

Installing Sametime Meetings 11.5 on Docker

Roberto Boccadoro - Роберто Боккадоро

roberto.boccadoro@eldeng.it



Roberto Boccadoro



- Working with Collaboration solutions since 1994
- Many years experience with Domino, Sametime, Connections, Docs and associated products
- HCL Ambassador 

 roberto.boccadoro@eldeng.it

 <http://www.robortoboccadoro.com>

 @massimodecimo59

When to install on Docker vs. Kubernetes

Which do I need, Docker or Kubernetes? Is one better than the other?

- Docker and Kubernetes have different goals and outcomes. The decision should depend on your end goal. Docker is about containerization; Kubernetes is about container orchestration. The Docker containers are the building blocks. A small deployment has the bare minimum number of containers to produce a solution that allows users to collaborate, but without scalability, load balancing, etc. If you are deploying for a small group and do not require scalability, Docker is a simple solution. Kubernetes builds on the base containers and allows them to auto scale; load balance across multiple physical or virtual hosts, even bringing up and tearing down new hosts to deal with load variance.
- Meetings are sized based upon what is happening on the server at any given time. There are many variables including the size (CPU and Memory) of the Docker instance. A large Docker instance can support up to 200 concurrent peak users, but that does not take into consideration how many of the meetings are being recorded. Meeting recordings are CPU intensive. A Docker instance can only record up to 2 meetings simultaneously. Its best suited for a small department or focused team than an enterprise size deployment.
- Kubernetes overcomes these limitations by autoscaling. Autoscaling adds and removes nodes as needed based upon current usage and monitoring. Kubernetes is recommended if you are deploying Sametime meetings for your entire organization.

https://help.hcltechsw.com/sametime/11.5/admin/docker_kubernetes.html

Requirements

- A Sametime 11.5 Community Server available

Can I install Sametime 11.5 Meetings on the Community Server?

In a proof-of-concept environment, if you have Docker on the same host, then you can run meetings on it. For production workloads, HCL support recommends separating the Meetings and Community servers onto separate hosts.

- A Linux server, in this presentation I will use CentOS 7.4

Important Note on CentOS 8: It has been reported on CentOS 8, STUN and Sametime Proxy hostnames fail to be resolved. To avoid this issue, the auth, nginx, and jvb parameters can be updated in the docker-compose.yml file to resolve STUN and the Sametime Proxy server IP addresses correctly. If not using Google STUN servers (default), this step is NOT needed. If DNS is an issue with the STUN server hostname(s), add extra_hosts using the example provided in step 3 here :

https://help.hcltechsw.com/sametime/11.5/admin/t_installing_sametime_docker.html

- Docker 19.03.13 minimum

Installing Docker

Log in as root

Run the following command for installation of required Docker Engine packages:

```
yum install -y net-tools wget yum-utils device-mapper-persistent-data lvm2
```

Run the following command for add the docker repository for software downloads:

```
yum-config-manager --add-repo
```

```
https://download.docker.com/linux/centos/docker-ce.repo
```

Run the following command to install the latest version of Docker Engine and containerd:

```
yum install -y docker-ce docker-ce-cli containerd.io
```

Run the following command to start Docker

```
systemctl start docker
```

Run the following command to enable autostart of Docker

```
systemctl enable docker
```

Installing Docker Compose

Run the following command to install Docker Compose

```
curl -L  
"https://github.com/docker/compose/releases/download/1.27.4/docker-  
compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
```

Apply executable permissions to the binary

```
chmod +x /usr/local/bin/docker-compose
```

Check the installation

Run the following command to check Docker installation

`docker info`

```
[root@kali ~]# sudo docker info
Client:
 Debug Mode: false

Server:
 Containers: 1
  Running: 0
  Paused: 0
  Stopped: 1
 Images: 1
 Server Version: 19.03.13
 Storage Driver: overlay2
  Backing Filesystem: xfs
  Supports d_type: true
  Native Overlay Diff: true
 Logging Driver: json-file
 Cgroup Driver: cgroupfs
```

Run the following command to check Docker Compose installation

```
[root@kali ~]# docker-compose --version
docker-compose version 1.27.4, build 40524192
[root@kali ~]#
```

Installing Sametime Meetings

Download the package `Sametime_11.5_MeetingServer.zip` from Flexnet

Run the following command to unzip it

```
unzip Sametime_11.5_MeetingServer.zip
```

Update the file **custom.env**

```
# Host name or IP address of the Sametime Proxy v11.5 host
```

```
SAMETIME_PROXY_HOST=STproxy.yourcompany.com
```

```
# Port of the Sametime Proxy v11.5 host. Default is 443. (This is wrong, default is 8443)
```

```
SAMETIME_PROXY_PORT=8443
```

```
# This should be defined as the fully qualified host name of the system as you would expect users to access via a web browser. Do not add http or https before the name. Default is meetings.company.com
```

```
REACT_APP_MEETING_SERVER_HOSTNAME=meetings.company.com
```

Installing Sametime Meetings

Configure these two values as you would expect to have single-sign-on with your Sametime Proxy server. For example, if the proxy is "webchat.company.com" and the meetings server is "meetings.company.com" then you should use "company.com" for these two fields so that cookies can be shared between the two deployments. If you do not have single-sign-on concerns, you should set the value exactly to the value set in the REACT_APP_MEETING_SERVER_HOSTNAME so that access cookies are sent by the browser only to the meeting server

JWT_ACCESS_COOKIE_DOMAIN=company.com

JWT_REFRESH_COOKIE_DOMAIN=company.com

If SAML is used for authentication, this is the IDP URL defined in that configuration. Default is empty.

IDP_URL=

IP address of the Docker host.

DOCKER_HOST_ADDRESS=

Public URL for the web service. Add http or https followed by meeting server host name. If you have configured "meetings.company.com" as your host name then your PUBLIC_URL will be as below.

PUBLIC_URL=https://meetings.company.com

```
#
# Mandatory configuration before running meeting server.
#
# Host name or IP address of the Sametime Proxy v11.5 host.
SAMETIME_PROXY_HOST=sametime.company.com
# Port of the Sametime Proxy v11.5 host. Default is 443.
SAMETIME_PROXY_PORT=8443
# This should be defined as the fully qualified host name of the system as you would expect
# users to access via a web browser. Do not add http or https before the name. Default is meetings.company.com
REACT_APP_MEETING_SERVER_HOSTNAME=meeting.company.com
# Configure these two values as you would expect to have single-sign-on with your Sametime Proxy server.
# For example, if the proxy is "webchat.company.com" and the meetings server is "meetings.company.com" then you should use
# "company.com" for these two fields so that cookies can be shared between the two deployments. If you do not have single-sign-on concerns,
# you should set the value exactly to the value set in the REACT_APP_MEETING_SERVER_HOSTNAME so that access cookies are sent by the browser only to the meeting server.
JWT_ACCESS_COOKIE_DOMAIN= meeting.company.com
JWT_REFRESH_COOKIE_DOMAIN= meeting.company.com
# If SAML is used for authentication, this is the IDP URL defined in that configuration. Default is empty.
IDP_URL=
# IP address of the Docker host. Check LAN configuration of the system. If the host has multiple interfaces,
# choose the one which is considered the routable IP for the host.
#DOCKER_HOST_ADDRESS=
# These are the number of days a meeting recording will be available for download/playback. Default is 3.
EXPIRES_IN_DAYS=3
# Public URL for the web service. Add http or https followed by meeting server host name. If you have configured "meetings.company.com"
# as your host name then your PUBLIC_URL will as below.
PUBLIC_URL=https:// meeting.company.com
```

Installing Sametime Meetings

To load and initialize the Docker images, from the directory where you extracted the zip file, run the following command:

[./install.sh](#)

The install.sh script will load and run the following list of docker images.

meetings-auth.node

meetings-recordings.node

meetings-web

meetings-prosody

meetings-jicofo

meetings-jvb

meetings-jigasi

meetings-jibri

Installing Sametime Meetings

```
[root@server1 ~]# sudo ./install.sh
HCL Sametime Premium 11.5
LICENSED MATERIALS PROPERTY OF HCL. ©Copyright HCL Technologies Limited 2020
Enter Proxy Server Host name or IP address: windows-still.iris.smp.pap.hcl.com
Enter Proxy Server Port [443]: 443
Enter fully qualified Server Name: cent7-still.iris.smp.pap.hcl.com
Enter Server Domain Name [iris.smp.pap.hcl.com]: iris.smp.pap.hcl.com
Enter Mongo Host [windows-still.iris.smp.pap.hcl.com]: cent7-still.iris.smp.pap.hcl.com
Enter Mongo Port [27017]: 27017
Enter Mongo Admin User Name: sametimeUser
Enter Mongo Admin User Password:

Enter the Base64 encoded JWT_SECRET from the Sametime deployment: [Empty to Generate]
Loading images...
e29c18101503: Loading layer 58.48MB/58.48MB
5f70bf18a086: Loading layer 1.024kB/1.024kB
ac05f50f63d8: Loading layer 1.968MB/1.968MB
ffdf5f297bc0: Loading layer 5.12kB/5.12kB
2d9e6b2f30a2: Loading layer 5.146MB/5.146MB
```

When prompted, specify the appropriate values for the deployment.

When prompted for **Enter fully qualified Server Name**, this value will be the Sametime Meeting server host name

Checking the installation

To verify that the Meetings Server is running, run the following command to show all the loaded docker images

`docker images`

```
[user@host ~]$ sudo docker images
REPOSITORY          IMAGE ID            CREATED             SIZE                TAG
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jibri 202
01105-2027          a09a66365ce5      3 days ago        957MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-web    202
01105-2027          b4ec1440276b      3 days ago        528MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-persistence.node 202
01105-2027          77e03050f664      3 days ago        357MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-prosody 202
01105-2027          3e81d8d0098e      5 days ago        105MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jibri-web 202
01105-2027          1b1694fdefe7      5 days ago        483MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jigasi 202
01105-2027          489ed6ddc718      5 days ago        309MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jvb    202
01105-2027          d5218436319a      5 days ago        279MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-recordings.node 202
01105-2027          8848e98f74c8      5 days ago        351MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-auth.node 202
01105-2027          fa7366edcc3e      5 days ago        361MB
sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jicofo 202
01105-2027          8a425283a0b4      3 months ago      292MB
hello-world         lat
est                 bf756fb1ae65      10 months ago     13.3kB
```

Checking the installation

run the following command to list all the running containers in docker

```
docker ps
```

```
[root@xxxxxxxxxxxxxxxxxxxx]# docker ps
CONTAINER ID        IMAGE                                     COMMAND                  CREATED            STATUS
TUS                PORTS
AMES
de77dcf6910a       sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jicof
cofo:20201105-2027  "/init"                    24 seconds ago    Up
21 seconds
revort_jicof_1
d58ec46c32eb       sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jigasi
gasi:20201105-2027  "/init"                    24 seconds ago    Up
11 seconds        0.0.0.0:20000-20050->20000-20050/udp
revort_jigasi_1
ee701be2fa2a       sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jvb
b:20201105-2027    "/init"                    24 seconds ago    Up
21 seconds        0.0.0.0:4443->4443/tcp, 0.0.0.0:10000->10000/udp
revort_jvb_1
30f2f8def36e       sametime-docker-prod.artifactory.cwp.pnp-hcl.com/meetings-jibri
bri:20201105-2027  "/init"                    25 seconds ago    Up
24 seconds
```

Enable Sametime Community for Meetings

HCL Sametime Community 11.5 requires the following changes to support Sametime Meetings.

1. Enable Sametime Meeting Policy
2. Create JWT Configuration

Enable Sametime Meeting Policy

Edit the `polices.user.xml` found in the Sametime Community server install directory.

Locate the `im.meetingsEnabled` parameter under `im` and set this to `1`. This policy can be enabled for anonymous and any additional policies that may exist.

Create JWT Configuration

Copy the value of `JWT_APP_SECRET` from the `.env` file.

Run the following command from the Linux shell with this `JWT_APP_SECRET` value

```
echo -n <JWT_APP_SECRET> | base64 -w 0
```

The value (output) from this command becomes the "`GENERATED_SECRET`" for the `sametime.ini` and `stproxyconfig.xml` in the following steps.

Create JWT Configuration

Edit the `sametime.ini` found in the Sametime Community Server's program directory.

Add the following under `[config]`:

```
JWT_SECRET=GENERATED_SECRET
```

Change the following under `[st-bb-names]`:

```
ST_AUTH_TOKEN=notes To:
```

```
ST_AUTH_TOKEN=Fork:Jwt,notes
```

Create JWT Configuration

Edit the `stproxyconfig.xml`

Add the following parameters within `<configuration> </configuration>`.

```
<tokenDomain>company.com</tokenDomain>
```

For the `tokenDomain`, specify a valid domain name. Ensure that the domain does NOT include a preceding dot.

```
<jwtSecret>GENERATED_SECRET</jwtSecret>
```

```
<refreshJwt>
```

```
  <enabled>true</enabled>
```

```
  <path>/meeting-auth/api/v1/refresh</path>
```

```
</refreshJwt>
```

The `GENERATED_SECRET` is the value created from the Sametime Meeting `JWT_APP_SECRET`

Example

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<configuration>
    <server>
        <host>sametime.company.com</host>
        <port>1516</port>
        <clusterlist />
        <maxconnections>-1</maxconnections>
        <SAMLAuth></SAMLAuth>
    </server>
    <IDPUrl></IDPUrl>
    <httponlyexception>sid</httponlyexception>
    <secureexception></secureexception>
</configuration>
<jwtSecret>
JWT_SECRET=ZTc6JH.....
</jwtSecret>
<refreshJwt>
<enabled>>true</enabled>
<path>/meeting-auth/api/v1/refresh</path> </configuration>
</refreshJwt>
</configuration>
```