

Table of contents

- [Table of contents](#)
- [AWS SSM](#)
 - [Managed instances](#)
 - [Creating a managed instance](#)
 - [Run command](#)
 - [Session manager](#)
 - [Patch-manager](#)

AWS SSM

- AWS Systems Manager is an AWS service that you can use to view and control your infrastructure on AWS

Managed instances

- A managed instance is a machine that has been configured for use with Systems Manager
- If the server is managed , we can log in the server from the console itself without using any third party tool
- Also remote commands can be run over the instance from ssm if it is managed

Creating a managed instance

- In order to make sure our instances are managed , we need to have IAM role attached to the ec2 instances which has necessart permissions to send data to ssm
- Create an ec2 service role , attach AmazonEC2RoleforSSM to the said role and attach it to your instance
- Verify if the instances are managed by logging on to ssm and going in managed instances

AWS Systems Manager

Quick Setup

▼ Operations Management

- Explorer New
- OpsCenter
- CloudWatch Dashboard
- PHD

▼ Application Management

- Resource Groups
- AppConfig New
- Parameter Store

▼ Actions & Change

- Automation
- Change Calendar New

AWS Systems Manager > Managed Instances

Managed Instances Settings

Managed instances View details Agent auto update Configure Inventory Actions

Search < 1 >

Instance ID	Name	Ping status	Platform type	Platform name	Platform version	Agent version
i-039376925c1da4af6	-	Online	Linux	Amazon Linux	2	2.3.13

Managed Instance

A managed instance is any Amazon EC2 instance or on-premises server or virtual machine in your hybrid environment that has been configured for Systems Manager. [Learn More](#)

Run command

- If the instances are managed , we can run remote commands from the console by going in run command option in ssm
- Click on run comand and chose module AWS-Runshellscrip which is on 3rd index page .
- Type the shell commands or a shell script and chose the instance you want to run it on .for ex.

```
#!/bin/bash

# Adding two values
((sum=25+35))

#Print the result
echo $sum
```

- ```
#!/bin/bash
sudo yum update -y
sudo yum install httpd -y
sudo service httpd start
```

- AWS Systems Manager

×

Quick Setup

▼ Operations Management

Explorer New

OpsCenter

CloudWatch Dashboard

PHD

▼ Application Management

Resource Groups

AppConfig New

Parameter Store

▼ Actions & Change

Automation

Change Calendar New

Maintenance Windows

▼ Instances & Nodes

AWS Systems Manager

Run Command

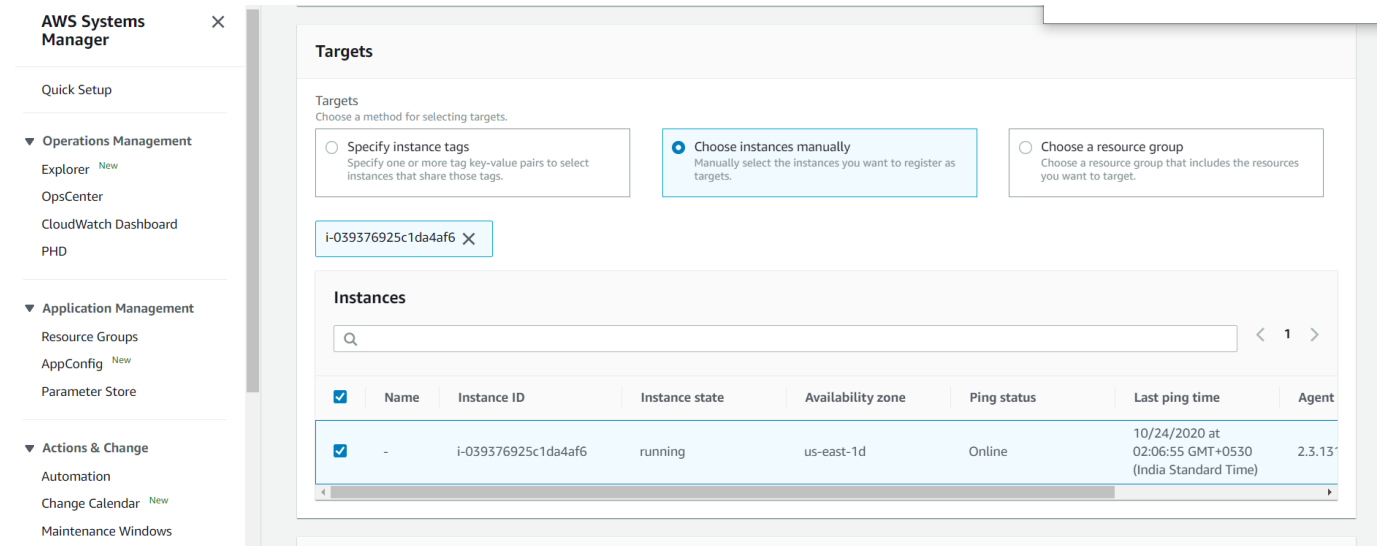
Run a command

## Run a command

### Command document

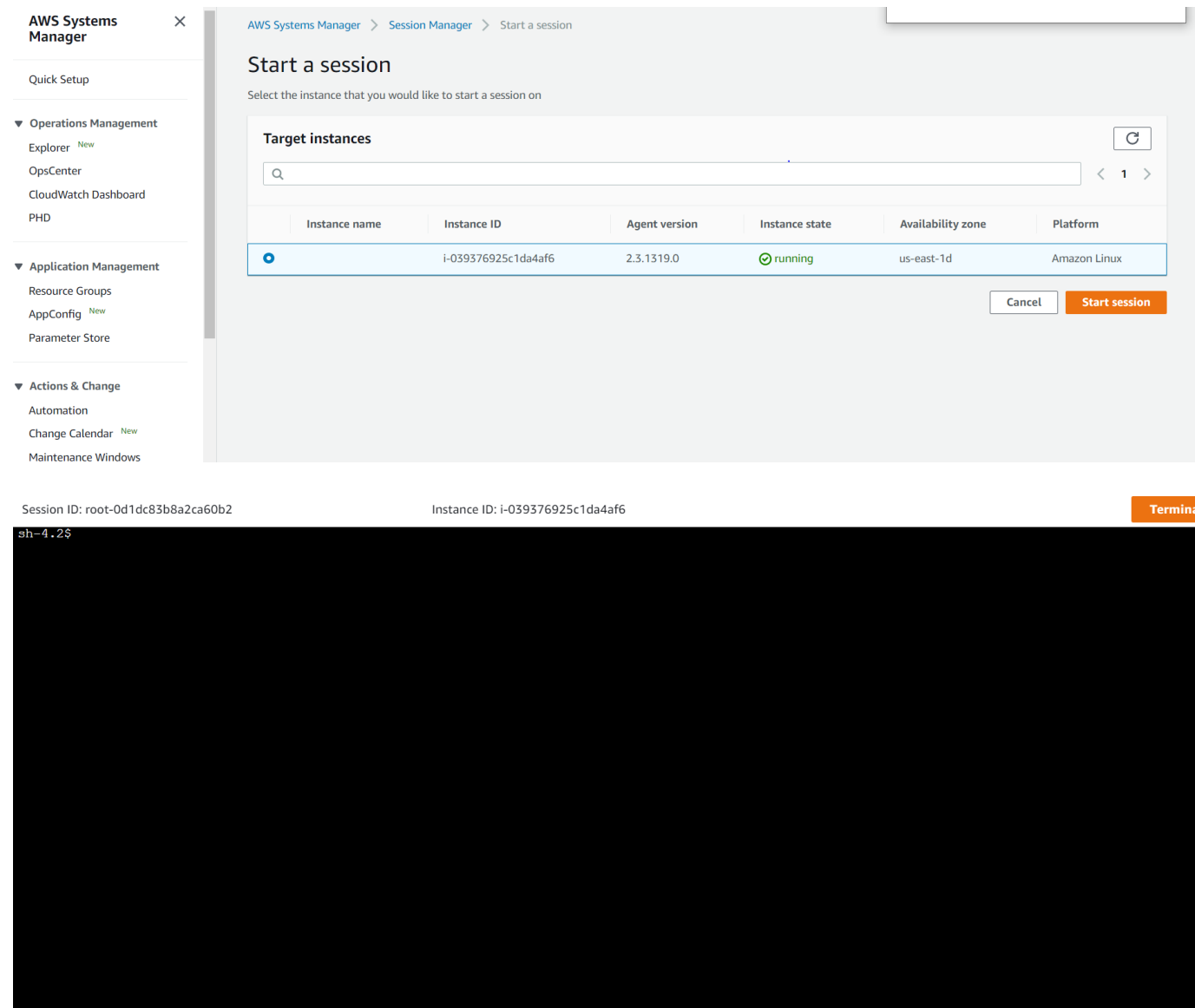
Select the type of command that you want to run.

|                                  | Name                                            | Owner  | Platform types |
|----------------------------------|-------------------------------------------------|--------|----------------|
| <input type="radio"/>            | <a href="#">AWS-RunDocument</a>                 | Amazon | Windows, Linux |
| <input type="radio"/>            | <a href="#">AWS-RunInspectionChecks</a>         | Amazon | Windows, Linux |
| <input type="radio"/>            | <a href="#">AWS-RunPatchBaseline</a>            | Amazon | Windows, Linux |
| <input type="radio"/>            | <a href="#">AWS-RunPatchBaselineAssociation</a> | Amazon | Windows, Linux |
| <input type="radio"/>            | <a href="#">AWS-RunPowerShellScript</a>         | Amazon | Windows, Linux |
| <input type="radio"/>            | <a href="#">AWS-RunRemoteScript</a>             | Amazon | Windows, Linux |
| <input type="radio"/>            | <a href="#">AWS-RunSaltState</a>                | Amazon | Linux          |
| <input checked="" type="radio"/> | <a href="#">AWS-RunShellScript</a>              | Amazon | Linux          |



Session manager

- Session manager lets us spawn a console shell for the managed instaces without having to logging into them .
- Navigate to session manager and click on start session
- select the target instance and click on start session .



## Patch-manager

- a. patch baseline - Which patches are approved for installation on your instances.
- b. Patch group - Organise group of instances for patching
  - use EC2 tags to define the same Key - Patch Group Value - anyvalue
- c. Approval rules - Defines which pathaces should be automatically be approved and installed
- AWS provides default patch groups for various OS .
- Navigate to patch manager in ssm .
- Select view Patch baselines

# Patch baselines

View details

Edit

Delete

Actions ▾

Create patch baseline

<

1

2

>

⚙

|                                  | Baseline ID                          | Baseline name                         | Description                                                                                                                                                                                                                 | Operating system | Default baseline |
|----------------------------------|--------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
| <input type="radio"/>            | <a href="#">pb-03e3f588eec25344c</a> | AWS-CentOSDefaultPatchBaseline        | Default Patch Baseline for CentOS Provided by AWS.                                                                                                                                                                          | CentOS           | ✔ Yes            |
| <input type="radio"/>            | <a href="#">pb-06bff38e95fe85c02</a> | AWS-OracleLinuxDefaultPatchBaseline   | Default Patch Baseline for Oracle Linux Server Provided by AWS.                                                                                                                                                             | Oracle Linux     | ✔ Yes            |
| <input type="radio"/>            | <a href="#">pb-07d8884178197b66b</a> | AWS-SuseDefaultPatchBaseline          | Default Patch Baseline for Suse Provided by AWS.                                                                                                                                                                            | SUSE             | ✔ Yes            |
| <input type="radio"/>            | <a href="#">pb-096d816473f2bdb03</a> | AWS-WindowsPredefinedPatchBaseline-OS | Approves all Windows Server operating system patches that are classified as CriticalUpdates or SecurityUpdates and that have an MSRC severity of Critical or Important. Patches are auto-approved seven days after release. | Windows          | ✘ No             |
| <input type="radio"/>            | <a href="#">pb-09a5f8eb62bde80b1</a> | AWS-DebianDefaultPatchBaseline        | Default Patch Baseline for Debian Provided by AWS.                                                                                                                                                                          | Debian           | ✔ Yes            |
| <input type="radio"/>            | <a href="#">pb-09ca3fb51f0412ec3</a> | AWS-DefaultPatchBaseline              | Default Patch Baseline Provided by AWS.                                                                                                                                                                                     | Windows          | ✔ Yes            |
| <input checked="" type="radio"/> | <a href="#">pb-0be8c61cde3be63f3</a> | AWS-AmazonLinux2DefaultPatchBaseline  | Default Patch Baseline for Amazon Linux 2 Provided by AWS.                                                                                                                                                                  | Amazon Linux 2   | ✔ Yes            |
| <input type="radio"/>            | <a href="#">pb-0c10e657807c7a700</a> | AWS-AmazonLinuxDefaultPatchBaseline   | Default Patch Baseline for Amazon Linux Provided by AWS.                                                                                                                                                                    | Amazon Linux     | ✔ Yes            |

- Select one for amazon linux 2 , go to actions and click on modify patch group.

- Mention the tag value and click on save .

The screenshot shows the 'Modify patch groups' dialog in the AWS Systems Manager console. The breadcrumb trail is 'AWS Systems Manager > Patch Manager > Baseline ID: pb-0be8c61cde3be63f3 > Modify patch groups'. The title is 'Modify patch groups'. Below the title, it says 'Patch groups' and 'You can create up to 25 tag values to define patch groups for this patch baseline. Tag keys are automatically named Patch Group. [Learn more](#)'. The dialog contains the following fields:

- Baseline ID:** arn:aws:ssm:us-east-1:075727635805:patchbaseline/pb-0be8c61cde3be63f3
- Baseline name:** AWS-AmazonLinux2DefaultPatchBaseline
- Baseline description:** Default Patch Baseline for Amazon Linux 2 Provided by AWS.
- Patch groups:** A text input field with an 'Add' button next to it.

Below the input field, it says 'Patch group values can consist of up to 256 letters, numbers, and the following characters: . \_ + @ / - + :'. There is a tag 'Production' with a close button (X) next to it. At the bottom right, there is a 'Close' button.

- We can repeat the above action for Windows instance as well, we just have to change the patch baseline and use the default windows baseline
- Click on configure patching in the patch baselines dashboard
- Select the patch group from the Instance tags box

The screenshot shows the 'Configure patching' page in the AWS Systems Manager console. The breadcrumb trail is 'AWS Systems Manager > Patch Manager > Configure patching'. The title is 'Configure patching'. The page is divided into two main sections:

- Instances to patch:**
  - How do you want to select instances?**
    - ☐ Enter instance tags
    - ☒ Select a patch group
    - ☐ Select instances manually
  - Patch groups:** Specify one or more patch groups to identify the instances you want to patch. There is a dropdown menu with 'Select patch group' and a refresh button (G). A tag 'UAT' with a close button (X) is shown below.
- Patching schedule:**
  - How do you want to specify a patching schedule?**
    - ☒ Select an existing Maintenance Window
    - ☐ Schedule in a new Maintenance Window
    - ☐ Skip scheduling and patch instances now

On the left side, there is a sidebar with the 'AWS Systems Manager' logo and a navigation menu with sections: 'Quick Setup', 'Operations Management' (Explorer, OpsCenter, CloudWatch Dashboard, PHD), 'Application Management' (Resource Groups, AppConfig, Parameter Store), and 'Actions & Change' (Automation, Change Calendar, Maintenance Windows).

- In patching schedule , we can use existing patching window , create a new window using cron expressions or we can patch the instances on demand by selecting skip scheduling .

**AWS Systems Manager** ✕

Quick Setup

**Operations Management**

- Explorer New
- OpsCenter
- CloudWatch Dashboard
- PHD

**Application Management**

- Resource Groups
- AppConfig New
- Parameter Store

**Actions & Change**

- Automation
- Change Calendar New
- Maintenance Windows

How do you want to specify a patching schedule?

- ☐ Select an existing Maintenance Window
- ☒ Schedule in a new Maintenance Window
- ☐ Skip scheduling and patch instances now

How do you want to specify a Maintenance Window schedule?

- ☒ Use a CRON schedule builder
- ☐ Use rate schedule builder
- ☐ Enter a CRON/Rate expression

Maintenance Window run frequency

- ☒ Every 12 hours
- ☐ Every  at

Maintenance Window duration

Maximum number of hours to allow a Maintenance Window to run.

Enter a number between 1 and 24

Maintenance Window name

Enter a name between 3 and 128 characters. Valid characters include: a-z, A-Z, 0-9, and \_-

**Patching operation**

- In the upper part of the screen we can click on View details to see the output
- We can also create our own patch baseline based on operating system and application .