

Virtualize Docker Files 1.0

A Parasoft Docker image is a template that includes the Parasoft Virtualize Server, Parasoft Continuous Testing Platform, Parasoft Data Repository Server, all required software dependencies (e.g., Apache Tomcat, JRE ...), and default configuration settings for connecting to Parasoft License Server. In this section:

- [Prerequisites](#)
- [Licensing](#)
- [Configuring a New Docker Image](#)
- [Changing the Configuration](#)
- [Changing the Configuration Defaults Inside Docker Images](#)

Prerequisites

Ensure that you meet the system requirements for the following components:

Parasoft Virtualize Server	See Parasoft Virtualize Server WAR File Deployment
Continuous Testing Platform	See CTP Installation Guide
Parasoft Data Repository	<ul style="list-style-type: none">• Windows 64-bit distributions for 2008 R2 and higher• The following Linux 64-bit distributions:<ul style="list-style-type: none">• Amazon• Debian 7• RHEL 5, 6, 7• SUSE 11• Ubuntu 12.04, 14.04, 14.10• Mac OS X

Licensing

The machine ID used for licensing Parasoft products deployed in Docker is derived from the Docker container ID. If you clone the Docker container, the clone will have a different machine ID and require a new license unless you have a floating license. For floating license issued from License Server, we recommend using License Server on the network outside of Docker. Contact your Parasoft representative if you have any additional questions about licensing.

Configuring a New Docker Image

To deploy on Docker, you configure default connection details in a configuration file, build Docker images, then run the soavirt Docker image.

1. Download and install Docker for Windows as described in <https://docs.docker.com/docker-for-windows/>. This page contains Windows instructions and links to Linux and Mac instructions.
2. Launch a Command Prompt and change directory (cd) to the folder where the Parasoft Docker files were extracted. This folder will contain the following subfolders
 - ctp
 - datarepository
 - server-jre8
 - soavirt
 - tomcat8
3. (Optional) Edit the default values for environment variables in the soavirt/Dockerfile file and ctp/Dockerfile file. The ENV command declares a new environment variable. The environment variable name and value should be separated by a space.

Variable	Description
ENV VIRTUALIZE_SERVER_NAME Docker	Specifies the name that should be used to label this server on Environment Manager.
ENV CTP_HOST localhost	The host name or IP address of the CTP server where this Virtualize server should register when it starts up. If your CTP is running on localhost outside of the Docker container, specify the IP address (e.g., 10.10.255.47) rather than localhost.
ENV CTP_PORT 8080	The port that should be used to connect to CTP.
ENV CTP_USERNAME admin	The username that should be used to connect to CTP (if authentication has been enabled).

ENV CTP_PASSWORD admin	The password that should be used to connect to CTP (if authentication has been enabled).
ENV CTP_NOTIFY true	If true, the Virtualize server notifies CTP when virtual assets are deployed.
ENV LICENSE_EDITION custom_edition	The Virtualize license edition to request from the License Server.
ENV LICENSE_FEATURES "Service Enabled, Performance, Extension Pack, Validate, Message Packs, Unlimited Hits\Day"	The Virtualize license features to request from the License Server when using a custom edition license.
ENV LICENSE_SERVER_HOST localhost	The host name or IP address of the License Server to use for requesting a Virtualize license.
ENV LICENSE_SERVER_PORT 2002	The port to use for connecting to License Server.



How to Exclude Data Repository

If you do not want to include Data Repository in the Docker image, change the first line of the soavirt/Docker file from FROM datarepository to FROM tomcat8

```

Dockerfile - Notepad
File Edit Format View Help
FROM datarepository

ENV SOAVIRT_URL https://www1.parasoft.com/do
ENV SOAVIRT_HOME /usr/local/parasoft/soavirt
ENV PATH $SOAVIRT_HOME:$PATH
RUN mkdir -p "$SOAVIRT_HOME"
WORKDIR $SOAVIRT_HOME

```

- Build Docker images for each of the sub folders by executing the following commands in the Docker Terminal in this order:

```

docker build -t server-jre8 server-jre8/
docker build -t tomcat8 tomcat8/
docker build -t datarepository datarepository/
docker build -t soavirt soavirt/
docker build -t ctp ctp/

```

- Execute a command to run the newly created Docker image using the following format:

```
docker run -it --rm -p 8080:8080 -p 9080:9080 ctp
```

This will start up the Data Repository server, Virtualize server, and CTP.



CTP already running outside of the Docker container

If CTP is already running *outside* of the Docker container, run the soavirt Docker image instead:

```
docker run -it --rm -p 2424:2424 -p 9080:9080 soavirt
```

The `-it` option makes the running Docker container interactive so it will continue running until you press Ctrl-C in the terminal.

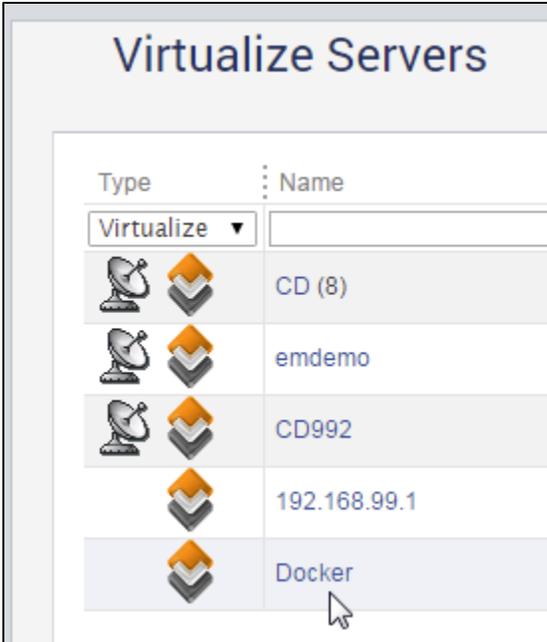
The `-rm` option configures CTP and the Virtualize server as a disposable sandbox. Upon shutdown, the Docker container will be removed and discard any changes to the CTP database, Virtualize workspace, and Data Repository. Don't use this option if you want to be able to shut down CTP and Virtualize and then pick up where you left off after a restart.

Setting `-p 2424:2424` maps port 2424 from the Docker container to port 2424 in the host (for Data Repository).

Setting `-p 8080:8080` maps port 8080 from the Docker container to port 8080 in the host (for CTP).

Setting `-p 9080:9080` maps port 9080 from the Docker container to port 9080 in the host (for Virtualize).

You should now see the Virtualize server listed in CTP and be able to use the CTP web interface (by default, at <http://localhost:8080/>) to create virtual assets or upload .pva files.



✓ How to Create a Docker Image with Only CTP (No Data Repository or Virtualize)

If you want to create a Docker image with just CTP and no Data Repository or Virtualize, change the first line of the `ctp/Dockerfile` from `FROM soavirt` to `FROM tomcat8` and then rebuild the `ctp` image.

Changing the Configuration

If you want to override the default configuration (for example, to use a different CTP or License Server) without rebuilding the `soavirt` and `ctp` images, do the following:

1. Shut down the running container.
2. Override the environment variables in the run command using the `-e` option and environment variable name/value separated with an equals sign.

Example 1

```
docker run -it --rm -p 2424:2424 -p 9080:9080 -e CTP_HOST=em.acme.com -e CTP_PORT=8080 -e LICENSE_SERVER_HOST=ls.acme.com soavirt
```

Example 2

```
docker run -it --rm -p 2424:2424 -p 9080:9080 -e CTP_HOST=10.10.255.47 -e CTP_PORT=8080 -e LICENSE_SERVER_HOST=license.parasoft.com soavirt
```

You should now see the Virtualize server listed in CTP and be able to use the CTP web interface (by default, at <http://localhost:8080/>) to create virtual assets or upload .pva files.

Changing the Configuration Defaults Inside Docker Images

You can change the configuration defaults inside the Docker image, which involves rebuilding the `ctp` and `soavirt` images.

1. Shut down the Docker container (e.g., press `Ctrl-C` in the terminal).
2. Delete the `soavirt` and `ctp` images:

- a. At the Docker terminal, enter the following command:

```
docker images
```

- b. Remove the ctp image by entering the following command

```
docker rmi ctp
```

- c. Remove the soavirt image by entering the following command

```
docker rmi soavirt
```

- d. Verify that the images were removed by entering the following command

```
docker images
```

3. Edit the ctp/Dockerfile and soavirt/Dockerfile files as desired.

4. Rebuild from the base folder in the Docker terminal by entering the following commands

```
docker build -t soavirt soavirt/  
docker build -t ctp ctp/
```