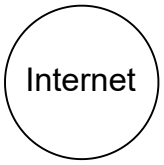
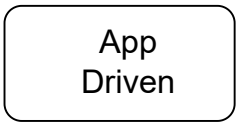
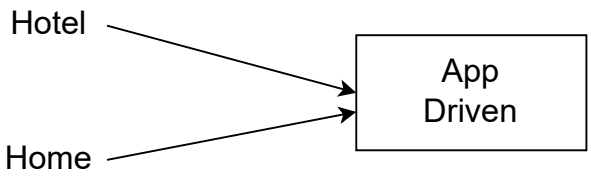
Why DevOps?
Why DevOps Now?

Collaboration (No Cilo)
Speedup Release and Deployment
Software Delivery
Everything is code

Office
Compliance
Customer







What is DevOps?

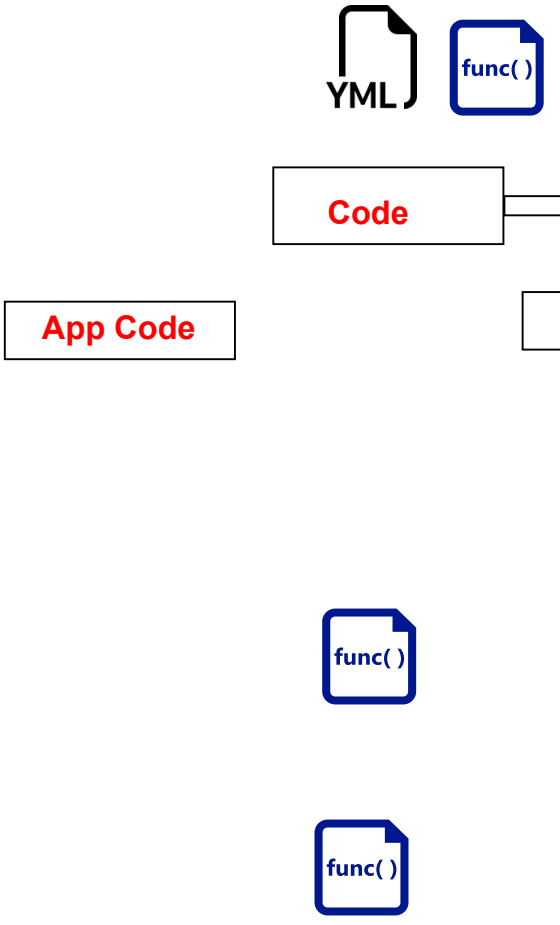
Transparencies

Agile

DevOps Means Tool ?

Git
Jenkins
Azure Devops

- **You need to Migrate one Customer Application on Microsoft Azure . Application include FrontEnd App**
- **SQL Database**
- **File Storage**

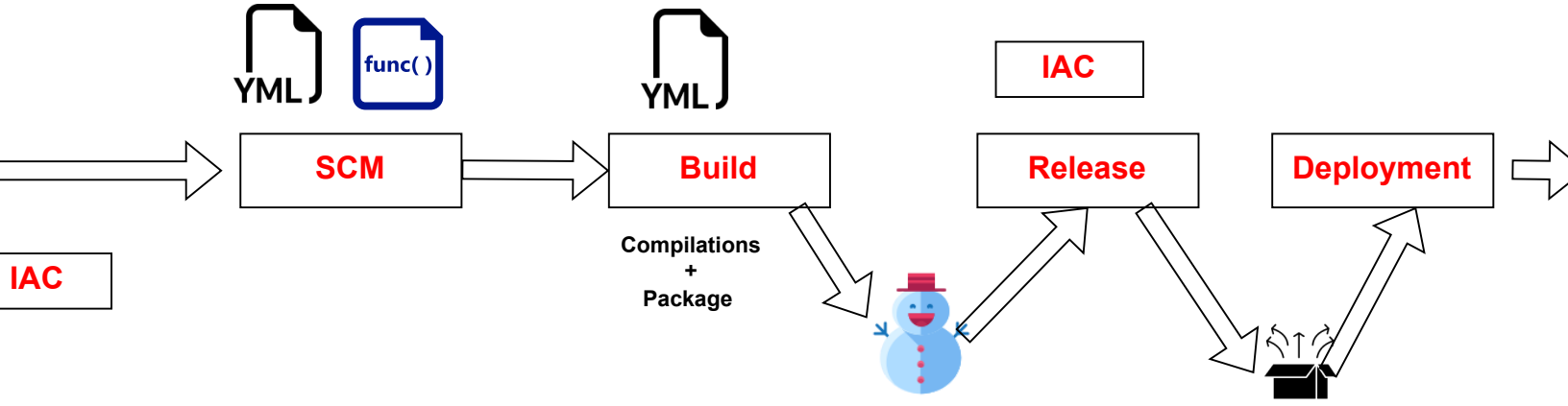

YML
func( )
Code
App Code
func( )
func( )

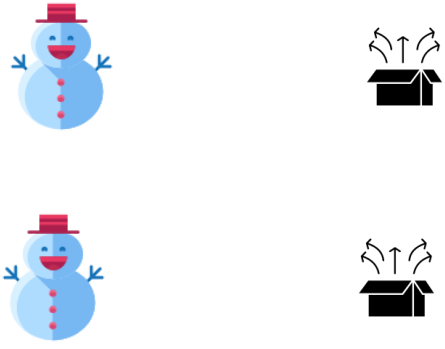
EPIC

FEATURES

USER STORY

TASK

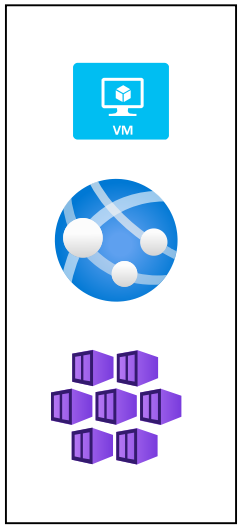




SCM

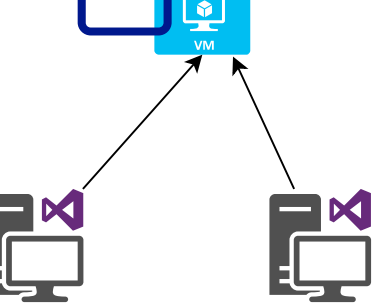
Centralized

Distributed

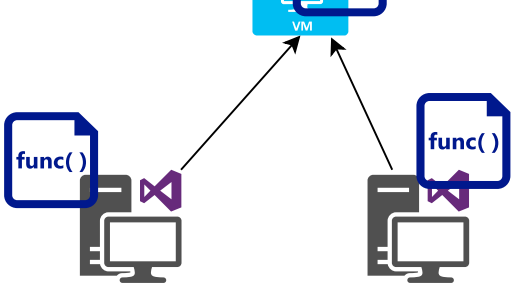


Platform

Open browser in inc
1. Create New Hotm
2. Redeem your Azu
3. Login on Azure w



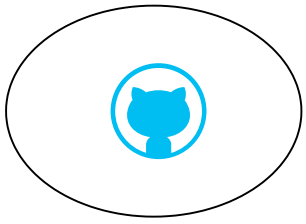
TFVC

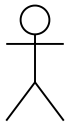


GITHUB
/
GITLAB

Code Quality
Check

GITHUB ACTION
(CI/CD)





Actor

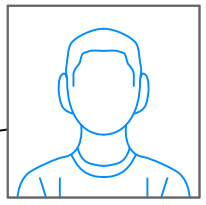
Collaboration
Team
Contribute to Repo
Discussion

INSIGHT

Project

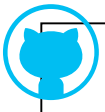
WIKI

cognito/private mode
ail/outlook account
re pass on https://www.microsoftazurepass.com/
ith your new account

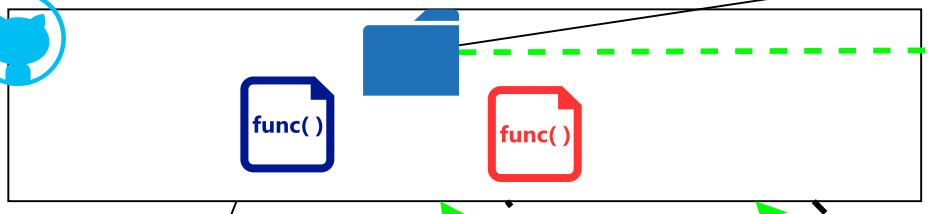


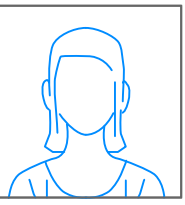
Invite to
Collaborate

REMOTE
Repo



GITHUB
ORG
ACCOUNT

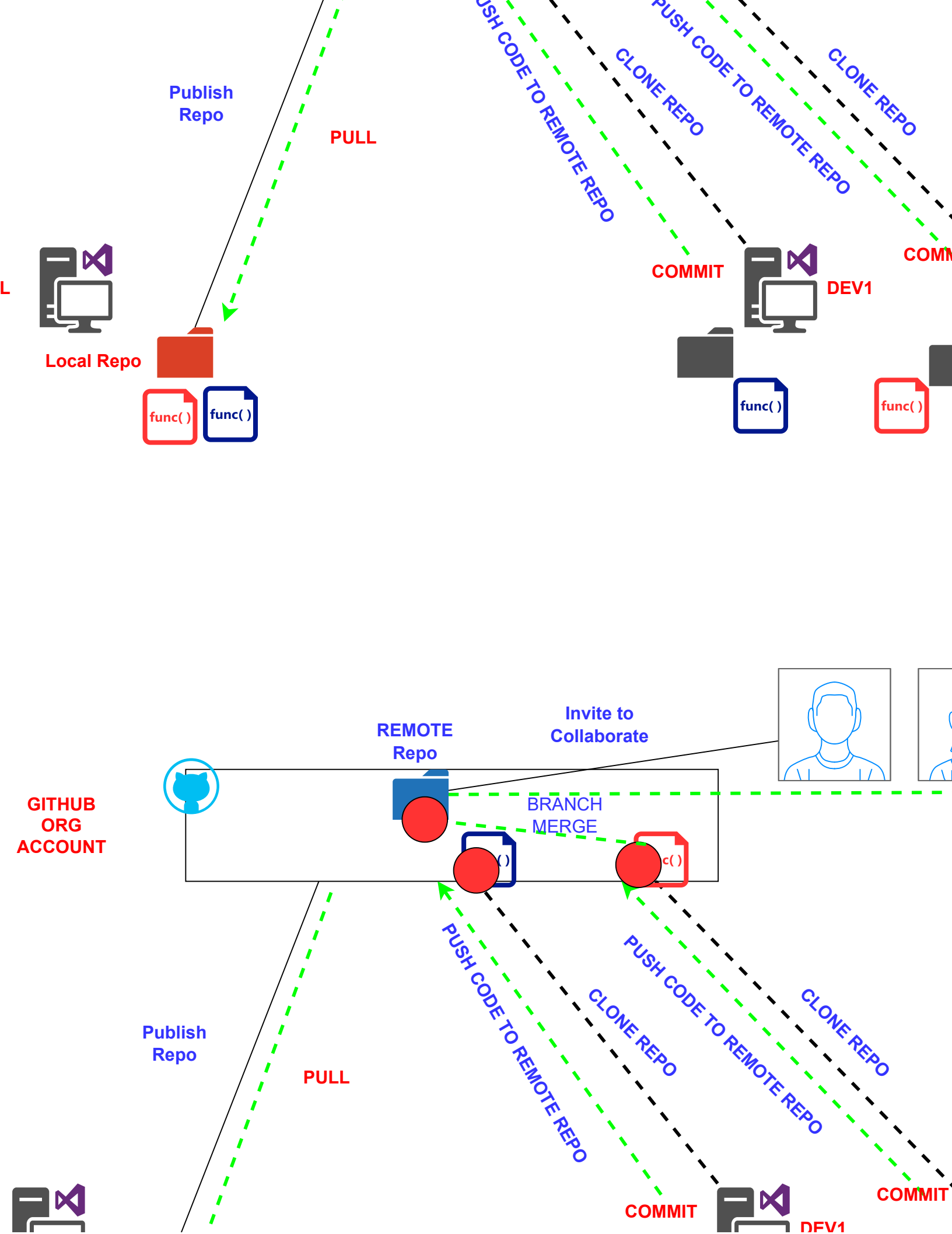




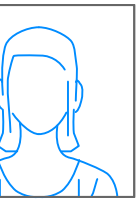
Jenkins
Azure Pipeline

T

TI


Publish
Repo
PULL
PUSH CODE TO REMOTE REPO
CLONE REPO
COMMIT
DEV1
Local Repo
func( )
func( )
func( )
func( )
REMOTE
Repo
Invite to
Collaborate
GITHUB
ORG
ACCOUNT
BRANCH
MERGE
( )
c( )
Publish
Repo
PULL
PUSH CODE TO REMOTE REPO
CLONE REPO
COMMIT
DEV1

DEV2

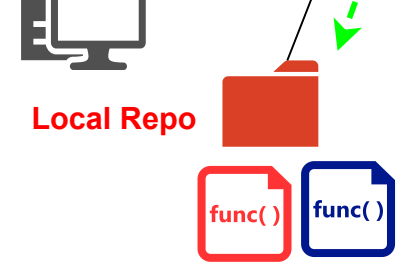


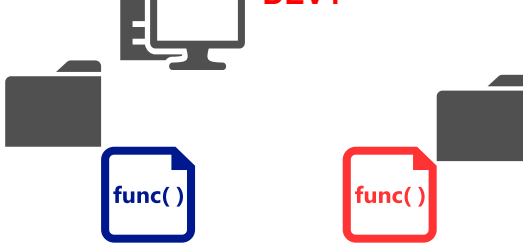
Jenkins
Azure Pipeline

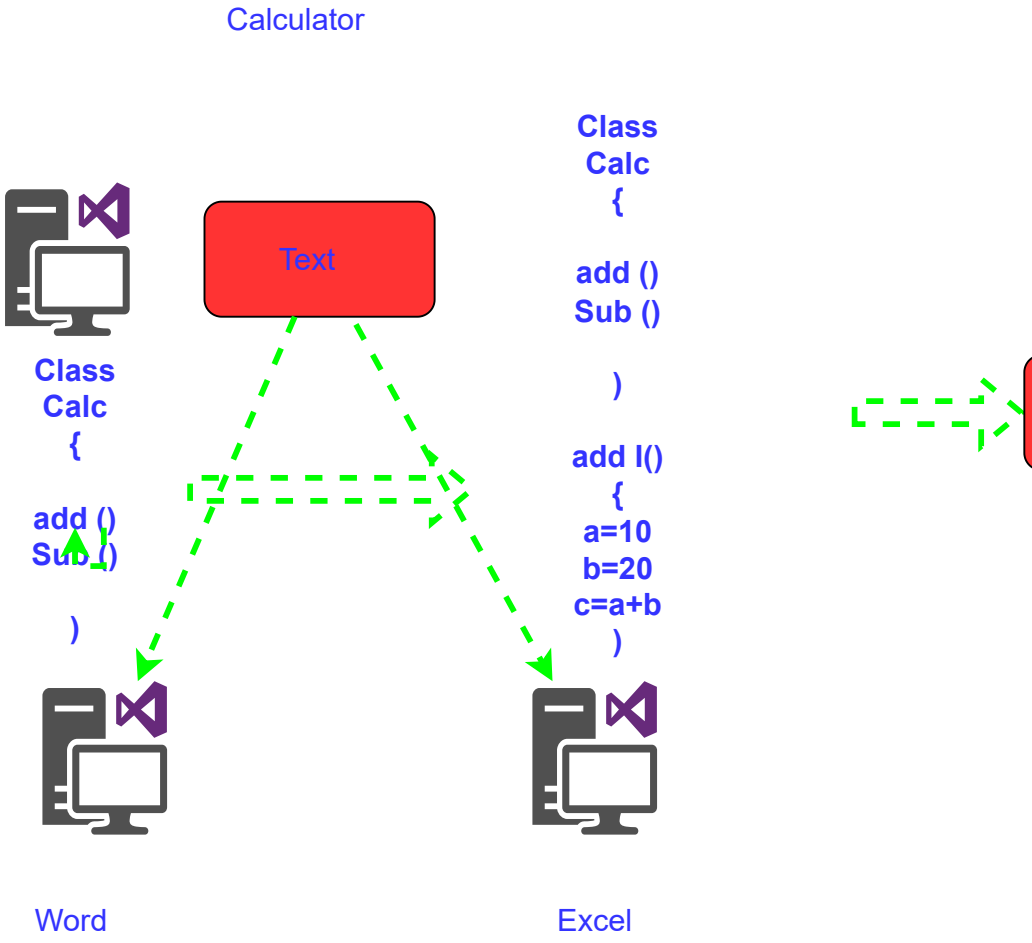
DEV2

A Custome
Azure.

- **Custo**
  harde
- **Custo**
- **App s**
- **Wher**





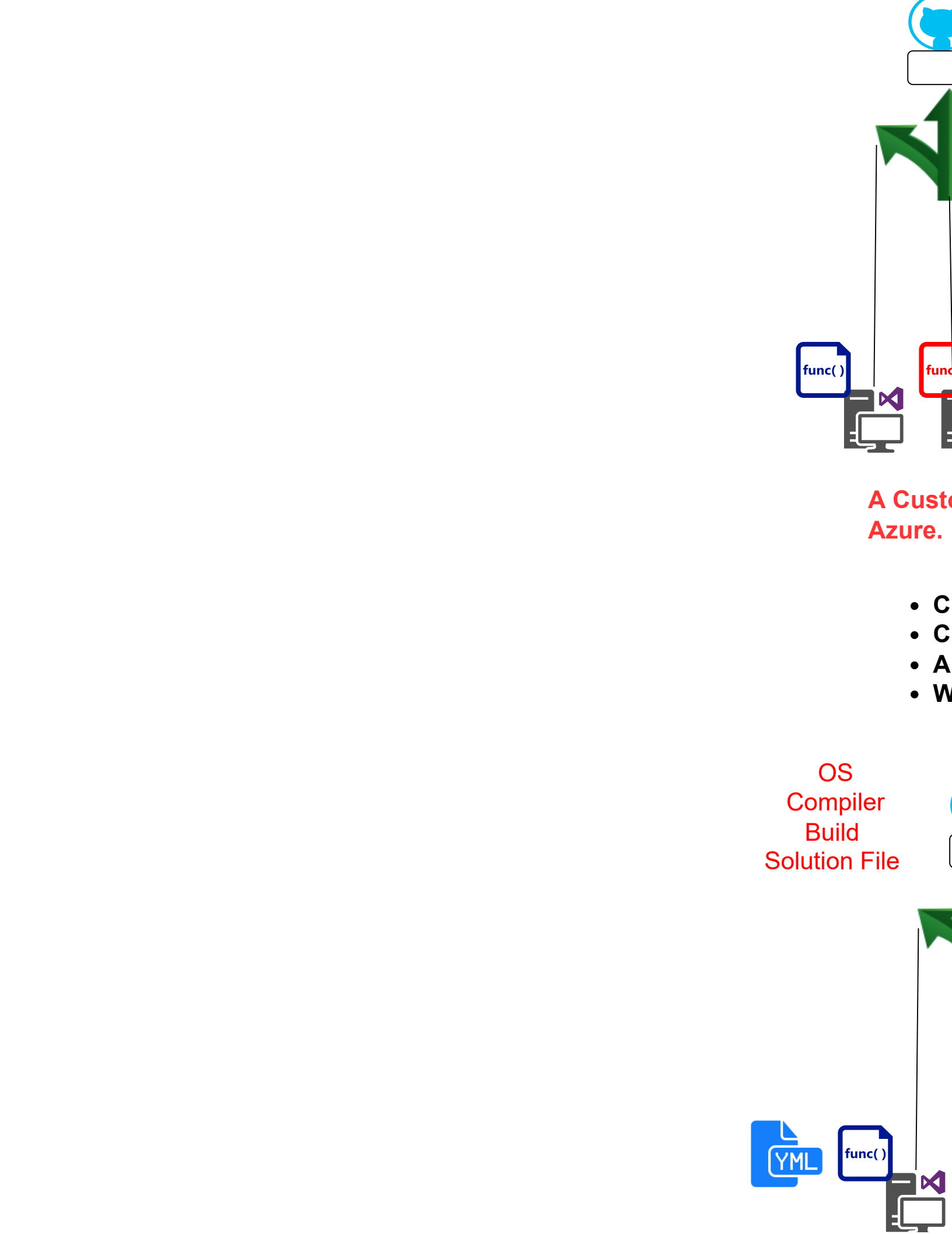


er has developed web app in Dotnet and customer want to host this app in Microso

omer to Install its own Antivirus on Backend server , customer also want to apply
ening on backend.
omer want whenever code get change app should get automated updated.
should be deployed in different stages like Dev, UAT and Prod
never load increases on backend it should scale

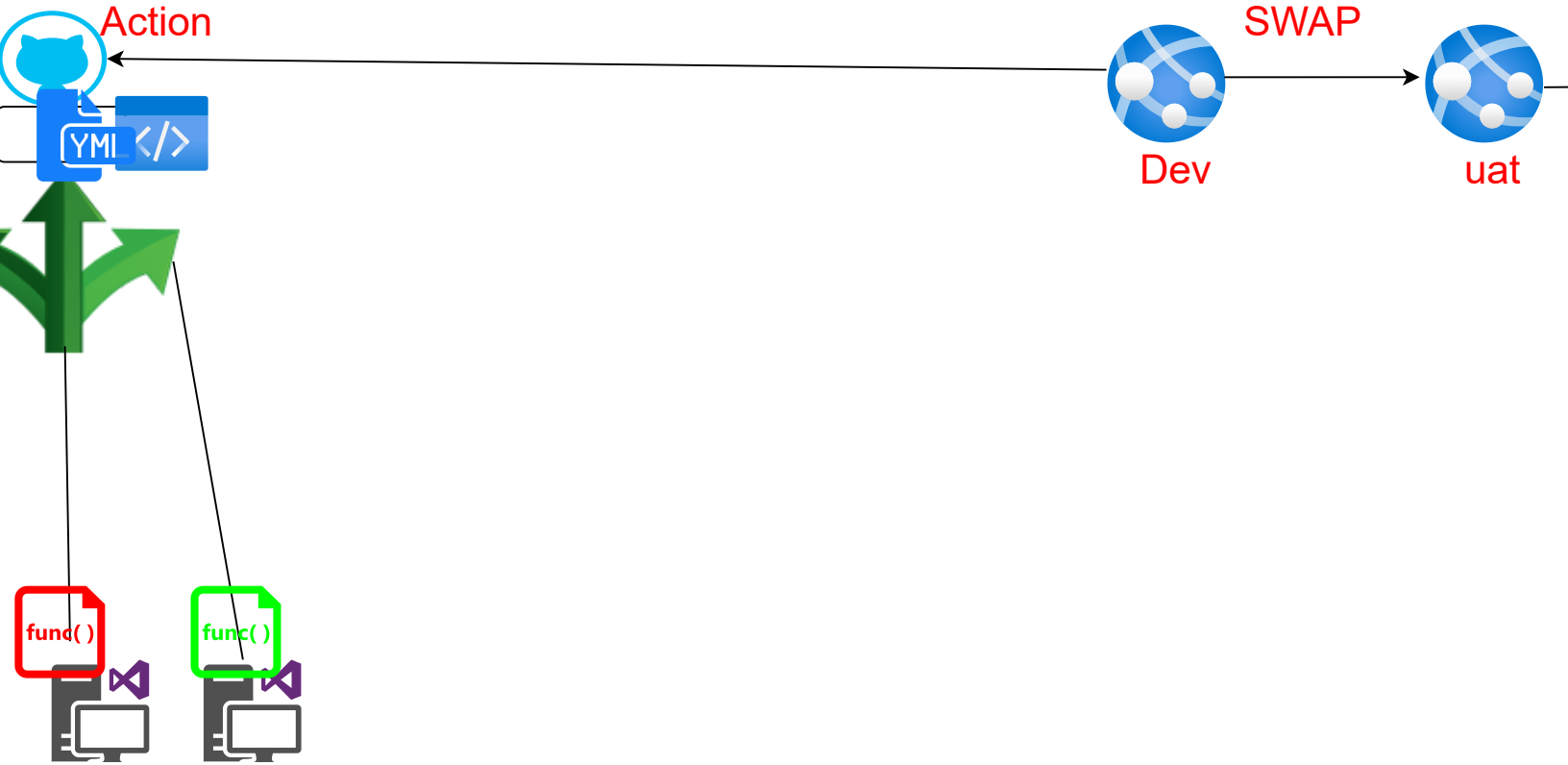
oft

certain


func( )
A Custo
Azure.
C
C
A
W
OS
Compiler
Build
Solution File
YML
func( )

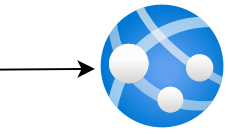
omer has developed web app in Dotnet and customer want to host this app in Micr

ustomer do not want to manage the Backend
ustomer want whenever code get change app should get automated updated.
pp should be deployed in different stages like **Dev, UAT** and **Prod**
henever load increases on backend it should scale



Prod

rosoft



Prod

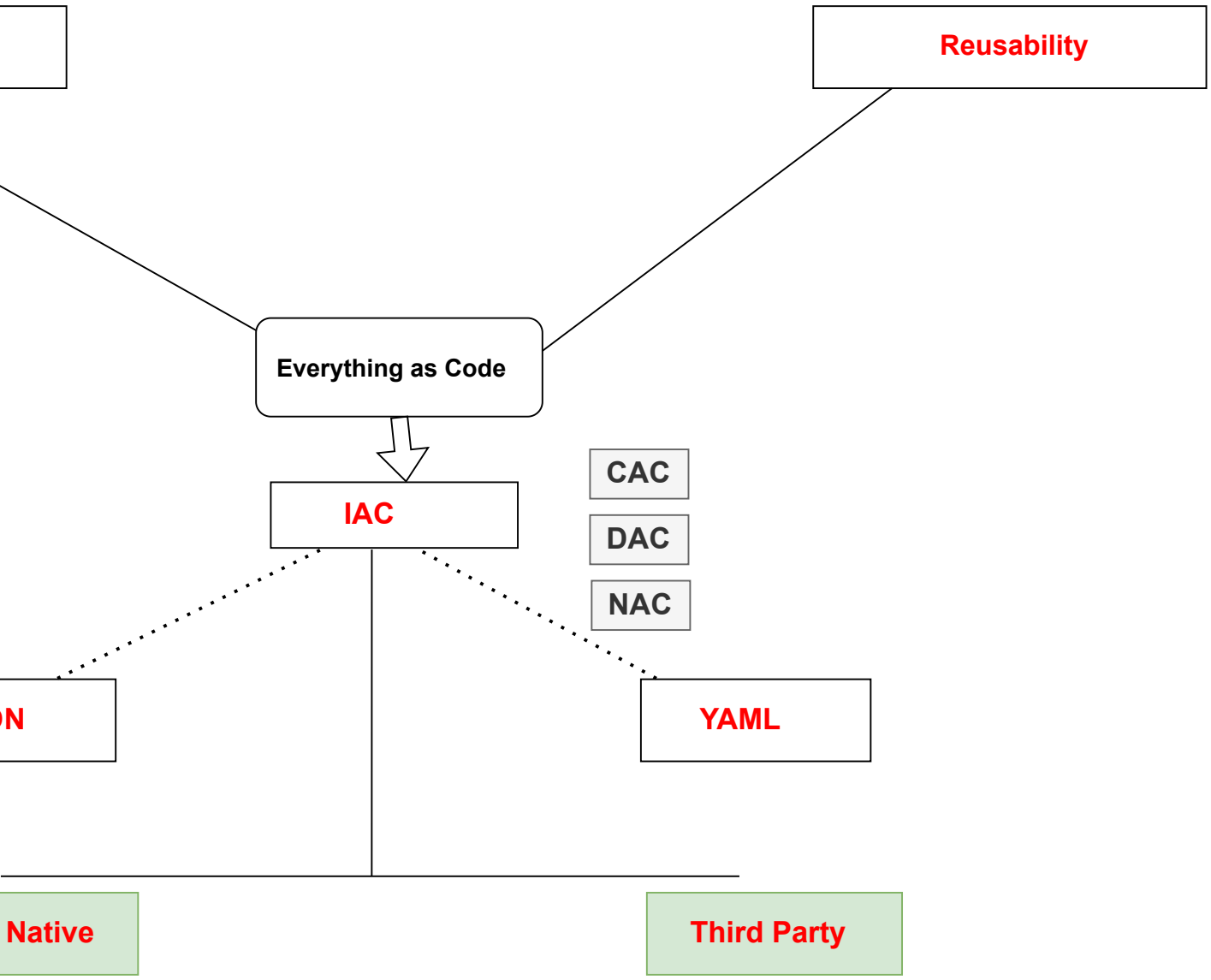
Standard

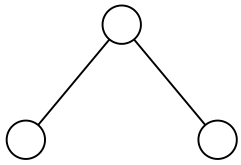
JSO

Azure

CLI

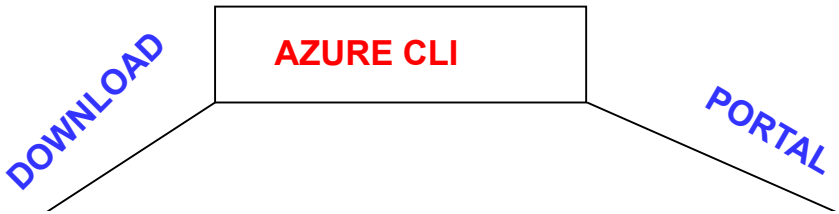
POWERSHE





ELL ARM/BICEP

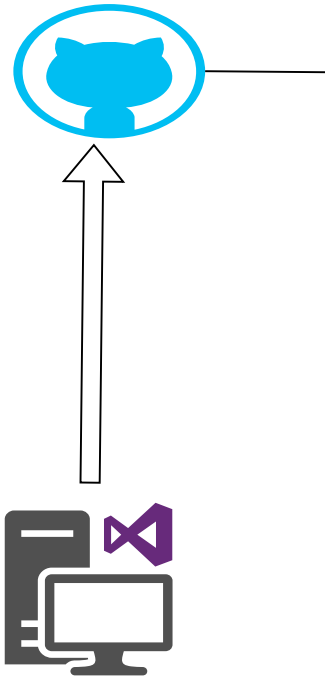
ANSIBLE TERRAFORM



LOC
ENVIO

az group list
az vm list
vm netwok delete

az group create --



Resour
VMNan

AL
RNMENT

CLOUD SHELL

--output table

name ghghghgh --location eastus

Create an App with code from git

ARM /BICEP

Resource Script

Parameter Script

rce = VM
ne =

VMName = String
VMImages =

VMIma
VMAdn
VMAdn

- What R
- What al
  the valu
- Sequen
  created
- Depend

ARM Donot Remember about its Pa

DISK 128
SKU D2BS

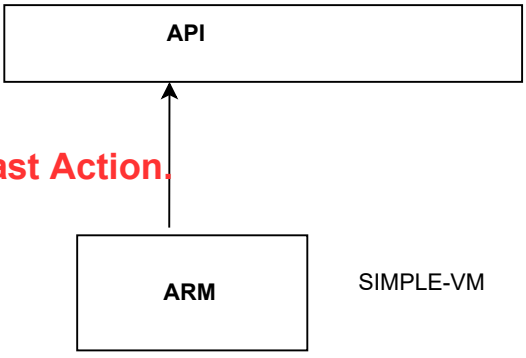
ges =
nin =
minPass=

esource we need to create /Delete?
l properties of the resource we will supply
ue?
nce how resource components should get
(in order)
lencies

VMAdmin = String , 12 Charater
VMAdminPass=

az create deployment

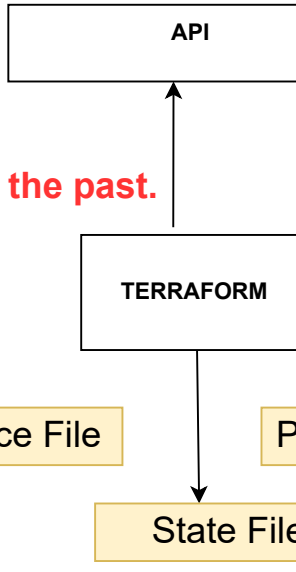
EASTUS
REGROUP
RESOURCENAME



SIMPLE-VM

Terraform Maintain the history of its action in the past.

DISK 128
SKU D2BS



TF

EASTUS
REGROUP
RESOURCENAME

SIMPLE-VM

arameter File

e

Backup State File

INIT

Peruser : 6 -25
Parller Execution per sec

Management Group

Subscription

Resource Group

License
Teams

LOCAL INSTALL

TERRAFORM CLOUD

PLAN

APPLY

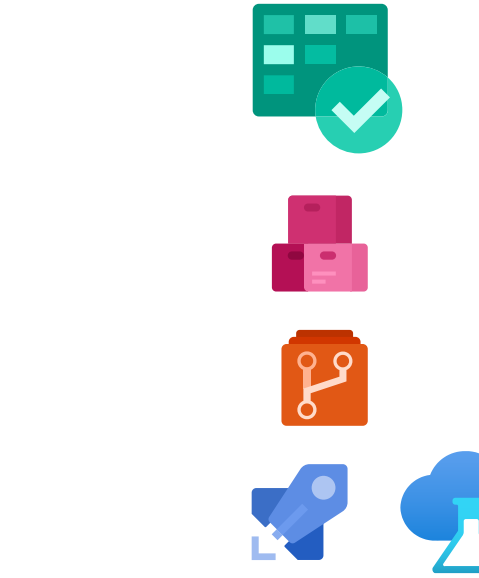
DESTROY

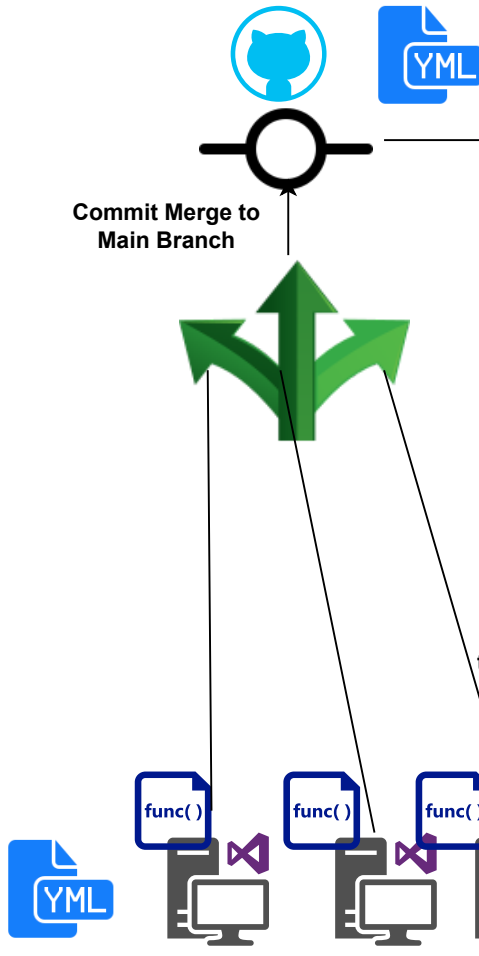
Azure DevOps Service

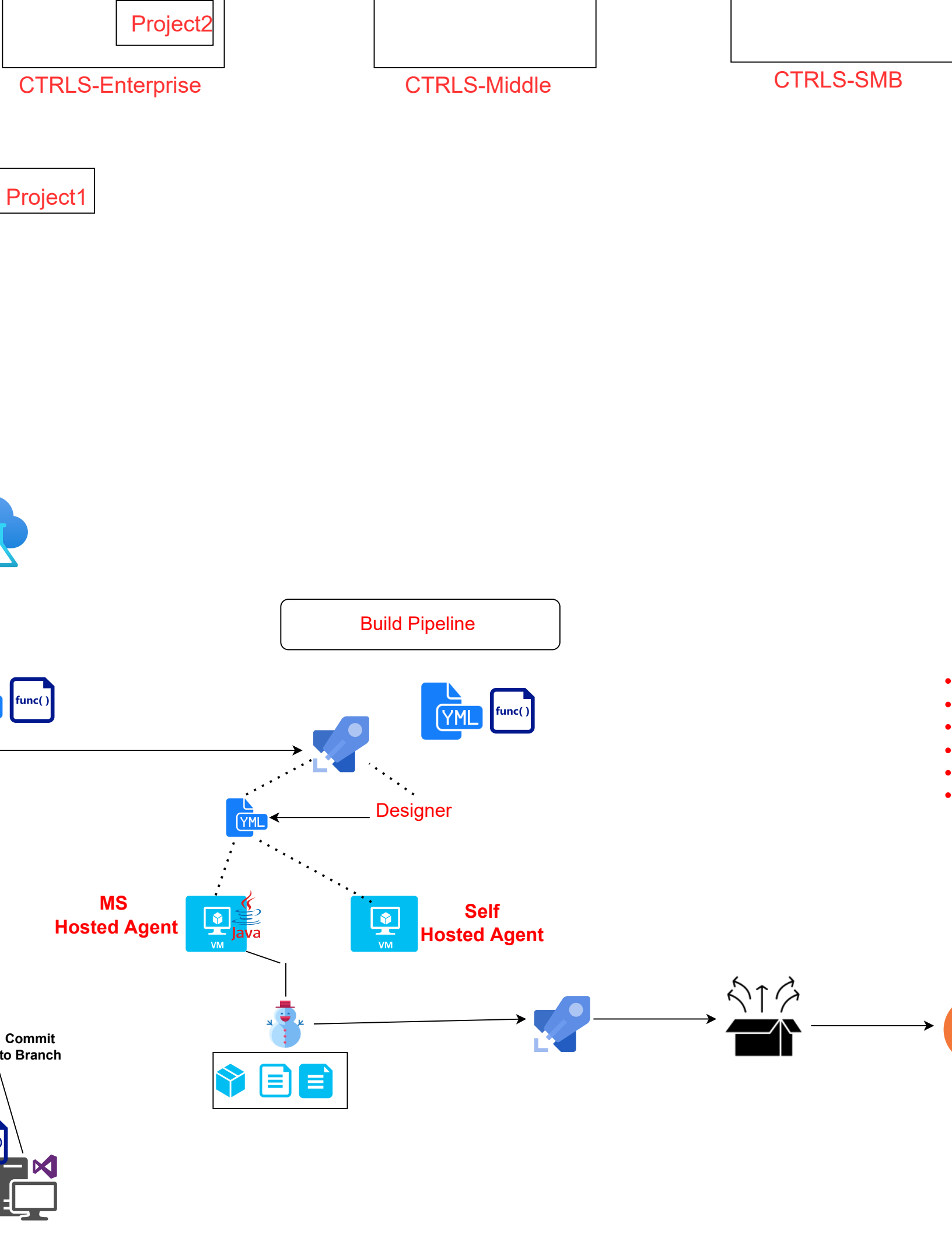
- **This is separate cloud service like Azure , o365,EMS,ERP**
- **This is separate licensed not by default part of Azure Licensed**
- **It has separate URL**
  - **office.microsoft.com**
  - **portal.azure.com**
  - **dev.azure.com**
- Azure DevOps can also integrate with Azure AD for Auth and Auth
- To get the server we need azure for build and release
- It is cloud version of TFS
- Azure DevOps can manage any cloud platform

Project1

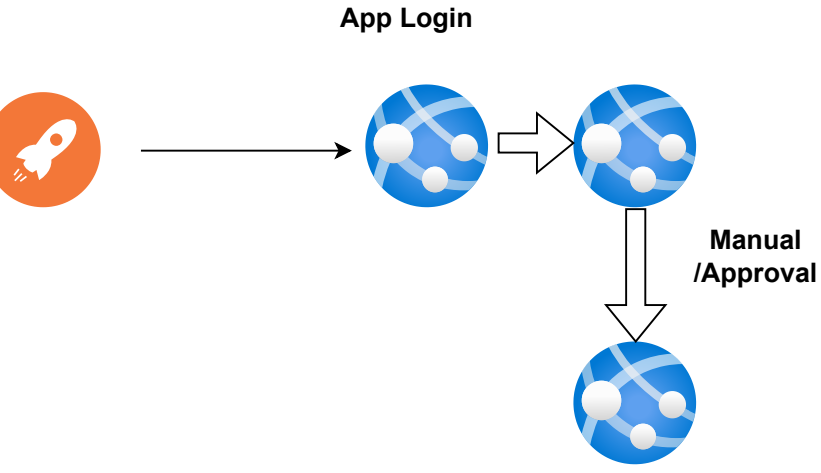
Policy



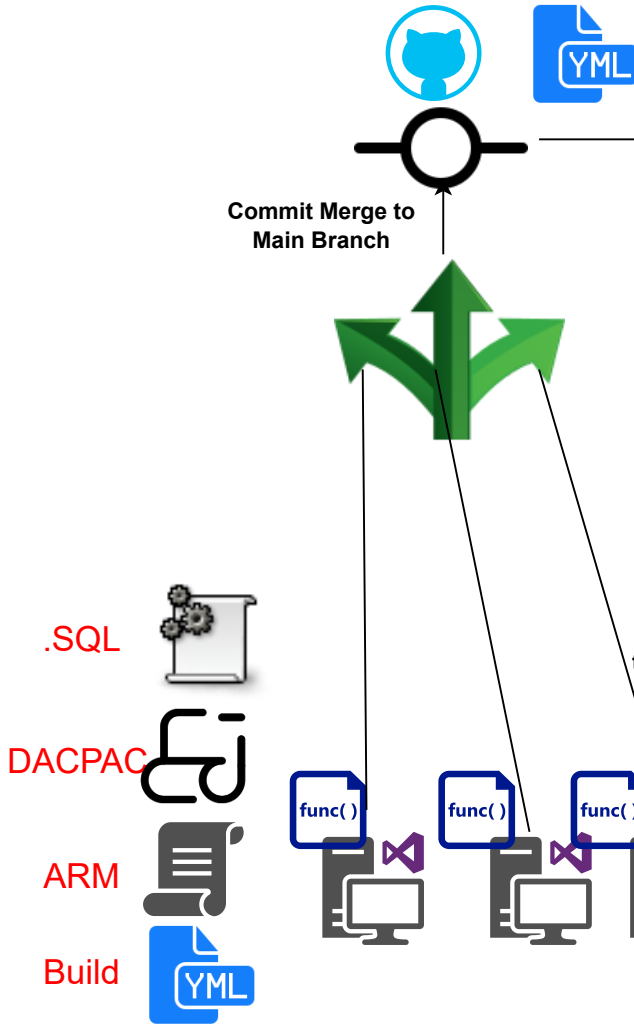



Project2
CTRLS-Enterprise
CTRLS-Middle
CTRLS-SMB
Project1
Build Pipeline
func( )
YML
func( )
YML
Designer
MS
Hosted Agent
Java
VM
VM
Self
Hosted Agent
Commit
to Branch

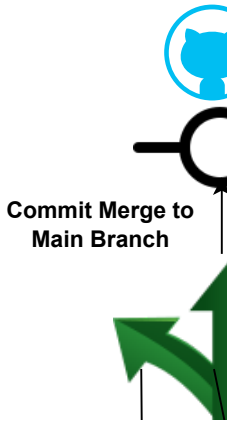
Where is the Code?
Which version (Dotnet 3/5)
Sequence in which code need to compile
Which OS this code can compile
Which all packages we need to read(Nuget)
Which package creation tool (msbuild /maven)



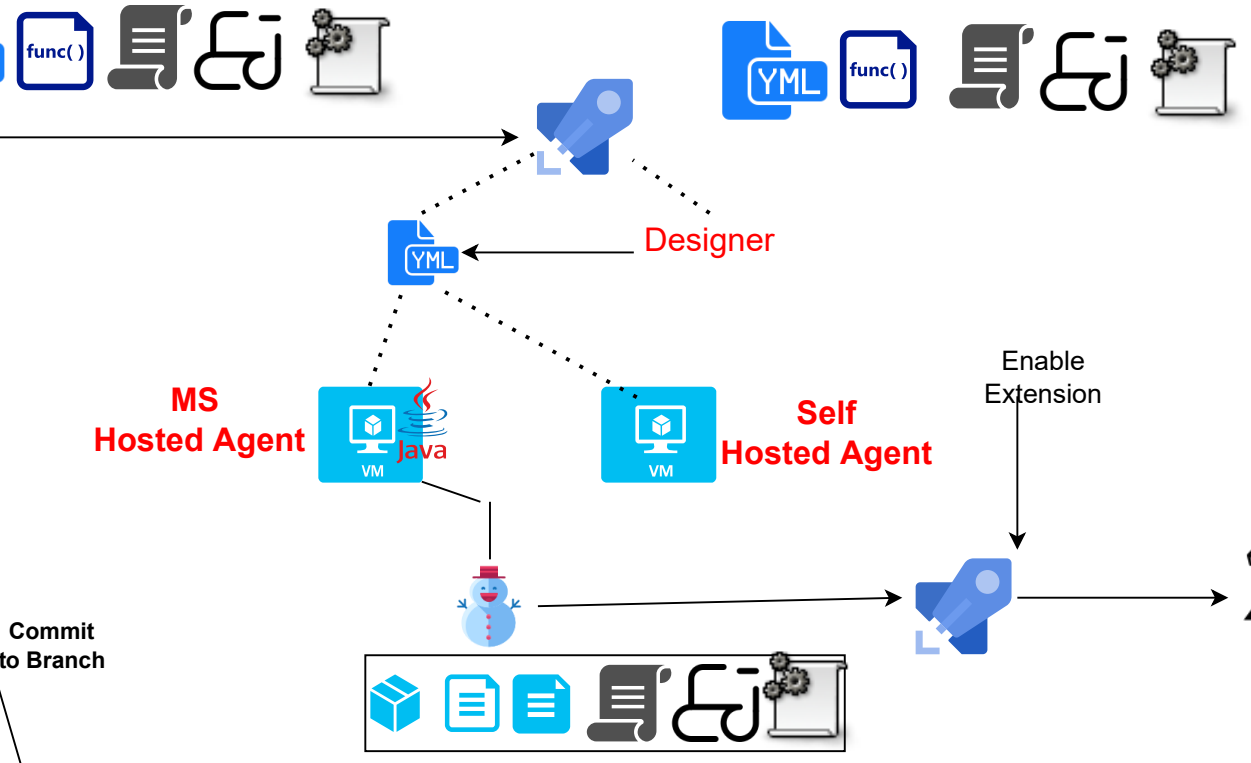
- **Customer v**


YML
Commit Merge to
Main Branch
.SQL
DACPAC
ARM
Build
YML
func( )
func( )
func( )

-

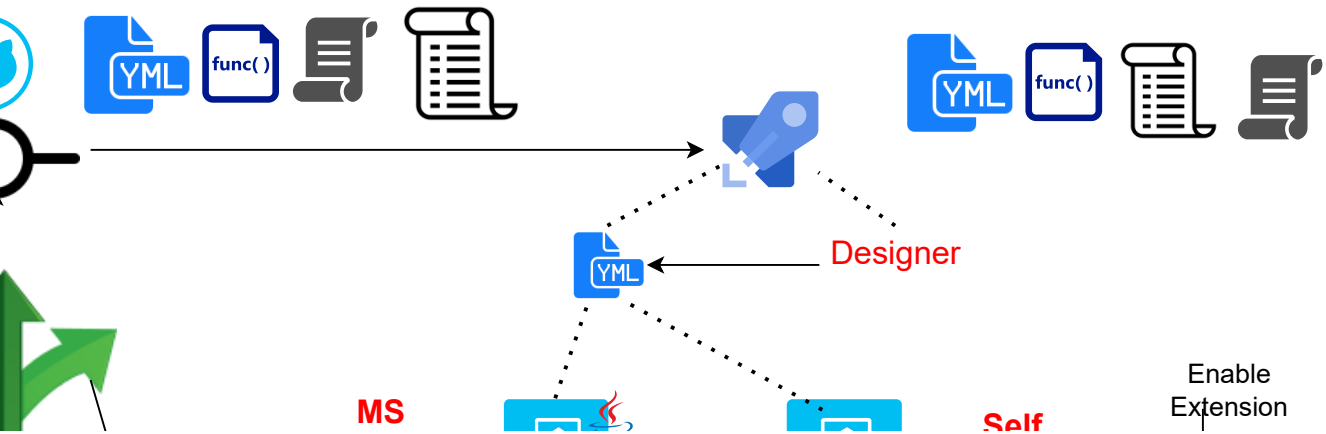

Commit Merge to
Main Branch

vant to deploy Dotnet Code to azure app with SQL as backend . They want all required infra to be created a

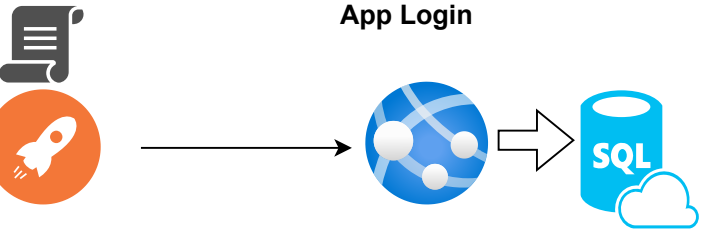


1. First A
2. Creat
3. Then
2. Now t

Customer want to deploy Java Code to Kubernetes . They want all required infra to be created and manag

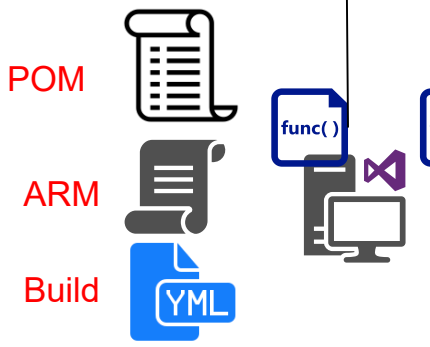


and managed by dev team.

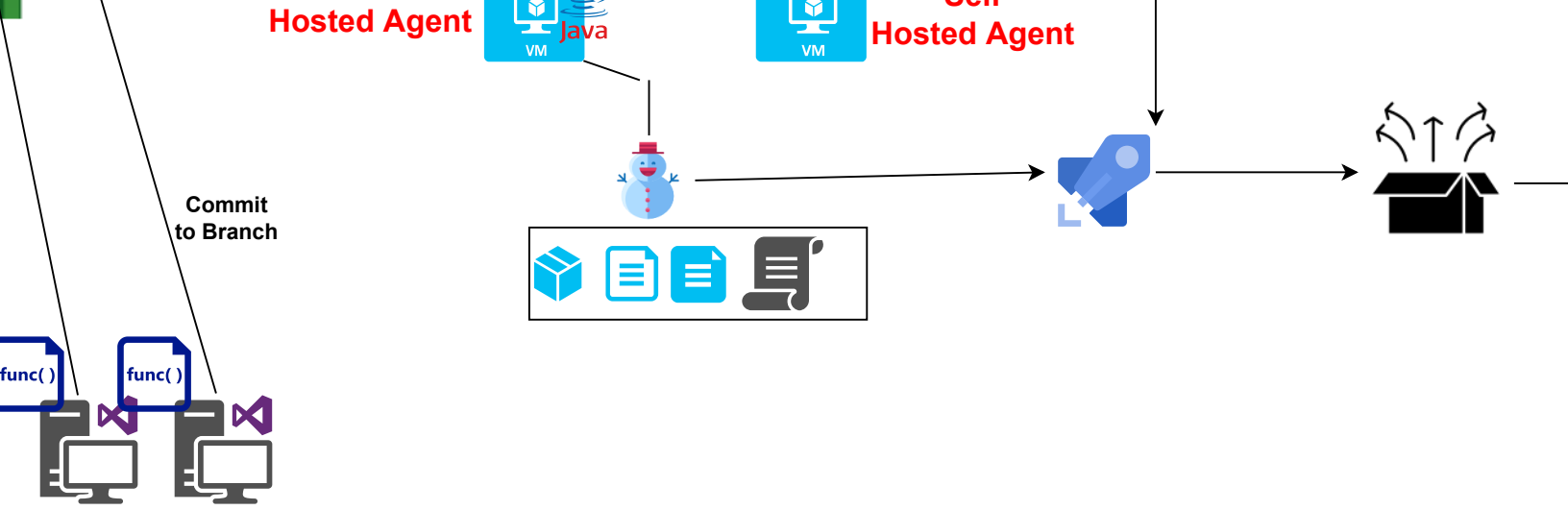


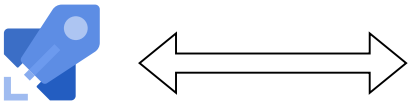
ARM Execute and Create infra
e SQL Database in SQL Server
Create SQL Table in SQL Database
hey Copy the AppCode.

ged by dev team.



Azure DevOps Star





Jenkins

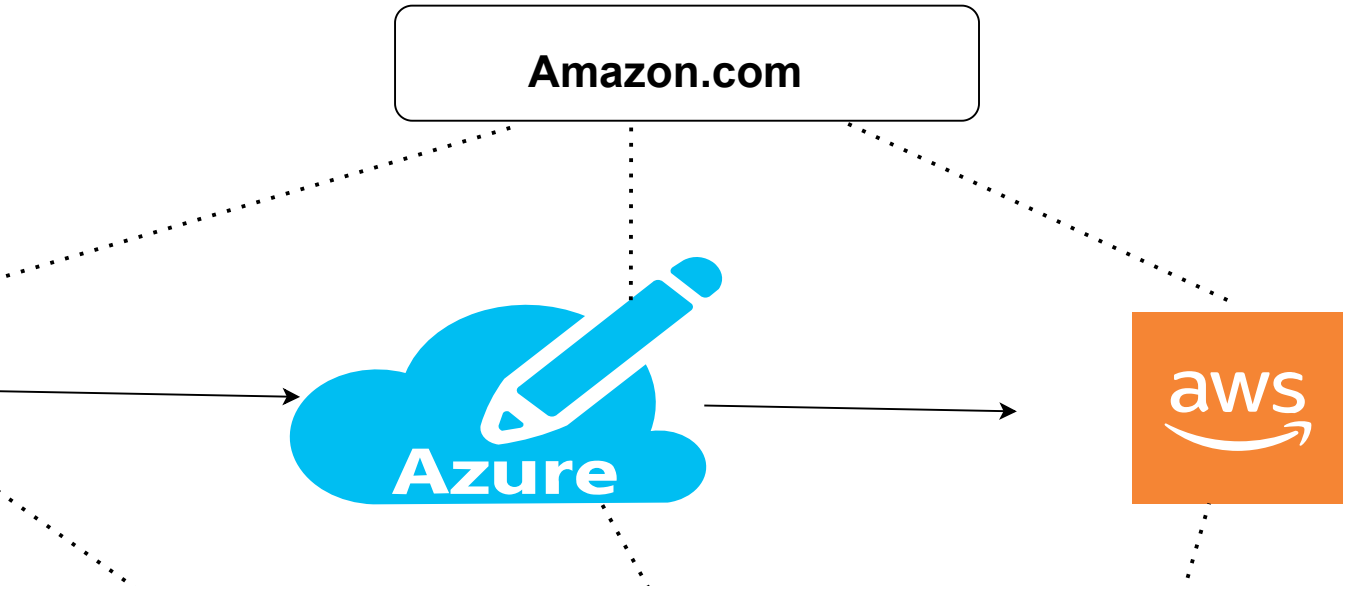
Sonarcube

Ansible

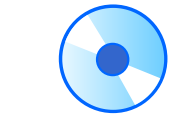
ter

Azure DevOps Handson

Azure DevOps Demo Generator



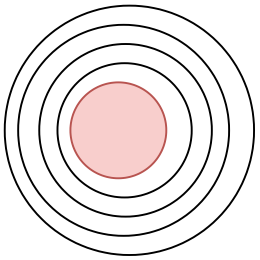
1. First ARM Execute and Create infra
2. Now they Copy the AppCode.



OS

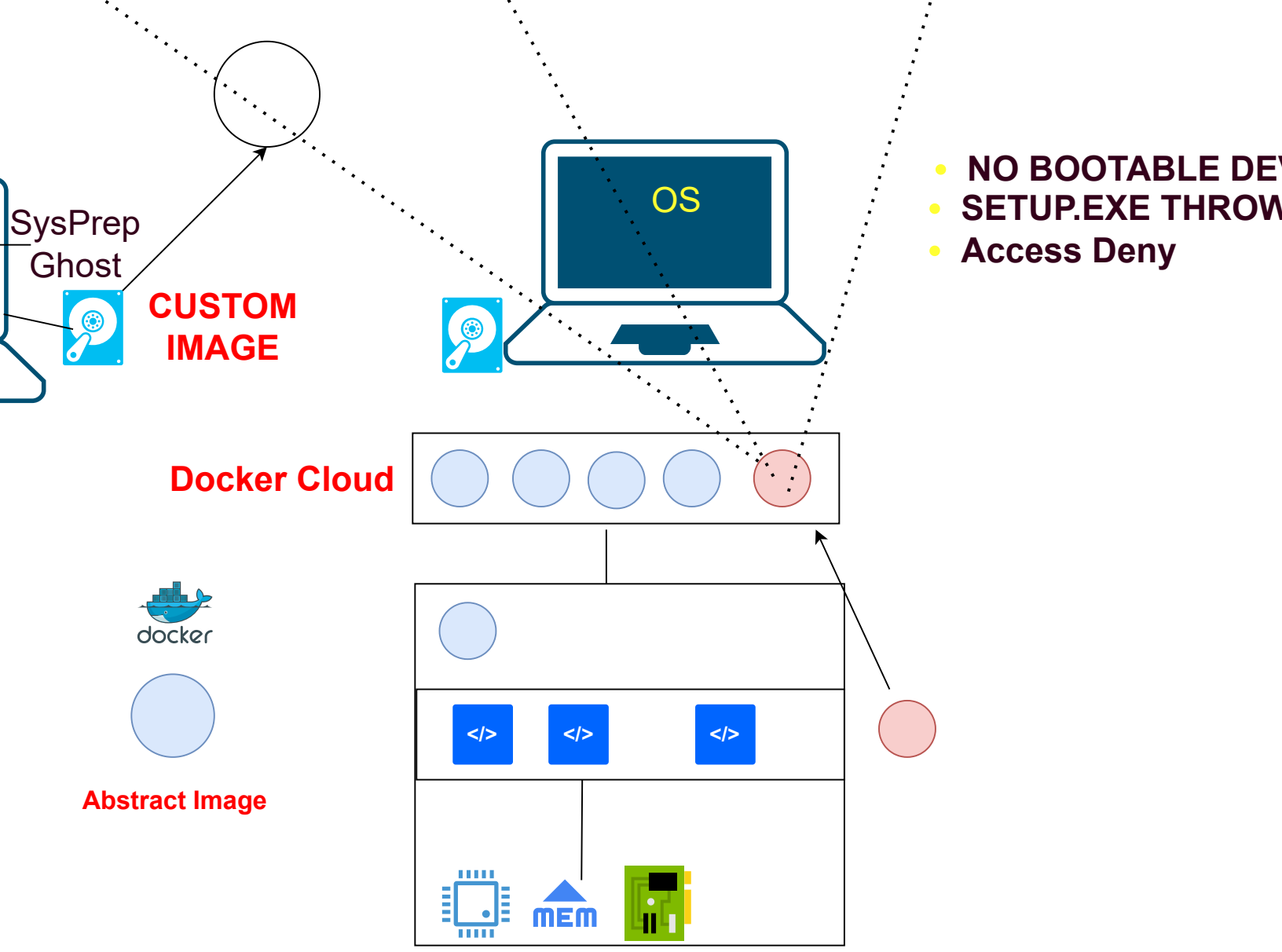
MSOFFICE

IMAGE



10mb

Microserv


SysPrep
Ghost
CUSTOM
IMAGE
OS
NO BOOTABLE DE
SETUP.EXE THROW
Access Deny
Docker Cloud
docker
Abstract Image
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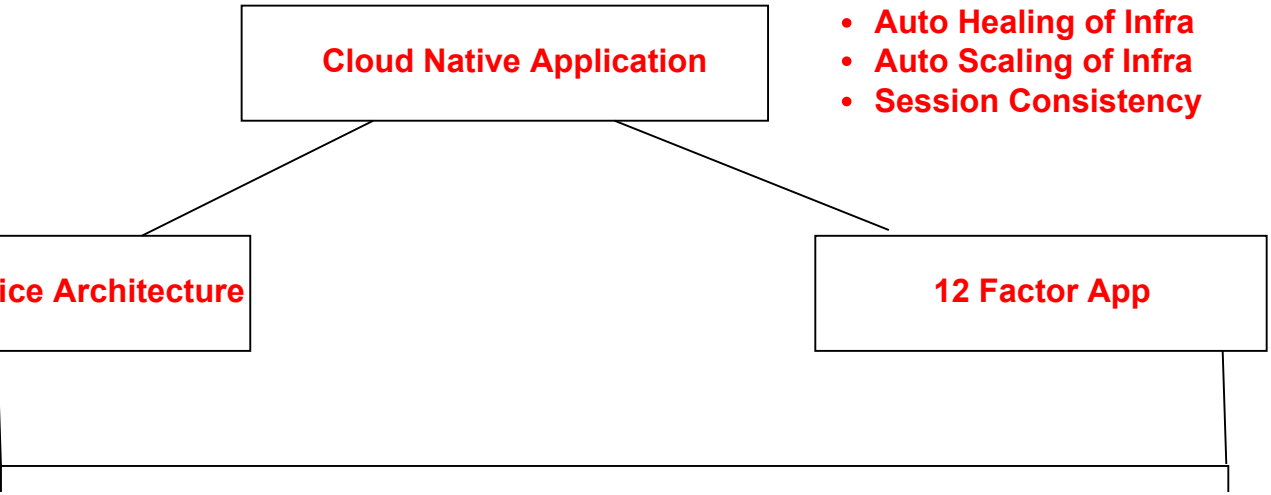
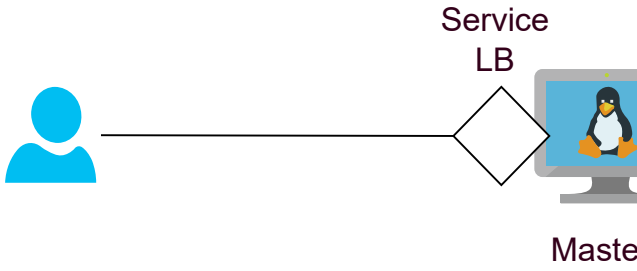
MEM
Container is the Running Instance of a Ima


Cloud Native Application
Auto Healing of Infra
Auto Scaling of Infra
Session Consistency
ice Architecture
12 Factor App

VICE FOUND
/ ERROR

ge

- It is used for Low T
- It does not support

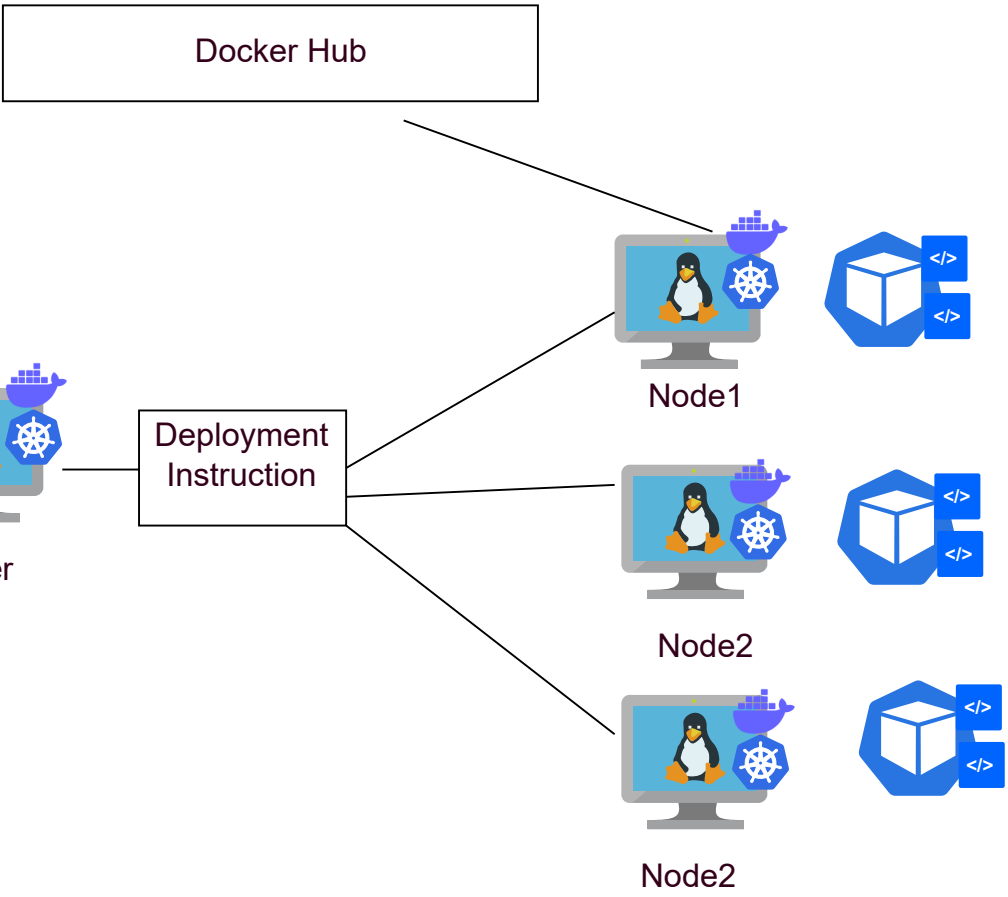


CONTAINRE

Touched App / Testing App
Autoscaling / Autohealing

- It is for Critical Application workload
- It support Autoscaling
  - Container Autoscaling
  - Node Autoscaling
- It support Autohealing

- 1. Kubernetes service is free , you will o of nodes.
- You not need to Manage the Kubernetes



nly pay for the compute of no

s Master Node