



AWS
re:Start
LAB

Using AWS Systems Manager



WEEK 8





Overview

AWS Systems Manager is a collection of capabilities that you can use to centralize operational data and automate tasks across your Amazon Web Services (AWS) resources. Systems Manager can configure and manage Amazon Elastic Compute Cloud (Amazon EC2) instances, on-premises servers, virtual machines, and other AWS resources at scale.

AWS Systems Manager is a comprehensive management service that enables you to automate operational tasks across your AWS resources. It ensures your configurations and permissions are correct and compliant, facilitates running tasks on multiple servers simultaneously, and streamlines the process of updating application settings or configurations. With Systems Manager, you can also securely access the command line of instances without needing direct SSH access, enhancing both security and efficiency in managing and maintaining your AWS infrastructure. This powerful service simplifies complex management tasks, ensuring your applications run smoothly and securely across your cloud environment.

Topics covered

- Verify configurations and permissions.
- Run tasks on multiple servers.
- Update application settings or configurations.
- Access the command line on an instance.

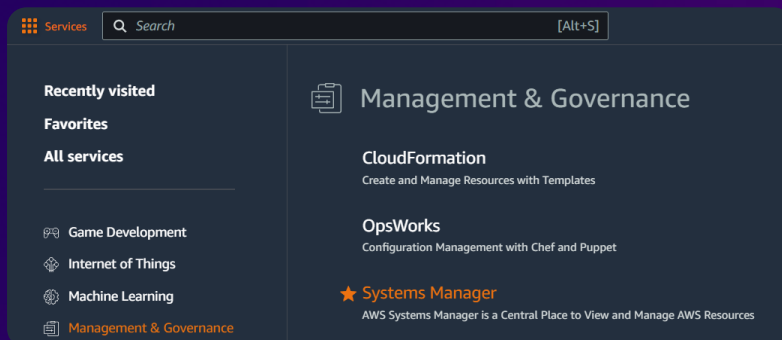


Task 1

Generate inventory lists for managed instances

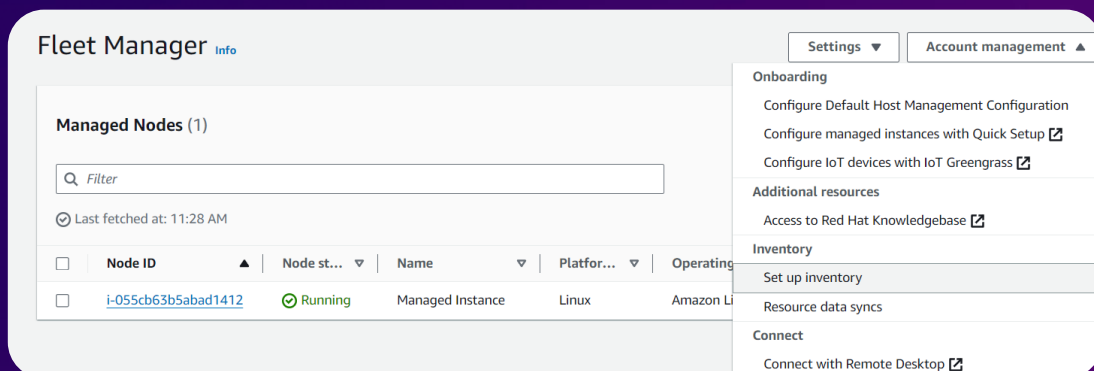
Step 1: Access the Systems Manager

Open the AWS Management Console, and select Systems Manager.



Step 2: Set up inventory

Navigate to the **Fleet Manager** section, choose the **Account management** dropdown list, and choose **Set up inventory**.





Task 1

Generate inventory lists for managed instances

Step 3: Provide inventory details

In the **Provide inventory details** section, for **Name**, enter [Inventory-Association](#).

Provide inventory details

Name - *Optional*

Inventory-Association

Provide a name for your Inventory.

Step 4: Targets

In the **Targets** section, for **Specify targets by**, choose [Manually selecting instances](#), and select the row for [Managed Instance](#).

Targets

Specify targets by

Selecting all managed instances in this account

Specifying a tag

Manually selecting instances

i-055cb63b5abad1412

X

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Availability zone	Platform type
<input checked="" type="checkbox"/>	Managed Instance	i-055cb63b5abad1412	running	us-west-2a	Linux



Task 1

Generate inventory lists for managed instances

Step 5: Node Overview

Choose the **Node ID** link, which directs you to the **Node overview**, and choose the **Inventory** tab.

Managed Instance Running

General

▼ Properties

General

Tags

Inventory

General

Node ID

i-055cb63b5abad1412 [🔗](#)

Platform type

Linux

Name

Managed Instance

Availability zone

us-west-2a

Step 6: Review Inventory

The **Inventory** tab lists all of the applications in the instance. Review the installed applications and other options.

Inventory

Inventory type

AWS:Application

AWS:Application (456)

Q Filter

< 1 2 3 4 5 6 7 ... 46 > ⚙️

Name	Application Type	Publisher	Version	Release	Epoch	Installed Time	Arch
libpipeline	Development/Libraries	Amazon Linux	1.2.3	3.amzn2.0.2	-	2024-05-03T23:44:32Z	x86_
publicsuffix-list-dafsa	Unspecified	Amazon Linux	20240208	1.amzn2.0.1	-	2024-05-03T23:44:23Z	noar
libsemanage	System Environment/Libraries	Amazon Linux	2.5	11.amzn2	-	2024-05-03T23:44:32Z	x86_



Task 2

Install a Custom Application using Run Command

Step 1: Run command

Navigate to the **Run Command** section, and select [Run command](#).

Commands ↻ View details Cancel command Rerun Copy to new Run command

Command ID

Status

Requested date

Document name

Comment

targets

error

delivery timed out

completed

No commands are executing.

Step 2: Command document

In the **Command document** section, choose the following options.

Command document
Select the type of command that you want to run.

Owner: Owned by me ✕

Clear filters

Name

Owner

Platform types

c117085a2790254l6719405t1w058264478968-InstallDashboardApp-gnGALpellhFW [🔗](#)

058264478968

Linux, MacOS

Description
Install Dashboard App

Document version
Choose the document version you want to run.

1 (Default)

▼



Task 2

Install a Custom Application using Run Command

Step 3: Target selection

In the **Target selection** section, select **Choose instances manually**, and select the row for **Managed Instance**.

Target selection

Target selection
Choose a method for selecting targets.

☐ Specify instance tags
Specify one or more tag key-value pairs to select instances that share those tags.

☒ Choose instances manually
Manually select the instances you want to register as targets.

☐ Choose a resource group
Choose a resource group that includes the resources you want to target.

i-055cb63b5abad1412 X

Instances

< 1 >

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Availability zone	Platform type
<input checked="" type="checkbox"/>	Managed Instance	i-055cb63b5abad1412	running	us-west-2a	Linux

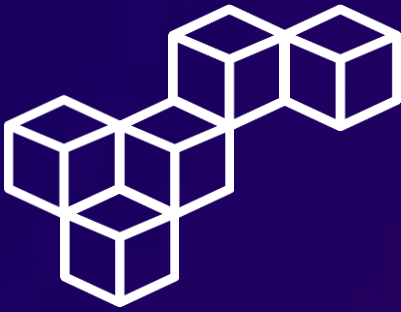
Step 4: Output options

In the **Output options** section, **clear** Enable an S3 bucket.

▼ Output options

Write command output to an Amazon S3 bucket
Write all command output to an Amazon S3 bucket. Command output in the console is truncated after 24,000 characters.

☐ Enable an S3 bucket



Task 2

Install a Custom Application using Run Command

Step 5: AWS command line interface command

This section displays the command line interface (CLI) command that initiates Run Command.

▼ AWS command line interface command

You can perform the same actions on this page by using the AWS Command Line Interface (CLI) tools. [Learn more about the AWS CLI tools](#)

Platform

Choose the platform from which you'll be running this command. The command parameters may be specified differently depending on the platform. [Learn more about specifying parameter values.](#)

Linux/Unix/OS X ▼

CLI command

If you're using the AWS CLI tools, you can copy and paste this command - which includes the parameters you specified on this page - into your command line prompt or terminal. [Learn more about the available AWS CLI commands.](#)

```
aws ssm send-command --document-name "c117085a279025416719405t1w058264478968-InstallDashboardApp-gnGALpeIhFW" --document-version "1" --targets '[{"Key":"InstanceIds","Values":["i-055cb63b5abad1412"]}]' --parameters '{}' --timeout-seconds 600 --max-concurrency "50" --max-errors "0" --region us-west-2
```

Step 6: The Command ID page

After you choose **Run**, the Command ID page will display the **Command status** as In Progress.

Command ID: 38c87807-9e2f-4295-a3c5-e2992e3d6adb

↻

Cancel command

Rerun

Copy to new

Command status

Overall status	Detailed status	# targets	# completed	# error	# delivery timed out
🔄 In Progress	🔄 In Progress	1	0	0	0



Task 2

Install a Custom Application using Run Command

Step 7: Review Command status

After a moment, the **Command status** will change to **Success**.

Command ID: 38c87807-9e2f-4295-a3c5-e2992e3d6adb

↻

Cancel command

Rerun

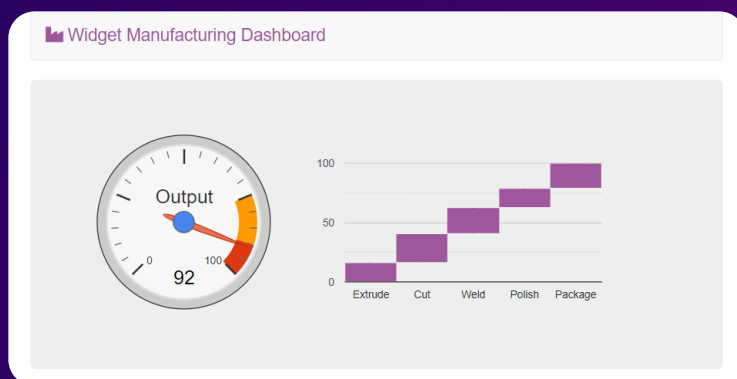
Copy to new

Command status

Overall status	Detailed status	# targets	# completed	# error	# delivery timed out
✔ Success	✔ Success	1	1	0	0

Step 8: Validate Application installation

Validate that the custom application was installed. The Widget Manufacturing Dashboard that you installed appears.



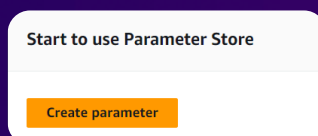


Task 3

Use Parameter Store to manage application settings

Step 1: Create parameter

Navigate to the **Parameter Store** section and select [Create parameter](#).



Step 2: Parameter details

In the **Parameter details** section, choose the following options.

A screenshot of a "Parameter details" form. It has three input fields: "Name" with the value "/dashboard/show-beta-features", "Description — Optional" with the value "Display beta features", and "Value" with the value "True". Each field has a small icon (magnifying glass, X, and pencil respectively) to its right.

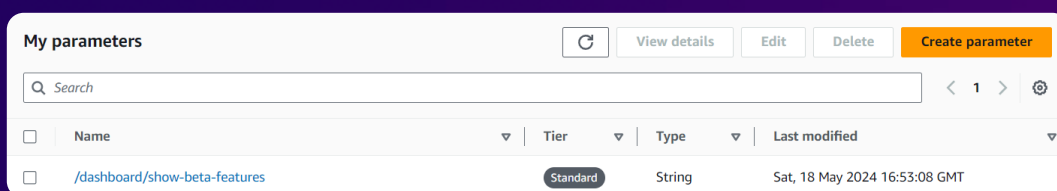


Task 3

Use Parameter Store to manage application settings

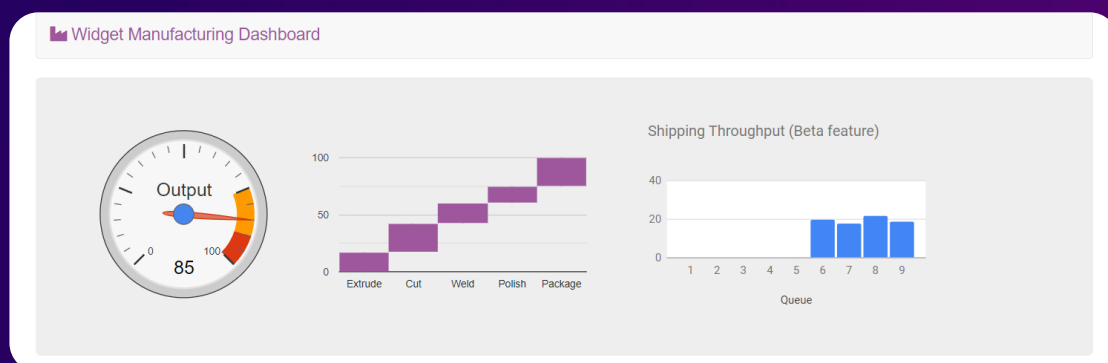
Step 3: Review parameters

In the **My parameters** section, review parameter creation.



Step 4: Review additional application features

Notice that three charts are displayed. The application is now checking Parameter Store to determine whether the additional chart (which is still in beta) should be displayed.



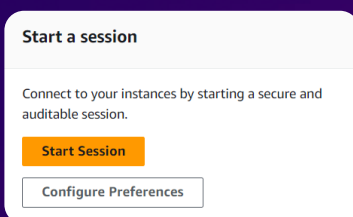


Task 4

Use Session Manager to access instances

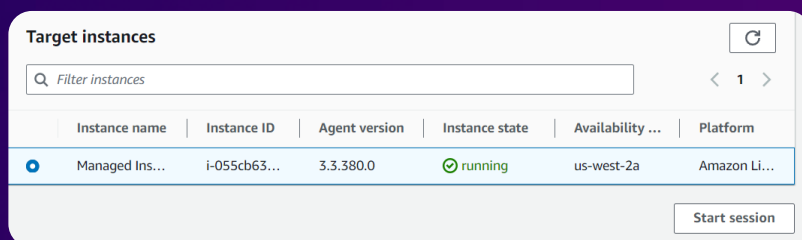
Step 1: Start Session

Navigate to the **Session Manager** section and select [Start Session](#).



Step 2: Target instances

In the **Target instances** section, select [Managed Instance](#) and choose [Start session](#).





Task 4

Use Session Manager to access instances

Step 3: List application files

Run the following command to list the application files that were installed on the instance.

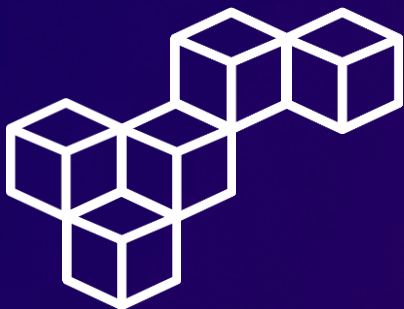
```
sh-4.2$ ls /var/www/html
Aws           JmesPath     Psr           css           info.php
CHANGELOG.md  LICENSE.md   README.md     get-parameters.php  make_zip.sh
GuzzleHttp    NOTICE.md   aws-autoloader.php  index.php      style.css
sh-4.2$
```

Step 4: List EC2 instance details

Run the following command to list the EC2 instance details for the **Managed Instance** in JSON format.

```
sh-4.2$ # Get region
sh-4.2$ AZ=$(curl -s http://169.254.169.254/latest/meta-data/placement/availability-zone)
sh-4.2$ export AWS_DEFAULT_REGION=${AZ::-1}
sh-4.2$ # List information about EC2 instances
sh-4.2$ aws ec2 describe-instances
{
  "Reservations": [
    {
      "Instances": [
        {
          "Monitoring": {
            "State": "disabled"
          },
          "PublicDnsName": "ec2-52-32-78-231.us-west-2.compute.amazonaws.com",
          "State": {
            "Code": 16,
            "Name": "running"
          },
          "EbsOptimized": false,
          "LaunchTime": "2024-05-18T16:24:09.000Z",
          "PublicIpAddress": "52.32.78.231",
          "PrivateIpAddress": "10.0.0.226",
          "ProductCodes": [],
          "VpcId": "vpc-0737a0521b3b2419e",
          "CpuOptions": {
            "CoreCount": 1,
            "ThreadsPerCore": 2
          },
          "StateTransitionReason": "",
          "InstanceId": "i-055cb63b5abad1412",
          "EnaSupport": true,
          "ImageId": "ami-060aed23281407591",
          "PrivateDnsName": "ip-10-0-0-226.us-west-2.compute.internal",

```



Conclusions

Systems Manager

Systems Manager streamlines AWS resource management by automating operational tasks and enhancing security.

Fleet Manager

Fleet Manager simplifies the centralized management and monitoring of your servers, both on-premises and in the cloud.

Inventory

Inventory provides detailed visibility into your AWS resource configurations, aiding compliance and auditing.

Run Command

Run Command enables efficient execution of tasks across multiple instances without SSH, simplifying operations.

Parameter Store

Parameter Store securely manages configuration data and secrets, ensuring consistent application settings.

Session Manager

Session Manager offers secure, auditable access to instance command lines without the need for SSH keys.



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