

# Lab 4 - Automating an AWS services with Python

In this lab you will use Python scripts to create a new EC2 instance.

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## Step 1 - Prepare configuration

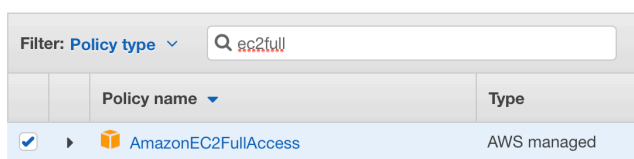
- Go to Services -> EC2
- Select your EC2 instance press Actions button and go to Instance State ->Start
- Connect over SSH
- Install all necessary components
  - `sudo yum install python python-devel python-pip -y`
  - `sudo python-pip install boto`

Usually, you will do this thinks on your own machine. In this case, boto looks for credentials stored in boto configuration or in aws cli config files.

Because we are using EC2 machines, so in this case, all authentication is realized over IAM Role.

- Go to Services -> IAM -> Roles and select a role created in Lab1
- In Permission tab click Attach policy
- In search box write “ec2full” select a policy and hit Attach policy

Attach policy



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## Step 2 - Launch new EC2 instance

In this task you will use simple python script to launch new EC2 machine.

- From Lab4 folder open an “runEC2.py” in your favourite editor
- Edit the script with the required parameters:
  - Region
  - AMI
  - Key name
  - Security Group name
- Copy the script to your current EC2 instance.
- Run the script: `python runEC2.py`
- Go to Services -> EC2 and look for a new instance.

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## Step 3 - Stop EC2.

- In AWS GUI select your newly created EC2 and and copy instanceID from Description tab.
- Edit the script “stopEC2.py” from Lab4 folder.
  - Set Region
  - Paste instance id.
- Copy the script to your EC2 instance and run: `python stopEC2.py`

- Check the result in AWS GUI.

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## Step 4 - Terminate EC2

Finally you will terminate the instance created in step 2.

- Take a last script “terminateEC2.py” from folder Lab4
- The script isn't complete so you need to find proper command
- Go to <http://boto3.readthedocs.io/en/latest/reference/services/ec2.html?highlight=ec2>
- Find a proper option and complete the script.
- Run script from your EC2.
- Check the result by command: `aws ec2 describe-instances --instance-id i-XXXXXXXXXX --region your_region`
- Look for 'State' section in the output.