



Virtualize Me (vME)
Micro Web User Guide

October 2023



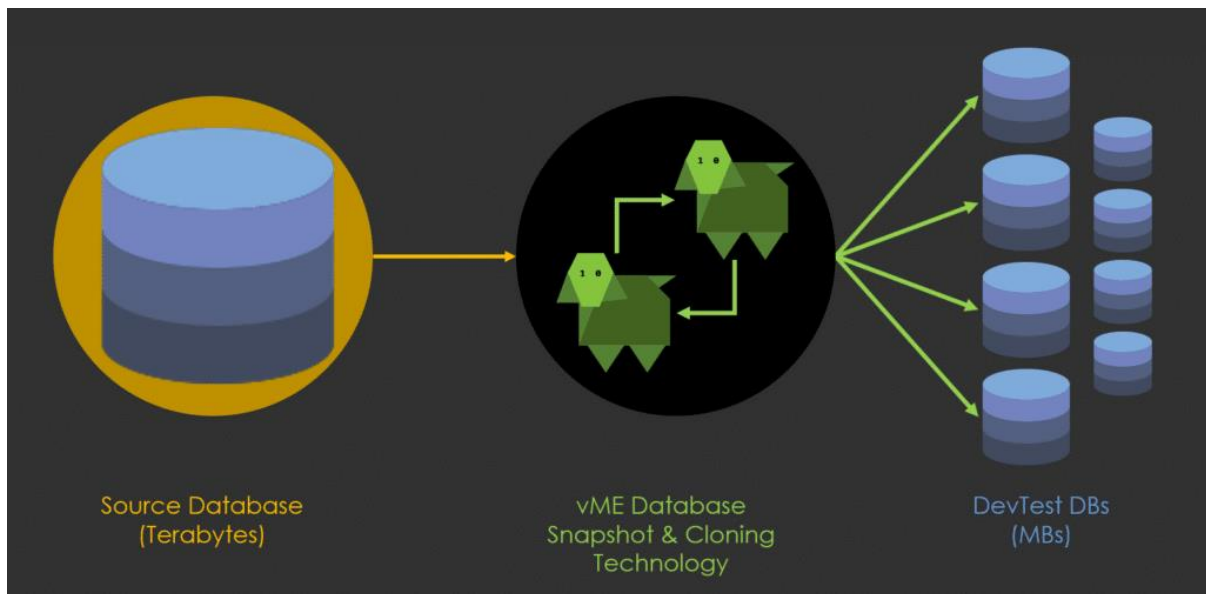
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Overview

vME is a database provisioning tool that lets you create full copies of your data & databases in seconds, using around 40 MB of disk space per clone.

Instead of spending hours provisioning multiple copies of your database for development, testing, or diagnostics, vME ingests a single 'image' of a database, which is used as the source for multiple clones. Each clone works just like a normal database, but takes only a few seconds to create and requires only around 40MB of disk space.

With vME's web app and built-in API and CLI (Command Line Interface), engineers spend much less time on provisioning requests. Meanwhile, developers and testers can work on up-to-date, isolated copies of the database to speed up development, accurately test code, and fix issues faster.

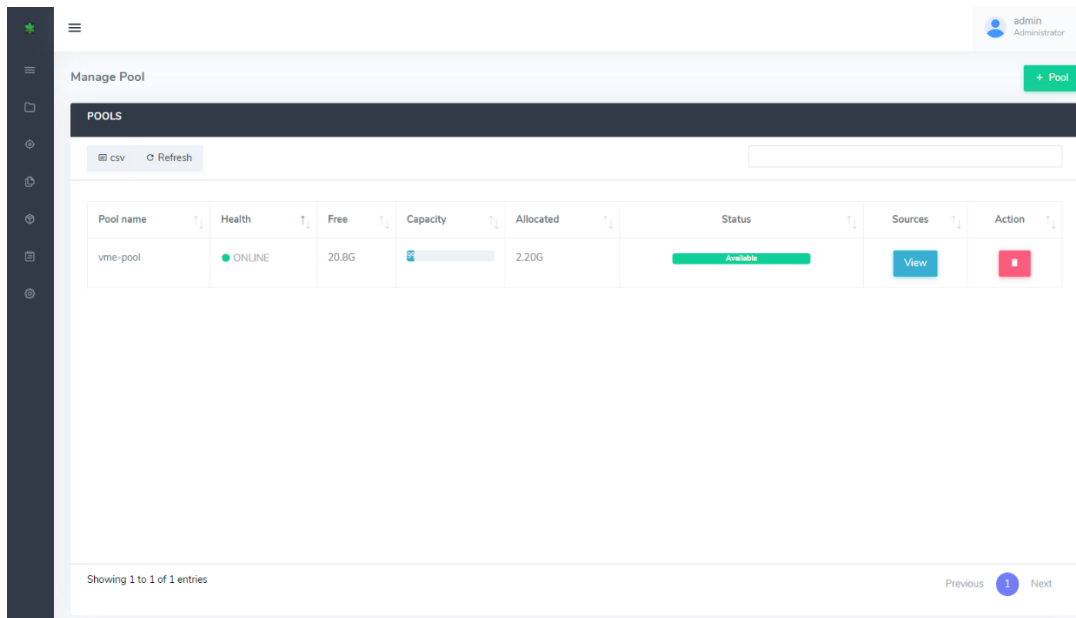


Pool


The *pool* is a combined of disk drives. A pool can have one or more sources. Sources created within the pool see all the pool's capacity and can grow up to the available space for the whole pool.

Adding Pool

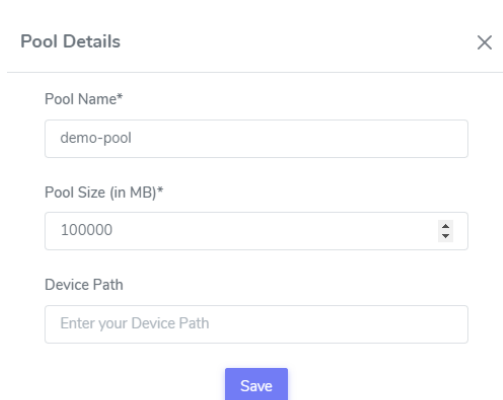
Navigate to Home > Pool



The screenshot shows the 'Manage Pool' interface. At the top right, there is a '+ Pool' button. Below it, a table lists the pools. The table has columns for Pool name, Health, Free, Capacity, Allocated, Status, Sources, and Action. One pool is listed: 'vme-pool' with a health of 'ONLINE', 20.8G free space, 2.20G allocated space, and a status of 'Available'. There are 'View' and 'Action' buttons for this pool. At the bottom, it says 'Showing 1 to 1 of 1 entries' and has 'Previous' and 'Next' navigation buttons.

Pool name	Health	Free	Capacity	Allocated	Status	Sources	Action
vme-pool	ONLINE	20.8G		2.20G	Available	View	Action

To add a new pool, click on “Add” button



The screenshot shows the 'Pool Details' form. It has three input fields: 'Pool Name*' with the value 'demo-pool', 'Pool Size (in MB)*' with a dropdown menu showing '100000', and 'Device Path' with the placeholder text 'Enter your Device Path'. There is a 'Save' button at the bottom.

On Click Add a new form will be available which has the following inputs

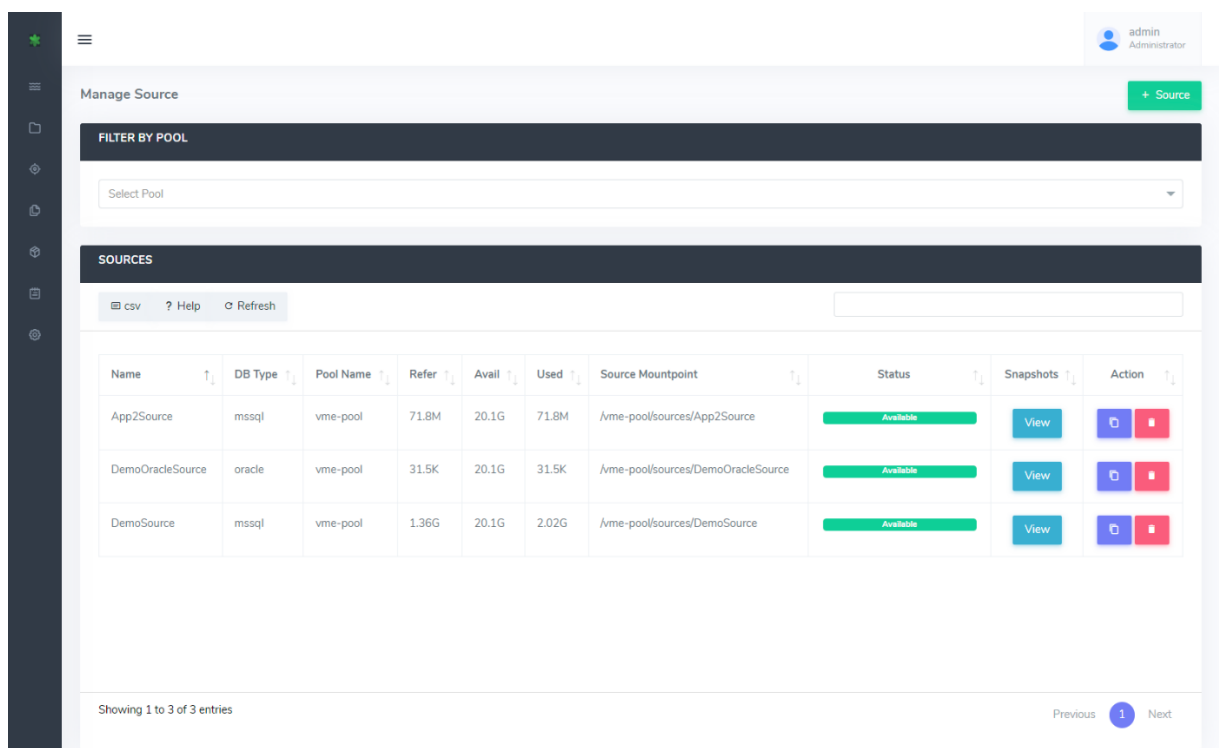
- **Pool Name:** Name of the pool.
- **Pool Size:** Size of the pool drive to be allocated (In MBs).
- **Device Path (Optional):** A head path of device, default is /opt/vme

Source

A *source* is created in the boundaries of a pool. A source file can only belong to one pool, but pool can contain more than one source file.

Adding Source

Navigate to Home > Source

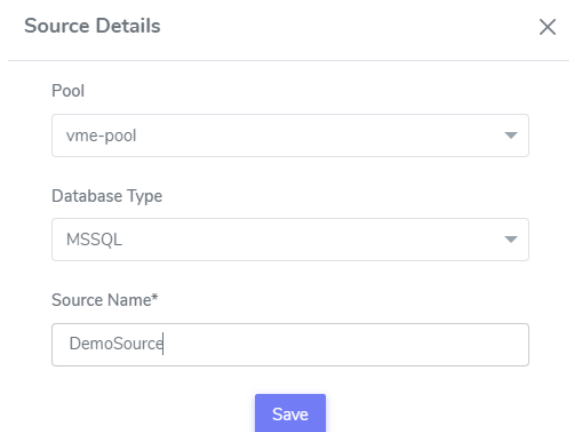


The screenshot displays the 'Manage Source' interface. At the top right, there is a user profile for 'admin Administrator' and a '+ Source' button. Below this is a 'FILTER BY POOL' section with a 'Select Pool' dropdown. The main area is titled 'SOURCES' and contains a table with the following data:

Name	DB Type	Pool Name	Refer	Avail	Used	Source Mountpoint	Status	Snapshots	Action
App2Source	mssql	vme-pool	71.8M	20.1G	71.8M	/vme-pool/sources/App2Source	Available	View	[Stop] [Delete]
DemoOracleSource	oracle	vme-pool	31.5K	20.1G	31.5K	/vme-pool/sources/DemoOracleSource	Available	View	[Stop] [Delete]
DemoSource	mssql	vme-pool	1.36G	20.1G	2.02G	/vme-pool/sources/DemoSource	Available	View	[Stop] [Delete]

At the bottom of the table, it says 'Showing 1 to 3 of 3 entries' and has 'Previous' and 'Next' navigation buttons.

To add a new Source, click on “Add” button



The 'Source Details' form is shown with the following inputs:

- Pool:** vme-pool
- Database Type:** MSSQL
- Source Name*:** DemoSource

A blue 'Save' button is located at the bottom of the form.

On Click Add a new form will be available which has the following inputs

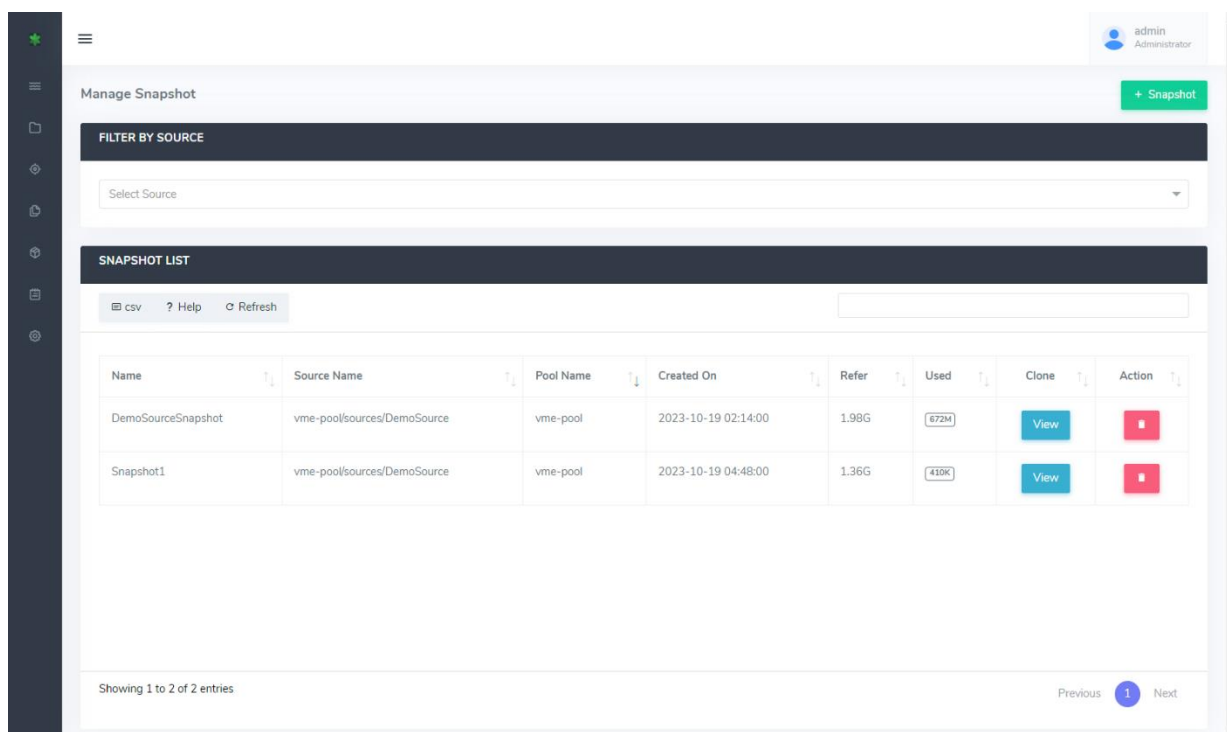
- **Pool:** Name of a pool that the source will be created inside.
- **Database Type:** Database type name, such as mysql, mariadb, mssql, mongodb etc.
- **Source Name:** Name of a source to be created A head path of device, default is /opt/vme

Snapshots

Snapshots are point-in-time snaps of the source's state. Creating a snapshot means recording source vnodes and keeping track of them. Once the data on that inode is updated, the old block of data is retained. You can access the old data view by using said snapshot, and only use as much space as has been changed between the snapshot time and the current time.

Adding Snapshot

Navigate to Home > Snapshot



Name	Source Name	Pool Name	Created On	Refer	Used	Clone	Action
DemoSourceSnapshot	vme-pool/sources/DemoSource	vme-pool	2023-10-19 02:14:00	1.98G	672M	View	Delete
Snapshot1	vme-pool/sources/DemoSource	vme-pool	2023-10-19 04:48:00	1.36G	410K	View	Delete

To add a new Snapshot, click on “Add” button

Snapshot Details ✕

Source*

Select Source

Snapshot Name*

Enter your Snapshot Name

Save

On Click Add a new form will be available which has the following inputs

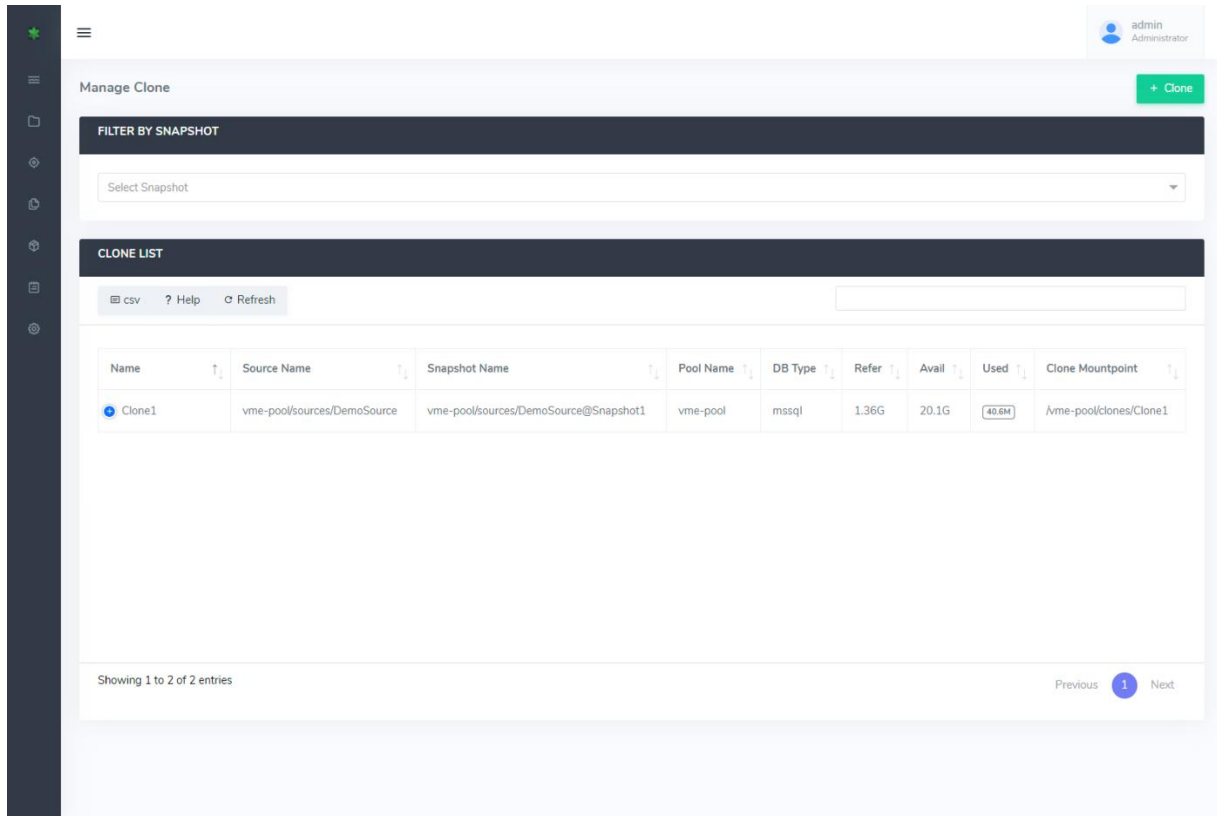
- **Source:** Name of a source of which the snapshot has to be created.
- **Snapshot Name:** Name of a snapshot to be created.

Clone

Snapshots are read-only. If you want to mount a snapshot and make changes to it, you'll need a read-write snapshot, or *clone*. Each clone works just like a normal database, but takes only a few seconds to create

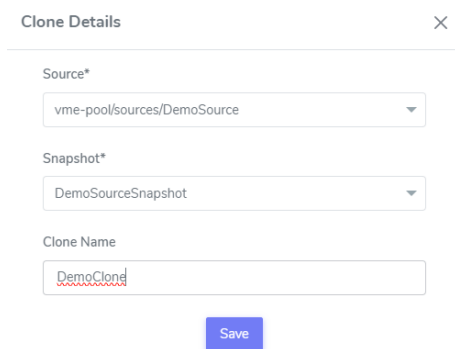
Create Clone

Navigate to Home > Clone



The screenshot displays the 'Manage Clone' interface. At the top right, the user is identified as 'admin Administrator'. A green '+ Clone' button is visible. Below this is a 'FILTER BY SNAPSHOT' section with a dropdown menu labeled 'Select Snapshot'. The main area is titled 'CLONE LIST' and includes a search bar and a table with columns: Name, Source Name, Snapshot Name, Pool Name, DB Type, Refer, Avail, Used, and Clone Mountpoint. The table shows one entry: 'Clone1' with source 'vme-pool/sources/DemoSource', snapshot 'vme-pool/sources/DemoSource@Snapshot1', pool 'vme-pool', DB Type 'mssql', Refer '1.36G', Avail '20.1G', Used '40.8M', and Clone Mountpoint 'vme-pool/clones/Clone1'. At the bottom, it indicates 'Showing 1 to 2 of 2 entries' and has 'Previous' and 'Next' navigation buttons.

To create a new clone, click on “Add” button



The 'Clone Details' form is shown with the following fields:

- Source***: vme-pool/sources/DemoSource
- Snapshot***: DemoSourceSnapshot
- Clone Name**: DemoClone

A blue 'Save' button is located at the bottom of the form.

On Click Add a new form will be available which has the following inputs

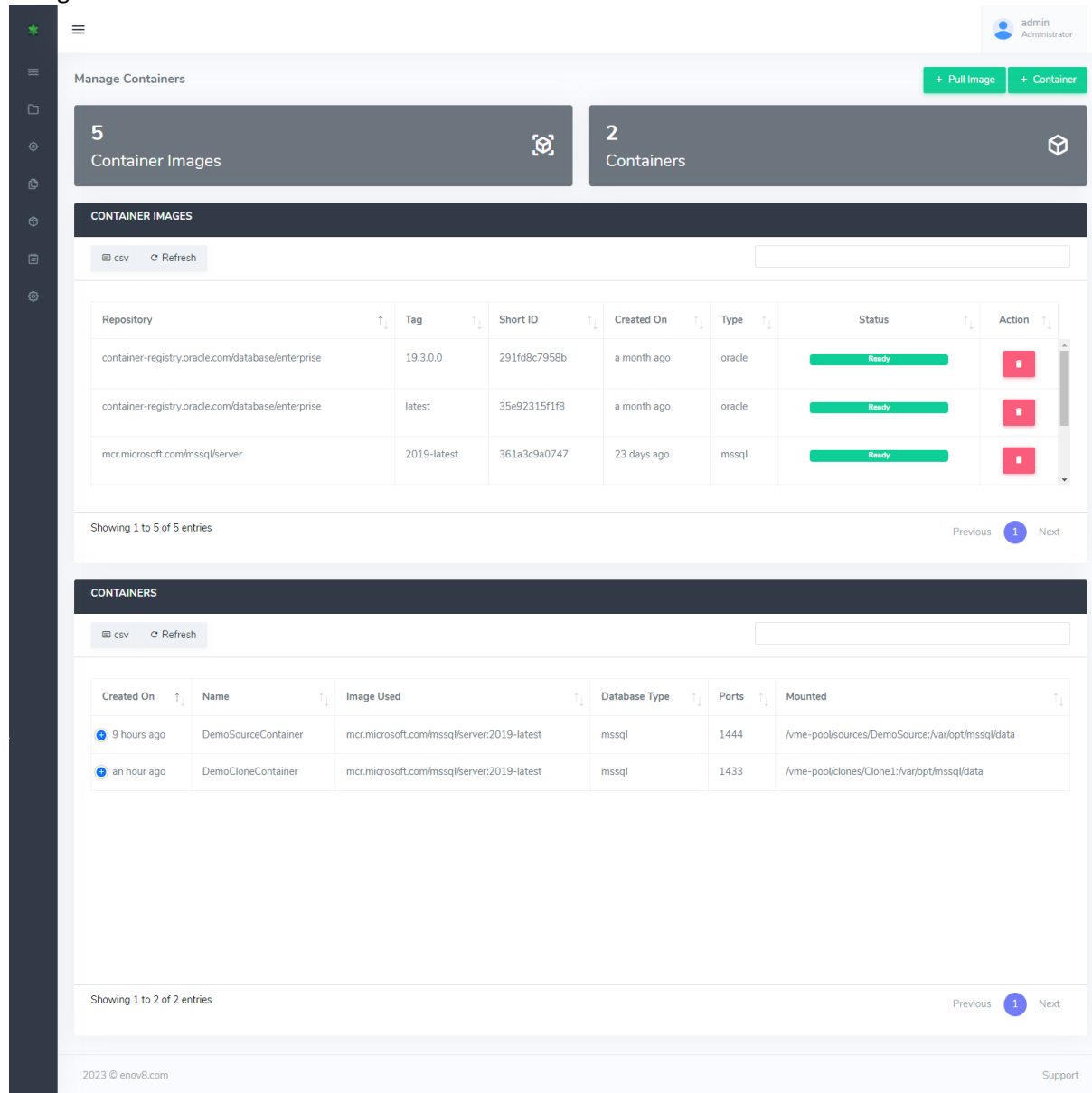
- **Source:** Name of a source for which the snapshots has to be selected.
- **Snapshot:** Name of a snapshot from which the clone has to be created.
- **Clone Name:** Name of the clone

Container Image

Images of the database which will be used to create a container to host the source or clone .

Pull Image

Navigate to Home > Container



Manage Containers + Pull Image + Container

5 Container Images **2** Containers

CONTAINER IMAGES

csv Refresh

Repository	Tag	Short ID	Created On	Type	Status	Action
container-registry.oracle.com/database/enterprise	19.3.0.0	291fd8c7958b	a month ago	oracle	Ready	
container-registry.oracle.com/database/enterprise	latest	35e92315f1f8	a month ago	oracle	Ready	
mcr.microsoft.com/mssql/server	2019-latest	361a3c9a0747	23 days ago	mssql	Ready	

Showing 1 to 5 of 5 entries Previous 1 Next

CONTAINERS

csv Refresh

Created On	Name	Image Used	Database Type	Ports	Mounted
9 hours ago	DemoSourceContainer	mcr.microsoft.com/mssql/server:2019-latest	mssql	1444	/vme-pool/sources/DemoSource:/var/opt/mssql/data
an hour ago	DemoCloneContainer	mcr.microsoft.com/mssql/server:2019-latest	mssql	1433	/vme-pool/clones/Clone1:/var/opt/mssql/data

Showing 1 to 2 of 2 entries Previous 1 Next

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To pull a new image, click on “Pull Image” button

Image Details ×

Database Type*

Repository URL*
Example : *enov8inc/team-edition*

Tag
Example : *latest*

Repository Username

Repository Password

On Click Add a new form will be available which has the following inputs

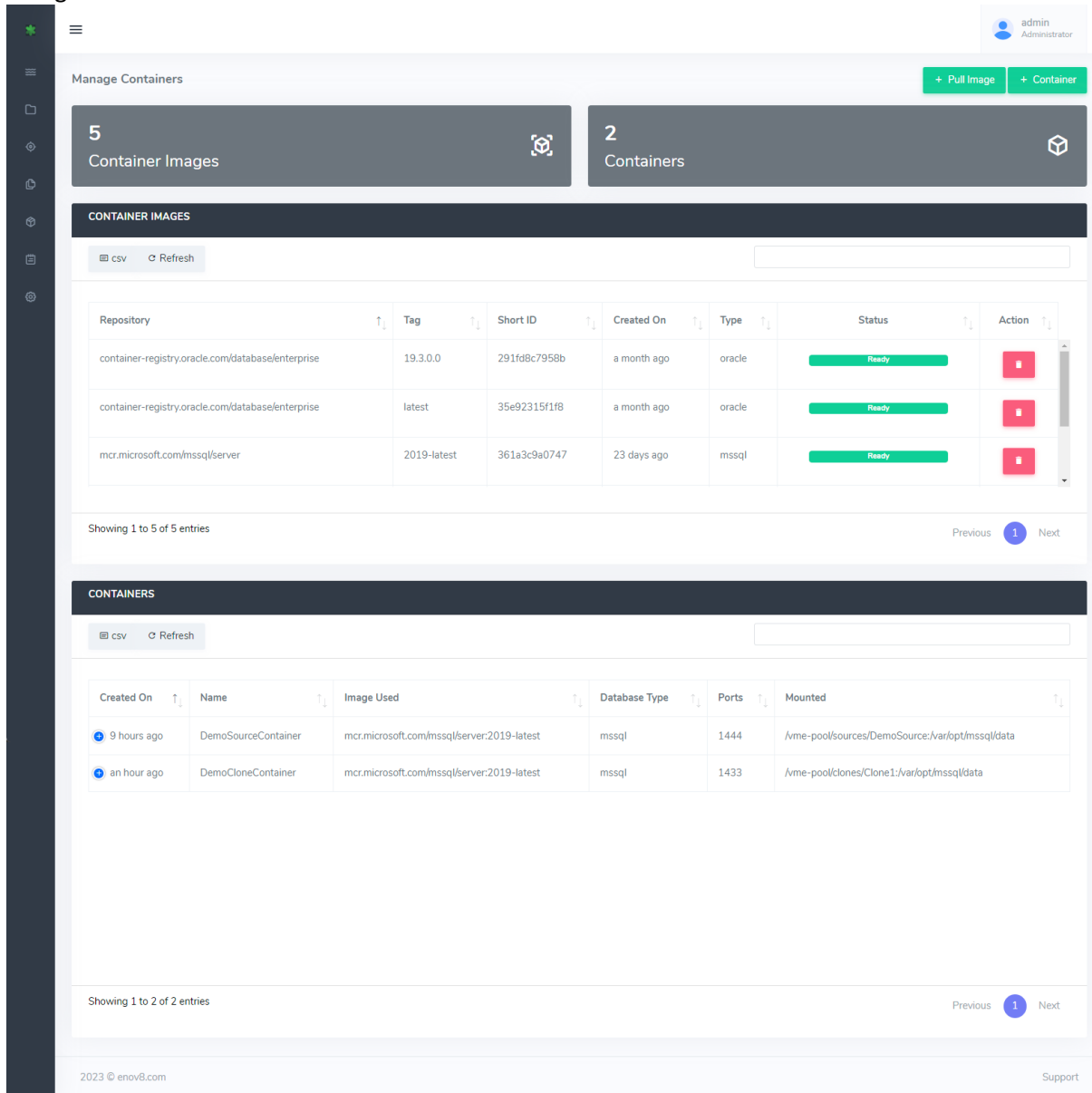
- **Database Type:** Type of the database for which the image is being pulled.
- **Repository URL:** Repository URL from which the image needs to be pulled.
Note : Please make sure the URL is accessible from the VME Server
- **Tag:** Image Tag , Default is latest
- **Repository Username:** Username for repository to authenticate if required
- **Repository Password:** Password for repository to authenticate if required

Container

Database container which can be used to connect to database source or clone and perform data operations

Pull Image

Navigate to Home > Container



The screenshot displays the 'Manage Containers' interface. At the top, there are two summary cards: '5 Container Images' and '2 Containers'. Below these are two main sections: 'CONTAINER IMAGES' and 'CONTAINERS'.

CONTAINER IMAGES Section:

- Buttons: csv, Refresh
- Table with columns: Repository, Tag, Short ID, Created On, Type, Status, Action.
- Table Data:

Repository	Tag	Short ID	Created On	Type	Status	Action
container-registry.oracle.com/database/enterprise	19.3.0.0	291fd8c7958b	a month ago	oracle	Ready	[Stop]
container-registry.oracle.com/database/enterprise	latest	35e92315f1f8	a month ago	oracle	Ready	[Stop]
mcr.microsoft.com/mssql/server	2019-latest	361a3c9a0747	23 days ago	mssql	Ready	[Stop]
- Footer: Showing 1 to 5 of 5 entries. Navigation: Previous, 1, Next.

CONTAINERS Section:

- Buttons: csv, Refresh
- Table with columns: Created On, Name, Image Used, Database Type, Ports, Mounted.
- Table Data:

Created On	Name	Image Used	Database Type	Ports	Mounted
9 hours ago	DemoSourceContainer	mcr.microsoft.com/mssql/server:2019-latest	mssql	1444	/vme-pool/sources/DemoSource:/var/opt/mssql/data
an hour ago	DemoCloneContainer	mcr.microsoft.com/mssql/server:2019-latest	mssql	1433	/vme-pool/clones/Clone1:/var/opt/mssql/data
- Footer: Showing 1 to 2 of 2 entries. Navigation: Previous, 1, Next.

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To pull a new image, click on “+ Container” button

Container Details
✕

Database Type

Select Database Type
▼

Container Name*

Enter your Container Name

HostPort:ContainerPort*(Comma Separated)

Enter your Port Number

Image*

▼

Source Directory *

▼

Environment Variables (Comma Separated)

Example : `MYSQL_ROOT_PASSWORD=XXX`

Enter your Environment Variables

Data Directory*

Example : `/var/lib/mysql`

Enter your Data Directory

Save

On Click Add a new form will be available which has the following inputs

- **Database Type:** Type of the database for which the container is being created.
- **Container Name:** Name of the container.
- **HostPort:ContainerPort:** Ports to bind inside the container. It is a string as the form "<host_port>:<container_port>" where the container port is an exposed port. For example: "12345:3306" for MySQL. One can assign it in several ports as separable by comma
- **Image:** Pulled image which will be used for the container
- **Source Directory:** Source or Clone volume which will be mounted on the container
- **Environment Variables :** Environment variables to be used for the database inside the container
- **Data Directory :** Path of the data directory