

JMeter manual

Outline:

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Preconditions:

- Have an account on the server you want to work with

Where can I find the files I need?

The files are stored in our Semdatex Gitlab in the Project inCareNet HF on the branch "Denys"

Please contact me if you don't have the access.

1. Installation Jmeter

1. Install Java JRE 64-bit
2. Download Apache JMeter
3. Install Java JDK (check what Java version your Apache JMeter version is compatible with)
4. Extract the zip file in the place you want it to be extracted. Just to be safe, install it on your c drive or some equivalent place
5. To check if it is working go into your Apache JMeter folder and execute your jmeter.bat (windows) or jmeter.sh (Ubuntu etc.)

2. Installation Python and setting up the scripts

1. Download and install python Version ≥3

Check if python was installed (windows): type in your console "python -version"

2. Create a Virtual Environment

Windows:

- Cd into your folder you want to install the script in
- Type into your console `python -m venv /path/to/new/virtual/environment/venv --prompt getemed_fhir_scripts`
- If he cant find python try `python3 -m venv /path/to/new/virtual/environment/venv --prompt getemed_fhir_scripts`
- Paste the create_observation.bat into the Scripts folder
- Edit the create_observations.bat file
- Type in the directory the create_observations.bat file is located instead of my location (C:\Users\dboiko\Desktop\Last-Test\getemed\venv\Scripts\create_observations.exe)
- Save and close
- Create a folder for the create_observations.bat and paste the edited create_observation.bat

- Paste the getemed_fhirs-0.18-py3-none-any.whl into the same folder as the venv folder is located
- Cd into your folder that has the venv folder in it
- Activate the virtual environment in the console: .\venv\Scripts\activate
- Install the scripts by typing following into the console: pip install getemed_fhirs-0.18-py3-none-any.whl
- Create a folder in the directory your jmx files are stored and call it Data
- Paste the patients1000.csv
- Open Jmeter and open the CreatePatientsExtDevices.jmx script and edit the pathToGetemedScript. Paste the path your create_observation.bat file is located (not the venv directory but the other one)
- Add a "\" to the end of the "pathToGetemedScript"
- Example: C:\Users\dboiko\Desktop\Last-Test\Skrpt\
- Install the plugin manager for jmeter and get the plugins "Random CSV Data Set" and "Dummy Sampler"

Linux:

For Linux:

- Cd into your folder you want to install the script in
- Type into you terminal python3 -m venv /path/to/new/virtual/environment/venv --prompt getemed_fhirs
- If he cant find python try python3 -m venv /path/to/new/virtual/environment/venv --prompt getemed_fhirs
- If needed install python3.10-venv by: sudo apt install python3.10-venv
- Paste the files create_observation.sh and create_observation.py into the bin folder situated in venv folder.
- Edit the create_observations.sh file :
Type the path where create_observation.py is located instead of (/home/fernand/last-test/getemed/test/venv/bin/create_observations.py)
- Save and close
- Paste the getemed_fhirs-0.18-py3-none-any.whl into the same folder as the venv folder is located
- Cd into your folder that has the venv folder in it
- Activate the virtual environment in the terminal: source ./venv/bin/activate
- Install the scripts by typing following into the terminal: pip install getemed_fhirs-0.18-py3-none-any.whl
or
pip3 install getemed_fhirs-0.18-py3-none-any.whl
- Create a folder in the directory your jmx files are stored and call it Data
- Paste the patients1000.csv in Data folder
- Open Jmeter and open the CreatePatientsExtDevices.jmx script and edit the pathToGetemedScript. Paste the path your create_observation.sh file is located
- Add a "/" to the end of the "pathToGetemedScript"
- Example: /home/fernand/last-test/getemed/test/venv/bin/
- Install the plugin manager for jmeter and get the plugins "Random CSV Data Set" and "Dummy Sampler"

3. How to use the https script recorder and setting up jmeter

Use the script recorder to get you jmeter User defined variables

First turn off your User Defined Variable (Strg + t or select the option with right mouseclick)

Open any of the jmx files (Jmeter files) with Apache Jmeter

- In the left tree click on "HTTP(S) Test Script Recorder"
- Port should be 8080
- Right to "Target Controller:" choose "Test Plan > HTTP(S) Test Script Recorder"
- Press the Start Button (not the one in the left upper corner)
- a certificate will be created in the apache bin folder (The certificate will last for about 6 days)
- Unter "Netzwerk und Internet" > „Proxy“ unter Manuelle Proxyeinstellung
 - An
 - Adresse: http://localhost
 - Port 8080
- In Chrome upper right corner press the three dots in a vertical row ("customize and control google chrome")
 - Settings>privacy security>manage certificates
 - Press "Importieren..."
 - Choose the certificate in the JMeter bin
 - Weiter>Durchsuchen>(„Alle Zertifikate in..." should be checked) Choose the "Vertrauenswürdige Stammzertifizierungss.">ok>weiter>Fertig stellen>
 - Sicherheitswarnung appears, press „ja“
 - Certificate will last for 7 days

Configure the jsx-file

- Script recorder in Jmeter should have activated the script recorder
- Login into your system
- In Jmeter, in the tree under "HTTP(S) Test Script Recorder" open the "View Result Tree"
- look for "/dologin?" and write the username and the (hashed) password into your "User Defined Variables" (Top of left tree)
- You can see every Crud operation with this recorder and build your jmeter script by using all the endpoints

4. Using and configuring the external devices script

Configure the User Defined Variables External Devices script:

Threads:	How many parallel threads will be running
LoopCount:	How many patients per thread will be created
Rampup:	When using multiple threads, you will need time between the logins (every threads needs to login in stem 00) otherwise it won't let you do multiple threads. Rule of thumb: Threads by 2 +20
Server:	The Server URL
Username:	The username of you account
Password:	The password you got with the script recorder

daysOfMedicalData

MeasurementsBeforeToday: The amount of days of external devices medical data that will be randomly generated.

EmployeeID: To find your employee ID login into your inSuite account on the relevant server and go to:

Verwaltung (engl. Administration)-> inSuite-> Employee

Click on your name and see in the url in the browser the Last Part of the Path e.g. 6239c433f1c42f0c26a9e003

PathToGetemedScript: Put in the path to your create_observations.bat

I'm using Windows, for me It's C:\Users\dboiko\Desktop\Last-Test\Skrript\

@Fernand check how we wrote the path on the ImplantScript on your Ubuntu OS

heartxToken: The token of the inCardio Dashboard Sol, needed for authentication

- The external devices script be able to start
- Start the JMeter Script:
- Press on the Play Button on the top
- See the steps and the response data in the "View Result Tree"



5. Using and configuring the implants script

Configure the User Defined Variables Implants script:

It is the same as with external sensors but without

Threads: How many parallel threads will be running

LoopCount: How many patients per thread will be created

Rampup: When using multiple threads, you will need time between the logins (every threads needs to login in stem 00) otherwise it won't let you do multiple threads. Rule of thumb: Threads by 2 +20

Server: The Server URL

Username: The username of you account

Password: The password you got with the script recorder

EmployeeID: To find your employee ID login into your inSuite account on the relevant server and go to:

Verwaltung (engl. Administration)-> inSuite-> Employee

Click on your name and see in the url in the browser the Last Part of the Path e.g. 6239c433f1c42f0c26a9e003

pathToHL7Input: This is your path to your input folder of you sdx-file-forwarder, the generated hl.7 files will be created there

You need to put a Trailing Slash on the end of the path ("/" or "\" depending on your OS)

You can find the instruction for the installation and usage of the sdx-file-forwarder on confluence:
<https://confluence.semdatex.de/pages/viewpage.action?pageId=45973542>

heartxToken: The token of the inCardio Dashboard Sol, needed for authentication

pathToAppendedHL7 This is your path to your appended.hl7 file. Jmeter will concatenate the Jmeter String including the patient serial number with the other half of the hl7

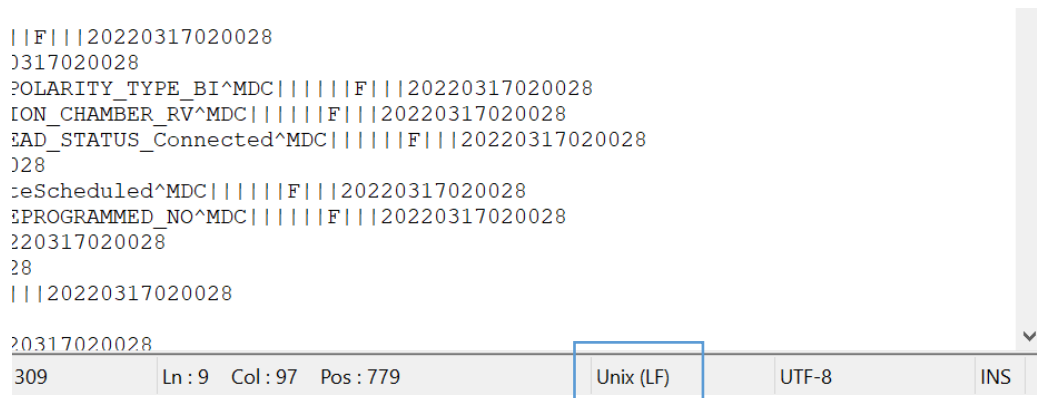
Turn of the SDX-FF step in jmeter (didn't work for me):

Press on the gear icon and press strg + t or just deactivate it with a right click

Put the appended.hl7 into a folder of your choice and add the path to that file in the "User Defined Variables" for "pathToAppendedHL7"

Make sure your linebreaks for the appended.hl7 are set to LF

For example, I used Notepad ++ to format the file (Just double click the Part shown in the screenshot)



```

||F|||20220317020028
317020028
POLARITY_TYPE_BI^MDC|||||F|||20220317020028
ION_CHAMBER_RV^MDC|||||F|||20220317020028
EAD_STATUS_Connected^MDC|||||F|||20220317020028
28
eScheduled^MDC|||||F|||20220317020028
PROGRAMMED_NO^MDC|||||F|||20220317020028
20220317020028
28
|||20220317020028
20317020028
309      Ln : 9   Col : 97   Pos : 779      Unix (LF)      UTF-8      INS

```

You should have some hl7 in your input folder of the sdx-file-forwarder

Run the Jmeter script

Cd into your sdx-file-forwarder and type: "npm start"

6. Using and configuring the deleting patient script

LoopCount:	How many times per thread script will be executed . Each 1 cycle deletes 10 patients
Server:	The Server URL
Username:	The username of you account
Password:	The password you got with the script recorder
EmployeeID:	<p>To find your employee ID login into your inSuite account on the relevant server and go to:</p> <p>Verwaltung (engl. Administration)-> inSuite-> Employee</p> <p>Click on your name and see in the url in the browser the Last Part of the Path e.g. 6239c433f1c42f0c26a[...]</p>
heartxToken:	The token of the inCardio Dashboard Sol, needed for authentication

Start the JMeter Script:

Press on the Play Button on the top

To stop the process, press the stop button

