

What is AWS Systems Manager?

Overview

AWS Systems Manager is a comprehensive management service that provides a unified interface to view operational data and automate operational tasks across AWS, on-premises, and hybrid cloud environments. It centralizes infrastructure management at scale.

Core Capabilities

- **Automation:** Create and execute workflows for common IT operations
- **Run Command:** Remotely execute commands on instances at scale
- **Session Manager:** Secure shell access without SSH or bastion hosts
- **Patch Manager:** Automate OS and application patching
- **State Manager:** Maintain consistent instance configurations
- **Parameter Store:** Secure storage for configuration data and secrets
- **Inventory:** Collect metadata from managed instances
- **Maintenance Windows:** Schedule operational tasks

Automation Features

- Automate software patching and updates
- Schedule or trigger workflows by events
- Reduce human error with consistent automation
- Application deployment automation

- Instance provisioning and configuration
- Disaster recovery procedures

Security and Compliance

- **Session Manager:** No inbound ports, SSH keys, or bastion hosts needed
- **Audit Logging:** CloudTrail integration for all activities
- **Least Privilege:** IAM-based access control
- **Encryption:** Parameter Store supports KMS encryption
- **Compliance Scanning:** Check instances against policies
- **Configuration Drift:** Detect and prevent unauthorized changes

Patch Management

- Scan instances for missing patches automatically
- Apply security updates to Windows and Linux
- Patch baselines for auto-approving categories
- Maintenance windows for scheduled patching
- Compliance reporting for patch status

Hybrid Environment Support

- Manage AWS EC2 instances
- Manage on-premises servers
- Manage virtual machines in other clouds
- Unified management interface for all resources
- SSM Agent runs on all managed nodes

Operational Excellence: Systems Manager simplifies day-to-day operations by enabling organizations to define system configurations, prevent drift, maintain software compliance, and keep infrastructure secure at scale.