Azure Automation & Runbooks

SYNERGETICS
Get IT Right

Microsoft Partner | Silver Learning
Gold Cloud Platform

Microsoft
Cloud Solution Provider
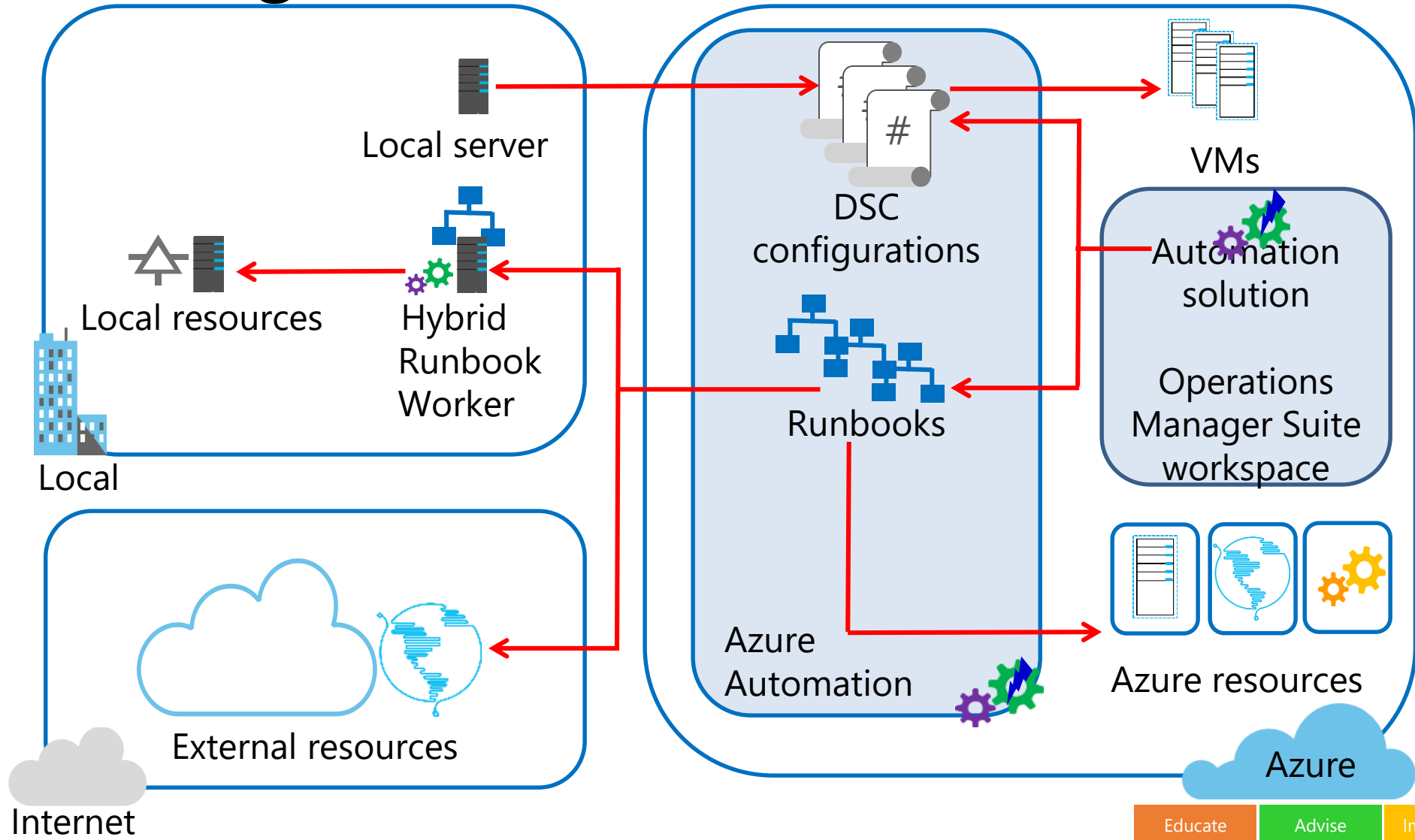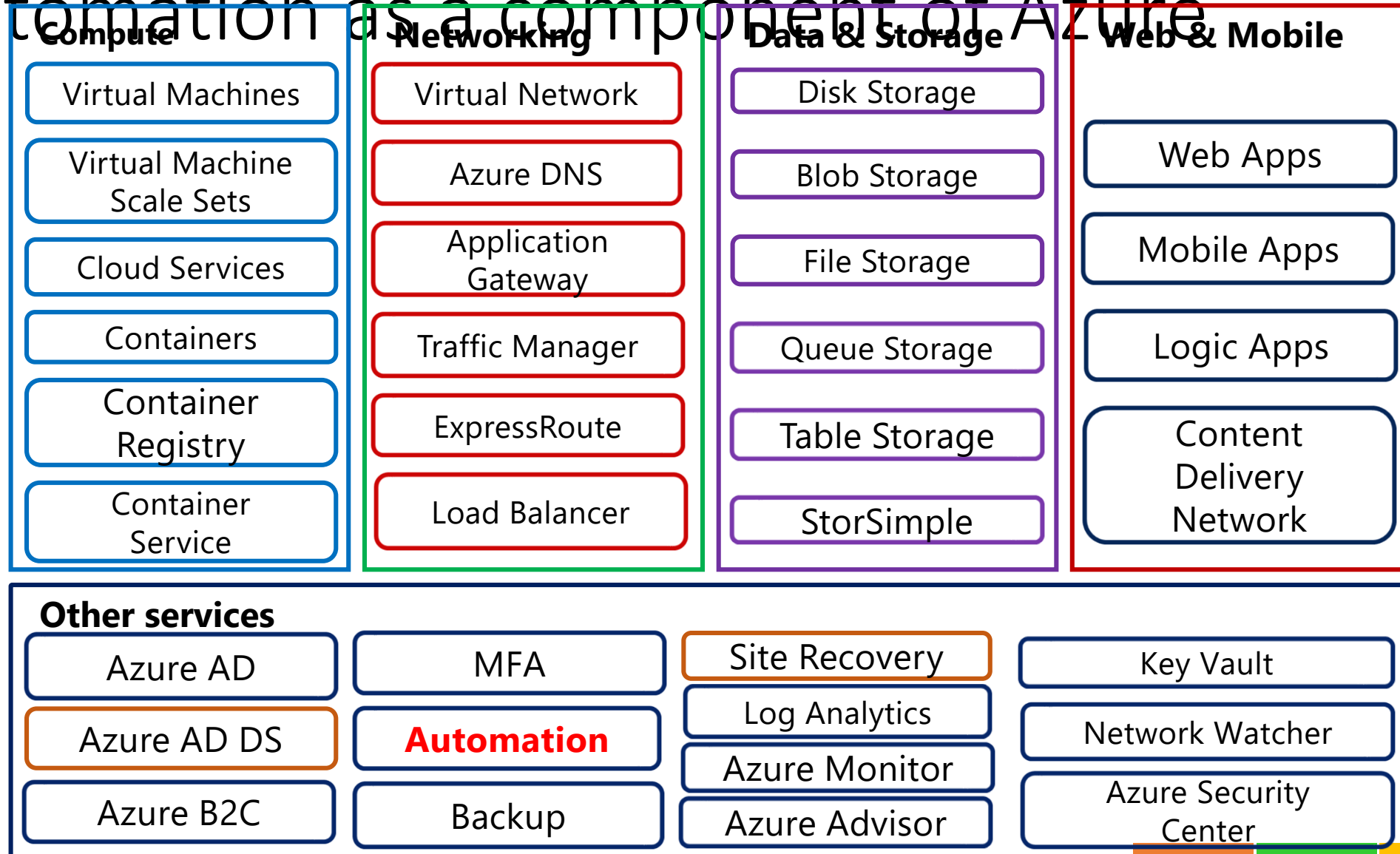
Implementing Automation

- Introducing Automation
- Automation as a component of Azure
- Creating Automation accounts and assets
- Using Automation runbooks on-premises
- Demonstration: Creating an Automation account and assets

Introducing Automation

Local server

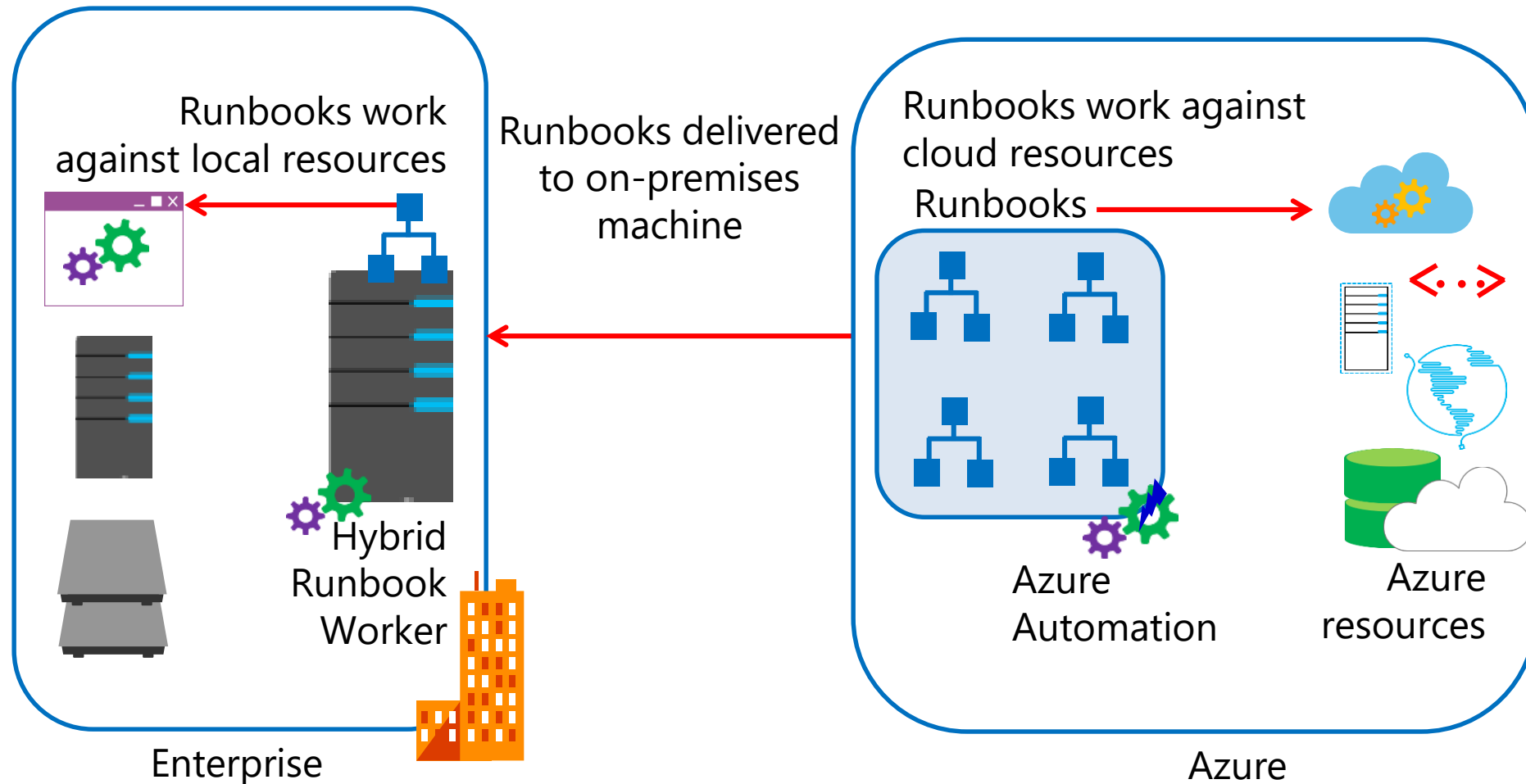Local resources

Local

Hybrid Runbook Worker

Internet

External resources

DSC configurations

Runbooks

Azure Automation

VMs

Automation solution

Operations Manager Suite workspace

Azure resources

Azure

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Automation as a component of Azure

Compute
- Virtual Machines
- Virtual Machine Scale Sets
- Cloud Services
- Containers
- Container Registry
- Container Service

Networking
- Virtual Network
- Azure DNS
- Application Gateway
- Traffic Manager
- ExpressRoute
- Load Balancer

Data & Storage
- Disk Storage
- Blob Storage
- File Storage
- Queue Storage
- Table Storage
- StorSimple

Web & Mobile
- Web Apps
- Mobile Apps
- Logic Apps
- Content Delivery Network

Other services
- Azure AD
- MFA
- Site Recovery
- Key Vault
- Azure AD DS
- **Automation**
- Log Analytics
- Network Watcher
- Azure B2C
- Backup
- Azure Monitor
- Azure Advisor
- Azure Security Center

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Creating Automation accounts and assets

- Create an Automation account by using:
  - Automation & Control from the Azure Marketplace
  - Automation service from the Azure Marketplace
  - Log Analytics management solutions
- Azure Automation shared resources are grouped into the following categories:
  - Modules
  - Schedules
  - Certificates
  - Connections
  - Variables
  - Credentials

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Using Automation runbooks on-premises

Runbooks work against local resources

Runbooks delivered to on-premises machine

Runbooks work against cloud resources

Runbooks

Hybrid Runbook Worker

Azure Automation

Azure resources

Enterprise

Azure

Demonstration: Creating an Automation account and assets

In this demonstration, you will see how to:

- Create an Automation account
- Create an Automation Variable asset
- Create an Automation Schedule asset

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Lesson 3: Implementing Automation runbooks

- Introduction to Automation runbooks
- Graphical authoring of Automation runbooks
- Overview of PowerShell workflows
- Textual authoring of PowerShell workflow runbooks
- Textual authoring of PowerShell runbooks
- Implementing Automation DSC
- Demonstration: Graphical authoring of Automation runbooks

Introduction to Automation runbooks

- Graphical runbooks:
  - Based on PowerShell workflows or PowerShell scripts
  - Edited by using the graphical editor in the Azure portal
- Textual runbooks:
  - Based on PowerShell workflows or PowerShell scripts
  - Edited by using the textual editor in the Azure portal or imported from workflows and scripts created on-premises
- Converting runbook types:
  - No support for converting between graphical and textual
  - Support for converting between graphical workflows and runbooks during import

Graphical authoring of Automation runbooks

Overview of PowerShell workflows

Workflows support:

- Long-running activities
- Repeatable activities
- Frequently executed activities
- Running activities in parallel across one or more machines
- Interruptible activities that you can stop and restart

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Textual authoring of PowerShell workflow runbooks

Workflow syntax/keywords:

- **Parallel**
- **Foreach –parallel**
- **Sequence**

- **InlineScript**
- **Checkpoint-workflow**
- **Suspend-workflow**

```
workflow test {
InlineScript { Code }
 parallel {
   Command A
   Command B
    sequence {
      Command C
      Command D
    }
  }
}
```

Textual authoring of PowerShell runbooks

To create Automation PowerShell scripts:

- Write code in textual editor
- Add PowerShell cmdlets from integration modules imported into the Automation account
- Reference Automation assets
- Add runbooks

Implementing Automation DSC

Configurations

Node configurations
(.mof configuration
documents)

Nodes

```
Configuration SharePoint {

  Node WebService {

    #Install the IIS Role
    WindowsFeature IIS {
    Ensure = "Present"
    Name – "Web-Server"
    }
    #Install ASP.NET 4.5
    WindowsFeature ASP {
    Ensure = "Present"
    Name – "Web-Asp-Net45"
    }
  }
}
```
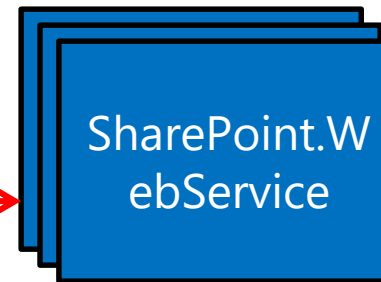
Compiled,
put on pull
server
via
compilation
jobs

SharePoint.W
ebService

Applied
via node pulls

One or more per
Automation account

One or more
per configuration
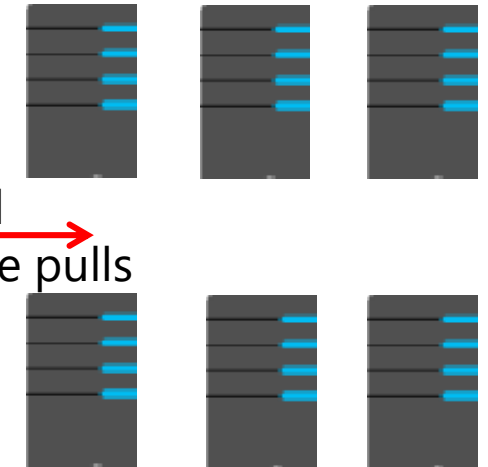
One or more
per node configuration

Demonstration: Graphical authoring of Automation runbooks

In this demonstration, you will see how to:

- Create a graphical Automation runbook
- Configure authentication in a graphical Automation runbook
- Add an activity to start a VM