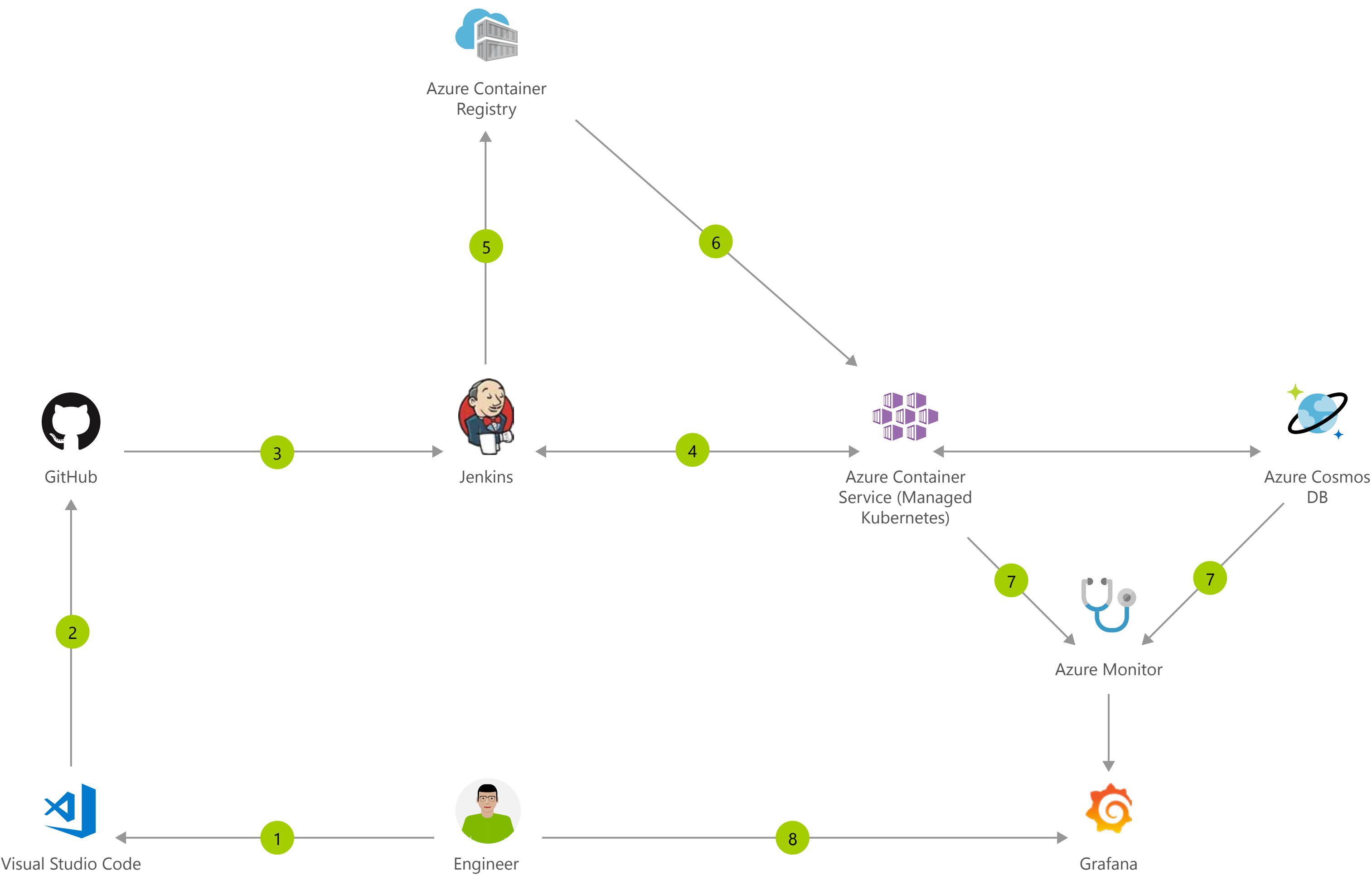# Container CI/CD Using Jenkins and Kubernetes on Azure Container Service (AKS)

Azure Container Registry

GitHub

Jenkins

Azure Container Service (Managed Kubernetes)

Azure Cosmos DB

Azure Monitor

Visual Studio Code

Engineer

Grafana

Architecture overview

Containers make it easy for you to continuously build and deploy applications. By orchestrating the deployment of those containers using Kubernetes in Azure Container Service, you can achieve replicable, manageable clusters of containers.

By setting up a continuous build to produce your container images and orchestration, you can increase the speed and reliability of your deployment.

1 Change application source code.

2 Commit code to GitHub.

3 Continuous integration trigger to Jenkins.

4 Jenkins triggers a build job using Azure Container Service (AKS) for a dynamic build agent.

5 Jenkins builds and pushes Docker container to Azure Container Registry.

6 Jenkins deploys your new containerized app to Kubernetes on Azure Container Service (AKS), backed by Azure Cosmos DB.

7 Grafana displays visualization of infrastructure and application metrics via Azure Monitor.

8 Monitor application and make improvements.

Azure products used in this solution

Container Service (AKS)

Container Registry

Cosmos DB

Visual Studio Code

Monitor