AZURE DevOps

Presentation · April 2021

DOI: 10.13140/RG.2.2.31452.51843

CITATIONS
0

READS
1,634

4 authors, including:

Dolapo Obayomi
Frankfurt University of Applied Sciences
3 PUBLICATIONS **0** CITATIONS
SEE PROFILE

Divya Athyala
Frankfurt University of Applied Sciences
2 PUBLICATIONS **0** CITATIONS
SEE PROFILE

AZURE DevOps

Cloud Computing Project

Presented by Group 12

Obayomi Dolapo Anthony -1294064
Gaurav Kapadiya -1319237
Julius Komla Duphey -1327753
Divya Athyala -1272659

Under the guidance of
Prof. Christain Baun

OUTLINE

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Introduction
- Why Azure DevOps
- Objectives
- Azure Kubernetes Service
- Azure App Services,Virtual Machines and Scale Sets
- Azure Docker Service
- Demonstrations
- Conclusion

INTRODUCTION

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- To scale up and deliver applications
- Cloud computing
- Other relevant Cloud services
- Automation
- Cost effective
- Mostly pay-as-you-go

WHY AZURE DEVOPS

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Azure Devops is a MS cloud hosting services
- Users capability
- Monitoring
- Managing test plans
- Azure DevOps is modular and integrated

OBJECTIVES

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Personalising a webservice
- Containerize the applications
- Deploying App services using Docker and Azure Kubernetes
- Azure Pipelines for the entire deployment stages - Build and Release
- DevOps for CI/CD
- Deploying the web service from Azure DevOps to Azure portal

AZURE KUBERNETES SERVICE

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Deployment and manage containerised applications
- Serverless Kubernetes
- Integrated continuous integration and continuous delivery experience
- Enterprise-grade security
- Governance
- Unite developments
- Operations teams

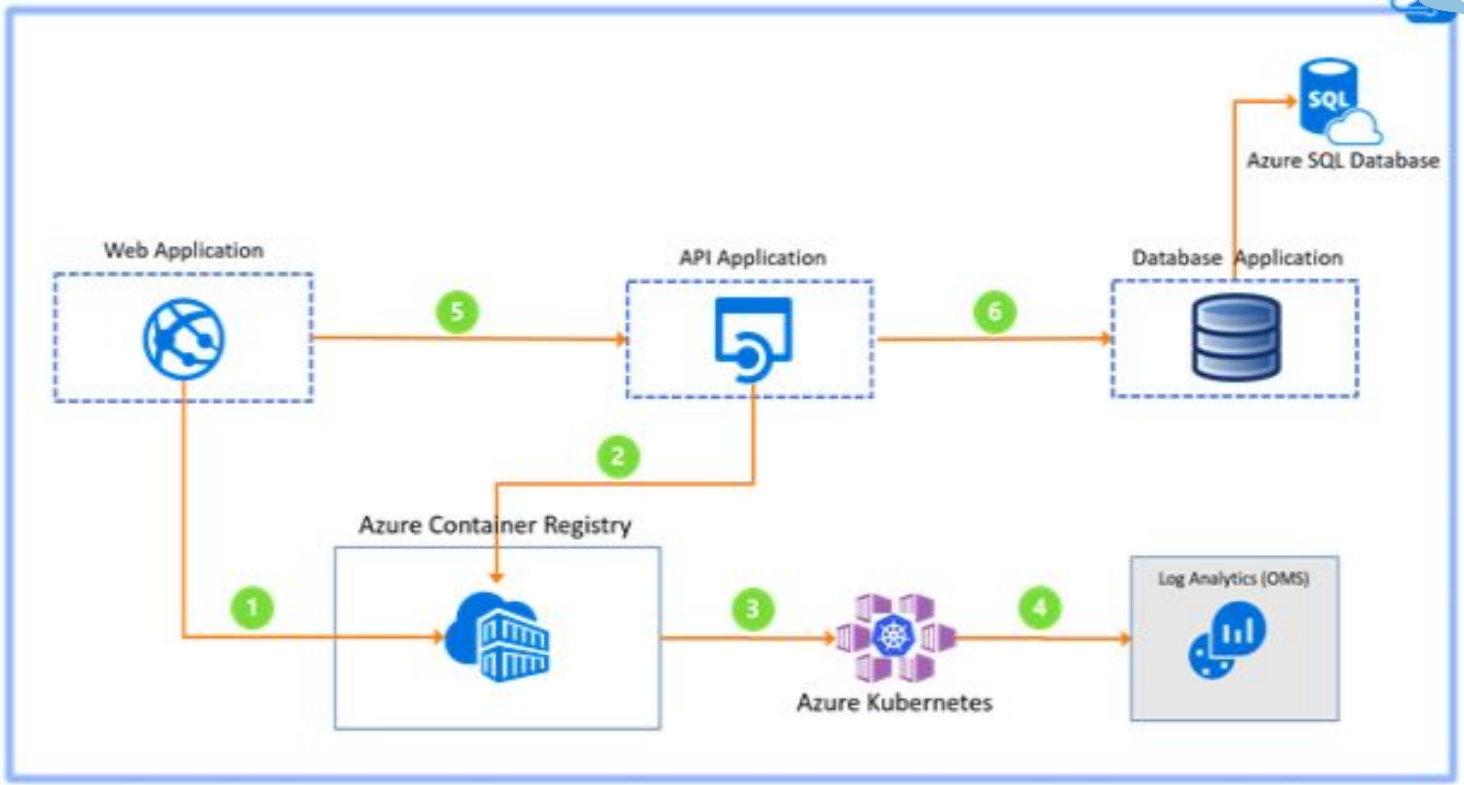

Figure 1: How to implement AKS

Source : https://docs.microsoft.com/en-us/azure/aks/

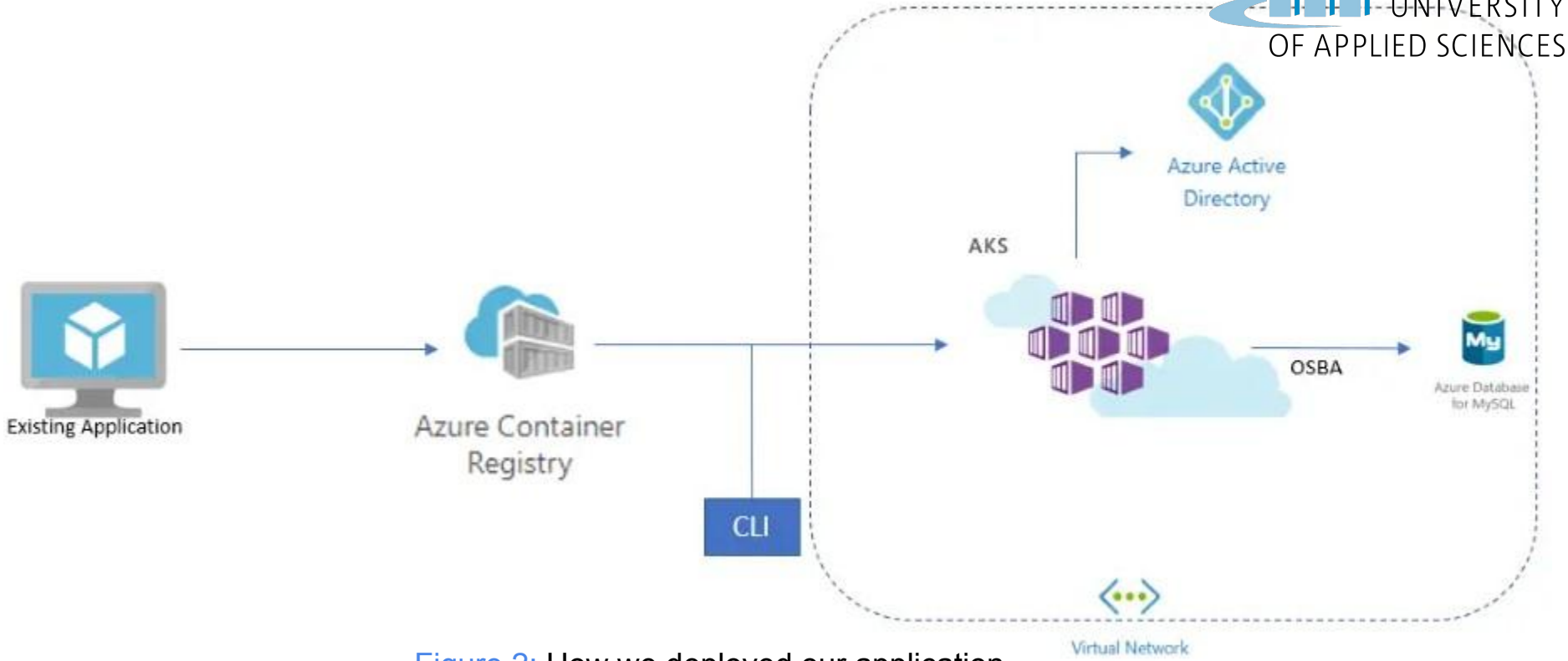

Figure 2: How we deployed our application

Source : https://docs.microsoft.com/en-us/azure/aks/

AZURE APP SERVICE

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Cloud computing based platform
- Hosting websites
- Created and operated by Microsoft.
- Platform as a service
- Publishing Web apps
- Different programming languages
- Including Microsoft proprietary ones and 3rd party ones

Deployment:

- Build Pipeline->YAML Configuration->Release Pipeline->Hosted by Azure App Service

DEPLOYMENT TO VM

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Environment Creation
- Deployment Group
- Registration with VM with token in deployment pool

Process:

- Build Pipeline->YAML Configuration->Registration Process start->Release Pipeline->Deployment

DEPLOYMENT TO VMSS

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Useful for Autoscaling Identical VM's

VMSS Process:

- Creation of Storage Accounts, Resource Groups, Image Gallery

Process:

- Build Pipeline->YAML Configuration->VMSS Process->Publishing Artifacts and creating custom Image->Release Pipeline->Deployment

AZURE DOCKER SERVICE

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Enables developers to use native Docker commands
- To run applications in ACI
- Tight integration
- Quickly run applications using the Docker CLI
- VS Code extension
- local development to cloud deployment.

AZURE DOCKER SERVICE

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Docker CLI
- Easily log in
- Set up an ACI context
- single container and multi-container application development
- Docker image
- Simplicity
- Collaboration
- Flexibility

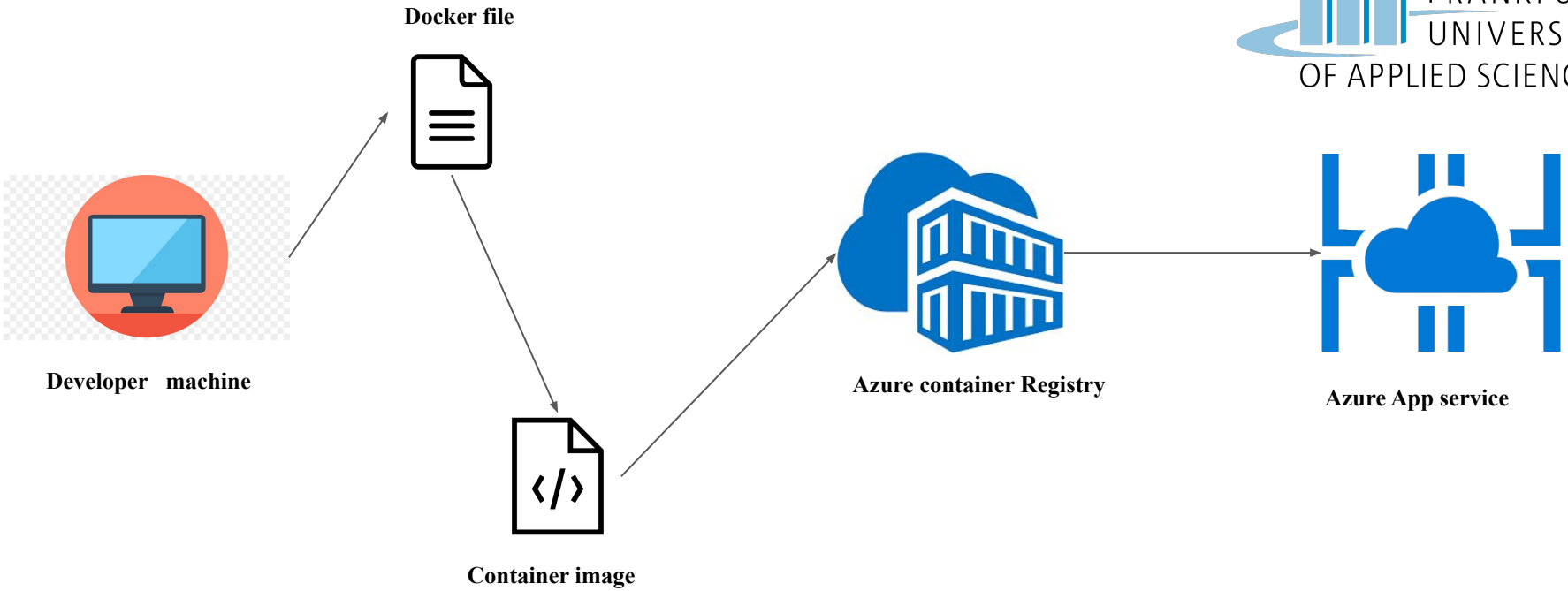

Figure 4: Azure Container instance with Docker

Source : https://www.youtube.com/watch?v=O5aXcmKc1HU&t=428s&ab_channel=CloudSkills

CONCLUSION

FRANKFURT UNIVERSITY OF APPLIED SCIENCES

- Integrated Version and source control
- Various Deployments on various platform
- Creation of modern software applications
- Ease access to our applications and tracking the process
  -

Thank you