**How the Docker Pipeline Works**

There are 3 relevant Docker files included in every project

**docker-compose.yml**: Contains instructions for deploying the container

**docker.env**: Contains secrets such as Azure Key Vault variables

**Dockerfile**: Contains instructions for building a container

When a commit is made, the project builds in the pipeline normally. During this step, the 3 Docker files above are copied into the build artifact.

BUILD PIPELINE

1. Project Builds Normally
2. The 3 Docker files are copied into the build artifact

After building, the artifact is extracted in the release pipeline. The placeholder text in the Dockerfile is replaced by the values in the corresponding Azure pipeline variables. Any existing running container on the deployment servers are stopped and removed. Finally, docker-compose invokes the docker-compose.yml and deploys new detached containers on the target deployment servers.

RELEASE PIPLELINE

1. Artifact is extracted
2. Placeholder text in Dockerfile is replaced
3. Any existing running container is stopped and removed
4. Docker-compose invokes the docker-compose.yml
5. A new container runs detached on the target deployment servers

VIEWING CONTAINER OUTPUT

After a container has been deployed, it runs in the background (“detached” mode) on the deployment servers. To view output or interact with the container, you can use the following commands:

**docker logs *container\_name* –f** –> This command allows you to view all standard output of the container in real time

**docker attach *container\_name*** –> This command brings the detached container to the foreground, allowing you to view output and control it interactively

USEFUL COMMANDS

**docker ps** –> View all running containers

**docker image ls –a** –> View all images

**docker network ls** –> View all configured networks

**docker system info** –> View information about docker installation

**docker exec –it *container\_name* cmd** –> Starts command prompt within container

**docker run hello-world** –> Tests that Docker has been successfully installed