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Secure Cloud Computing

Unit 2

AWS - Setting Up Docker

**Install Docker on an Amazon EC2 instance**

Launch an instance with the Amazon Linux 2 or Amazon Linux AMI. For more information, see Launching an instance in the Amazon EC2 User Guide for Linux Instances. Connect to your instance. For more information, see Connect to your Linux instance in the Amazon EC2 User Guide for Linux Instances. Update the installed packages and package cache on your instance.

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**Install the most recent Docker Engine package. Amazon Linux 2**

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**Start the Docker service**

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Add the ec2-user to the docker group so you can execute Docker commands without using sudo.

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Log out and log back in again to pick up the new docker group permissions. You can accomplish this by closing your current SSH terminal window and reconnecting to your instance in a new one. Your new SSH session will have the appropriate docker group permissions.

Verify that the ec2-user can run Docker commands without sudo.

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**Create a Docker Image**

Create a file called Dockerfile. A Dockerfile is a manifest that describes the base image to use for your Docker image and what you want to be installed and running on it. For more information about Dockerfiles, go to the Dockerfile Reference.

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Edit the Dockerfile you just created and add the following content

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**Build the Docker image from your Dockerfile**

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**Run docker images to verify that the image was created correctly**

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Run the newly built image. The -p 80:80 option maps the exposed port 80 on the container to port 80 on the host system. For more information about the docker run, go to the Docker run reference.

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Open a browser and point to the server that is running Docker and hosting your container.

If you are using an EC2 instance, this is the Public DNS value for the server, which is the same address you use to connect to the instance with SSH. Make sure that the security group for your instance allows inbound traffic on port 80. If you are running Docker locally, point your browser to http://localhost/. If you are using docker-machine on a Windows or Mac computer, find the IP address of the VirtualBox VM that is hosting Docker with the docker-machine IP command, substituting the machine-name with the name of the docker-machine you are using.

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Description automatically generatedStop the Docker container by typing Ctrl + c.

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**Cleaning Up**

When you are done experimenting with your Amazon ECR image, you can delete the repository so you are not charged for image storage.

aws ecr delete-repository --repository-name hello-repository --region region --force