

# Creating EC2 Instances from the CLI and Management Console

This exercise is designed to go over how to create and configure EC2 instances from the command line interface (CLI) and AWS Management Console. It was completed using the re/Start lab environment so there are some preconfigured resources.

## Launching an instance from the management console

Creating a new security group for the instance we're creating: Bastion Host.

The screenshot shows the AWS Management Console 'Launch instance wizard' at Step 6: Configure Security Group. The breadcrumb trail indicates the steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage, and 5. Add Tags. The page title is 'Step 6: Configure Security Group'. A description explains that a security group is a set of firewall rules that control traffic for the instance. Below this, the 'Assign a security group' section has two radio buttons: 'Create a new security group' (selected) and 'Select an existing security group'. The 'Security group name' field contains 'Bastion security group' and the 'Description' field contains 'Permit SSH connections'. A table for adding rules has columns for Type, Protocol, Port Range, and Source. The first rule is configured with Type 'SSH', Protocol 'TCP', Port Range '22', and Source 'Custom' with IP address '0.0.0.0/0'. An 'Add Rule' button is below the table. A yellow warning box states: 'Warning: Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.' At the bottom, there are 'Cancel', 'Previous', and 'Review and Launch' buttons. The footer includes 'Feedback', 'English (US)', 'Privacy Policy', 'Terms of Use', 'Cookie preferences', and a copyright notice for 2008-2021 Amazon Web Services, Inc.

Launch instance wizard | EC2 | x

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags

### Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

**Assign a security group:** ☒ Create a new security group  
☐ Select an existing security group

**Security group name:**  
Bastion security group

**Description:**  
Permit SSH connections

Type	Protocol	Port Range	Source
SSH	TCP	22	Custom 0.0.0.0/0

Add Rule

**Warning**

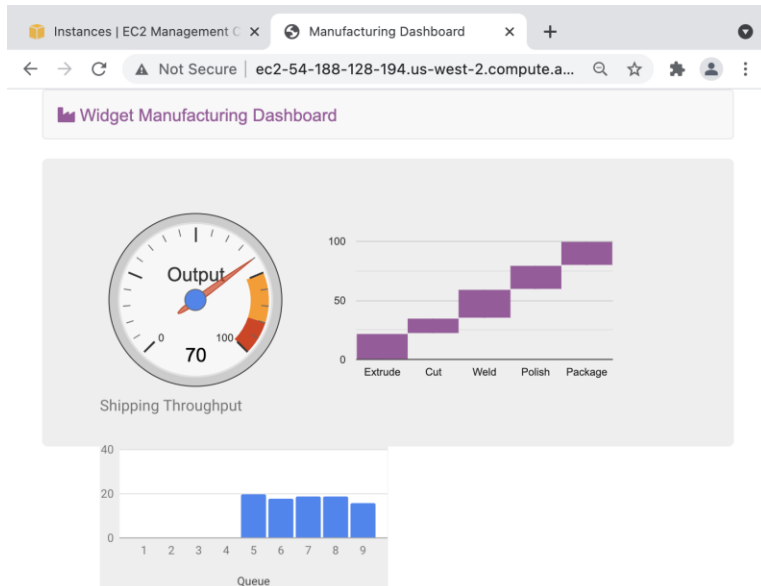
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Previous Review and Launch

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We can successfully access Bastion Host from the public IP address, verifying that it is running.



Additionally, we can verify Bastion Host is running directly from the Management Console EC2 service.

The screenshot shows the AWS Management Console for the EC2 service. A blue banner at the top reads: "Welcome to the new instances experience! We're redesigning the EC2 console to make it easier to use. To switch between the old console and the new console, use the New EC2 Experience toggle above the navigation panel. We'll release updates continuously based on customer feedback." Below the banner, the "Instances (2)" section is visible. It includes a search bar, a "Filter instances" dropdown, and a table of instances.

	Name	Instance ID	Instance state	Instance type
<input type="checkbox"/>	Misconfigured Web Server	i-084216fe0144e3db8	Running	t2.micro
<input type="checkbox"/>	Bastion Server	i-06cf94d55da6c9a45	Running	t2.micro

The Misconfigured Web Server instance will not be discussed in this presentation.

## Launching an instance from the CLI



A terminal window titled "Downloads — ec2-user@ip-10-0-0-151:~ — ssh -i labsuserpem.pem ec2-..." displays the execution of an AWS CLI command. The command is `aws ec2 describe-instances --instance-ids $INSTANCE_ID --query 'Reservations[].Instances[].State.Name' --output table`. The output is a table with one row containing the word `running` in blue text. The prompt `[ec2-user@ip-10-0-0-151 ~]$` is visible at the bottom.

```
[ec2-user@ip-10-0-0-151 ~]$ aws ec2 describe-instances --instance-ids $INSTANCE_ID
--query 'Reservations[].Instances[].State.Name' --output table
-----
|DescribeInstances|
+-----+
|  running  |
+-----+
[ec2-user@ip-10-0-0-151 ~]$
```

```
Downloads — ec2-user@ip-10-0-0-151:~ — ssh -i labsuserpem.pem ec2-...
[ec2-user@ip-10-0-0-151 ~]$
[ec2-user@ip-10-0-0-151 ~]$ # Set the Region
[ec2-user@ip-10-0-0-151 ~]$ AZ='curl -s http://169.254.169.254/latest/meta-data/
placement/availability-zone`
[ec2-user@ip-10-0-0-151 ~]$ export AWS_DEFAULT_REGION=${AZ::-1}
[ec2-user@ip-10-0-0-151 ~]$ # Obtain latest Linux AMI
[ec2-user@ip-10-0-0-151 ~]$ AMI=$(aws ssm get-parameters --names /aws/service/am
i-amazon-linux-latest/amzn2-ami-hvm-x86_64-gp2 --query 'Parameters[0].[Value]' -
-output text)
[ec2-user@ip-10-0-0-151 ~]$ echo $AMI
ami-0800fc0fa715fdcfe
[ec2-user@ip-10-0-0-151 ~]$ SUBNET=$(aws ec2 describe-subnets --filters 'Name=ta
g:Name,Values=Public Subnet' --query Subnets[].SubnetId --output text)

[ec2-user@ip-10-0-0-151 ~]$ echo $SUBNET
subnet-0153ec2faaa60244e
[ec2-user@ip-10-0-0-151 ~]$
[ec2-user@ip-10-0-0-151 ~]$
[ec2-user@ip-10-0-0-151 ~]$ SG=$(aws ec2 describe-security-groups --filters Name
=group-name,Values=WebSecurityGroup --query SecurityGroups[].GroupId --output te
xt)
[ec2-user@ip-10-0-0-151 ~]$ echo $SG
sg-028fe4e97e817e6e2
[ec2-user@ip-10-0-0-151 ~]$
```

Verifying from the Management Console that the Web Server instance is running.

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🔔 Welcome to the new instances experience!  
We're redesigning the EC2 console to make it easier to use. To switch between the old console and the new console, use the New EC2 Experience toggle above the navigation panel. We'll release updates continuously based on customer feedback.

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**Instances (3)** Info

🔄 Connect Instance state ▾ Actions ▾ Launch instances ▾

🔍 Filter instances

< 1 > ⚙️

<input type="checkbox"/>	Name ▾	Instance ID	Instance state ▾	Instance t
<input type="checkbox"/>	Misconfigured Web Server	i-084216fe0144e3db8	🟢 Running 🔍 🔍	t2.micro
<input type="checkbox"/>	Bastion Server	i-06cf94d55da6c9a45	🟢 Running 🔍 🔍	t2.micro
<input type="checkbox"/>	Web Server	i-03a15458cda7a521d	🟢 Running 🔍 🔍	t3.micro

☰

Select an instance above