# CSCI363:

# Cloud Computing and Networking

Project User Manual :

## Introduction

This user manual provides detailed instructions on how to use the Cloud Management System for managing virtual machines (VMs) and Docker containers. Each feature is explained with step-by-step guidelines to ensure correct usage.

## System Overview

The system allows users to manage virtualization and containerization tasks through a GUI. The features include creating VMs, building Docker images, listing and managing containers, and searching for Docker images on DockerHub.

## Features and Usage

### **1. Create Virtual Machine**

This feature allows users to create virtual machines with specified configurations.

1. Steps to use:

* Click on 'Create Virtual Machine' in the main menu.
* Select CPU, memory, and disk size from the dropdown menus.
* Click 'Browse' to select an ISO file for the VM.
* Click 'Create VM' to start the virtual machine creation process.

### **2. Create Dockerfile**

This feature helps users create Dockerfiles for building Docker images.

1. Steps to use:

* Click on 'Create Dockerfile' in the main menu.
* Enter the save path for the Dockerfile.
* Write the Dockerfile content in the provided text box.
* Click 'Create Dockerfile' to save the file.

### **3. Build Docker Image**

This feature allows users to build Docker images from a Dockerfile.

1. Steps to use:

* Click on 'Build Docker Image' in the main menu.
* Provide the path to the Dockerfile.
* Enter the image name and tag.
* Click 'Build' to create the Docker image.

### **4. List Docker Images**

This feature displays all Docker images available on the system.

1. Steps to use:

* Click on 'List Docker Images' in the main menu.
* A new window will display the available Docker images.

### **5. List Running Containers**

This feature lists all currently running Docker containers.

1. Steps to use:

* Click on 'List Running Containers' in the main menu.
* A new window will display the running containers.

### **6. Stop Docker Container**

This feature allows users to stop a specific running Docker container.

1. Steps to use:

* Click on 'Stop Docker Container' in the main menu.
* Enter the container ID or name in the provided field.
* Click 'Stop' to terminate the container.

### **7. Search Docker Image**

This feature helps users search for specific Docker images available locally.

1. Steps to use:

* Click on 'Search Docker Image' in the main menu.
* Enter the image name or tag in the provided field.
* Click 'Search' to display matching results.

### **8. Search DockerHub Image**

This feature allows users to search for Docker images on DockerHub.

1. Steps to use:

* Click on 'Search DockerHub Image' in the main menu.
* Enter the image name in the provided field.
* Click 'Search' to display results from DockerHub.

### **9. Pull Docker Image**

This feature enables users to download Docker images from DockerHub.

1. Steps to use:

* Click on 'Pull Docker Image' in the main menu.
* Enter the image name or tag in the provided field.
* Click 'Pull' to download the Docker image.

### **Conclusion**

This user manual provides a comprehensive guide to using the Cloud Management System. Follow the instructions carefully to ensure optimal functionality. For further assistance, refer to the project's documentation or contact support.