

PRIZE DRAWING

Get your prize ticket from Angie Nelson!



Welcome to:
**ACCELERATING YOUR
JOURNEY TO
MICROSOFT AZURE
WITH ANSIBLE &
CLOUDFORMS**

At the end of the session we will be making one (1) drawing for:

- HP Spectre x360 Convertible Laptop
- You must receive a ticket from Angie Nelson!
- You MUST be in the room to claim the prize!



RED HAT
SUMMIT

ACCELERATING YOUR JOURNEY TO MICROSOFT AZURE WITH ANSIBLE & CLOUDFORMS

Automate your workload migrations to Microsoft Azure

Stuart Kirk

Open Source Technology Solutions Professional, Microsoft Corporation

Cameron Wyatt

Senior Cloud Consultant, Red Hat, Inc.

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FOCUS

FOCUS

Why are we here? What to expect.

This session will provide information on the following:

- Connecting your existing Ansible CLI deployment to Microsoft Azure
- Deploying a virtual machine to Azure using an Ansible CLI Playbook
- Automating the migration of a VMware-based virtual machine to Microsoft Azure using Ansible Tower, and CloudForms by Red Hat

WHO WE ARE

STUART KIRK

Open Source Technology Solutions Professional
Microsoft Corporation

Engaging with Microsoft clients in North America to architect and migrate open source workloads hosted on Microsoft Azure.

- Home: Ann Arbor, Michigan
- Entirety of career in Open Source: Dell, Cisco, Red Hat
- Joined Microsoft in June 2016
- MCSA: Linux on Azure, MCSD: Azure Solutions Architect
- RHCA, RHCE, RHCSA, RHCDS, RHCVA

Twitter: @StuartAtMSFT

LinkedIn: <https://www.linkedin.com/in/stuartkirk>



CAMERON WYATT

Senior Cloud Consultant
Red Hat, Inc.

Focus on delivering integrated cloud solutions for Customers

- RHCA: 140-177-544
- Joined Red Hat in August 2014
- Previously: University of Virginia College of Engineering and Applied Sciences, Computer Science

Twitter: @CameronMWyatt

LinkedIn: <https://www.linkedin.com/in/cameron-wyatt/>



CONNECTING ANSIBLE TO MICROSOFT AZURE

CONNECTING ANSIBLE TO MICROSOFT AZURE

Step by Step Overview

Steps for connecting Ansible to Microsoft Azure:

- Examining an Azure-enabled Ansible Playbook
- Deploy an Azure IaaS virtual machine using Ansible
- Build & Configure Host
- Install Ansible & Required Python Modules
- Configure msrestazure Python Module
- Create Service Principal in your Azure subscription & Assign permissions
- Summary

CONNECTING ANSIBLE TO MICROSOFT AZURE

Examining an Azure-Enabled Ansible Playbook

- hosts: localhost

connection: local

gather_facts: no

tasks:

- name: Create Azure Deploy

azure_rm_deployment:

state: present

*(Set to **absent** if you want to remove)*

location: eastus2

(Specify your Azure Data Center)

resource_group_name: AnsibleTestCentOSRG

(Specify RG Name)

CONNECTING ANSIBLE TO MICROSOFT AZURE

Examining an Azure-Enabled Ansible Playbook

parameters:

adminUsername:

value: ansibleadmin

sshKeyData:

value: "<Your SSH Public Key>"

template_link:

'https://raw.githubusercontent.com/stuartatmicrosoft/ansible-playbook-repo/master/centos7-prem.json'

register: azure

CONNECTING ANSIBLE TO MICROSOFT AZURE

Deploy an Azure IaaS Virtual Machine using Ansible

Step by Step Overview:

- `ansible-playbook centos-azure-create.yml`



CONNECTING ANSIBLE TO MICROSOFT AZURE

Build & Configure Host

Step by Step Overview:

- `yum -y install epel-release deltarpm`
- `yum -y install policycoreutils-python libsemanage-devel gcc gcc-c++ kernel-devel python-devel libxslt-devel libffi-devel openssl-devel python2-pip iptables-services`
- `sed -i "s/dport 22/dport 2112/g" /etc/sysconfig/iptables`
- `semanage port -a -t ssh_port_t -p tcp 2112`
- `sed -i "s/#Port 22/Port 2112/g" /etc/ssh/sshd_config`
- `systemctl restart sshd`
- `yum -y update`



CONNECTING ANSIBLE TO MICROSOFT AZURE

Build & Configure Host

Step by Step Overview:

- `systemctl restart sshd`
- `systemctl stop firewalld`
- `systemctl disable firewalld`
- `systemctl mask firewalld`
- `systemctl enable iptables`
- `systemctl start iptables`



CONNECTING ANSIBLE TO MICROSOFT AZURE

Install Ansible & Required Python Modules

Step by Step Overview:

- `yum -y install ansible`
- `useradd ansible`
- `pip install --upgrade pip`
- `pip install "azure==2.0.0rc6"`
- `pip install enum`
- `su - ansible`
- `mkdir $HOME/.azure`



CONNECTING ANSIBLE TO MICROSOFT AZURE

Configure msrestazure Python Module

Configuration File Overview:

- tee \$HOME/.azure/credentials <<EOF
- [default]
- subscription_id=
- tenant=
- client_id=
- secret=
- EOF

CONNECTING ANSIBLE TO MICROSOFT AZURE

Create Service Principal in your Azure subscription & Assign permissions

Create Service Principal for Ansible to connect to Microsoft Azure:

- `az account show --expanded-view`

```
[st Kirk@st Kirk-fedora ~]$ az account show --expanded-view
EnvironmentName      SubscriptionId      SubscriptionName      TenantId      UserName
-----
AzureCloud          jw96fa2f-9yfw-f2a2-h2bv-e7dj3lc9sh4e  Microsoft Azure Internal Consumption  37ek9s02-f73w-n3fd-83hg-i83ys8zbbw41  stkirk@microsoft.com
```

- Obtain value for “**SubscriptionId**” and “**TenantId**”
- `az ad sp create-for-rbac --name=<name-of-sp> --role=“Contributor”`

`--scopes=“/subscriptions/<SubscriptionId>”`

```
[st Kirk@st Kirk-fedora ~]$ az ad sp create-for-rbac --name="st Kirk-summit-2017" --role=Contributor --scopes="/subscriptions/jw96fa2f-9yfw-f2a2-h2bv-e7dj3lc9sh4e"
Retrying role assignment creation: 1/36
AppId      DisplayName      Name      Password      Tenant
-----
j3te9dh4-7ey3-jfje-83ue-fj4irnb49d83  st Kirk-summit-2017  http://st Kirk-summit-2017  fj3janf2-je3q-n3o2-022i-j4ne3jdkwi33  37ek9s02-f73w-n3fd-83hg-i83ys8zbbw41
```

- Make note of both “**AppId**” and “**Password**”

CONNECTING ANSIBLE TO MICROSOFT AZURE

Deploy an Azure IaaS Virtual Machine using Ansible Continued

Step by Step Overview:

- `vi /etc/ansible/hosts`
- `ansible -m ping all`
- `ansible-playbook helloworld.yml`
- `az account list --output table`
- `az group list`
- `az vm list -g AnsibleTestCentOSRG -d`

CONNECTING ANSIBLE TO MICROSOFT AZURE

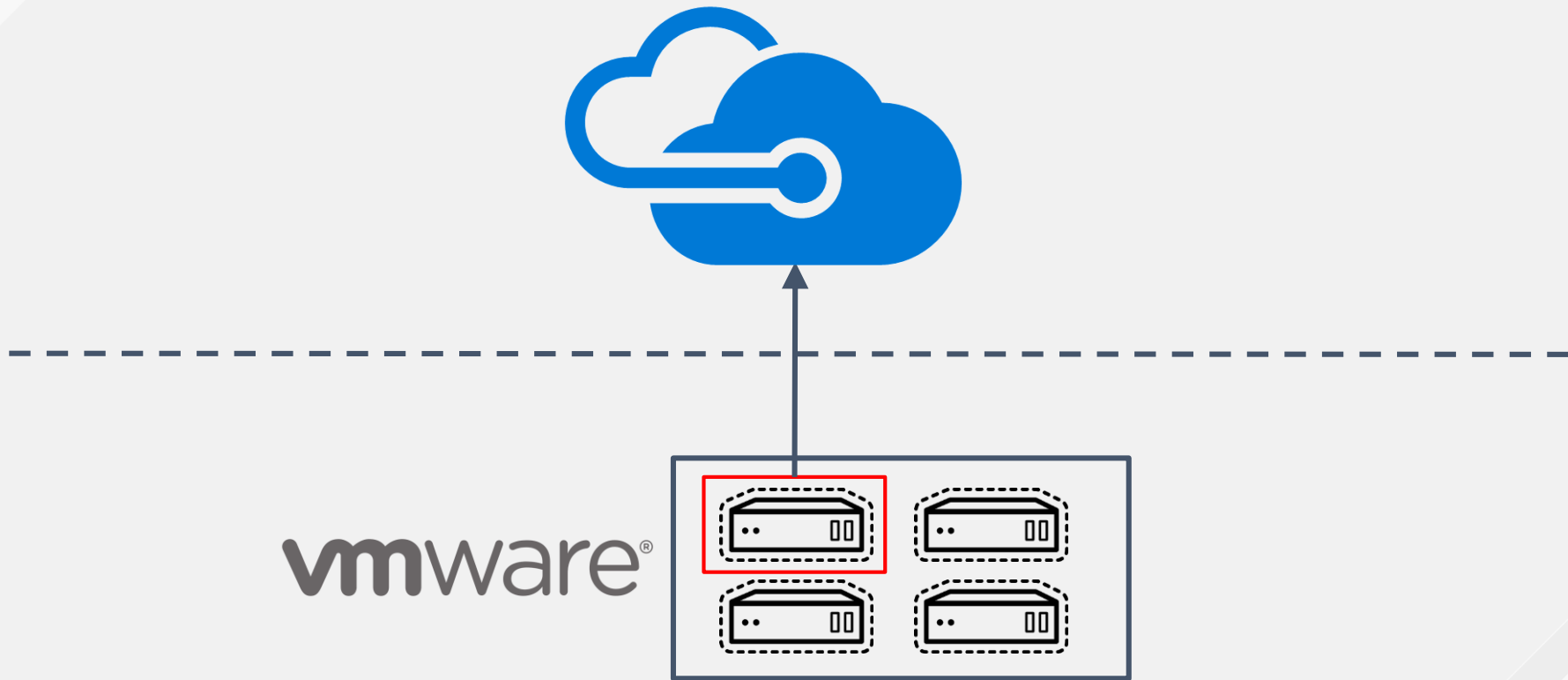
Summary

Population of ~ansible/.azure/credentials:

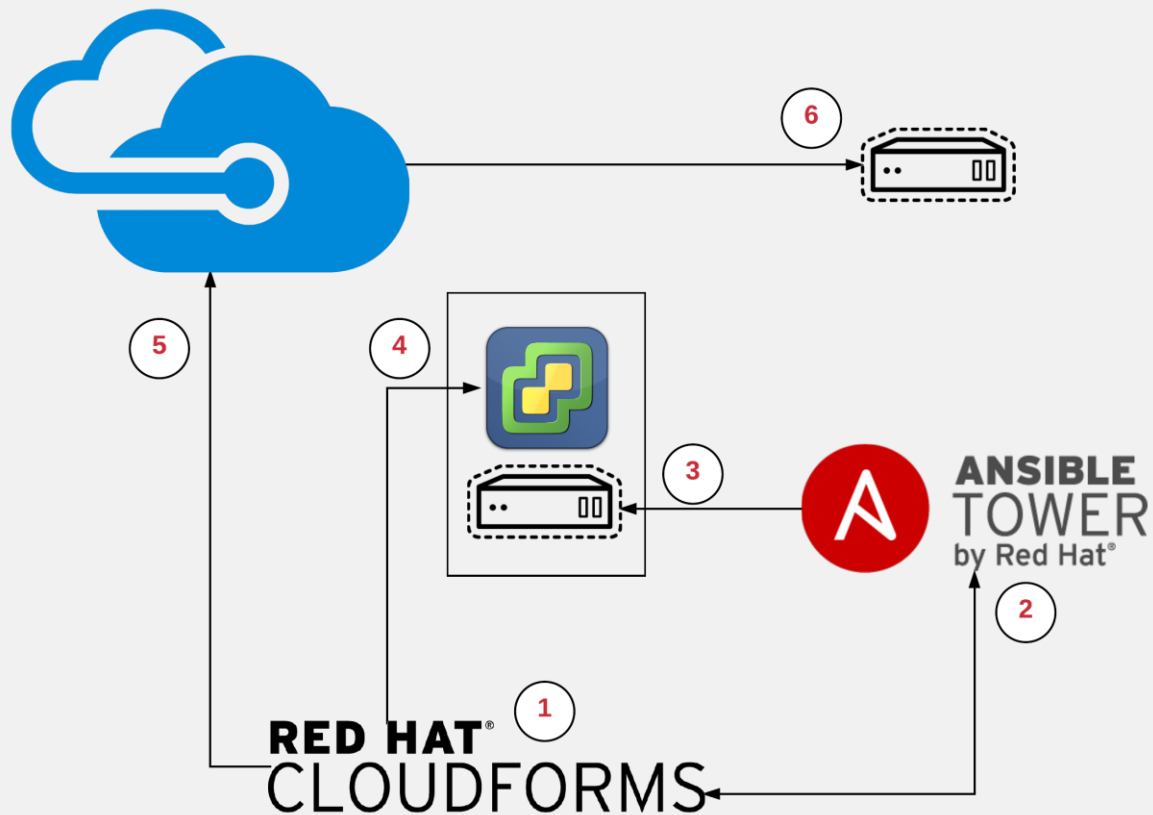
- "subscription_id" | az account show --expanded-view
- "tenant" | az account show --expanded-view
- "client_id" | az ad sp create-for-rbac (AppId)
- "secret" | az ad sp create-for-rbac (Password)

MIGRATING A VIRTUAL MACHINE FROM VMWARE TO AZURE

WHAT ARE WE TRYING TO DO?



HOW ARE WE GOING TO DO IT?



HOW CAN I LEARN MORE?

- Stuart Kirk's Twitter: @StuartAtMSFT
- Cameron Wyatt's Twitter: @CameronMWyatt
- Jason Ritenour's Twitter: @jasonjmritenour
- <http://aka.ms/azure-cli-2>
- <http://azure.com/opensource>
- <http://azure.com/redhat>
- <http://cloudformsblog.redhat.com/>
- <https://github.com/jritenour/azure-migration>
- <https://github.com/Azure/azure-quickstart-templates>
- https://docs.ansible.com/ansible/guide_azure.html
- https://docs.ansible.com/ansible/azure_rm_deployment_module.html



RELATED SESSIONS

Where to learn more on Azure, Ansible & Cloudforms

- SESSION: **Ansible Tower by Red Hat overview and roadmap**
Wednesday, May 3, 10:15 AM - 11:00 AM – Room 157B
- SESSION: **Managing services with Red Hat CloudForms and Ansible by Red Hat**
Wednesday, May 3, 11:30 AM - 12:15 PM – Room 157C
- SESSION: **Dive into Red Hat OpenShift Container Platform on Microsoft Azure**
Wednesday, May 3, 3:30 PM - 4:15 PM – Room 153A
- SESSION: **Run .NET and SQL Server natively on Linux with OpenShift on Azure**
Thursday, May 4, 3:30 PM - 4:15 PM – Room 102A
- LAB: **Advanced Ansible Tower by Red Hat**
Thursday, May 4, 3:30 PM - 5:30 PM – Room 251

PRIZE DRAWING

**MY OTHER COMPUTER IS
AN #AZURE DATA CENTER**



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THANK YOU



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linkedin.com/company/red-hat



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RED HAT SUMMIT

LEARN. NETWORK.
EXPERIENCE
OPEN SOURCE.

The Microsoft cloud...

supports any device

supports any data

supports any developer

Microsoft ❤️ Linux

Windows Server

Azure

supports any cloud services

Linux Windows Server

supports any OS

Microsoft