Docker Usage Guide for DBSeer

WARNING: If you intend to use run DBSeer from a Docker container in the **cloud** (e.g. Amazon EC2, Microsoft Azure), you may experience delays when interacting with the DBSeer's GUI due to cloud-related network latencies.

NOTE: You still need to set up our middleware in order to collect and process log data from your database. Please visit https://github.com/dongyoungy/dbseer_middleware for instructions.

1. Docker Installation

Please install Docker by following the instructions listed here (This web page contains instructions for Mac OS X, but it also contains links to instructions for Windows and Linux).

2. Pulling DBSeer Image

DBSeer is available as a Docker image at the Docker Hub under ***dongyoungy/dbseer*** repository. You can pull this image by running the following command in either terminal (Linux) or Docker Quickstart Terminal (Mac OS X):

$ docker pull dongyoungy/dbseer

3. Running DBSeer from the Docker Image

Since DBSeer is a GUI application developed using Java Swing, it is a bit trickier to run DBSeer as a Docker container, which is basically a lightweight VM. You will need to use things like X Window System or VNC Server to bring the GUI from the Docker container to your host machine. Here, we will explain how to run DBSeer by running X on the host machine for Linux and Mac OS X.

3.1. Mac OS X

Use the following steps to run DBSeer as a Docker container in Mac OS X:

1. Install HomeBrew.
2. Install XQuartz by running the following commands:
   $ brew update **(updates homebrew)**
   $ brew tap Caskroom/cask
   $ brew install Caskroom/cask/xquartz
3. Install socat by running the command: *$ brew install socat*
4. Open XQuartz.
5. In the XQuartz terminal, run the following commands:
   a. *$ quartz-vm &* **(runs quartz window manager in background)**
   b. *$ socat TCP-LISTEN:6000,reuseaddr,fork UNIX-CLIENT:\"$DISPLAY\"*

6. Now you are ready to run DBSeer.
7. Open Docker Quickstart Terminal.
8. Run the following command to run DBSeer:
   $ docker run --rm -it -v <path_to_dataset_folder_in_host_machine>:/dbseer/dataset -e DISPLAY=<ip_address_of_docker_vm>:0 dongyoungy/dbseer /run_dbseer
   a. <path_to_dataset_folder_in_host_machine>: You need to specify the folder in your host machine where the DBSeer configuration file and collected monitoring data will be saved. In the DBSeer Docker container, the directory will be mapped to ***/dbseer/dataset***.
   b. <ip_address_of_docker_vm>: In Mac OS X, Docker engine is actually run as a VM and you need the IP address of the VM in order to redirect X to the host machine. You can get the IP address of the Docker VM as one of *vboxnet#* interfaces in *ifconfig*.

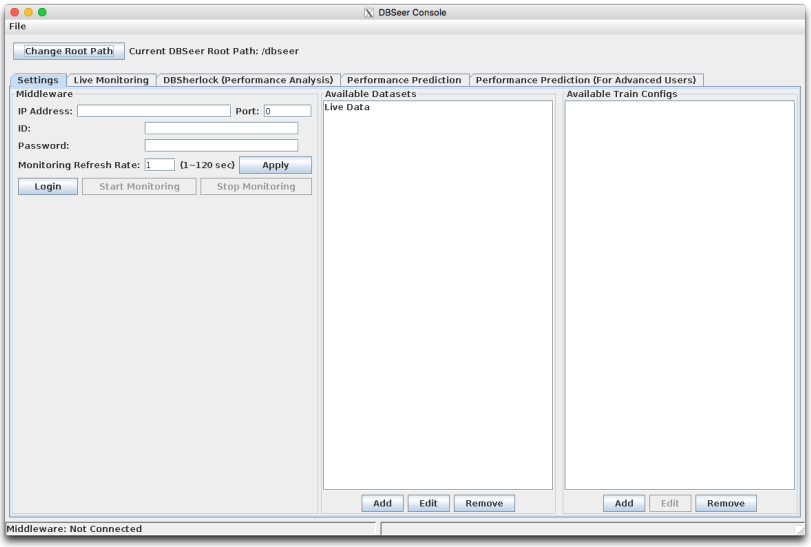
3.2. Linux

Use the following steps to run DBSeer as a Docker container in Linux:

1. Allow accesses to the X Server of the host machine by running: *$ xhost +*
2. Run the following command to run DBSeer:
   $ docker run -e DISPLAY -v <path_to_dataset_folder_in_host_machine>:/dbseer/dataset -v /tmp/.X11-unix:/tmp/.X11-unix -v $HOME/.Xauthority:/home/developer/.Xauthority --net=host --rm -it dongyoungy/dbseer

4. Setting the root path for DBSeer

If this is the first time you are running DBSeer from the Docker image, you will need to set its root path inside the Docker container. When you successfully launch DBSeer, you will see the following GUI interface:



Click on **'*Change Root Path*'** and browse to /dbseer directory. This only needs to be done the first time unless you change your dataset directory. Once you set the root path correctly, you are now free to enjoy the rich features that DBSeer provides for happy database administration!

5. Contact Us

If you have any problems running DBSeer from the Docker image, please feel free to contact us at **dyoon at umich dot edu.**