Guide to host your online experiment on the CIMCYC JATOS server

What is JATOS?

Officially, “JATOS (Just Another Tool for Online Studies) helps you set up and run your online studies on your own server”. It is an open source, cross-platform web application with a graphical user interface (GUI) that greatly simplifies setting up and communicating with a web server to host online studies that are written in JavaScript.

The CIMCYC owns a private server running JATOS that ensures all data protection policies are enforced in our online experiments (the data never leave the UGR network). The aim of this guide is to ease the process of making your experiment available in the CIMCYC server (so that you can send a link to your participants) as well as downloading your data from the CIMCYC server to your machine.

Step 0: get an account

If you are a member of the CIMCYC, you can apply for an account here. If you are not a member (e.g. you’re a PhD student), a member has to apply for you (i.e. ask your supervisor).

Step 1: make the script of your experiment use JATOS

You will have to add a few snippets in your code to use JATOS. Here, **we assume you have used jsPsych** to program the experiment. You can find the required code here.

Step 2: download JATOS and create local version of your experiment

1) Download JATOS here and follow the installation instructions.

2) Use the terminal and change directory to the one where jatos is installed and start a local session

```
cd ~/Downloads/jatos
./loader.sh start
```

You should know see something like this:

3) Now, open your preferred Internet browser (we recommend Chrome for this purpose) and go to http://localhost:9000/. Use the following credentials:
    a) User: admin
    b) Password: admin
4) Create local version of your experiment by clicking on “New study”
5) Add a name to your study and to the field “Study assets’ directory name”. This will effectively create a folder within your local jatos folder with the name of the study. For instance, if we call the experiment “MyExperiment”, the following folder will be created: `~/Downloads/jatos/study_assets_root/MyExperiment`

Step 3: paste your jsPsych experiment folder inside the jatos folder you just created

Transfer the files of the experiment (including the updated scripts from Step 1) to the new folder, including all jsPsych core scripts and plugins. Thus, inside the new folder you should have at least:

`~/Downloads/jatos/study_assets_root/MyExperiment/exp.html` (with whatever name you have to the html file)

`~/Downloads/jatos/study_assets_root/jspsych-X.XX` (possibly, the latest version, with all required plugins included)

Step 4: check your experiment works on the local instance of JATOS and make changes accordingly

Now, your experiment is loaded to the local instance of JATOS you're running in your internet browser. However, if you go back to http://localhost:9000/,click on your experiment and then click on "Run", you will get the following error:

A problem occurred:
The study with ID 42 has no active components.

"Components" within JATOS can be conceptualized as different parts or phases of your experiment. For instance, imagine you had one html file for the informed consent screen and another one for the actual experiment. In JATOS, you could create two components, one for each html file, but participants would still see them as one single experiment.

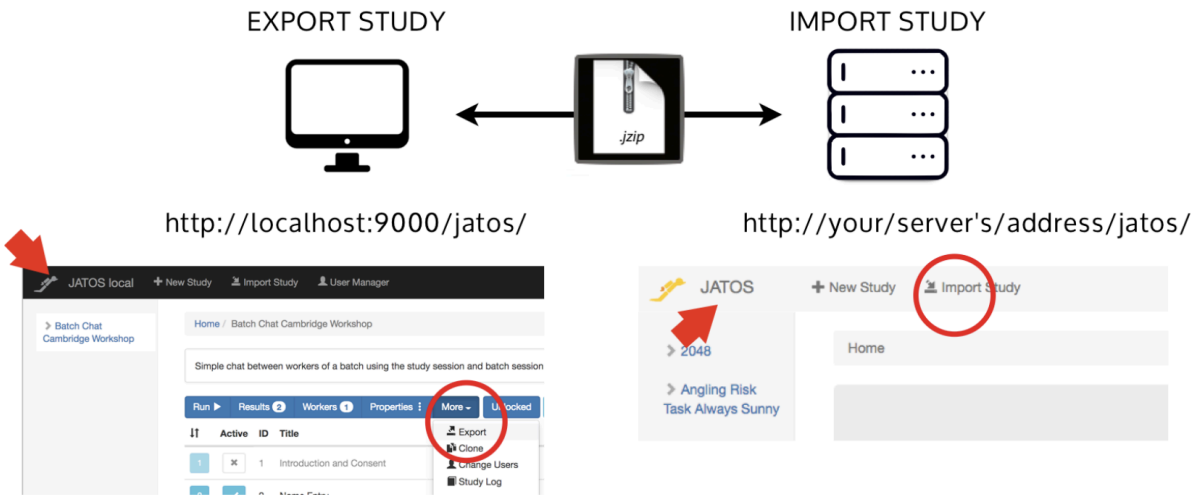
Usually, we will work with just one single component that contains the entire experiment:

- Click on "Component" and "New"
- Add a name (e.g. "exp") and in the "html path" field add the name of the html containing your task script in your experiment folder (e.g. "exp.html")
- Click "Run". This should launch the experiment. At this point, it's time to make sure everything works and debug any potential bug in the code.
- If everything works fine and you manage to run a few trials or the entire experiment you should also be able now to check how the data are stored in jatos. Go to "Component results". In principle, you should have a row per "session" (if your experiment is just one session, each row should be one participant). You can select in and export it, which will download the data as a .txt file.

Step 5: export your local experiment to run it online

Once you make sure your experiment works perfectly locally and the data are stored as you wish, it's time to export your experiment and upload it to the CIMCYC JATOS instance:

- Go to the main page of your experiment in the local JATOS instance
- Click on "export" and wait. Depending on the amount of files (e.g. stimuli) this might take a while. Eventually, a .jzip file will be downloaded.
- Next, go to the address of the CIMCYC server and log in with the credentials you got in Step 0 (**important**: this will only work if you are connected to the UGR network or you VPN to it).
- Click on "import study" and select the .jzip file you downloaded before.



Step 6: launch your experiment online

For the final step, go to the "**Worker and Batch manage**r" section in your study menu, and click on "New Batch". There, you can administer the types of links (or sessions) for your participants. For online testing, you will normally use a general link that can be used by a group of participants.

- If you want to restrict the access to the link to a single use, activate the **general single worker option**.
- If you don't mind that your participants access the experiment multiple times (useful if they run into technical problems), activate the **general multiple worker** option.
- Alternatively, the personal link options will generate an individual link for each participant.

Then, by clicking on "Get Links", you can copy the link that will redirect your participants to your study. You can paste it in the corresponding field on Prolific or Sona.

Depending on the platform that you use for recruiting participants, you'll be able to further modify the study's URL to contain additional participant information (i.e., automatically extract the participant's ID), and automatize credit granting:

- If you're using Sona, you will find more information on that here.
- Or if you use Prolific, take a look here.

Code snippet of a working example (with Prolific)

```
<!DOCTYPE html>
<html>
   <head>
       <title>Title of the experiment</title>

       <script src="jspsych-6.1.0/jspsych.js"></script>
       <script src="jspsych-6.1.0/plugins/jspsych-fullscreen.js"></script>
       <script src="jspsych-6.1.0/plugins/jspsych-html-keyboard-response.js"></script>
       <script src="jatos.js"></script>

   </head>

   <script>
   /* YOUR EXPERIMENT CODE GOES HERE */

   ////////////////////////
   ///  RUN EXPERIMENT  ///
   ////////////////////////

   jatos.onLoad(function() {
       jsPsych.init({
   timeline: timeline,
   show_preload_progress_bar: true,
   show_detailed_errors: true,

   on_interaction_data_update: function(data) {
       interaction = data.event;
       if (interaction.includes("fullscreenexit")){
           flag_ExitFullScreen = 1;
           }},
   on_finish: function(data) {
           var results_full_filt = (subject_id,
                       jsPsych.data.get().filter([{Exp_part: 'Exp', trial_part:
'Recognition'}]).csv());
           // Submit results to JATOS
           jatos.submitResultData(results_full_filt, jatos.startNextComponent);

jatos.endStudyAndRedirect("https://app.prolific.co/submissions/complete?cc=77715FF5");}
       })
   });



   </script>
```

```
</html>
```