Managed Cloud Services
When you don't want to run it yourself

Managed Docker Repository
Elastic Container Service Repository (ECS Repository)

ECS Repository
Store our Docker Images in the Cloud
- What if we want to store our built docker image somewhere other than our laptop?
- What if we don’t want our image to be “public” on hub.docker.com?
- AWS has a managed Docker Image Repository: ECS Repository
• Get into your AWS account
• Search for “ECS”

• Create a private repository
ECS Repository

• Create a private repository
• Now we can push docker images from our laptop to this repository
• From there, we can pull them down to an EC2 instance, or to Elastic Container Service to run

• View the push commands

ECS Repository

There's a really great "AWS Toolkit" extension for VS Code that Amazon supports
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Clicking on the "AWS" in the window footer will bring up the AWS commands.

Easily access your credentials file.

In order to push images to ECR, you need to have current AWS IAM credentials.

Copy them from the AWS Academy site and update your credentials file.

Build your image.
ECS Repository

- Build your image
- Login to ECR
- Tag your local image with the ECR host name that matches your repository
  - This is what tells the `docker push` command where to send your image

```
```

- Push your image up to ECR

```
docker push 561707296892.dkr.ecr.us-east-1.amazonaws.com/csc346-chat-app:latest
```
ECS Repository

How do we get our image back out to EC2?

- We still need permissions on our EC2 instance to pull an image back down
- We could copy IAM credentials to our EC2 host just like we do for our laptop
- However within AWS you can leverage IAM Roles
  - A role defines a set of permissions that an actor can take on resources
  - We can attach an Role Profile to our instance
With an IAM role attached we can now do our docker login on the EC2 instance.

Oh noes! 😱 We have a bad image platform.

Image was built on an arm64 Mac. EC2 is amd64 based Intel.

You can build an image for a different architecture by specifying the --platform option.
ECS Repository

• Build, tag, push the updated image
• Now we can run the image on our EC2 instance directly from the ECR repository

More Automation

• Combine with CloudFormation to automatically login and start the image at boot time