list of trigger options. The "Github hook trigger for GITScm polling" option is selected, indicated by a blue checkmark. Below the triggers, there are "Save" and "Apply" buttons. The "Save" button is highlighted with a red circle.

Configure

- General
- Triggers
- Pipeline
- Advanced

☐ GitHub project

☐ Pipeline speed/durability override ?

☐ Preserve stashes from completed builds ?

☐ This project is parameterised ?

☐ Throttle builds ?

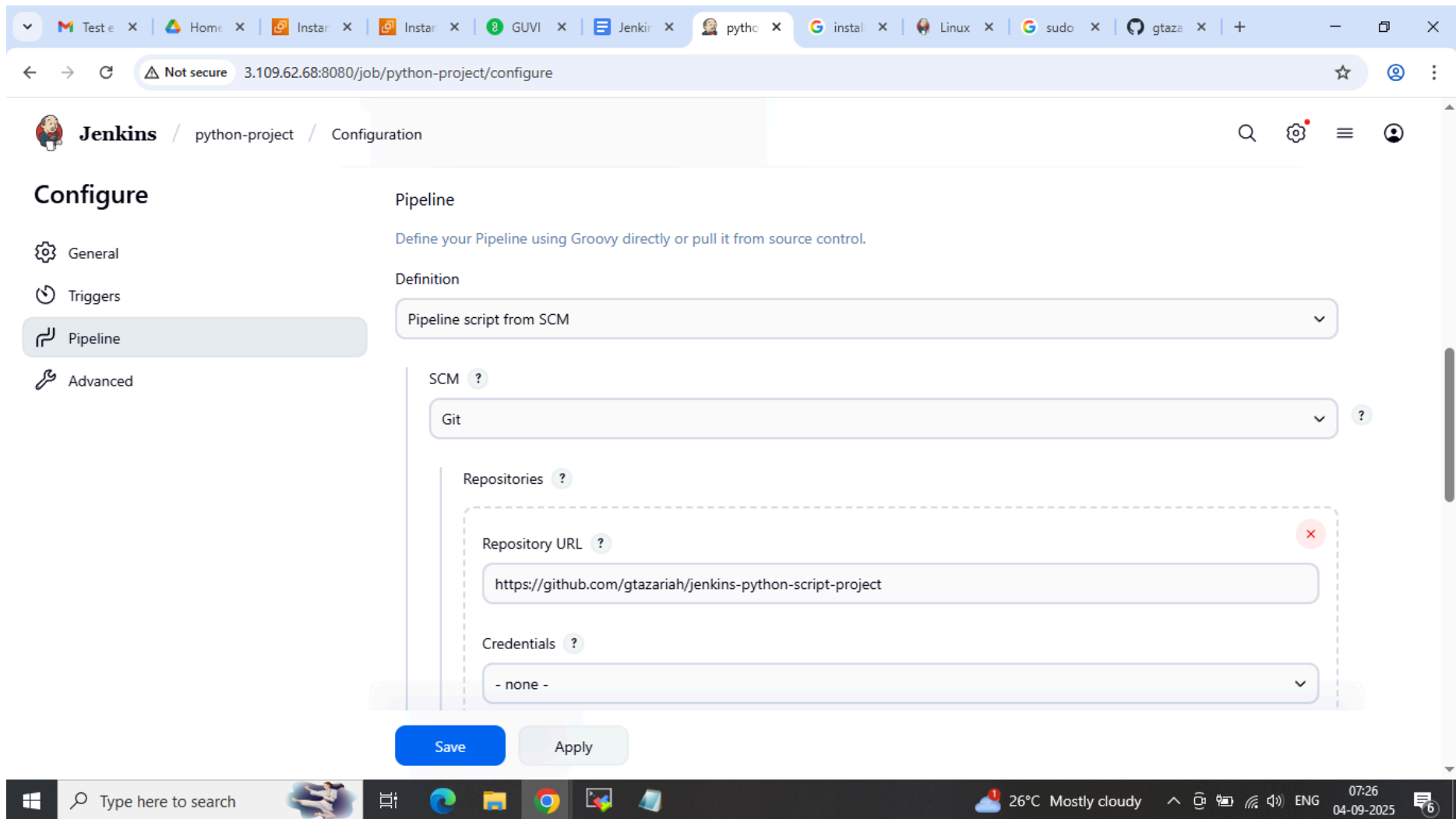
Triggers

Set up automated actions that start your build based on specific events, like code changes or scheduled times.

- ☐ Build after other projects are built ?
- ☐ Build periodically ?
- ☒ GitHub hook trigger for GITScm polling ?
- ☐ Poll SCM ?

Save **Apply**

Setting up Pipeline Script



The screenshot shows the Jenkins web interface for configuring a pipeline. The browser's address bar indicates the URL is `3.109.62.68:8080/job/python-project/configure`. The Jenkins header shows the job name `python-project` and the `Configuration` page. On the left, a sidebar lists configuration options: `General`, `Triggers`, `Pipeline` (which is selected), and `Advanced`. The main content area is titled `Pipeline` and includes the instruction: "Define your Pipeline using Groovy directly or pull it from source control." Under the `Definition` section, a dropdown menu is set to `Pipeline script from SCM`. Below this, the `SCM` section is expanded, showing a dropdown set to `Git`. The `Repositories` section is also expanded, containing a `Repository URL` field with the value `https://github.com/gtazariah/jenkins-python-script-project` and a `Credentials` dropdown set to `- none -`. At the bottom of the configuration area are `Save` and `Apply` buttons. The Windows taskbar at the bottom shows the system clock as 07:26 on 04-09-2025, along with weather and network status icons.

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Not secure 3.109.62.68:8080/job/python-project/configure

Jenkins / python-project / Configuration

Configure

- General
- Triggers
- Pipeline**
- Advanced

Pipeline

Define your Pipeline using Groovy directly or pull it from source control.

Definition

Pipeline script from SCM

SCM ?

Git

Repositories ?

Repository URL ?

`https://github.com/gtazariah/jenkins-python-script-project`

Credentials ?

- none -


Save Apply

Type here to search

26°C Mostly cloudy 07:26 04-09-2025

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 **Jenkins**


python-project / Configuration


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Configure

 General

 Triggers

 Pipeline

 Advanced

Branches to build ?

Branch Specifier (blank for 'any') ?

*/master

Add Branch

Repository browser ?

(Auto) ▾

Additional Behaviours

Add ▾

Script Path ?

Jenkinsfile

Save

Apply

 Type here to search 

 26°C Mostly cloudy  ENG 07:27 04-09-2025  6

Project Job run successfully

The screenshot shows the Jenkins web interface for a job named 'python-project'. The job status is 'Success' (green checkmark). The left sidebar contains navigation links: Status, Changes, Build Now, Configure, Delete Pipeline, Full Stage View, Favorite, Open Blue Ocean, Stages, Rename, Pipeline Syntax, and GitHub Hook Log. The main area displays the 'Stage View' for build #4, which completed on Sept 04 at 08:07 with 'No Changes'. Below this, a table shows the execution times for three previous builds (#2, #3, #4) across six stages: Declarative: Checkout SCM, Checkout, Setup Python, Run Script, Test, and Declarative: Post Actions. Build #2 failed in the first four stages, while builds #3 and #4 were successful. The bottom of the screen shows a Windows taskbar with the date 04-09-2025 and time 08:08.

Jenkins / python-project

python-project Python Project

Stage View

Average stage times: (full run time: ~45s)

	Declarative: Checkout SCM	Checkout	Setup Python	Run Script	Test	Declarative: Post Actions
#4 Sept 04 08:07 No Changes	626ms	732ms	900ms	374ms	370ms	20s
#3 Sept 04 07:48 1 commit	864ms	663ms	1s	381ms	373ms	1min 0s
#2 Sept 04 07:41 No Changes	942ms	931ms failed	168ms failed	107ms failed	104ms failed	1min 0s

Builds

3.109.62.68:8080/job/python-project/configure

27°C Mostly cloudy 08:08 04-09-2025

Jenkins

python-project

Status

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

Favorite

Open Blue Ocean

Stages

Rename

Pipeline Syntax

GitHub Hook Log

Builds

Filter

python-project

Python Project

Stage View

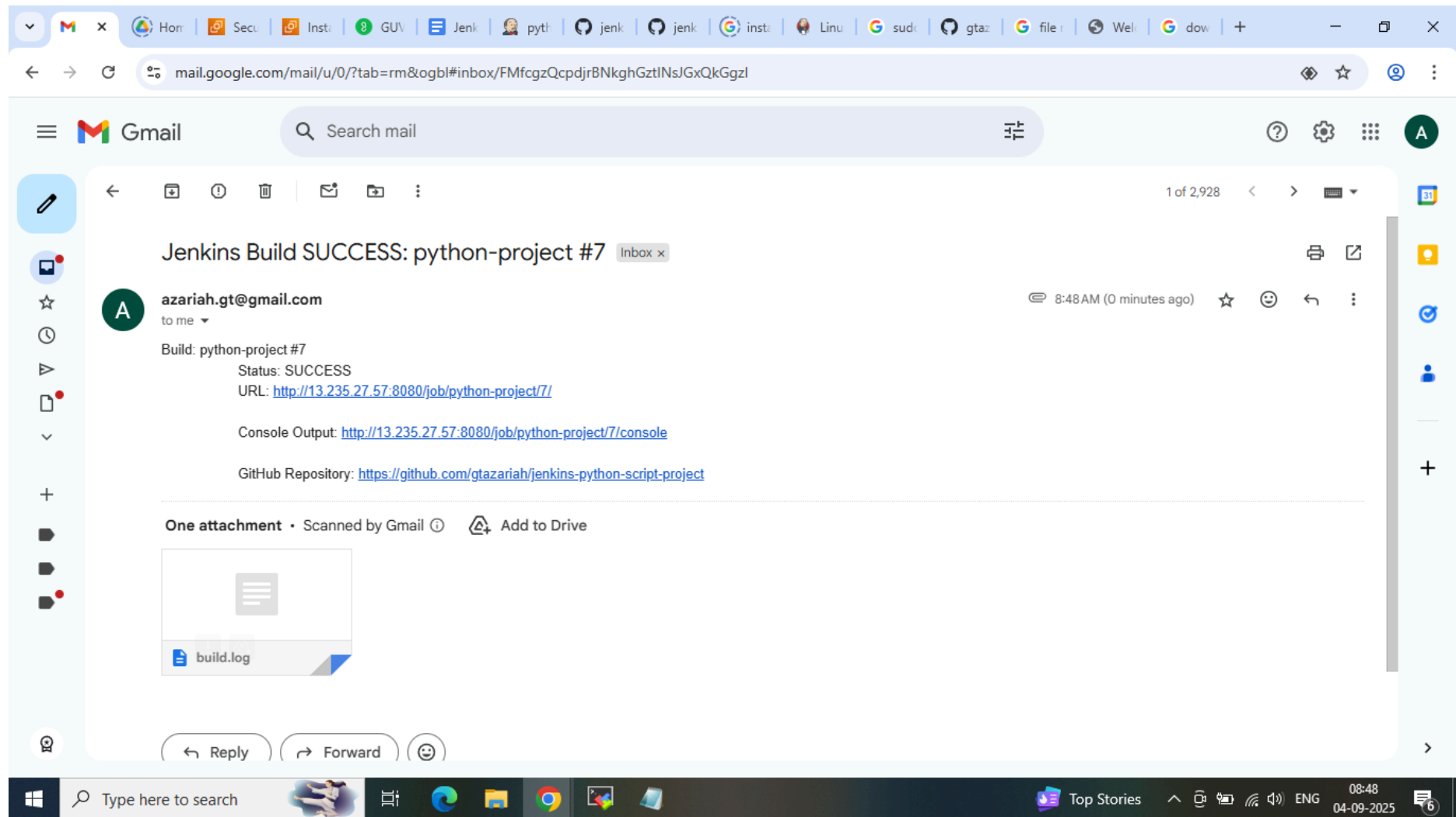
Average stage times:
(full run time: ~21s)

	Declarative: Checkout SCM	Checkout	Setup Python	Run Script	Test	Declarative: Post Actions
#7 Sept 04 08:48 No Changes	681ms	654ms	912ms	382ms	371ms	4s
#6 Sept 04 08:37 No Changes	680ms	683ms	661ms	371ms	375ms	609ms
#5 Sept 04 08:30 No Changes	629ms	678ms	904ms	375ms	389ms	603ms

Type here to search

08:49
04-09-2025

Success Email



Auto Trigger

Browser tabs: Jenk, Horr, Secu, Inst, GUV, Jenk, jenk, jenk, inst, Linu, sud, gtaz, file, Wel, dow, +

Address bar: Not secure 3.109.62.68:8080/job/python-project/

Jenkins / python-project

Full Stage View
Favorite
Open Blue Ocean
Stages
Rename
Pipeline Syntax
GitHub Hook Log

Builds

Filter

Today

- #7 03:18
- #6 03:07
- #5 03:00
- #4 02:37
- #3 02:18

Average stage times: (full run time: ~21s)

	Checkout SCM	Checkout	Setup Python	Run Script	Test	Declarative: Post Actions
#8 Sept 04 09:00 1 commit	752ms	645ms	796ms	331ms	330ms	24s
#7 Sept 04 08:48 No Changes	848ms	176ms				
#6 Sept 04 08:37 No Changes	681ms	654ms	912ms	382ms	371ms	4s
#5 Sept 04 08:30 No Changes	680ms	683ms	661ms	371ms	375ms	609ms
#4 Sept 04 08:07 No Changes	629ms	678ms	904ms	375ms	389ms	603ms
#3 Sept 04 07:44 No Changes	626ms	732ms	900ms	374ms	370ms	20s

Windows taskbar: Type here to search, Meet Maruti Suzuki's..., 09:00 04-09-2025