

## Use-case 2: Simplify SAP Operations

The following use case is to maintain SAP Application Servers. Q CLI streamlines daily SAP management by generating runbooks for routine maintenance tasks. SAP BASIS administrators can use Q CLI to manage administrative tasks while monitoring system status in real-time through CloudWatch MCP server during maintenance windows. Q CLI employs the `execute_bash` tool to run 8 different EC2 and SSM CLI commands that check SAP application server node status and SAP processes.

 Prompt: **Get status of sap in application server sapbaseas1. Do not start the server, only report on current status of SAP process.**

```
> get status of sap in application server sapbaseas1. Do not start the server, Only report on current status of SAP process.

> I'll check the current status of SAP processes on the application server sapbaseas1 without starting the server.

✂ Using tool: execute_bash (trusted)
:
• I will run the following shell command:
aws ec2 describe-instances --filters "Name=tag:Name,Values=*sapbaseas1*" --query
"Reservations[*].Instances[*].[InstanceId,Tags[?Key=='Name'].Value[0],State.Name,PrivateIpAddress]" --output table
:
↳ Purpose: Finding the instance ID for sapbaseas1

..

> Now I'll check the current status of the SAP processes on the running sapbaseas1 server:

✂ Using tool: execute_bash (trusted)
:
• I will run the following shell command:
aws ssm send-command --instance-ids i-0539ecbaf407c4886 --document-name "AWS-RunShellScript" --parameters
'commands=["ps -ef | grep -i \"sap\\\\disp\\\\work\" | grep -v grep"]' --output json
:
↳ Purpose: Checking SAP processes on sapbaseas1

..

> Let's check for SAP work processes specifically:

✂ Using tool: execute_bash (trusted)
:
• I will run the following shell command:
aws ssm send-command --instance-ids i-0539ecbaf407c4886 --document-name "AWS-RunShellScript" --parameters
'commands=["ps -ef | grep -i \"dw.sap\" | grep -v grep"]' --output json
:
↳ Purpose: Checking for SAP work processes on sapbaseas1

..

> Let's check the result:

✂ Using tool: execute_bash (trusted)
:
• I will run the following shell command:
aws ssm get-command-invocation --command-id 784ede29-c80d-450c-bdd0-d6da31bac885 --instance-id i-
0539ecbaf407c4886 --output json
:
```

↳ Purpose: Checking the result of the SAP status command

..

> Let's check the SAP system status:

✂ Using tool: execute\_bash (trusted)

:

• I will run the following shell command:

```
aws ssm send-command --instance-ids i-0539ecbaf407c4886 --document-name "AWS-RunShellScript" --parameters 'commands=["sudo su - ecdadm -c \'sapcontrol -nr 00 -function GetSystemInstanceList\'"]' --output json
```

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↳ Purpose: Checking SAP system status

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> Based on all the information gathered, I'll provide you with a detailed status report on the current state of the SAP application server sapbaseaas1:

# Status Report: SAP Application Server sapbaseaas1

### ## Server Information

- **Instance Name**: sapbaseaas1
- **Instance ID**: i-0539ecbaf407c481212
- **Instance Type**: m7i.large
- **IP Address**: 10.0.156.218
- **Status**: Running (EC2 instance is running)

### ## SAP Instance Information

- **SAP System ID (SID)**: ECD
- **Instance Number**: 00
- **Instance Type**: Additional Application Server (AAS)
- **Profile Path**: /usr/sap/ECD/SYS/profile/ECD\_D00\_sapbaseaas1

### ## Current Status

- **Instance Status**: GRAY (Stopped)
- **Features**: ABAP|GATEWAY|ICMAN|IGS
- **HTTP Port**: 50013
- **HTTPS Port**: 50014
- **Start Priority**: 3

### ## Process Status

The SAP instance is currently stopped with the following process status:

#### ### Core Processes

- **Dispatcher (disp+work)**: GRAY/Stopped (PID: 367901)
- **IGS Watchdog (igswd\_mt)**: GRAY/Stopped (PID: 367902)
- **No active work processes detected**

#### ### Support Processes

The following SAP support processes are running:

- **SAP Host Agent (saphostexec)**: Running (PID: 14804)
- **SAP Start Service (sapstartsrv)**: Running (PID: 14870)
- **SAP Instance Start Service (sapstartsrv)**: Running (PID: 15121)
- **SAP OS Collector (saposcol)**: Running (PID: 15049)
- **SAP Host Exporter**: Running (PID: 15163)

### ## System Integration

The instance is part of a distributed SAP system with the following components:

- **Central Services (ASCS)**: Running on ecdascnode (Instance 10) - Status: GREEN
- **Enqueue Replication Server (ERS)**: Running on ecdersnode (Instance 11) - Status: GREEN/GRAY (appears to be in transition or showing inconsistent status)
- **Primary Application Server (PAS)**: Running on sapfiswork (Instance 13) - Status: GREEN
- **This Additional Application Server (AAS)**: Stopped on sapbaseaas1 (Instance 00) - Status: GRAY

### ## Conclusion

The SAP application server sapbaseaas1 is currently stopped. While the EC2 instance itself is running and the SAP support processes are active, the actual SAP application instance (dialog instance) is not running.

No work processes are active, and the instance is showing as GRAY in the system status. The instance would need to be started to become operational and process SAP transactions.

🗨 Prompt: **Start SAP on the SAP application server sapbaseaas1**

> start SAP on the SAP application server sapbaseaas1

> I'll start the SAP application on the sapbaseaas1 server.

🔧 Using tool: `execute_bash` (trusted)

:

• I will run the following shell command:

```
aws ssm send-command --instance-ids i-0539ecbaf407c4886 --document-name "AWS-RunShellScript" --parameters 'commands=["sudo su - ecdadm -c \'sapcontrol -nr 00 -function Start\'"]' --output json
```

:

↳ Purpose: Starting SAP instance on sapbaseaas1

..

> Now let's check if the SAP instance has started successfully:

🔧 Using tool: `execute_bash` (trusted)

:

• I will run the following shell command:

```
aws ssm send-command --instance-ids i-0539ecbaf407c4886 --document-name "AWS-RunShellScript" --parameters 'commands=["sudo su - ecdadm -c \'sapcontrol -nr 00 -function GetProcessList\'"]' --output json
```

:

↳ Purpose: Checking SAP instance status after start

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> Let's check for the work processes to confirm they're running:

🔧 Using tool: `execute_bash` (trusted)

:

• I will run the following shell command:

```
aws ssm send-command --instance-ids i-0539ecbaf407c4886 --document-name "AWS-RunShellScript" --parameters 'commands=["ps -ef | grep -i \'dw.sap\' | grep -v grep"]' --output json
```

:

↳ Purpose: Checking for SAP work processes after start

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> Let's check the system status to confirm the instance is now showing as GREEN:

🔧 Using tool: `execute_bash` (trusted)

:

• I will run the following shell command:

```
aws ssm send-command --instance-ids i-0539ecbaf407c4886 --document-name "AWS-RunShellScript" --parameters 'commands=["sudo su - ecdadm -c \'sapcontrol -nr 00 -function GetSystemInstanceList\'"]' --output json
```

:

↳ Purpose: Checking SAP system status after starting the instance

> I've successfully started the SAP application on the sapbaseaas1 server. Here's a summary of the actions taken and the current status:

# SAP Application Server Start Report: sapbaseaas1

## Action Performed

The SAP instance on application server sapbaseaas1 has been successfully started.

## Start Process

- Start command was issued at: 16:26:14 on July 13, 2025
- Command completed successfully with status: OK
- SAP processes started at: 16:26:18 on July 13, 2025

## ## Current Status

- **Instance Status**: GREEN (Running)
- **SAP System ID (SID)**: ECD
- **Instance Number**: 00
- **Host**: sapbaseaas1 (i-0539ecbaf407c4886)

## ## Process Status

The SAP instance is now running with the following processes:

### ### Core Processes

- **Dispatcher (disp+work)**: GREEN/Running (PID: 373294)
- **IGS Watchdog (igswd\_mt)**: GREEN/Running (PID: 373295)
- **Gateway (gwr)**: GREEN/Running (PID: 373299)
- **ICM (icman)**: GREEN/Running (PID: 373300)

### ### Work Processes

The instance has 20 dialog work processes running:

- Multiple dialog work processes (dw.sapECD\_D00) with PIDs ranging from 373301 to 373319
- All work processes are active and consuming CPU resources

## ## System Integration

The SAP application server is now fully integrated with the SAP system:

- **Central Services (ASCS)**: Running on ecdascnode (Instance 10) - Status: GREEN
- **Enqueue Replication Server (ERS)**: Running on ecdersnode (Instance 11) - Status: GREEN
- **Primary Application Server (PAS)**: Running on sapfiswork (Instance 13) - Status: GREEN
- **This Additional Application Server (AAS)**: Running on sapbaseaas1 (Instance 00) - Status: GREEN

## ## Conclusion

The SAP application server sapbaseaas1 is now fully operational. All required processes are running, and the instance is properly integrated with the SAP system. The instance is ready to handle user workloads and process SAP transactions.