

# Guide: Using **nohup** to Run Python in Background on Linux

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## What is **nohup**?

- **nohup** stands for "No Hang Up"
  - It lets you run a command or script that **keeps running even after you close the terminal**
  - It's often used for long-running Python scripts, web scrapers, ETL jobs, etc.
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## When to Use **nohup**

✅ Use **nohup** when:

Situation	Why use <b>nohup</b> ?
Running a long-running script	Keeps running even if terminal closes
Running on a remote server (via SSH)	Prevents script from stopping if SSH disconnects
Running cron-like loops ( <b>while True</b> )	Keeps script alive in background
Logging output to a file	Helps debug or monitor

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## Step-by-Step: Run Python in Background with **nohup**

### Example: **script.py**

```
# script.py
```

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```
import time
```

```
from datetime import datetime
```

```
while True:
```

```
    with open("nohup_log.txt", "a") as f:
```

```
        f.write(f"Running at: {datetime.now()}\n")
```

```
    print(f"Running at: {datetime.now()}")
```

```
    time.sleep(60) # runs every 1 minute
```

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## Step 1: Run in Background with **nohup**

```
nohup python3 script.py &
```

 Explanation:

- **nohup** → Run without hang-up
- **python3 script.py** → Your command
- **&** → Send it to background

 **This creates a file:**

```
nohup.out
```

All stdout and stderr (print statements, errors) go here.

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## Step 2: Check If It's Running

```
ps aux | grep script.py
```

You'll see something like:

```
ubuntu 12345 0.0 0.1 ... python3 script.py
```

That number (**12345**) is the **PID** (process ID).

### 🔴 Step 3: Kill the Background Script

`kill 12345`

Or kill all Python scripts with:

`pkill -f script.py`

✅ It's clean and shuts it down instantly.

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### 🔧 Optional: Redirect Output to Custom File

Instead of using default `nohup.out`, do this:

`nohup python3 script.py > log.txt 2>&1 &`

- `> log.txt` → standard output (print)
  - `2>&1` → redirect errors to same file
  - `&` → run in background
- 

### ✅ Summary Table

Command	Purpose
<code>nohup python3 script.py &amp;</code>	Run script in background
<code>`ps aux`</code>	<code>grep script.py`</code>
<code>kill &lt;pid&gt;</code>	Kill the background process

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`pkill -f script.py` Kill by script name

`tail -f nohup.out` Live view of log output

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## When *Not* to Use `nohup`

- When you need full job control, use `tmux` or `screen` instead.
- When using `cron`, `nohup` is not required (cron handles it).


## **About the Author**

**Gowtham SB** is a **Data Engineering expert, educator, and content creator** with a passion for **big data technologies, as well as cloud and Gen AI**. With years of experience in the field, he has worked extensively with **cloud platforms, distributed systems, and data pipelines**, helping professionals and aspiring engineers master the art of data engineering.

Beyond his technical expertise, Gowtham is a **renowned mentor and speaker**, sharing his insights through engaging content on **YouTube and LinkedIn**. He has built one of the **largest Tamil Data Engineering communities**, guiding thousands of learners to excel in their careers.

Through his deep industry knowledge and hands-on approach, Gowtham continues to **bridge the gap between learning and real-world implementation**, empowering individuals to build **scalable, high-performance data solutions**.

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