Azure with Ansible

DevOps Wro MeetUp - 27th of Feb 2020

Paweł Błaszyk
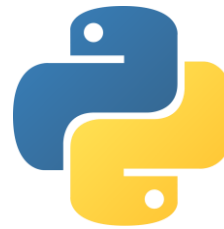
What is
Azure?

How to use it
together?

What is
Ansible?

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Why am I here?

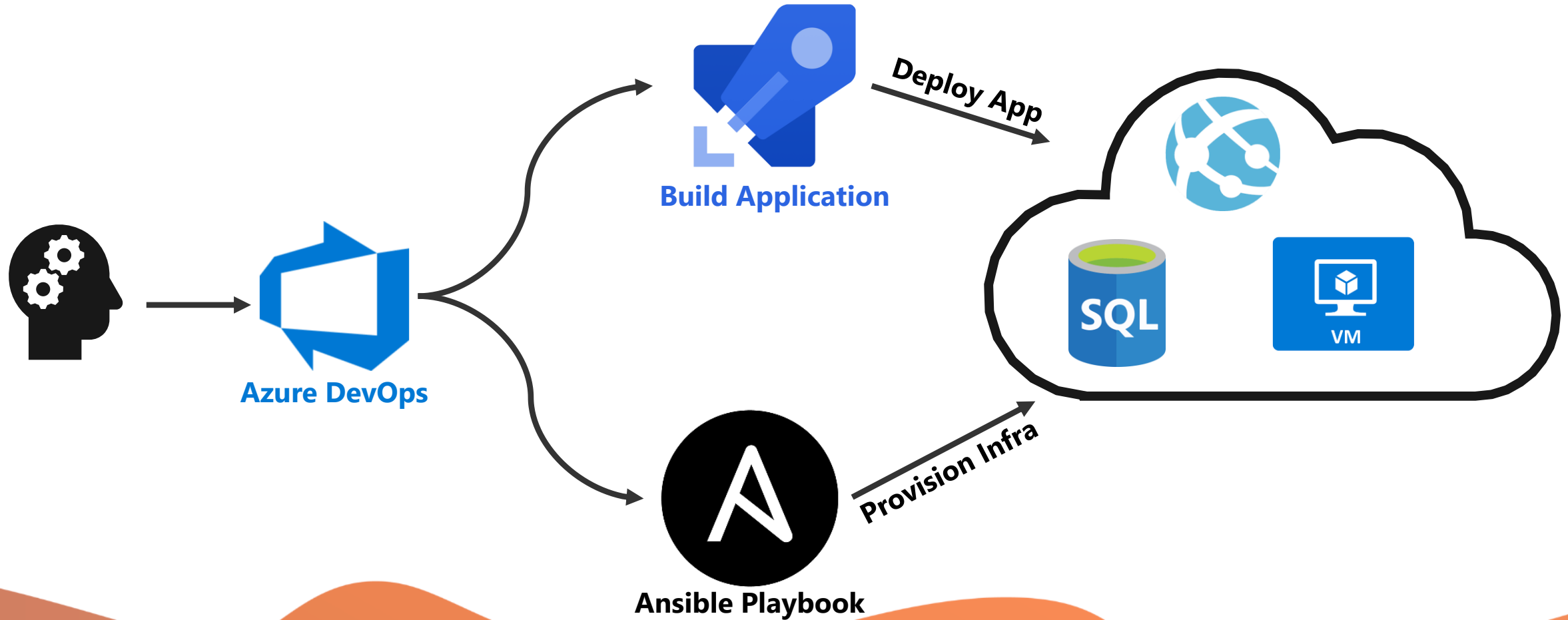15+ years ago   10+ years ago   3+ years ago   Now

Ansible

„Ansible is an IT automation tool. It can configure systems, deploy software, and orchestrate more advanced IT tasks such as continuous deployments or zero downtime rolling updates."

https://docs.ansible.com/ansible/latest/index.html

Make life easier with Azure and Ansible

Build Application

Deploy App

Azure DevOps

Ansible Playbook

Provision Infra

SQL

VM

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What's Ansible module?

"Modules (also referred to as "task plugins" or "library plugins") are discrete units of code that can be used from the command line or in a playbook task. Ansible executes each module, usually on the remote target node, and collects return values."

```yaml
tasks:
    - name: front-end app service
    azure_rm_webapp:
      resource_group: "meetup"
      name: "front-end-app-service"
      state: "present"
      cert_validation_mode: "validate"
      https_only: "yes"
      plan:
        name: "meetup-service-plan"
        resource_group: "meetup"
        is_linux: true
```

Ansible azure_rm_* modules

❑azure_rm_webapp

❑azure_rm_virtualmachine

❑azure_rm_publicipaddress

❑azure_rm_sqlserver

❑azure_rm_*_info

❑and some more...

https://docs.ansible.com/ansible/latest/scenario_guides/guide_azure.html

Ansible win_* modules

❑ win_package

❑ win_template

❑ win_service

❑ win_firewall_rule

❑ win_uri

❑ win_copy

❑ and many, many more...

https://docs.ansible.com/ansible/latest/user_guide/windows.html

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Source code walkthrough

```yaml
azure-pipelines.yml ×
azure-pipelines.yml > [ ] stages > {} 3 > [ ] jobs > {} 0 > [ ] steps > {} 1 > {} inputs > 🔤 package
20  stages:
21  - stage: createInfra
22    displayName: Create Infra on Azure
23    jobs:
24      - job:
25        displayName: Infra Ansible Playbook
26        steps:
27          - script: |
28              sudo apt-get remove python-cryptography
29              sudo python -m pip install --upgrade pip
30              sudo pip install packaging msrest msrestazure azure azure.storage ansib
31            displayName: prepare build-agent
32          - script: |
33              mkdir ~/.azure
34              echo -e '[default] \nsubscription_id=$(subscription_id) \nclient_id=$(c
35            displayName: set Azure cred
36          - script: |
37              ansible-playbook ./infra/azure-provision.yml --extra-vars 'environment_
38            displayName: execute Ansible playbook
39
40  - stage: buildAndPublishFront
41    dependsOn: createInfra
42    displayName: Build Front-End
43    jobs:
44    - job:
45      displayName: build and publish
46      steps:
47      - script: |
48          pushd $(frontSrcFolder) && echo REACT_APP_API_URL="https://back-meetup-$(er
49          pushd $(frontSrcFolder) && npm install && popd
50          pushd $(frontSrcFolder) && npm run build && popd
51        displayName: npm install & build
52      - task: CopyFiles@2
        displayName: copy build files to staging dir
        inputs:
          SourceFolder: '$(frontBuildOutputFolder)'
```

```yaml
provision.yml ×
> ! azure-provision.yml > {} 0 > [ ] tasks > {} 0 > {} azure_rm_webapp > 🔤 name
17      name: "{{app_service_plan_name}}"
18      resource_group: "{{resource_group_name}}"
        is_linux: true

    - name: back-end app service
      azure_rm_webapp:
        resource_group: "{{resource_group_name}}"
        name: "{{back_app_service_name}}"
        state: "present"
        app_settings:
          DB_CONNECTION_STRING: "mongodb://{{fqdn}}:27017"
          PORT: "{{back_port}}"
          FRONT_URL: "{{front_url}}"
        cert_validation_mode: "validate"
        plan:
          name: "{{app_service_plan_name}}"
          resource_group: "{{resource_group_name}}"
          is_linux: true

    - name: VM for mongo db
      azure_rm_virtualmachine:
        resource_group: "{{resource_group_name}}"
        name: "{{hostname}}"
        vm_size: "Standard_D2s_v3"
        admin_username: "{{admin_username}}"
        admin_password: "{{admin_pass}}"
        os_type: "Windows"
        open_ports:
          - 3389
          - 5986
          - "{{db_port}}"
        image:
          offer: "WindowsServer"
          publisher: "MicrosoftWindowsServer"
          sku: "2019-Datacenter"
          version: "latest"
      register: vm_output

    - debug:
```

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Q&A

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