**User Manual — Cloud Disk & Virtual Machine Manager**

**Introduction:**

This system allows users to create and manage **virtual disks** and **virtual machines (VMs)** and **docker** through a graphical interface. Users can create, view, modify, and delete disks, also create and configure virtual machines using ISO files and custom settings , and create with managing docker file, images , containers

**System Requirements:**

* Operating System: Windows
* Runtime Environment (e.g., Python)
* Internet connection (if using cloud integration)
* A valid ISO file for creating VMs
* Qemu
* Docker desktop

**System Components:**

1. **Disk Management Section**
2. **Virtual Machine Management Section**
3. **Docker** **Management Section**

**1️Disk Management**

**How to Use:**

**➤ Create a New Disk:**

1. Click **"Create Disk"**.
2. Enter the following:
   * **Disk Name**
   * **Disk Size** (numeric value)
   * **Unit Type**: MB or GB
   * **Format Type**: ext4, NTFS, etc.
3. Click **"Create"** to add the disk.

**➤ View Existing Disks:**

* The system displays a list of all created disks with their name, size, and format.

**➤ Edit Disk:**

* Select the desired disk.
* Click **"Edit"** to modify the size or format.
* Click **"Save"** to apply changes.

**➤ Delete Disk:**

* Click **"Delete"** next to any disk to permanently remove it.

**2️Virtual Machine Management**

**How to Use:**

**➤ Create a New Virtual Machine:**

1. Click **"Create Machine"**.
2. Provide:
   * **Machine Name**
   * **Linked Disk**
   * **Allocated Size or Resources**
   * **Boot File (ISO)**
3. Click **"Create"** to build the VM.

**➤ Modify VM:**

* You can change settings such as resources or linked disks.
* Click **"Update"** to save changes.

**➤ Run or Delete VM:**

* You can start a previously created VM.
* You can also delete the VM completely.

**3.docker management:**

* **Create a Dockerfile**
* **Navigate to the "Create Docker" section.**
* **Enter a unique folder name for the Dockerfile**
* **Paste or write the Dockerfile content in the text area.**
* **Click the “build docker image” button to save the Dockerfile on the server.**
* **Build the Docker image**
* **Go to the "Build Image" section.**
* **Enter the folder name where the Dockerfile was saved**
* **Enter the desired image name.**
* **Click “Build” to start building the image.**
* **Wait for confirmation that the image was successfully built.**
* **View available Docker images**
* **Open the "List Images" page.**
* **The system will fetch and display all local Docker images with details like name, tag, size, and creation date.**
* **Search local Docker images**
* **Use the search box on the Images page.**
* **Type keywords matching image names or tags.**
* **Click “search local”to filter and view matching local images.**
* **Search Docker Hub images**
* **Navigate to the "Search " section.**
* **Enter a keyword or image name to find public images.**
* **Click “search dockerhub”and browse the search results with descriptions and stats.**
* **Pull an image from Docker Hub**
* **Select or enter the full name of the desired image from the search results.**
* **Click “Pull” to download the image to your local Docker system.**
* **Wait for confirmation that the pull was successful.**
* **Create and run a container**
* **Go to the "manage Container" page.**
* **Select the image to run from the list or type its name.**
* **Enter a container name**
* **Specify port mappings in the format hostPort:containerPort (optional).**
* **Provide any command you want the container to execute (optional).**
* **Click “create ” to start the container in detached mode.**
* **View running containers**
* **Navigate to the "list Running Containers" section.**
* **See a list of all currently running containers with their IDs, names, status, and exposed ports.**
* **Start or stop a container**
* **From the running containers list, select a container.**
* **Click the “Stop” icon to stop it.**
* **To start a stopped container, find it in the "All Containers" list and click “Start.” icon**
* **Remove a container**
* **Go to the "All Containers" section (includes running and stopped).**
* **Select the container you want to delete.**
* **Click “remove icon” to delete it.**
* **Alternatively, use the “Stop & Remove icon” option to stop and delete in one step.**

**Input Validation:**

* Disk size must be greater than 1.
* Names cannot be empty.
* If incorrect values are entered (e.g., size = 0), a validation message will appear.
* Ensures users enter valid numeric values and required fields.

**Required Inputs:**

| **Field** | **Type** |
| --- | --- |
| Disk Name | Text |
| Size | Number (>1) |
| Unit Type | Dropdown (MB / GB) |
| Format Type | Dropdown selection |
| ISO File (for VM) | File Upload |

**Output / Interface Features:**

* Displays disk , VM , and docker data in a structured table
* Shows confirmation or error messages
* Allows real-time editing and deletion

How to run:

cd cloud

npm install (first time only)

npm run dev

cd server

pip install flask flask-cors docker (first time )

python app.py

iso file should be in the server folder