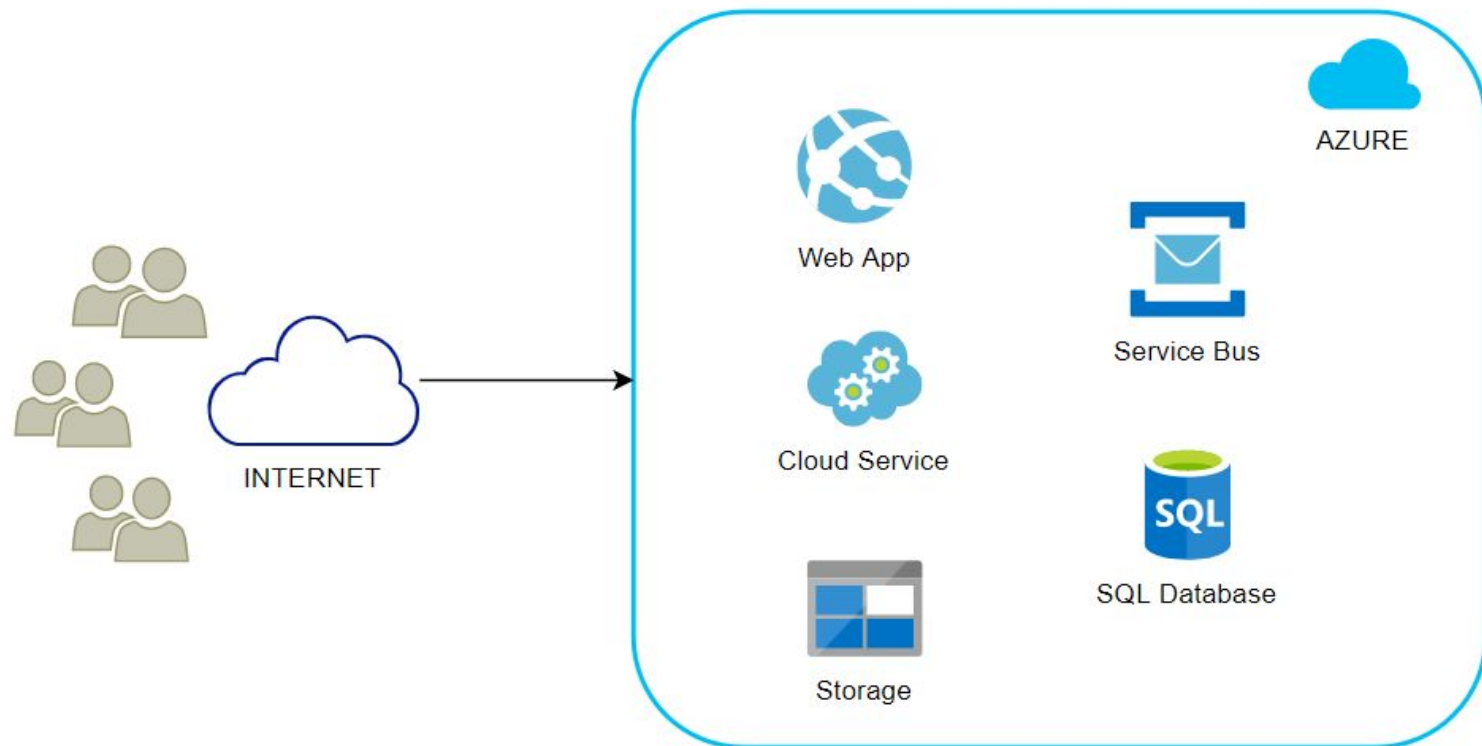


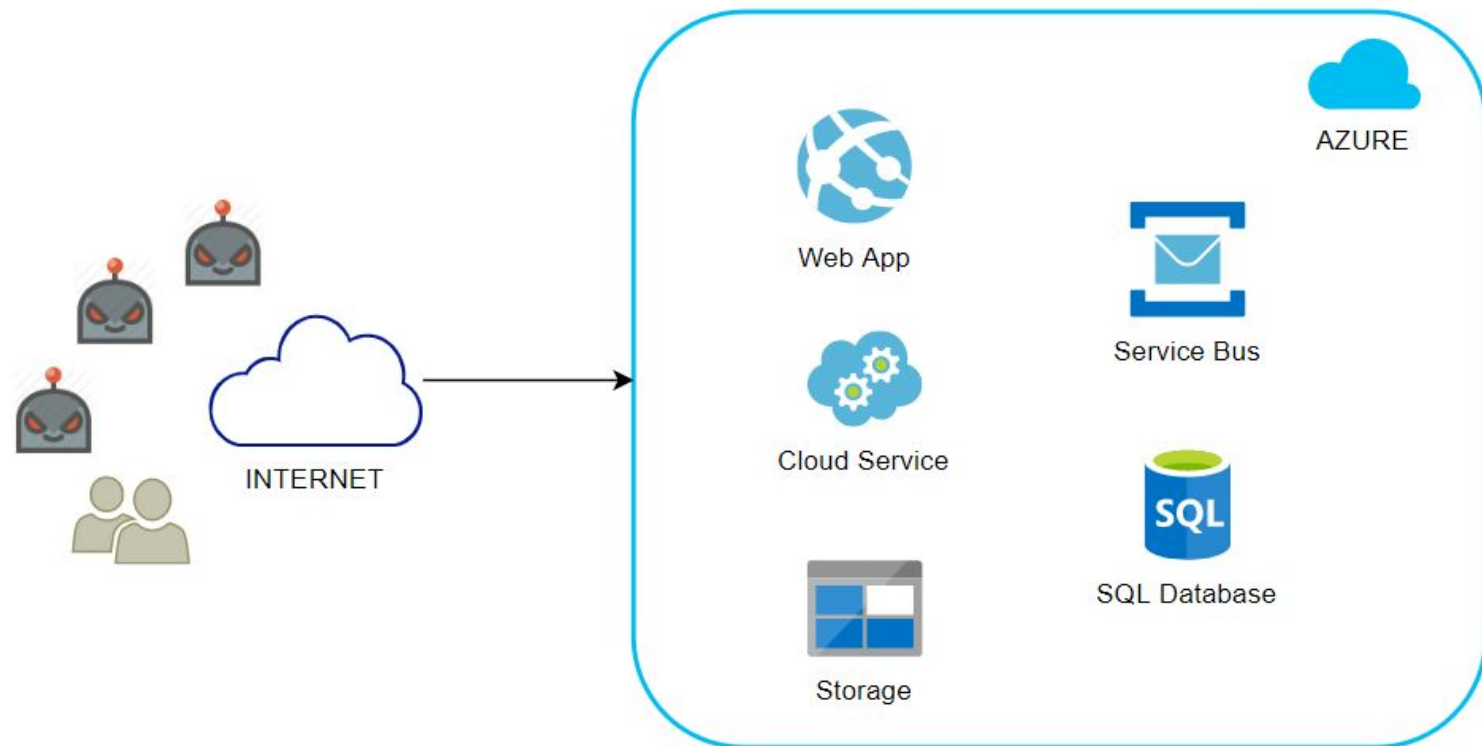
Automatyzacja w świecie wirtualnych maszyn.  
Virtual Machine Scale Sets w praktyce.

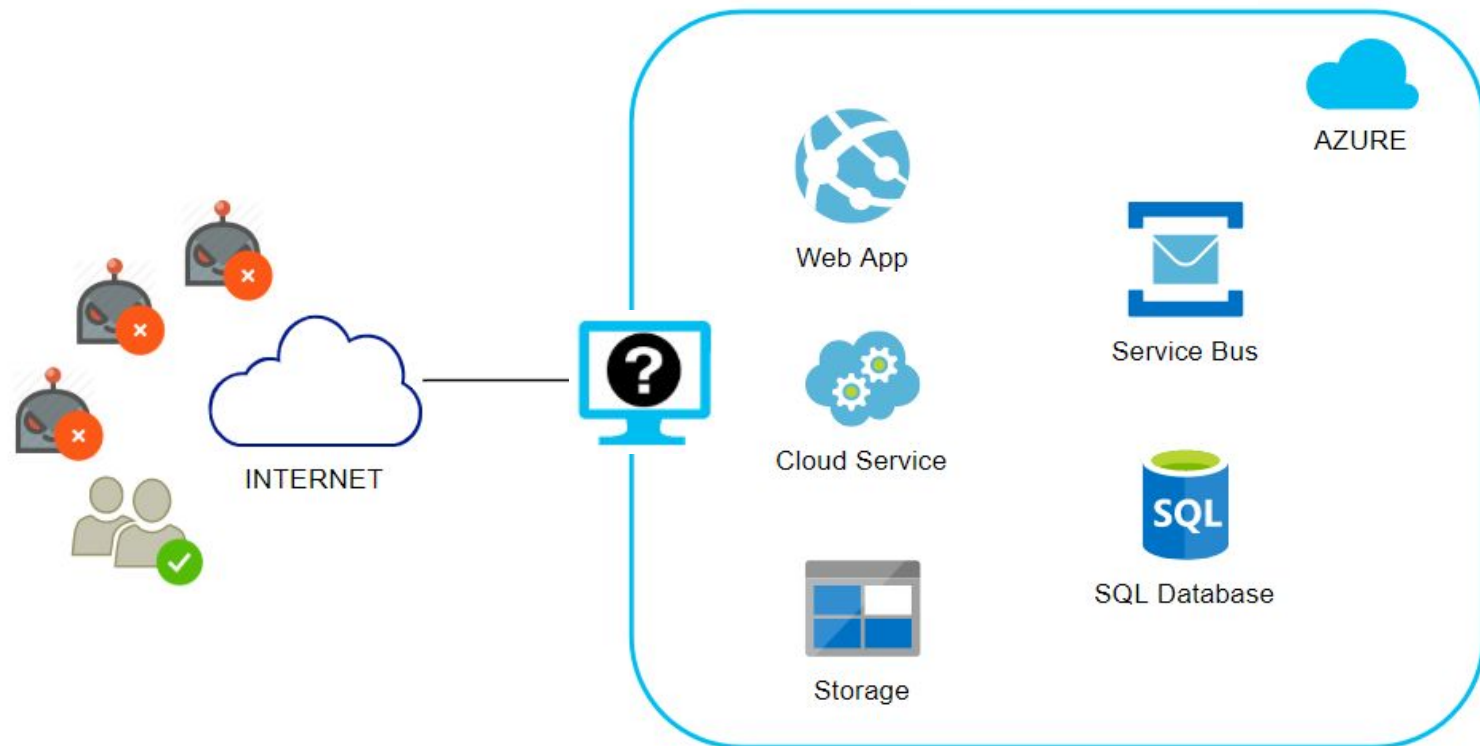
# \$ whoami

## Mateusz Ochecki

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- Email: [mateusz.ochecki@gmail.com](mailto:mateusz.ochecki@gmail.com)
- LinkedIn: <https://www.linkedin.com/in/mateusz-ochecki/>
- Twitter: @m\_ochecki







## Problem 1:

Problem 1:



Problem 1:



Problem 2:



## Problem 1:

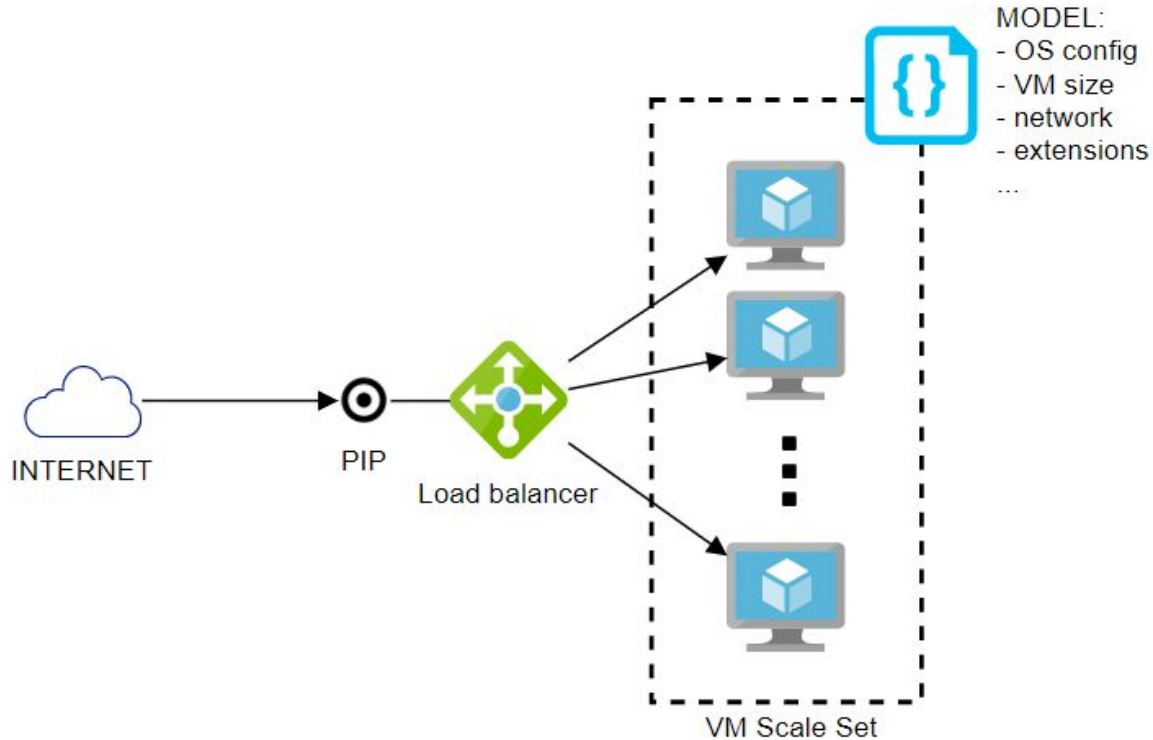


## Problem 2:



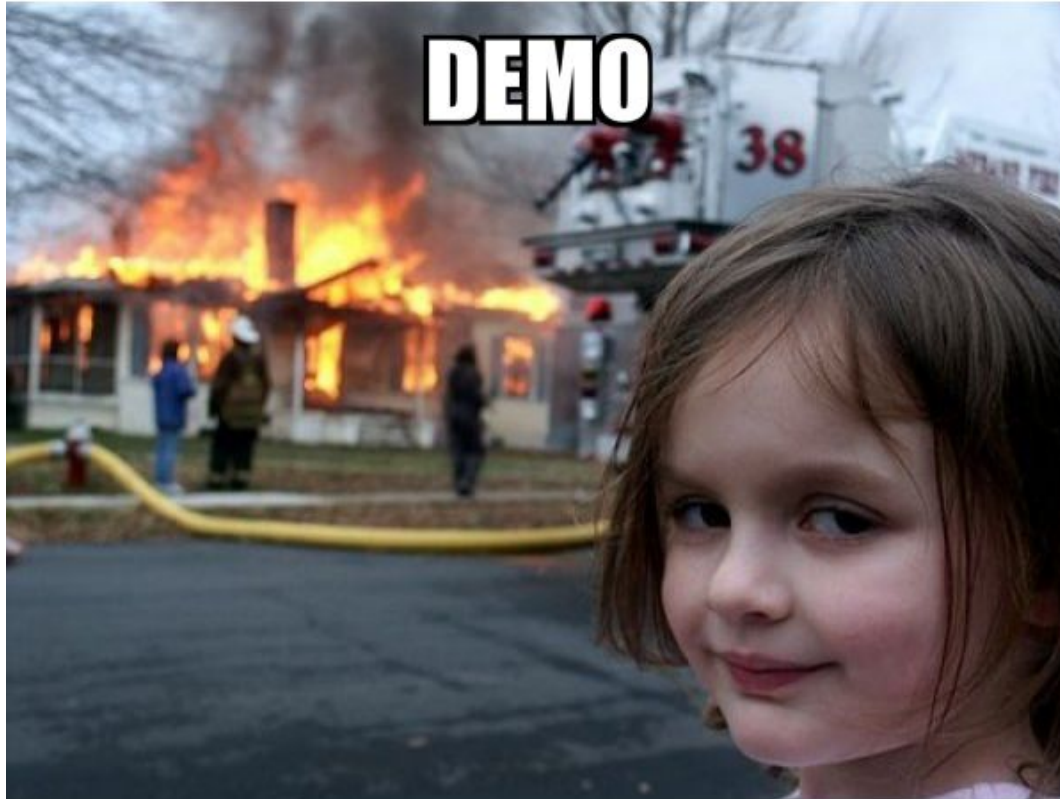


# Virtual Machine Scale Sets





# Virtual Machine Scale Sets





# Virtual Machine Scale Sets - upgrade policy



# Virtual Machine Scale Sets - upgrade policy

- MANUAL



# Virtual Machine Scale Sets - upgrade policy

- MANUAL
- AUTOMATIC



# Virtual Machine Scale Sets - upgrade policy

- MANUAL
- AUTOMATIC
- ROLLING



Problem 1:



Problem 2:





**BAKING**

**VS**

**FRYING**





# Azure Managed Image

```
mac@MOC: ~  
mac@MOC:~$ az vm create -g my-vm-rg --name myVM --image UbuntuLTS --admin-username azureuser --generate-ssh-keys
```



# Azure Managed Image

```
mac@MOC: ~  
mac@MOC:~$ az vm create -g my-vm-rg --name myVM --image UbuntuLTS --admin-username azureuser --generate-ssh-keys  
....  
mac@MOC:~$ ssh azureuser@51.144.23.239
```



# Azure Managed Image

```
mac@MOC: ~  
mac@MOC:~$ az vm create -g my-vm-rg --name myVM --image UbuntuLTS --admin-username azureuser --generate-ssh-keys|  
....  
mac@MOC:~$ ssh azureuser@51.144.23.239|  
....  
azureuser@myVM:~$ apt-get update && apt-get upgrade -y|  
....  
azureuser@myVM:~$ apt-get install nginx -y|
```



# Azure Managed Image

```

moc@MOC: ~
x + -
moc@MOC:~$ az vm create -g my-vm-rg --name myVM --image UbuntuLTS --admin-username azureuser --generate-ssh-keys|
....
moc@MOC:~$ ssh azureuser@51.144.23.239|
....
azureuser@myVM:~$ apt-get update && apt-get upgrade -y|
....
azureuser@myVM:~$ apt-get install nginx -y|
....
azureuser@myVM:~$ sudo waagent -deprovision+user|

```



# Azure Managed Image

```

moc@MOC: ~
x + -
moc@MOC:~$ az vm create -g my-vm-rg --name myVM --image UbuntuLTS --admin-username azureuser --generate-ssh-keys|
....
moc@MOC:~$ ssh azureuser@51.144.23.239|
....
azureuser@myVM:~$ apt-get update && apt-get upgrade -y|
....
azureuser@myVM:~$ apt-get install nginx -y|
....
azureuser@myVM:~$ sudo waagent -deprovision+user|
....
moc@MOC:~$ az vm deallocate -g my-vm-rg --name myVM|

```



# Azure Managed Image

```

moc@MOC: ~
x + -
moc@MOC:~$ az vm create -g my-vm-rg --name myVM --image UbuntuLTS --admin-username azureuser --generate-ssh-keys|
....
moc@MOC:~$ ssh azureuser@51.144.23.239|
....
azureuser@myVM:~$ apt-get update && apt-get upgrade -y|
....
azureuser@myVM:~$ apt-get install nginx -y|
....
azureuser@myVM:~$ sudo waagent -deprovision+user|
....
moc@MOC:~$ az vm deallocate -g my-vm-rg --name myVM|
....
moc@MOC:~$ az vm generalize -g my-vm-rg --name myVM|

```



# Azure Managed Image

```

moc@MOC: ~
az vm create -g my-vm-rg --name myVM --image UbuntuLTS --admin-username azureuser --generate-ssh-keys|
....
moc@MOC:~$ ssh azureuser@51.144.23.239|
....
azureuser@myVM:~$ apt-get update && apt-get upgrade -y|
....
azureuser@myVM:~$ apt-get install nginx -y|
....
azureuser@myVM:~$ sudo waagent -deprovision+user|
....
moc@MOC:~$ az vm deallocate -g my-vm-rg --name myVM|
....
moc@MOC:~$ az vm generalize -g my-vm-rg --name myVM|
....
moc@MOC:~$ az image create -g my-vm-rg --name myImage --source myVM|

```



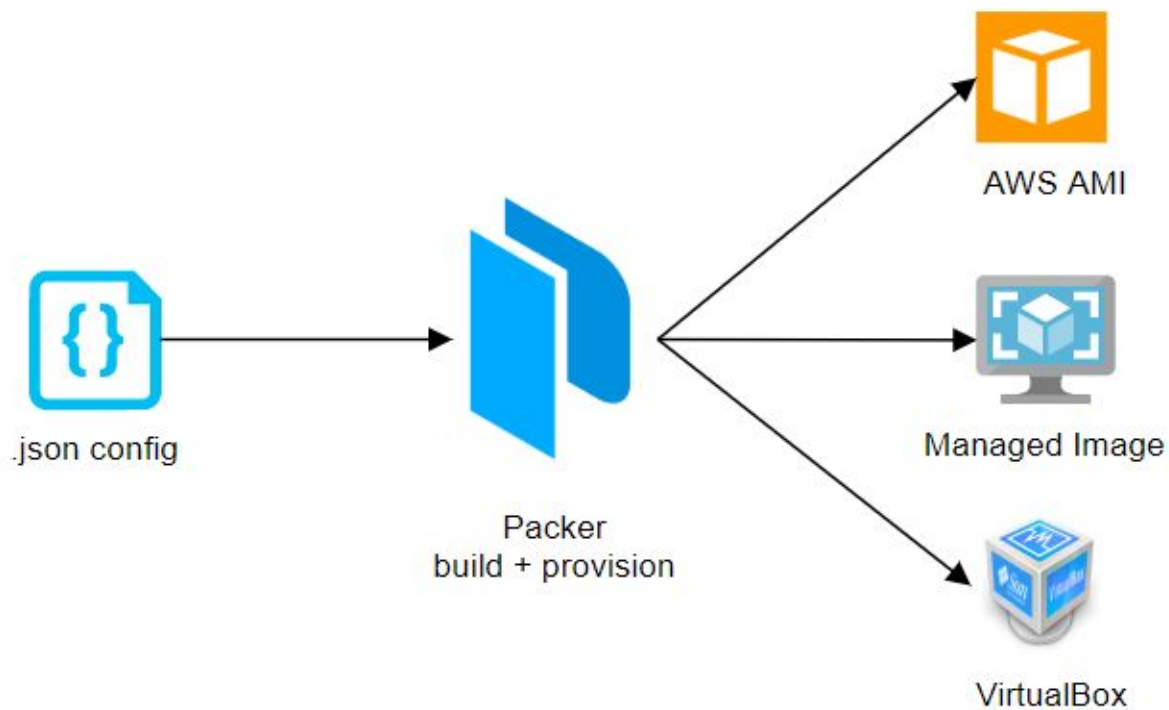


# Azure Managed Image



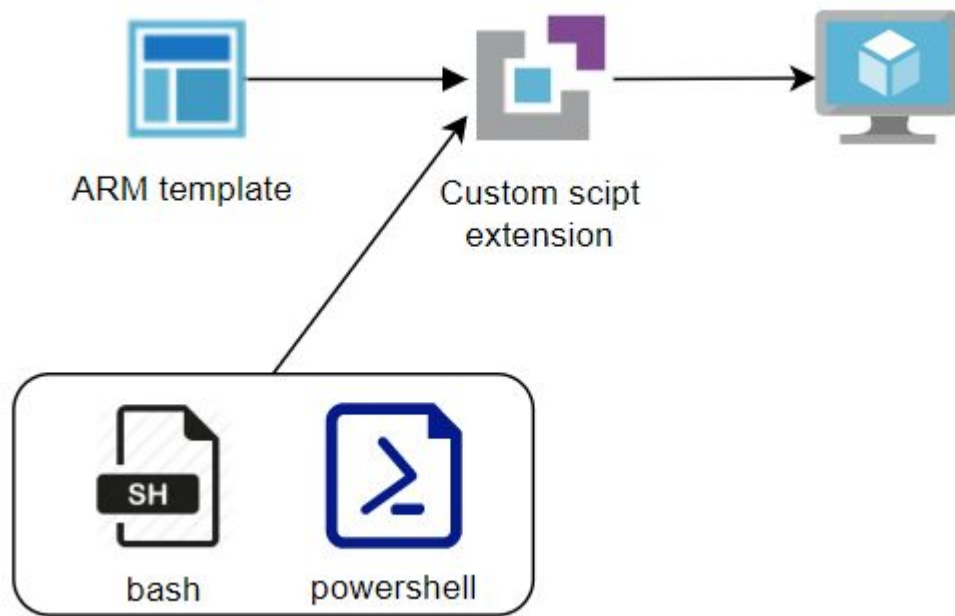
HashiCorp  
**Packer**

```
moc@MOC: ~  
moc@MOC:~$ az  
....  
moc@MOC:~$ s  
....  
azureuser@my  
....  
azureuser@my  
....  
azureuser@my  
....  
moc@MOC:~$ a  
....  
moc@MOC:~$ az vm generalize -g my-vm-rg --name myVM  
....  
moc@MOC:~$ az image create -g my-vm-rg --name myImage --source myVM
```





# Custom Script Extension



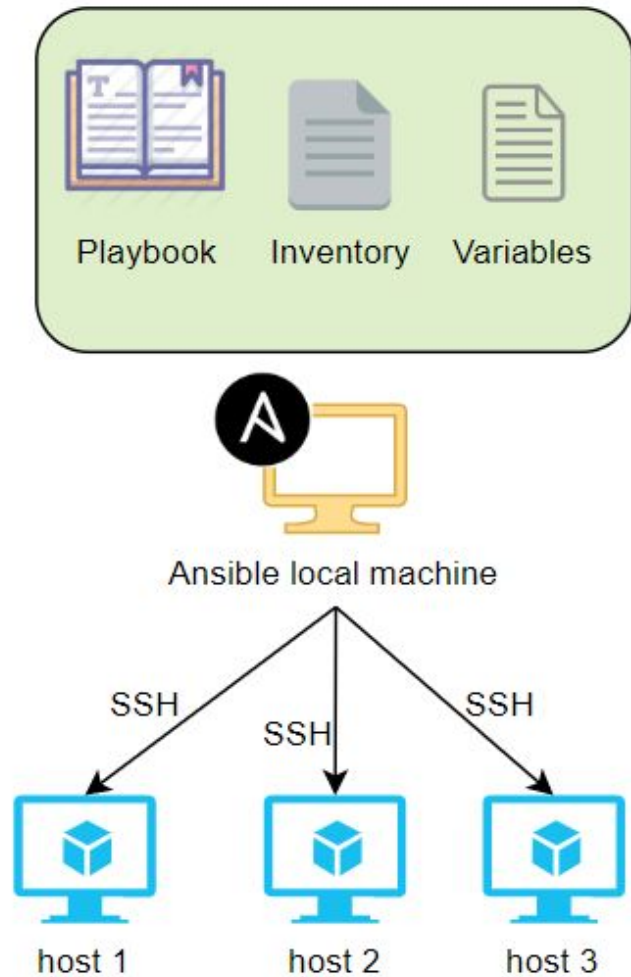


# Custom Script Extension

```
"extensionProfile": {
  "extensions": [
    {
      "name": "CustomScriptsExtension",
      "properties": {
        "publisher": "Microsoft.Azure.Extensions",
        "type": "CustomScript",
        "typeHandlerVersion": "2.0",
        "autoUpgradeMinorVersion": true,
        "settings": {
          "fileUri": [
            "[concat(variables('customScriptsPath'), '/run_scripts.sh')]"
          ]
        },
        "protectedSettings": {
          "commandToExecute": "[concat('sh run_scripts.sh ', parameters('workspaceId'), ' ', parameters('workspaceKey'))]",
          "storageAccountName": "[parameters('customScriptsStorageName')]",
          "storageAccountKey": "[listKeys(variables('customScriptsStorageId'),'2018-07-01').keys[0].value]"
        }
      }
    }
  ]
}
```

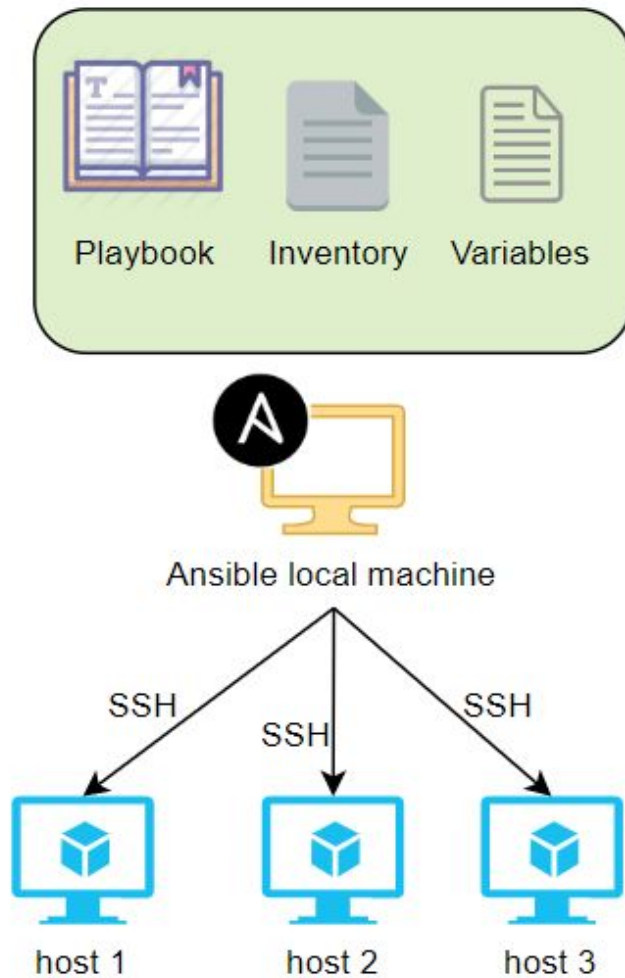


- Zarządzanie konfiguracją



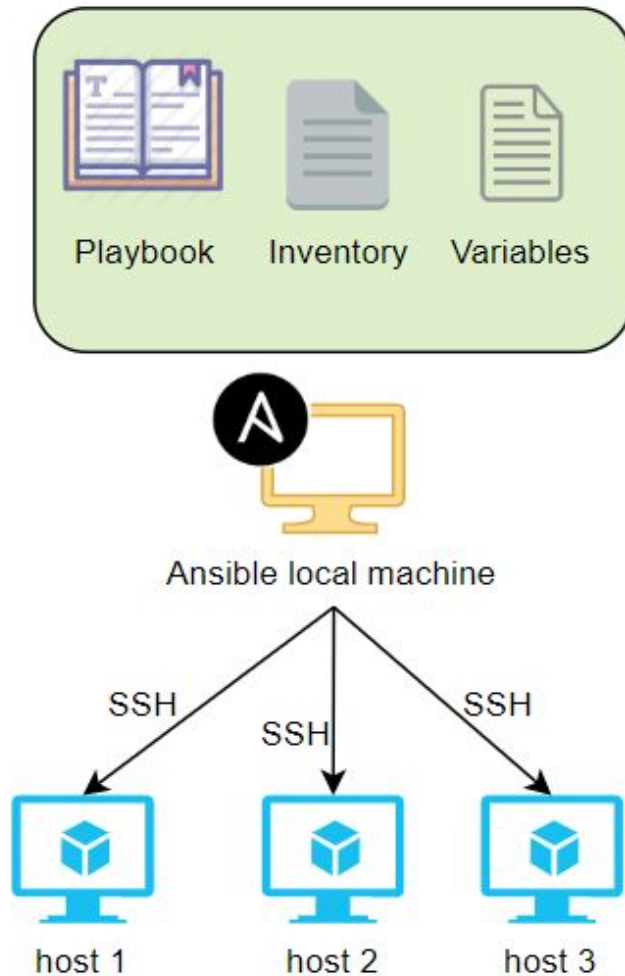


- Zarządzanie konfiguracją
- Deklaratywny stan systemu





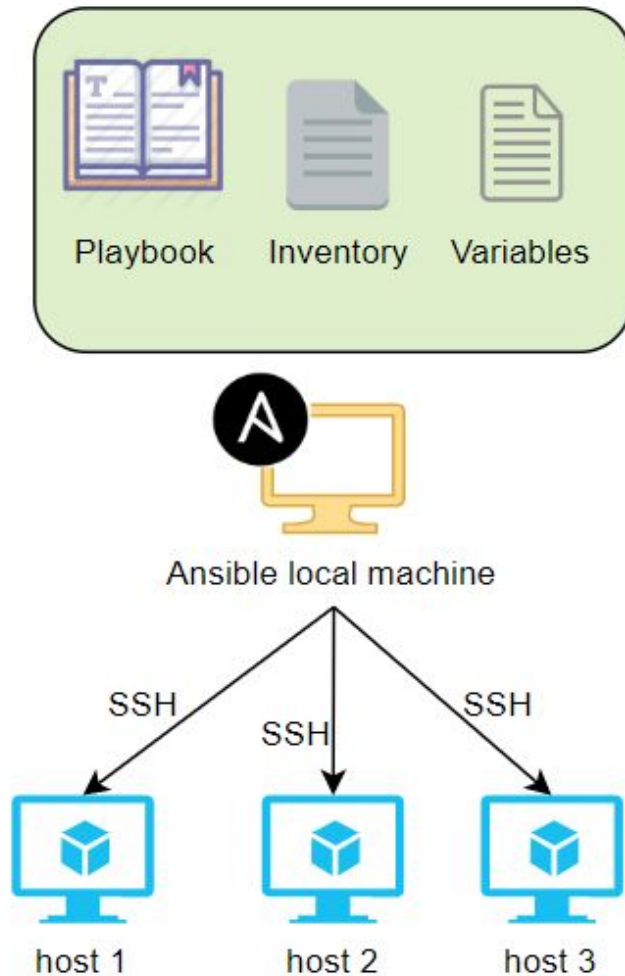
- Zarządzanie konfiguracją
- Deklaratywny stan systemu
- Agentless







- Zarządzanie konfiguracją
- Deklaratywny stan systemu
- Agentless
- Localhost





ANSIBLE

**BRACE YOURSELVES**

**A LIVE DEMO IS  
COMING**

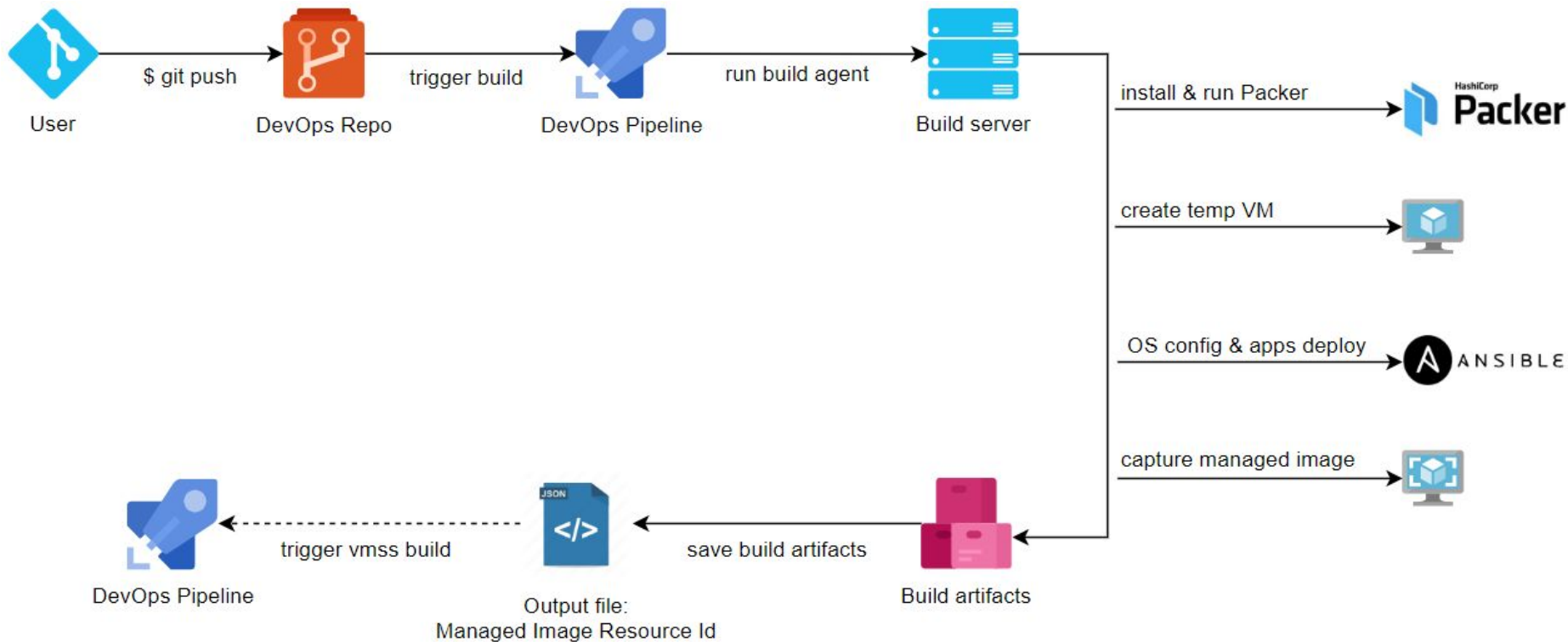
memegenerator.net

Let's put it all together



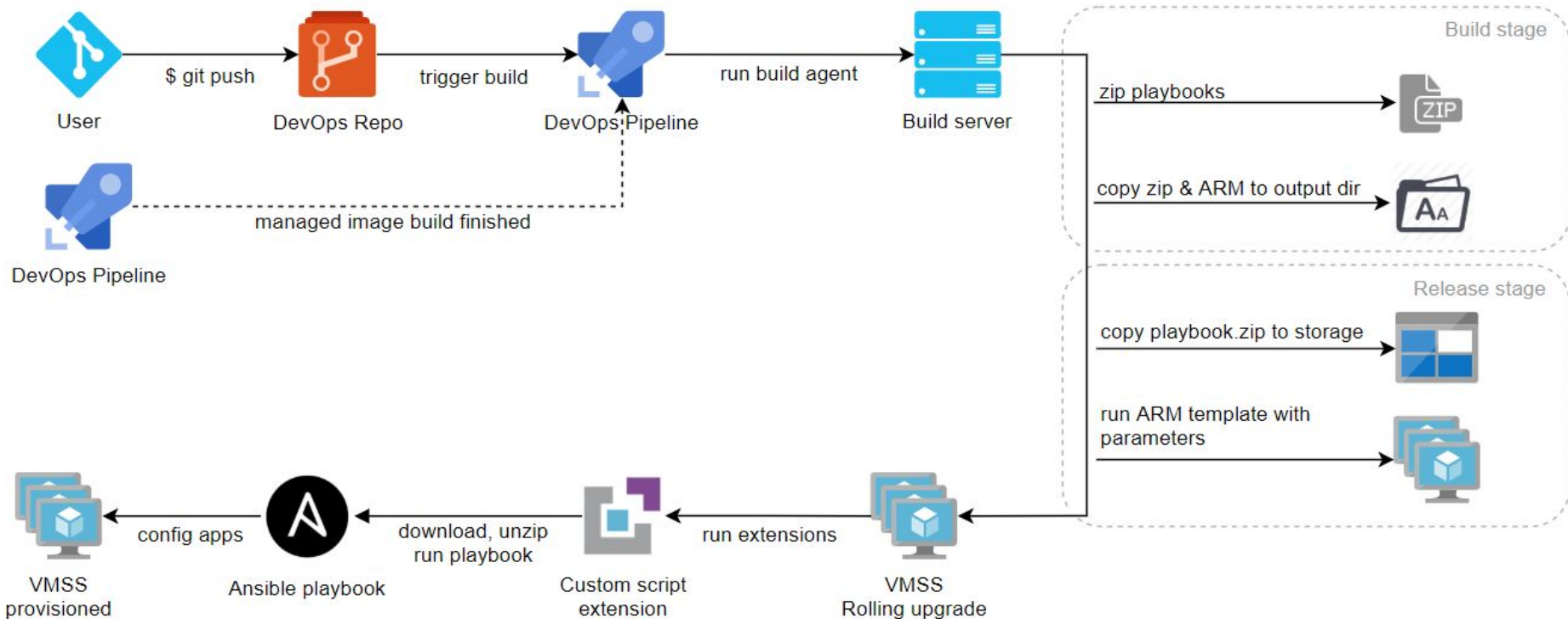


# Managed image build pipeline





# VMSS build pipeline



Problem 1:



Problem 2:





# Virtual Machine Scale Sets - co dalej?

- Monitoring aplikacji: Fluentd + Log Analytics
- OS security updates: Microsoft Monitoring Agent + Log Analytics + Alerts

Pytania?