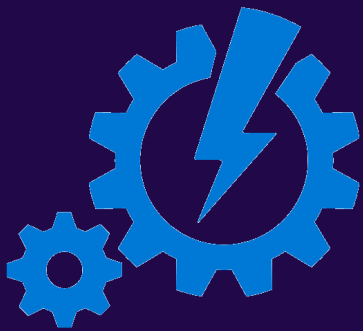
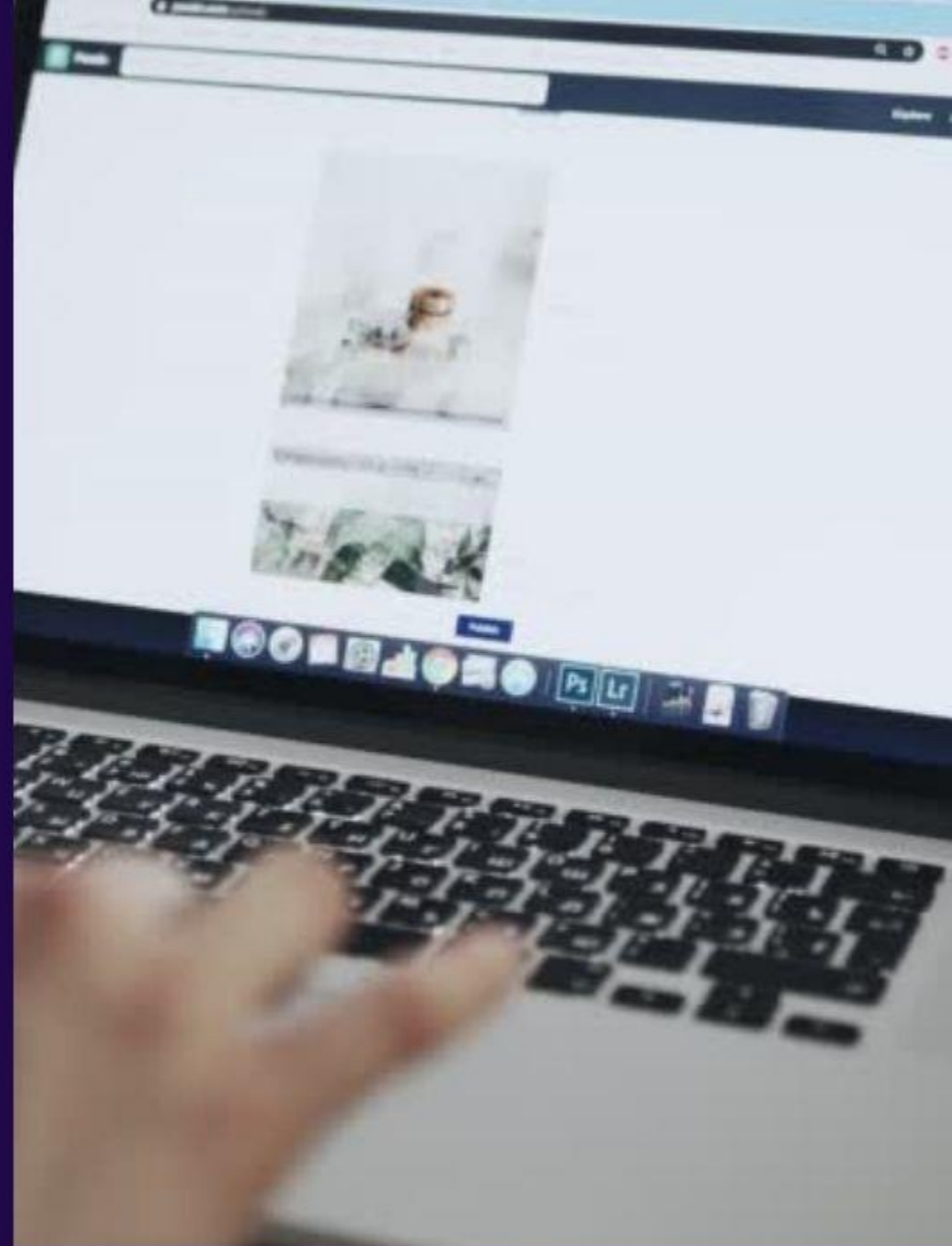


# AZURE PROCESS AUTOMATION

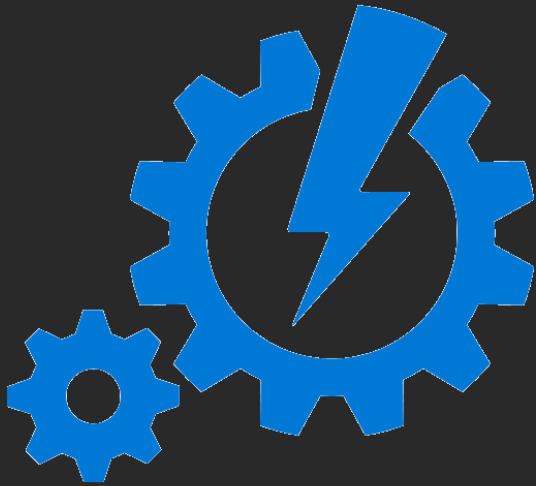


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Learning Microsoft Azure



# Azure Automation

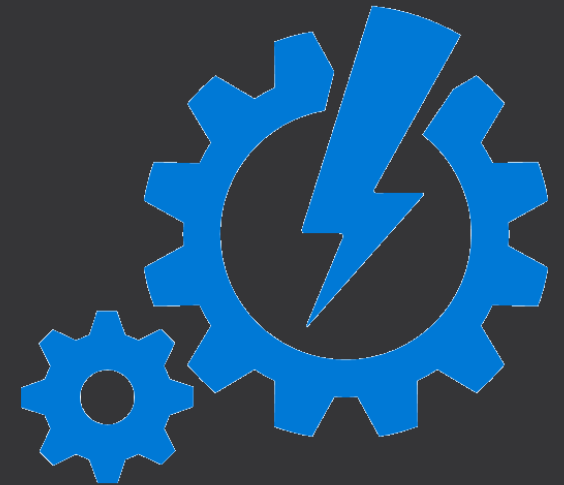


## Agenda

- Understand Repetitive Processes
- Introduction to Azure Automation
- What is Automation Runbook
- What is Process Automation
- Runbook Gallery
- Shared Resources
- Different Ways of Triggering Automation Runbook
- Publishing a Simple Automation Runbook

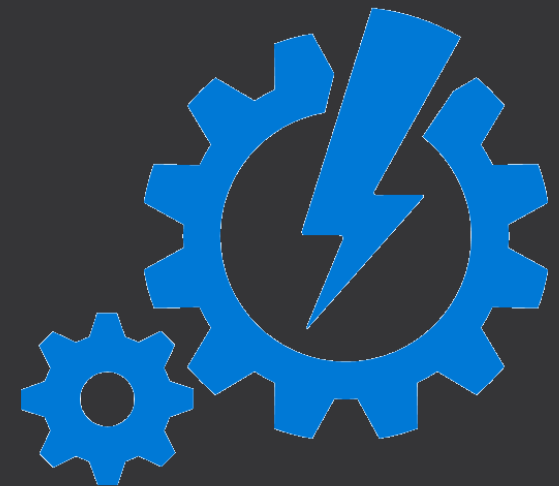
# Common Repetitive Processes

- ✓ Stop VMs at 7PM on Friday and Start VMs at 6AM on Monday
- ✓ Scale Up or Down VM Size based on load(Vertical Scaling)
- ✓ Execute SQL Query on Database and take other action
- ✓ Stop/Start App Services
- ✓ Custom Actions
- ✓ Create & Send Reports/Notifications



# Challenges

- Performing repetitive tasks manually is tedious and boring
- PowerShell Script can automate the task but still how to keep it running round the clock
- Managing Azure secrets is difficult inside a script
- Managing Authentication
- Modules/Dependencies Management for the automation scripts

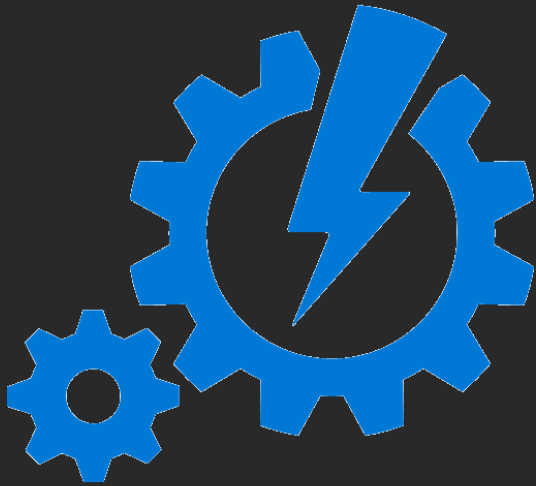


A wooden signpost stands against a bright blue sky filled with white, fluffy clouds. Two blue directional signs are mounted on the post. The top sign is an arrow pointing left and contains the word 'PROBLEM' in white, bold, sans-serif capital letters. The bottom sign is an arrow pointing right and contains the word 'SOLUTION' in white, bold, sans-serif capital letters. The signpost itself is made of weathered wood and has two visible screws holding each sign in place.

**PROBLEM**

**SOLUTION**

# Azure Automation



Azure Automation delivers a cloud-based automation and configuration service that supports consistent management across your Azure and non-Azure environments.

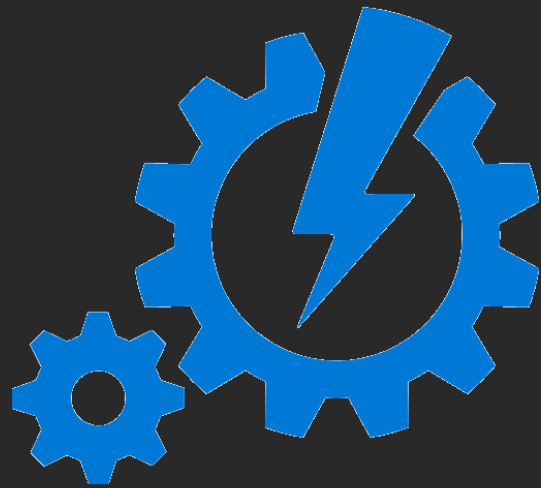
Azure Automations comprises of

- **Process Automation**
- **Configuration Management**
- **Update Management**

Automation gives you complete control during deployment, operations, and decommissioning of workloads and resources.

<https://docs.microsoft.com/en-us/azure/automation/automation-intro>

# Process Automation



## Practice Exercise

- 1.) List all resource groups in your subscription
- 2.) List down all resources with their types available in a resource group
- 3.) Start/Stop the VMs from a resource group.

Note: Read the resource group name from 'Variables'



# Common Scenarios



## Process Automation

Orchestrate processes using graphical, PowerShell, and Python runbooks



## Configuration Management

Collect inventory  
Track changes  
Configure desired state



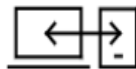
## Update Management

Assess compliance  
Schedule update installation



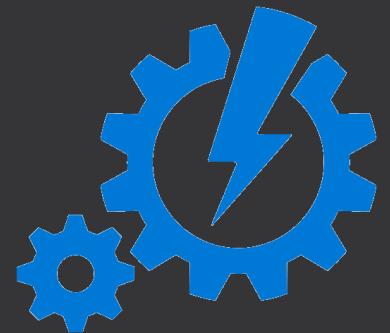
## Shared capabilities

Role based access control  
Secure, global store for variables, credentials, certificates, connections  
Flexible scheduling  
Shared modules  
Source control support  
Auditing  
Tags

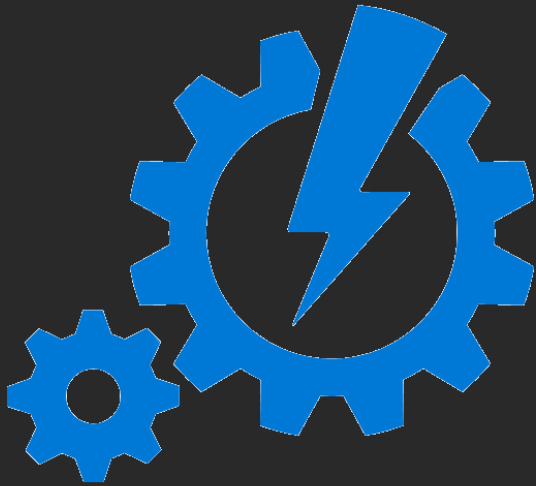


## Heterogenous

Windows & Linux  
Azure and on-premises



# Azure Automation



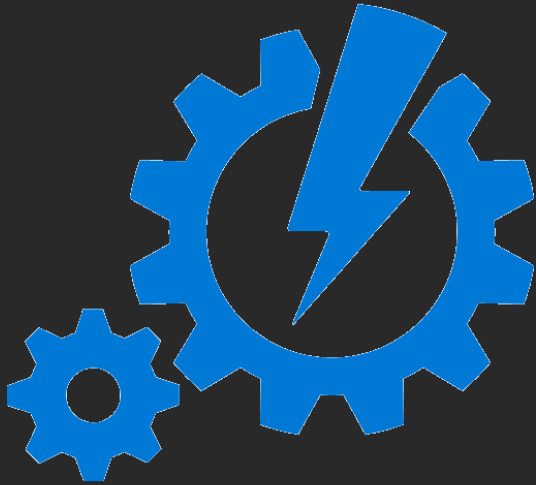
## **Process Automation**

Process Automation in Azure Automation allows you to automate frequent, time-consuming, and error-prone cloud management tasks.

This service helps you focus on work that adds business value. By reducing errors and boosting efficiency, it also helps to lower your operational costs.

<https://docs.microsoft.com/en-us/azure/automation/automation-runbook-execution>

# Azure Automation

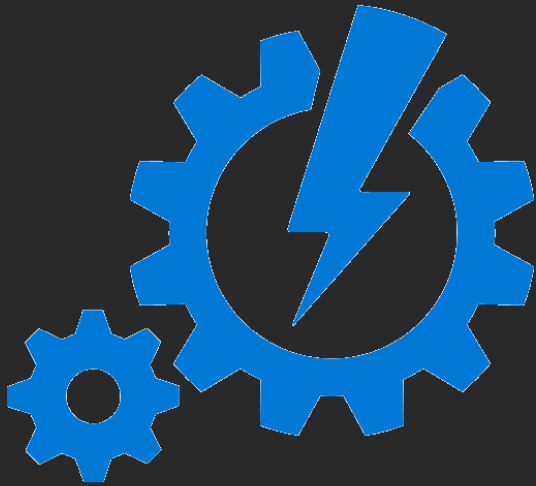


## Configuration Management

Configuration Management in Azure Automation allows access to two features:

- Change Tracking and Inventory
- Azure Automation State Configuration

# Azure Automation



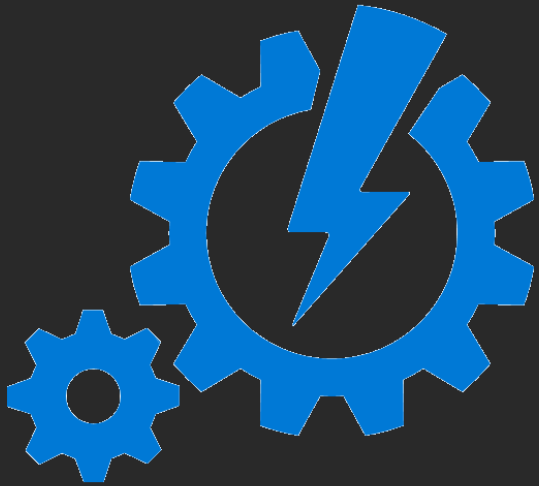
## Run As Account

Run As accounts in Azure Automation provide authentication for managing resources on the Azure Resource Manager or Azure Classic deployment model using Automation runbooks and other Automation features.

It has contributor access on the subscription.

<https://docs.microsoft.com/en-us/azure/automation/manage-runas-account>

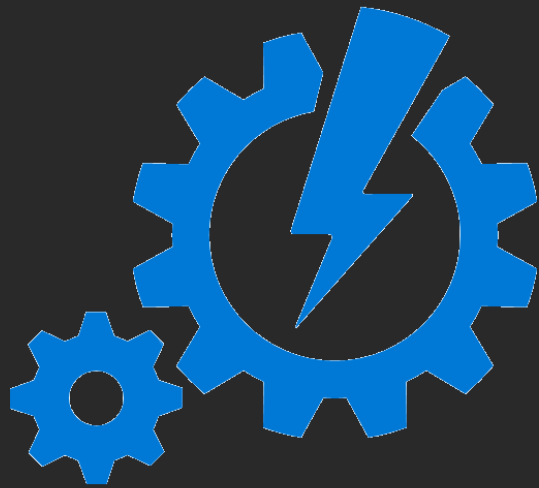
# Azure Automation



## Shared Resources

- Runbooks
- Modules
- Gallery
- Schedules
- Credentials + Connections + Certificates
- Variables

# Azure Automation

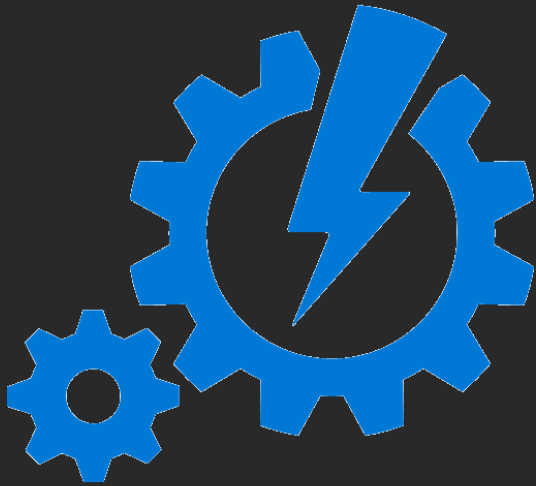


## Shared resources

Azure Automation consists of a set of shared resources that make it easier to automate and configure your environments at scale.

- **Schedules** - Trigger Automation operations at predefined times.
- **Modules** - Manage Azure and other systems. You can import modules into the Automation account for Microsoft, third-party, community, and custom-defined cmdlets and DSC resources.
- **Modules gallery** - Supports native integration with the PowerShell Gallery to let you view runbooks and import them into the Automation account. The gallery allows you to quickly get started integrating and authoring your processes from PowerShell gallery and Microsoft Script Center.
- **Python 2 packages** - Support Python 2 runbooks for your Automation account.
- **Credentials** - Securely store sensitive information that runbooks and configurations can use at runtime.
- **Connections** - Store name-value pairs of common information for connections to systems. The module author defines connections in runbooks and configurations for use at runtime.
- **Certificates** - Define information to be used in authentication and securing of deployed resources when accessed by runbooks or DSC configurations at runtime.
- **Variables** - Hold content that can be used across runbooks and configurations. You can change variable values without having to modify any of the runbooks or configurations that reference them.

# Azure Automation



## Start a runbook in Azure Automation

- ✓ Manual ( Azure Portal or PowerShell Command )
- ✓ Respond to Azure Alert
- ✓ Schedule Based
- ✓ Webhooks (By HTTP request )
- ✓ From Another Runbook

<https://docs.microsoft.com/en-us/azure/automation/start-runbooks>

Thank You

