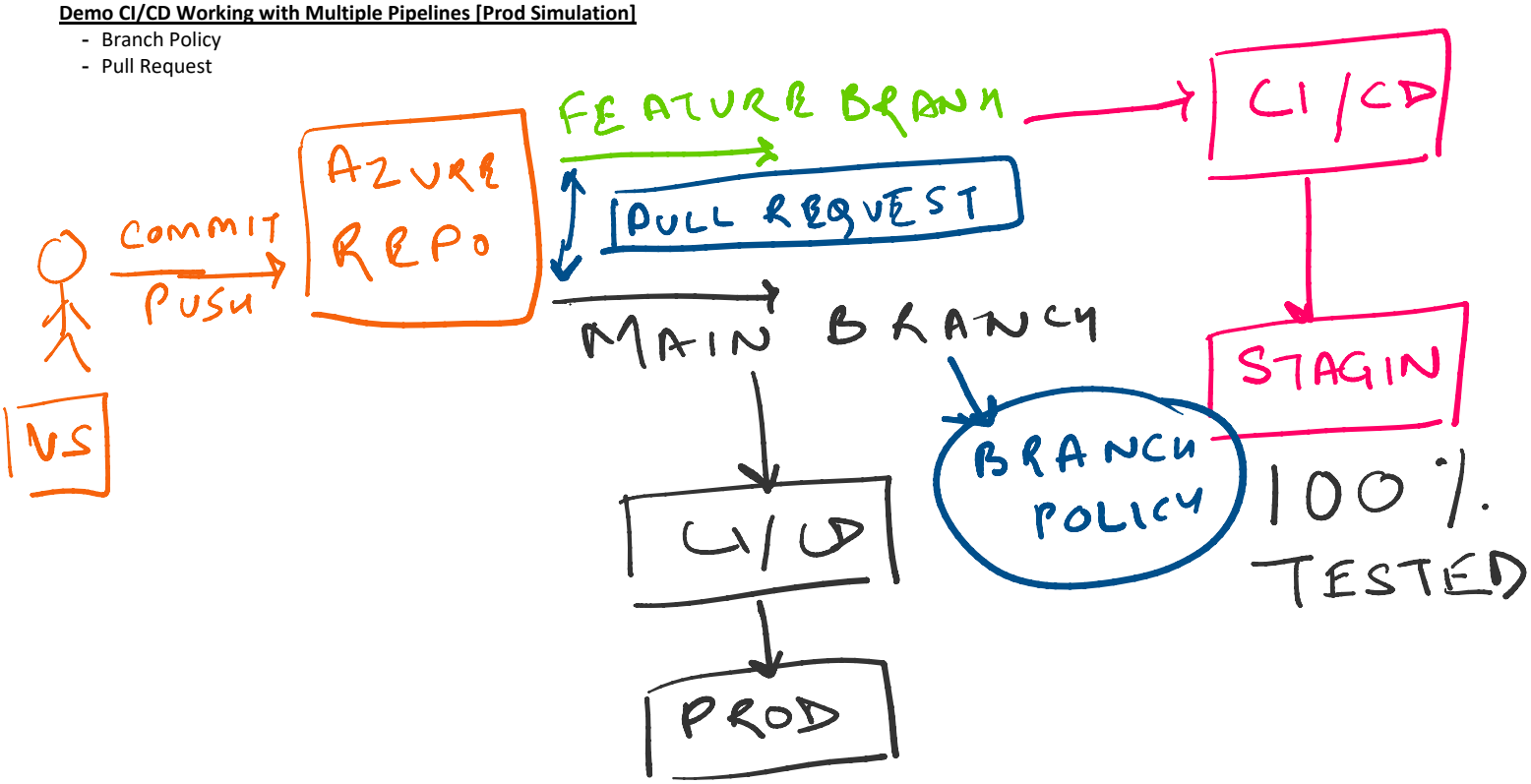
Day 6 Containers + ACR

Demo CI/CD Working with Multiple Pipelines [Prod Simulation]

- Branch Policy
- Pull Request



Tools

- Docker Desktop
- Azure CLI

DOCKER

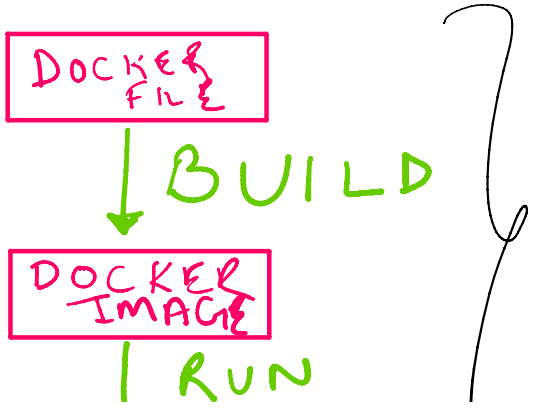
- Open source **Containerization Platform**
- Containers simplify delivery of distributed applications. And Docker helps us out to build these conatiners.
- App - Conatinered

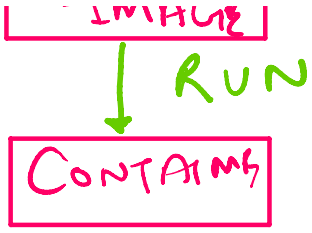
- **Docker Engine**
  - Docker engine is a part of docker which creates and run docker containers.
  - This also helps us to share our conatiners in Docker Hub or Azure Container Registry.

- **DockerFile - Automates the process of Docker Image Creation**

```
# Use the official Ubuntu 18.04 as base
FROM ubuntu:18.04

# Install nginx and curl
RUN apt-get update &&
apt-get upgrade -y &&
apt-get install -y nginx curl &&
rm -rf /var/lib/apt/lists/*
```





- **DOCKER IMAGE**
  - It conatains executable of your application - source code, tools, libraries and any kind of dependency your source code has.
- **Docker CONTAINERS**
  - Running instance of your Docker Image is called Docker Containers

- **Docker Daemon**
  - It is a service running on your OS.
  - This service creates and manages your docker images using the commands that we put in IDE.

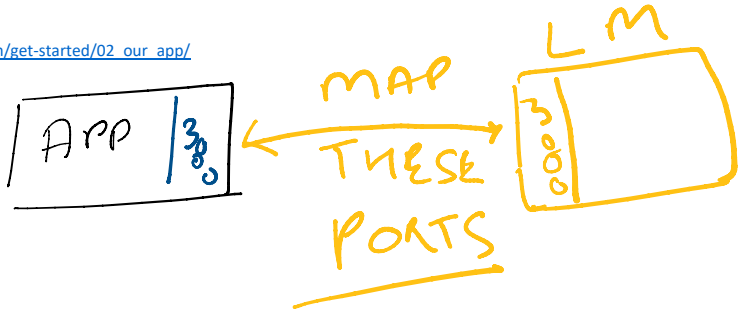
Basic Docker Commands

- Docker version - docker --version
- Docker compose version - docker-compose --version
- Docker machine version - docker-machine --version
- Verify docker is running - docker run hello-world
- List running docker containers - docker ps
- List stopped docker containers - docker ps -a
- List images - docker images

Demos

1. Create a hello world docker
   - Simply run a hello-world program.
   - We do not have a hello world written locally.
   - So when I run hello-world. Docker will pull an image from DOCKER HUB.

2. Create a todo app in docker and deploy locally
   a. Clone a a todo app from github. - https://docs.docker.com/get-started/02_our_app/
   b. Create a dockerfile.
   c. Build an image using the dockerfile.
   d. Run a container using the image id.
   e. Test you to do app locally.



3. Deploy the same todo app to ACR from Visual Studio
   - ACR - Azure Container Registry - Private Repository for your docker images.

- We had a image locally for the to do app present.
- We created a ACR on azure portal.
- We tagged the image using the acr server. In my case it was todo29.azurecr.io.
- Then we pushed the image to acr.