

Demo Project: Automate configuring EC2 Server Instances

This guide explains how to automate adding environment tags to all EC2 server instances using Python.

Step 1: Create EC2 Instances

Step 2: Install Required Packages

Step 3: Write the Python Script

Step 4: Execute the Script

Step 5: Validate

Clean Up

Step 1: Create EC2 Instances

1. Manually create **2 EC2 instances** in the **us-east-1** region with the following specifications:
 - Instance Type: `t2.micro`
 - OS: Amazon Linux 2
2. Create **2 EC2 instances** in the **us-east-2** region with the same specifications.
3. Verify that all instances are running in both regions via the AWS Management Console.

Step 2: Install Required Packages

1. Install the `boto3` package to interact with AWS services: `pip install boto3`
 2. Confirm the installations by navigating to **External Libraries** → **Python 3.x** → **site-packages** in PyCharm.
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Step 3: Write the Python Script

Create a new Python file named `add-env-tags.py`

Found in this link:

https://gitlab.com/twn-devops-projects/automation-with-python/automation-projects/-/blob/main/add-env-tags.py?ref_type=heads

Step 4: Execute the Script

1. Run the Python script using the terminal: `python add-env-tags.py`
 2. The script will:
 - Iterate through each region
 - List all running EC2 instances
 - Add the `Environment=Dev` tag to each instance
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Step 5: Validate

1. Go to the AWS Management Console.
 2. Navigate to **EC2 → Instances**.
 3. Select any instance.
 4. Under the **Tags** tab, verify that the `Environment` tag is applied.
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Clean Up

- Terminate all EC2 instances via the AWS Management Console.
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