



Red Hat
Ansible Automation
Platform

Automation for Windows

Yep, it's really happening.

AGENDA

Introductions

Maintaining Windows as a Code with Ansible

VSCode

Q&A

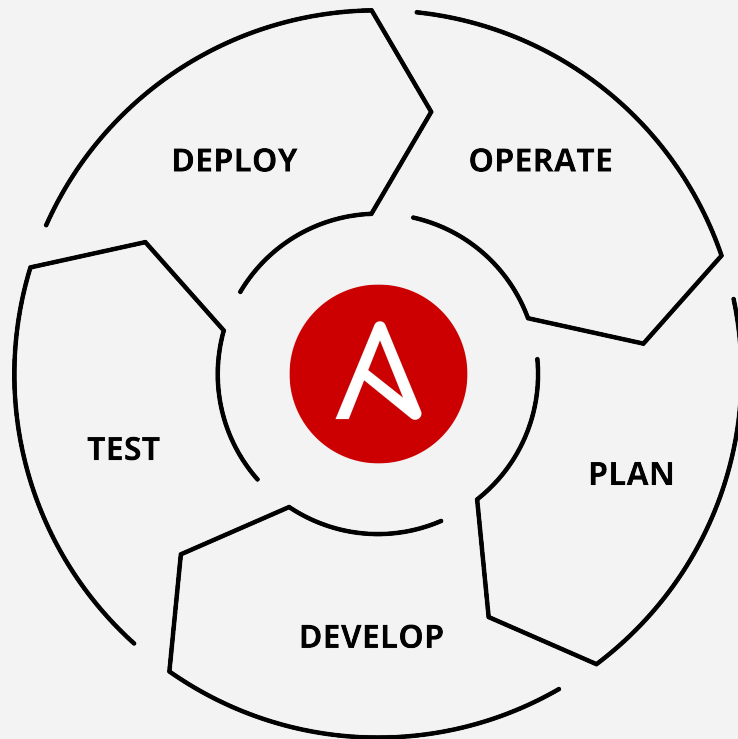


Introduction

```
---  
- name: Presenter Introduction  
  hosts: Ansible Meetup - Montreal  
  tasks:  
  - name: Presenter Details  
    intro:  
      name: Vijay Kakkar  
      email: vijay@redhat.com  
      bio: > Solutions Architect with over 14 years of experience  
           in designing & implementing Enterprise Solutions  
           using Open Source technologies.  
      location: Toronto
```

WHAT CAN I DO USING ANSIBLE FOR WINDOWS

Native Windows support uses PowerShell remoting to manage Windows in the same Ansible agentless way



- Install and uninstall MSIs
- Gather facts on Windows hosts
- Enable and disable Windows features
- Start, stop, and manage Windows Services
- Create and Manage local users and groups
- Manage Windows packages via [Chocolatey package manager](#)
- Manage and install Windows updates
- Fetch files from remote sites
- Push and execute any Powershell scripts

WINDOWS AUTOMATION

100+

Windows
Modules

1,300+

Powershell DSC
resources

ansible.com/windows

Windows modules

Ansible modules for Windows automation typically begin with win_*

win_copy - Copies files to remote locations on windows hosts

win_service - Manage and query Windows services

win_domain - Ensures the existence of a Windows domain

win_reboot - Reboot a windows machine

win_regedit - win_regedit - Add, change, or remove registry keys and values

win_ping - A windows version of the classic ping module

win_dsc - Invokes a PowerShell DSC configuration

win_acl - Set file/directory/registry permissions for a system user or group

Note: There are some cross-platform modules such as raw and script.

```
---
- name: start IIS/stop firewall
  hosts: windows-web
  become: yes
  tasks:

- name: IIS is running
  win_service:
    name: W3Svc
    state: running

- name: firewall service is stopped/disabled
  win_service:
    name: MpsSvc
    state: stopped
    start_mode: disabled
```

Windows Basics: Windows Server Versions

Windows Server	Flavors	Ansible Support (winrm)
Windows Server 2003 (April 2003)	GUI	No
Windows Server 2003 R2 (December 2005)	GUI	No
Windows Server 2008 (February 2008)	GUI	No
Windows Server 2008 R2 (October 2009)	GUI	Yes* (needs powershell 3.0+)
Windows Server 2012 (September 2012)	GUI/Core	Yes
Windows Server 2012 R2 (October 2013)	GUI/Core	Yes
Windows Server 2016 (September 2016)	GUI/Core	Yes
Windows Server 2019 (October 2018)	GUI/Core	Yes

Windows Basics: WinRM Transport

HTTP

This is the default and most common implementation. Even though HTTP itself does not provide transport level encryption it can be used in junction with CredSSP or Kerberos which provide message level encryption.

Typically works on TCP port 5985.

HTTPS

Used with self-signed (not recommended for production) or CA signed certificate. It provides additional layer of encryption.

Typically works on TCP port 5986.

Windows Basics: Auth Methods

Basic

Unencrypted

NTLM

Usually enabled by Default

Strong One Way Hash

Less Secure

Certificate

Most difficult to setup

Requires valid certs and CAs

Certificate is mapped to single account

CredSSP

Multi-hop Support

Delegates the credentials to remote machine

Uses TLS Tunnel and NTLM / Kerberos

Kerberos

Must be on Domain

Uses a Kerberos Token to Authenticate

Multi-hop Support if using delegation

Windows Basics: Visual Studio Code

AKA VSCode

The image shows two overlapping screenshots of the Visual Studio Code interface. The left screenshot displays the 'EXTENSIONS: MARKETPLACE' view with the search term 'ansible'. The 'Ansible' extension by Microsoft is highlighted with a red circle. The right screenshot shows a code editor with a context menu open over the file 'choco_adobereader.yml'. The menu items 'Run Ansible Playbook in Docker', 'Run Ansible Playbook in Local Ansible', 'Run Ansible Playbook in Cloud Shell', and 'Run Ansible Playbook Remotely via ssh' are circled in red.

Extension: Ansible - Visual Studio Code [Administrator]
File Edit Selection View Go Debug Tasks Help

EXTENSIONS: MARKETPLACE
ansible

language-Ansible 0.2.8
Ansible syntax highlighting support
hasead Install

Ansible 0.3.0
VSCode extension for Ansible
Microsoft Install

Azure REST for Ansible 0.0.13
Create, update or delete any Azure resource u...
Zim Kalinowski Install

vscode-ansible-linter 0.10.0
Ansible Linter
Rupi Saini Install

ansible-autocomplete 0.0.2

Ansible vscoss.vscod...-ansible
Microsoft | 61,536 | ★★★★★
VSCode extension for Ansible Install

Details Contributions Changelog Dependencies
build passing build passing Visual Studio Marketplace v0.3.0

Visual Studio Code extension for Ansible

choco_adobereader.yml - Production - Visual Studio Code [Administrator]
File Edit Selection View Go Debug Tasks Help

EXPLORER
inventory
win_group_vars
! choco_adobereader.yml Playbooks
PRODUCTION
group_vars
win
Playbooks
! choco_adobereader.yml
! choco_filezilla.yml
! choco_flash.yml
! default-windowsclient.yml
inventory

inventory win ! choco_adobereader.yml x

```
1 - hosts: win
2 gather_facts: no
3 tasks:
4 - name: install adobereader
5   win_chocolatey:
6     name: adobereader
7     state: present
```

Open to the Side Ctrl+Enter
Reveal in Explorer Alt+Shift+R
Open in Command Prompt
Select for Compare
Copy Ctrl+C
Copy Path Alt+Shift+C
Rename F2
Delete Del
Run Ansible Playbook in Docker
Run Ansible Playbook in Local Ansible
Run Ansible Playbook in Cloud Shell
Run Ansible Playbook Remotely via ssh

VSCode is a full-function, richly featured code editor in the Visual Studio ecosystem. It has full Ansible support.

Next steps:

Get started

ansible.com/get-started

ansible.com/tower-trial

Workshops and training

ansible.com/workshops

[Red Hat Training](#)

Join the community

ansible.com/community


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Thank you

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 [facebook.com/ansibleautomation](https://www.facebook.com/ansibleautomation)

 twitter.com/ansible

 github.com/ansible