

# Install the Grouper container maturity level -1 quick start v2.6.4 and prior (quickstart)

<a href="#">Wiki Home</a>	<a href="#">Grouper Release Announcements</a>	<a href="#">Grouper Guides</a>	<a href="#">Grouper Deployment Guide</a>	<a href="#">Community Contributions</a>	<a href="#">Internal Developer Resources</a>
---------------------------	-----------------------------------------------	--------------------------------	------------------------------------------	-----------------------------------------	----------------------------------------------

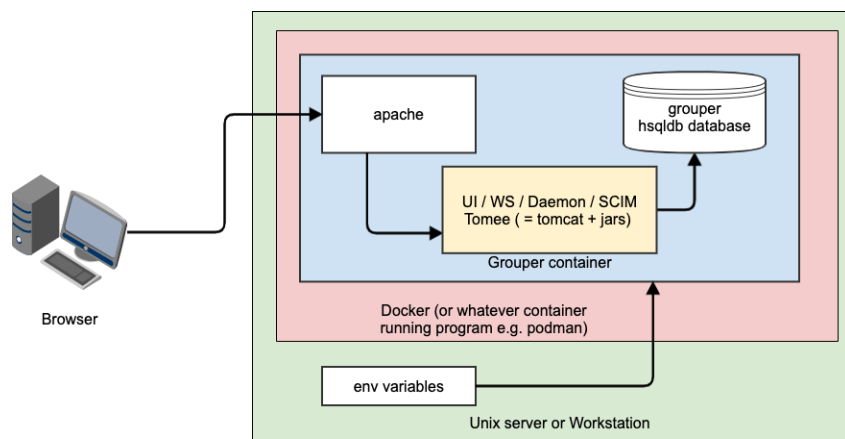
This page is **OUTDATED**. Use this [quickstart](#) instead.

## Description

For the latest quick start go [here](#)

This quickstart is the easiest way to start Grouper. You need a computer with Docker (or another container technology that runs Docker format containers). Run the container and it will start an embedded HSQLDB database (that does not persist across restarts unless you mount the database directory outside of your container... as outlined below).

All Grouper processes will run in this container at once (UI/WS/daemon/SCIM). As you evolve your Grouper practice you will run your processes in separate containers.



## Get a server

[Here is an example with AWS](#), basically for this example you need a Unix-based server (or Mac). Install Docker as well

## Install the container

1. [See which version of Grouper to run](#) (at least v2.5.27)
2. Issue a run command to run the quick start.
  - a. Note, for the morph string encrypt and quick start pass, just make up a 16 char alphanumeric string or generate from a password manager.
  - b. Note, this is **not good security**. It is for quick starts only. As you evolve to maturity level 0, you can set a different password encrypted in the database which will not be in a script file or in an env variable, and you can further evolve to Shibboleth or another authentication system.
  - c. Note: the first port is the port for apache SSL, change that to whatever you need on your host (i.e. one that is not in use and one that you can get to through the network)

```
$ docker run --detach --restart always --name grouper-gs \
  --publish 443:443 -e GROUPER_MORPHSTRING_ENCRYPT_KEY=***** \
  -e GROUPERSYSTEM_QUICKSTART_PASS=***** i2incommon/grouper:2.5.XX quickstart
```

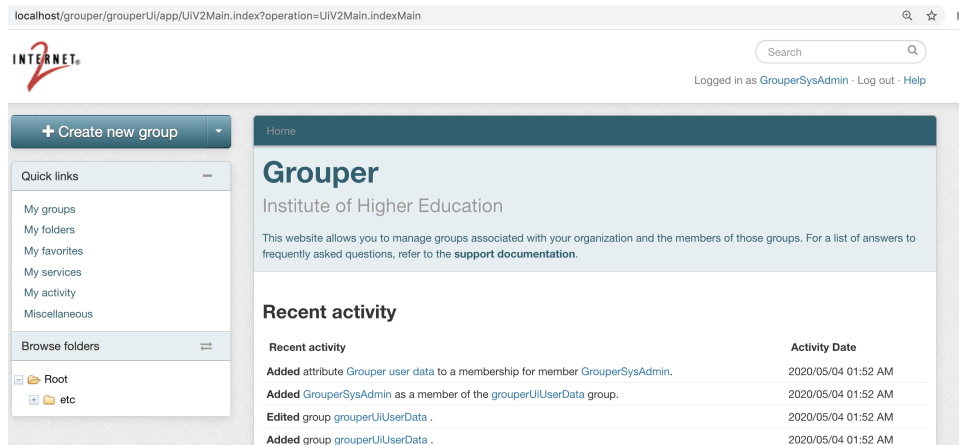
e.g.

```
docker run --detach --restart always --name grouper-qs \
  --publish 443:443 -e GROUPER_MORPHSTRING_ENCRYPT_KEY=abcdefg12345dontUseThis \
  -e GROUPERSYSTEM_QUICKSTART_PASS=thisPassIsCopyrightedDontUse i2incommon/grouper:2.5.37
quickstart
```

3. Log in to UI (note, the first log in can take a minute as HSQLDB database is started and inittd.)

- a. Note: change "localhost" to your server IP address or domain name, and add the port if not 443. e.g. <https://server.whatever.edu:1234/grouper/>

Go to: <https://localhost/grouper/>  
 Log in with username : GrouperSystem  
 Password is the password you specified in the GrouperSystem QuickStart pass



4. Try a web service call

Get the client out of the container (or download from maven)

```
$ docker cp grouper-qs:/opt/grouper/grouperWebapp/WEB-INF/lib/grouperClient-2.5.XX.jar .
```

Now you should have a grouper client jar in your directory

Make a config file in the same directory

```
$ vi grouper.client.properties
```

```
# note add the port after localhost if not using 443
```

```
grouperClient.webService.url = https://localhost/grouper-ws/servicesRest
```

```
grouperClient.webService.login = GrouperSystem
```

```
grouperClient.webService.password = ***** is the password you specified in the GrouperSystem QuickStart
pass
```

```
# turn off SSL until a real SSL certificate is installed
```

```
# NOTE, THIS IS NOT GOOD SECURITY AND IS FOR THE QUICK START ONLY!
```

```
grouperClient.https.customSocketFactory = edu.internet2.middleware.grouperClient.ssl.EasySslSocketFactory
```

```
$ java -jar grouperClient-2.5.XX.jar --operation=getSubjectsWs --subjectIds=GrouperSystem
```

```
Index: 0: success: T, code: SUCCESS, subject: GrouperSystem
```

```
$
```

```
grouperContainer $ java -jar grouperClient-2.5.0-SNAPSHOT.jar --operation=getSubjectsWs --
subjectIds=GrouperSystem --debug=true
```

Reading resource: grouper.client.properties, from: /Users/mchyzer/grouper/docker/grouperContainer/grouper.client.properties  
WebService: connecting as user: 'GrouperSystem'  
WebService: connecting to URL: 'https://localhost/grouper-ws/servicesRest/2.5.0-SNAPSHOT/subjects'

##### REQUEST START (indented) #####

POST /grouper-ws/servicesRest/2.5.0-SNAPSHOT/subjects HTTP/1.1  
Connection: close  
Authorization: Basic xxxxxxxxxxxxxxxxx  
User-Agent: Jakarta Commons-HttpClient/3.1  
Host: localhost:-1  
Content-Length: 161  
Content-Type: text/xml; charset=UTF-8

```
<WsRestGetSubjectsRequest>
  <wsSubjectLookups>
    <WsSubjectLookup>
      <subjectId>GrouperSystem</subjectId>
    </WsSubjectLookup>
  </wsSubjectLookups>
</WsRestGetSubjectsRequest>
```

##### REQUEST END #####

##### RESPONSE START (indented) #####

HTTP/1.1 200 OK  
Date: Mon, 04 May 2020 02:38:16 GMT  
Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips  
Strict-Transport-Security: max-age=15768000  
Set-Cookie: JSESSIONID=xxxxxxxxxxxx; HttpOnly  
X-Grouper-resultCode: SUCCESS  
X-Grouper-success: T  
X-Grouper-resultCode2: NONE  
Content-Type: application/xml; charset=UTF-8  
Connection: close  
Transfer-Encoding: chunked

```
<WsGetSubjectsResults>
  <wsSubjects>
    <WsSubject>
      <resultCode>SUCCESS</resultCode>
      <success>T</success>
      <id>GrouperSystem</id>
      <name>GrouperSysAdmin</name>
      <sourceId>g:isa</sourceId>
    </WsSubject>
  </wsSubjects>
  <resultMetadata>
    <resultCode>SUCCESS</resultCode>
    <resultMessage>Queried 1 subjects</resultMessage>
    <success>T</success>
  </resultMetadata>
  <responseMetadata>
    <resultWarnings></resultWarnings>
    <millis>19</millis>
    <serverVersion>2.5.0-SNAPSHOT</serverVersion>
  </responseMetadata>
</WsGetSubjectsResults>
```

##### RESPONSE END #####

Output template: Index: \${index}: success: \${success}, code: \${wsSubject.resultCode}, subject: \${wsSubject.id}, available variables: wsGetSubjectsResults, grouperClientUtils, index, wsSubject, wsGroup, success  
Index: 0: success: T, code: SUCCESS, subject: GrouperSystem  
Elapsed time: 612ms

```
grouperContainer $
```

## Advanced

1. Verify the digest of the image. This is a best practice when using Grouper images

- a. Pull the image

```
bin $ docker pull i2incommon/grouper:2.5.XX
```

- b. Make sure the digest is correct (from [release notes](#) page)

```
[root@ip-172-30-3-152 ~]# docker image inspect i2incommon/grouper:2.5.XX | grep i2incommon
/grouper@sha256:
        "i2incommon/grouper@sha256:b675bb410bf873xxxxxxxxxxxxx5e58a3a42a8048381a33b79fd19"
```

2. Make the start command in a script so you have it to run it later consistently

```
grouperContainer $ vi grouperQsDockerRun.sh

#!/bin/bash (or whatever shell)
# this is the run command from above that you did
docker run --detach --restart always --name grouper-qs \
  --publish 443:443 -e GROUPER_MORPHSTRING_ENCRYPT_KEY=***** \
  -e GROUPERSYSTEM_QUICKSTART_PASS=***** i2incommon/grouper:2.5.XX quickstart

grouperContainer $ chmod +x grouperQsDockerRun.sh

# remove the old container if you want to run it again, or stop, or whatevergrouperContainer

$ docker rm -f grouper-qsgrouperContainer
$ ./grouperQsDockerRun.sh

(Optional) Check logs:

grouperContainer $ docker logs grouper-qs

(Optional) Shell in:

grouperContainer $ docker exec -it grouper-qs /bin/bash
```

3. (Optional) Mount your database files outside of Docker to persist your changes across container restarts. Note, this is still not a robust database, it is only for non production use.

```

$ mkdir hsqldb

Change your start command to include a mount of this directory

grouperContainer $ vi grouperQsDockerRun.sh

Add this mount in your command

--mount type=bind,src=/path/to/hsqldb,dst=/opt/hsqldb

You might need to open up permissions on that directory:

$ chmod 777 hsqldb

Delete the current container

$ docker rm -f grouper-qs

Start it again

$ ./grouperQsDockerRun.sh

You will see database files in that dir on your host

grouperContainer $ ls -latr hsqldb/
total 6192
drwxr-xr-x 22 mchyzer staff      704 May  3 22:58 ..
drwxr-xr-x  2 mchyzer staff        64 May  3 22:58 grouperHSQL.tmp
-rw-r--r--  1 mchyzer staff     1536 May  3 22:58 grouperHSQL.script
-rw-r--r--  1 mchyzer staff       85 May  3 22:58 grouperHSQL.properties
drwxrwxrwx  7 mchyzer staff      224 May  3 22:58 .
-rw-r--r--  1 mchyzer staff       16 May  3 23:00 grouperHSQL.lck
-rw-r--r--  1 mchyzer staff  2854600 May  3 23:00 grouperHSQL.log

```

#### 4. Evolve to [maturity level 0](#)