PRIZE DRAWING
Get your prize ticket from Angie Nelson!

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!

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

Tuesday May 2\textsuperscript{nd}, 2017
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
      location: eastus2
      resource_group_name: AnsibleTestCentOSRG
      (Set to **absent** if you want to remove)
      (Specify your Azure Data Center)
      (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 deltarm
- `yum -y install policycoreutils-python libsemanage-devel gcc gcc-c++ kernel-devel python-devel libxml2-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

<table>
<thead>
<tr>
<th>EnvironmentName</th>
<th>SubscriptionId</th>
<th>SubscriptionName</th>
<th>TenantId</th>
<th>UserName</th>
</tr>
</thead>
<tbody>
<tr>
<td>AzureCloud</td>
<td>jw96fa2f-9yfw-f2a2-h2bv-e7dj3lc9sh4e</td>
<td>Microsoft Azure Internal Consumption</td>
<td>37ek9s02-f73w-n3fd-83hg-i83ys8zbwb41</td>
<td><a href="mailto:stkirk@microsoft.com">stkirk@microsoft.com</a></td>
</tr>
</tbody>
</table>

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

```
[stkirk@stkirk-fedora ~]$ az ad sp create-for-rbac --name="stkirk-summit-2017" --role=Contributor --scopes="/subscriptions/jw96fa2f-9yfw-f2a2-h2bv-e7dj3lc9sh4e"
```

- 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: @jasonjmrittenour
- http://aka.ms/azure-cli-2
- http://azure.com/opensource
- http://azure.com/redhat
- http://cloudformsblog.redhat.com/
- https://github.com/jrittenour/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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