



# **CURL HONEST BROKER VERSION 1.0.0 BETA**

## **DEPLOYMENT GUIDE**



Data Science to Patient Value (D2V)  
UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**



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**To obtain a license to use the CURL applications from the University of Colorado, please contact the  
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## Overview

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This document describes the steps required to deploy the CURL Honest Broker application. There are two options for deploying CURL Honest Broker:

- **Option 1:** Docker image from Docker hub
- **Option 2:** Java JAR application from Github

These options are described in detail in the following sections.

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## Option 1: Docker Based Deployment

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### Requirements

- Desktop Operating System:
  - MAC OS X Yosemite 10.10.3 or above
  - Windows 10
  - Ubuntu (14.04, 16.04, 16.10, 17.04)
  - CentOS
  - Debian
  - Fedora
- Docker CE (latest stable)

NOTE: For previous versions, download Docker Toolbox at <https://www.docker.com/products/docker-toolbox>.

### Installing Docker Software

1. Download Docker for your platform at [www.docker.com](http://www.docker.com).
2. Install Docker by opening the installation file.

### Deploying CURL Honest Broker Docker Images

From a terminal window, use the following components to deploy the CURL Honest Broker Docker images.

1. Login to Docker Hub using your Docker ID and password:  

```
$ docker login
```

Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, go to



`https://hub.docker.com` to create one.

Username: ***your docker username***

Password: ***your docker password***

Login Succeeded

2. Download file "docker-compose.yml" from <https://github.com/CUD2V/curl-honestbroker-releases/tree/master/docker> to a folder on your computer.
3. Go back to the terminal. Change to the folder where the docker-compose file is located and use the following command to pull and deploy the CURL Site Docker image from Docker Hub:  
**`$ docker-compose up -d`**

From a browser window, go to: `http://localhost:8060` to access the CURL Site application.

### Stopping and Starting Docker CURL Honest Broker Containers

From a terminal window, use the following commands to stop the CURL Honest Broker docker container:

1. Change to the folder where the docker-compose file is located and use the following command to stop Docker CURL Honest Broker container:

**`$ docker-compose down --volumes --rmi all`**

### Removing CURL Site Application

From a terminal window, use the following commands to remove the CURL Site Docker container:

1. Determine the container ID of the CURL Site container:

**`$ docker ps -a`**

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
PORTS	NAMES			
11f46bd042ef	cudd2v/curl-docker:0.0.8-SNAPSHOT	"java -jar curl-ke..."	3 days ago	Up 5 seconds
0.0.0.0:8050->8080/tcp	serene_wiles			

2. Stop the container using its container ID (NOTE: Your container ID will be different):



```
$ docker stop 11f46bd042ef
11f46bd042ef.
```

3. Remove the container (NOTE: Your container ID will be different):

```
$ docker rm 11f46bd042ef
11f46bd042ef
```

4. Remove the volume:

```
$ docker volume rm curl-honestbroker-data
curl-honestbroker-data
```

5. Remove the image:

```
$ docker image rm cudd2v/curl-honestbroker:0.0.8-SNAPSHOT
```

## Running on a Different Network Port

If you are already running an application on network port 8080, you can configure CURL Honest Broker to use a different port.

1. Change the directory to `~/curl-honestbroker` or wherever you created the `docker-compose.yml` file for CURL Honest Broker:

```
$ cd ~/curl-honestbroker
```

2. Use `docker-compose` to remove any existing containers:

```
$ docker-compose down
Stopping docker_app_1 ... done
Stopping docker_db_1 ... done
Removing docker_app_1 ... done
Removing docker_db_1 ... done
Removing network docker_default
```

3. Edit the `docker-compose.yml` file and change the left occurrence of 8050 to another number, such as 9090 in the following example.

NOTE: If you need to change the PostgreSQL server port number, then change the left occurrence of 5432 to another number.



```
version: "3"
services:
  db:
    image: cudd2v/curl-honestbroker-db:0.0.8-SNAPSHOT
    ports:
      - 5432:5432
    volumes:
      - curl-honestbroker-db:/var/lib/postgresql/data

  app:
    image: cudd2v/curl-honestbroker:0.0.8-SNAPSHOT
    command: sh -c '/app/wait-for db:5432 -- java -jar curl-
honestbroker.jar'
    depends_on:
      - db
    ports:
      - 9090:8080
    volumes:
      - curl-honestbroker:/curl-honestbroker

volumes:
  curl-honestbroker-db:
  curl-honestbroker:
```

4. Use docker-compose to deploy a container that will use the new network port:

```
$ docker-compose up -d
Creating network "docker_default" with the default driver
Creating docker_db_1 ...
Creating docker_db_1 ... done
Creating docker_app_1 ...
Creating docker_app_1 ... done
```

5. Navigate to <http://localhost:9090> or whatever new port you chose.

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## Option 2: Java JAR Based Deployment

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### Requirements

- Desktop Operating System:
  - MAC OS X 10.10 or above
  - Windows 7 or 10
  - Ubuntu 14 or above



- CentOS
- Debian
- Fedora
- Oracle Java JRE 1.8
- PostgreSQL 9.6

### Installing Oracle Java JRE 1.8

1. From a terminal window, use the following commands to determine if Oracle Java 1.8 is installed (note that update version may be different on your system):

```
$ java -version
java version "1.8.0_121"
Java(TM) SE Runtime Environment (build 1.8.0_121-b13)
Java HotSpot(TM) 64-Bit Server VM (build 25.121-b13, mixed
mode)
```

2. If the java command is not found or version 1.8 is not installed, then download it from the Oracle website at:

<http://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html>

3. Follow the instructions provided on the Oracle website to install Java JRE 1.8.

### Installing PostgreSQL 9.6

If you are not already running PostgreSQL, then install it using a Linux package manager such as yum, apt, rpm, or brew. Otherwise, download it from the PostgreSQL website.

### Deploying CURL Honest Broker Application

#### MAC OS X or Linux

1. Create a directory where you will install the CURL Honest Broker application files, e.g. ~/curl-honestbroker.
2. From a browser window, go to [https://github.com/CUD2V/curl-honestbroker-releases/tree/master/jar](https://github.com/CUD2V/curl-honestbroker/releases/tree/master/jar) and download the curl-honestbroker.jar, curl-honestbroker.sql, curl-honestbroker.sh files and application.properties files into the curl-honestbroker directory.



3. Edit the `curl-honestbroker.sh` file and set the `CURL_HONESTBROKER_BASE_DIRECTORY` variable to point to the directory you created in step 1.
4. From a terminal window, enable execute permission for the `curl-honestbroker.sh` file:  

```
$ chmod u+x ~/curl-honestbroker/curl-honestbroker.sh
```
5. From a terminal window, execute the `curl-honestbroker.sql` script from `psql`. Substitute hostname and port with the hostname and port of your PostgreSQL database server. This script creates a user and database named “honestbroker,” then creates functions in the “honestbroker.public” schema.

```
$ psql -h hostname -p port -f curl-honestbroker.sql postgres
postgres
```

For example:

```
$ psql -h localhost -p 5432 -f curl-honestbroker.sql postgres
postgres
```

### Windows

1. Create a directory where you will install the CURL Honest Broker application files, e.g. `\Users\username\curl-honestbroker`.
2. From a browser window, go to <https://github.com/CUD2V/curl-honestbroker/releases> and download the `curl-honestbroker.jar`, `curl-honestbroker.sql`, and `curl-honestbroker.bat`, and application.properties files into the `curl-honestbroker` directory.
3. Edit the `curl-honestbroker.bat` file and set the `CURL_HONESTBROKER_BASE_DIRECTORY` variable to point to the `curl-honestbroker` directory.
4. From a terminal window, execute the `curl-honestbroker.sql` script from `psql`. Substitute hostname and port with the hostname and port of your PostgreSQL server. This script creates a user and database named “honestbroker”, then creates functions in the “honestbroker.public” schema.

```
> psql -h hostname -p port -f curl-honestbroker.sql postgres
postgres
```

## Starting CURL Honest Broker Application

### MAC OS X or Linux

- Execute the `curl-honestbroker.sh` script.

### Windows



- Execute the curl-honestbroker.bat file.

### Stopping CURL Honest Broker Application

- Type CTRL-C in the terminal window where the CURL Honest Broker application is running.
- **WARNING:** Don't use Ctrl-G

### Removing CURL Honest Broker Application

- Delete the curl-honestbroker directory and its contents.

### Running on a Different Network Port

If you are already running an application on network port 8080, you can configure CURL Honest Broker to use a different port.

1. Change the directory to where you copied the CURL Honest Broker files.
2. Edit curl-honestbroker.sh (Linux) or curl-honestbroker.bat (Windows) and change the server.port value to another number, such as 9090 in this example:

```
java -jar $CURL_HONESTBROKER_BASE_DIRECTORY/curl-honestbroker.jar  
--server.port=9090
```

3. Execute the curl-honestbroker.sh (Linux) or curl-honestbroker.bat (Windows) to start the CURL Honest Broker application and then navigate to *http://localhost:9090* or whatever new port you chose.