



# Running UI tests in local container

 This documentation only applies to Magnolia 5.4.x and below.

 If you aim to write UI tests for Magnolia 6.1 and higher, please check the [documentation on bitbucket](#).

- Use a standard docker container to execute selenium tests
- Easier to setup and recreate ... even easy to recreate the container for every test run which provides better repeatable test results
- Overhead to have many containers for each browser in minimal.

## Execute UI Test using the standard selenium docker container

### Prerequisites

- Docker

### Run selenium server for firefox

```
$ docker run -d -p 4444:4444 -e SCREEN_WIDTH=1280 -e SCREEN_HEIGHT=1024 -e SCREEN_DEPTH=24 selenium/standalone-firefox:2.53.1-beryllium
```

### Execute all UI tests

```
$ cd magnolia-bundle
$ mvn clean install -Pui-tests,jetty9-standalone -DseleniumServerHostName=localhost -DcontainerHostName=192.168.10.40
```

Replace the `containerHostName` with an IP or name which is accessible from the container (by default the container uses the same DNS as the host system)

### Debug

To debug the container provides the option to connect via a VNC. macOS has already a good VNC Client (Screen Sharing) you can use monitor the test execution.

```
$ docker run -d -p 4444:4444 -p 5901:5900 -e no_proxy=localhost -e SCREEN_WIDTH=1280 -e SCREEN_HEIGHT=1024 -e SCREEN_DEPTH=24 selenium/standalone-firefox-debug:2.53.1-beryllium
```

### Open Safari and enter

```
vnc://localhost:5901
```

The password is "secret"

### The Grid

The standard selenium docker containers provide an easy to setup selenium grid. The selenium grid consists of multiple nodes with same or different browser setups which are all hidden behind a hub. This means for test executions nothing changes but the selenium server is able to provide multiple sessions with different capabilities.

## Start up the HUB

```
$ docker run -d -p 4444:4444 --name selenium-hub selenium/hub:2.53.1-beryllium
```

## Start up and register the nodes

```
$ docker run -d -e SCREEN_WIDTH=1280 -e SCREEN_HEIGHT=1024 -e SCREEN_DEPTH=24 --link selenium-hub:hub selenium/node-firefox:2.53.1-beryllium
```

If you want to debug, you have to use the `-debug` image for the nodes and map the VNC ports.

## Execute UI tests in parallel

By default the selenium test are executed in sequence. We have to explicitly configure maven/surefire to execute our tests in parallel.

```
$ cd magnolia-bundle
$ mvn clean install -Pui-tests,jetty9-standalone -DseleniumServerHostName=localhost -DcontainerHostName=192.168.10.40 -Dparallel=classes -DreuseForks=false -DforkCount=4
```

As the tests still operate on the same magnolia instance it might be a good idea to not execute test methods of the same class in parallel.

## Monitor the grid

```
$ open http://localhost:4444/
```