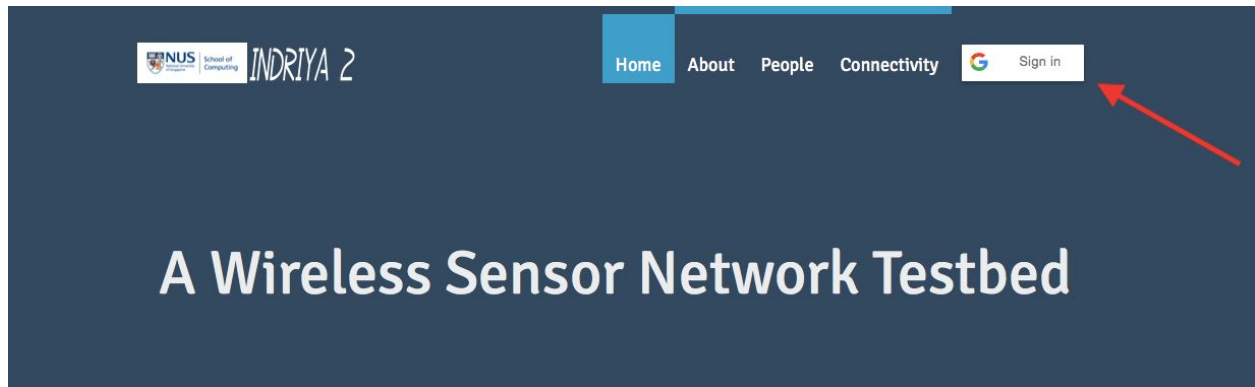


Indriya2 Tutorial

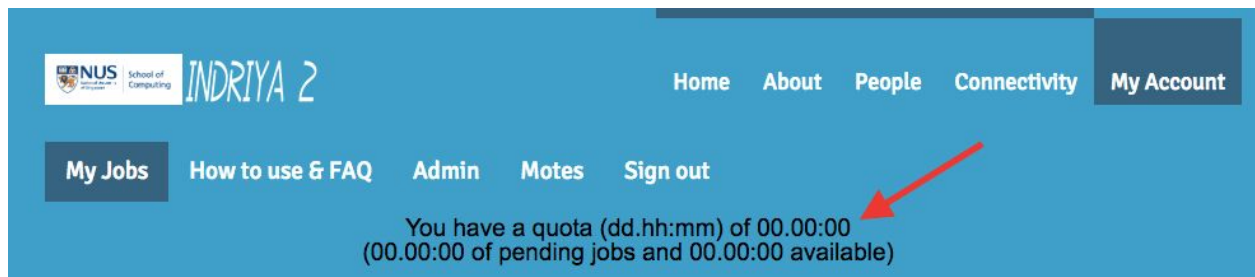
<https://indriya.comp.nus.edu.sg/>

1. User Account:

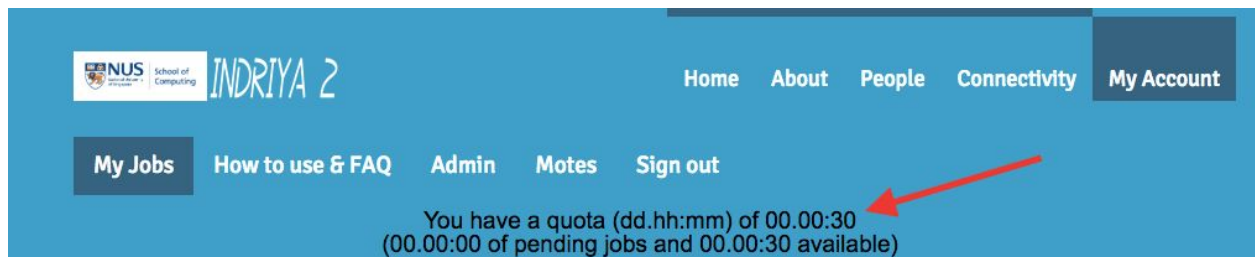
- Use your google account to sign in.



- After signing in, you will receive an email with your MQTT credentials. Note your MQTT credentials as you will use it later in Sec. 4.
- You may notice that your quota is currently 0, as your account is not activated yet.




- To activate your account, kindly reply to that email with the required details.
- Once your account is activated, you can see that your quota is upgraded to 30 minutes. This quota is renewable, once your running jobs are done the quota will be returned.




- Now, you can create and schedule jobs as described in Sec. 3 and Sec. 4, respectively.

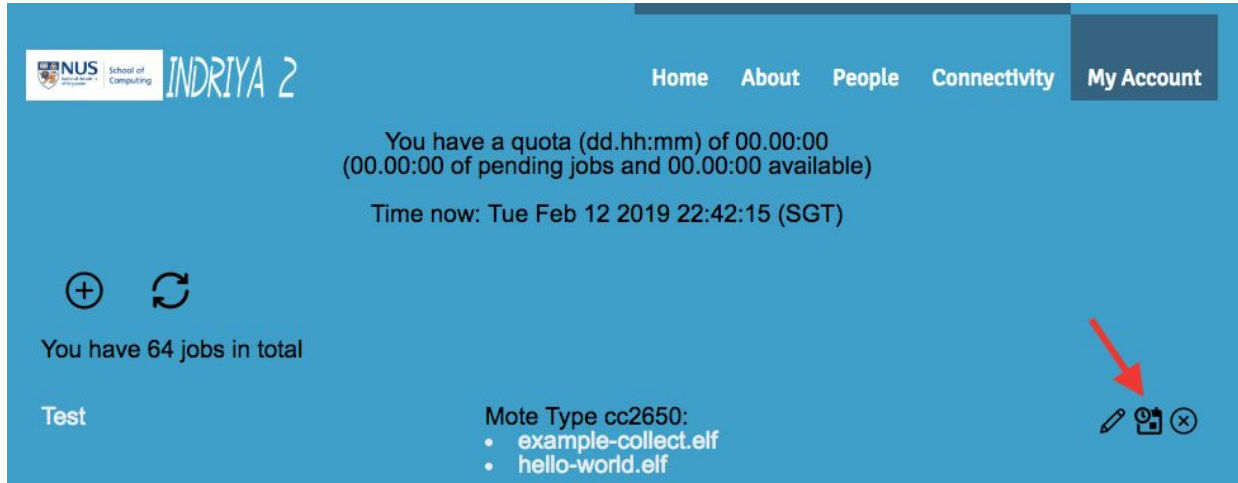
1. Job Creation:

- Click on the encircled plus sign  to add a new job.
- Enter the “**Job name**” and select the “**Mote Type**”. We have two types:
 - For TelosB: select the **.sky** file(s) generated during compilation of your TelosB program(s). Then click “**Next**”.
 - For SensorTag: select the **.elf** file(s) generated during compilation of your SensorTag program(s). Then click “**Next**”.
- Select the binary file and the mote(s) (based on Mote id) on the testbed which you want to run your program. You can select all. Then click “**Add Association**”. You need to associate all the uploaded file(s) to the mote(s).

- You can add the job by clicking the “**Add Job**” button.

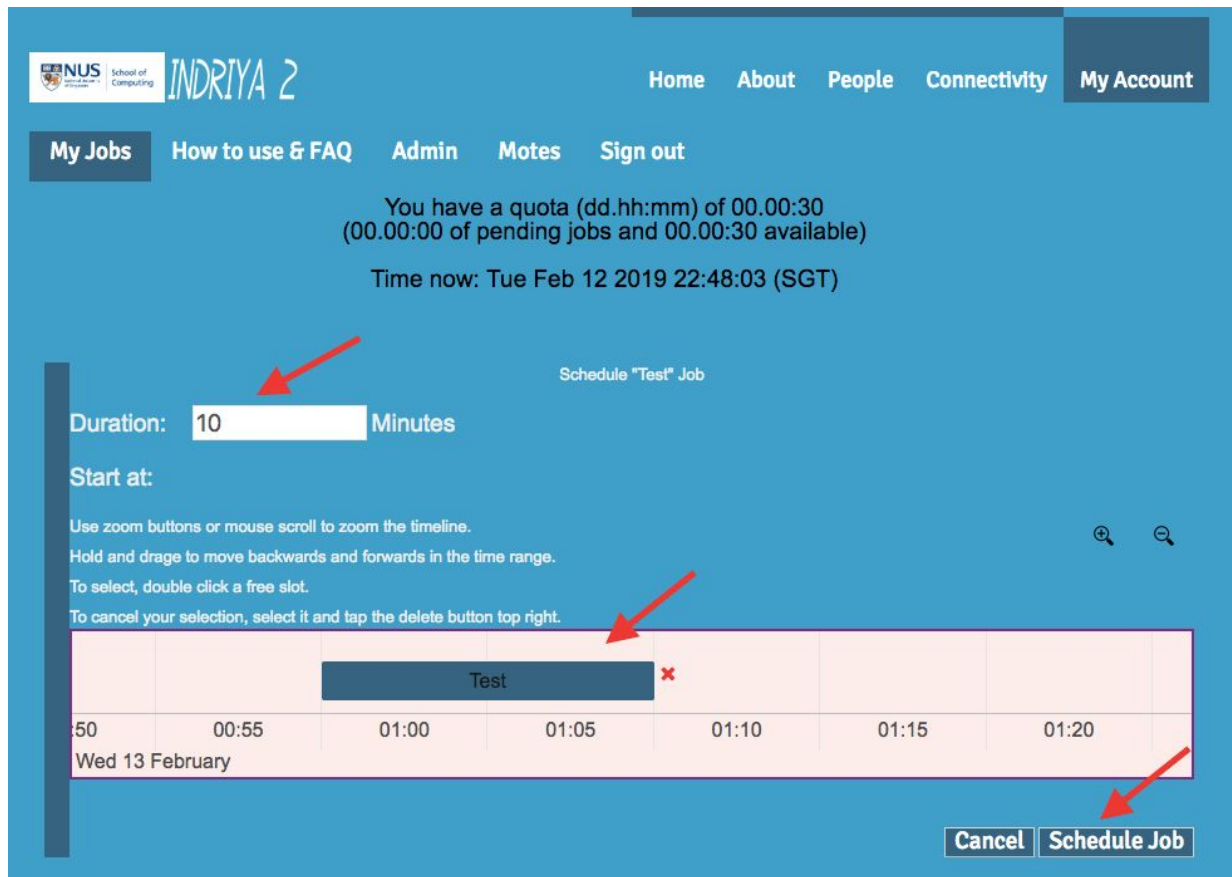
2. Job Scheduling:

- You can now schedule the job to run on the testbed by clicking the schedule button  next to the desired job.



The screenshot shows the INDRIYA 2 dashboard. At the top, there are navigation links: Home, About, People, Connectivity, and My Account. Below the navigation bar, it displays the user's quota: "You have a quota (dd.hh:mm) of 00.00:00 (00.00:00 of pending jobs and 00.00:00 available)" and the current time: "Time now: Tue Feb 12 2019 22:42:15 (SGT)". On the left, there are icons for adding (+) and refreshing (↺) jobs, followed by the text "You have 64 jobs in total". In the center, under the heading "Test", there is a note: "Note Type cc2650: example-collect.elf, hello-world.elf". On the right, there is a calendar icon with a red arrow pointing to it, and a close button (X).

- Choose the duration, minimum 10mins, and time to schedule the job. Then click on "Schedule Job".



The screenshot shows the INDRIYA 2 dashboard with the "My Jobs" tab selected. It displays the user's quota: "You have a quota (dd.hh:mm) of 00.00:30 (00.00:00 of pending jobs and 00.00:30 available)" and the current time: "Time now: Tue Feb 12 2019 22:48:03 (SGT)". Below the quota, there is a section titled "Schedule 'Test' Job". In this section, the "Duration" is set to "10 Minutes". Below the duration, there is a "Start at:" section with instructions: "Use zoom buttons or mouse scroll to zoom the timeline. Hold and drag to move backwards and forwards in the time range. To select, double click a free slot. To cancel your selection, select it and tap the delete button top right." Below the instructions, there is a timeline showing a slot from 00:55 to 01:05 labeled "Test" with a red 'X' next to it. At the bottom right, there are two buttons: "Cancel" and "Schedule Job", with a red arrow pointing to the "Schedule Job" button.

3. Job Results:

- Real-time: during the experiment, you can subscribe to the MQTT server, using the command “**mosquitto_sub -h indriya.comp.nus.edu.sg -t '#' -u email -P password -p 8080 --catfile cacert.pem**”, to retrieve the data generated by the Indriya2’s motes’ serial output. Note that the password is returned to you after your first email login (MQTT credentials). You can find the “**cacert.pem**” file attached on the email sent from the testbed once signed in.
- Offline: at the end of the experiment, you click on “**Download**” to download the zip file that contains all the data generated during your experiment.

The screenshot displays the INDRIYA 2 web interface. At the top, there is a navigation bar with links: Home, About, People, Connectivity, and My Account. Below this, a secondary navigation bar includes My Jobs, How to use & FAQ, Admin, Motes, and Sign out. The main content area shows a quota status: 'You have a quota (dd.hh:mm) of 00.00:30 (00.00:00 of pending jobs and 00.00:30 available)' and the current time: 'Time now: Tue Feb 12 2019 22:56:32 (SGT)'. Below the quota, there are icons for adding (+) and refreshing (↺) jobs. A message states 'You have 64 jobs in total'. The interface shows a job named 'test' with a 'Mote Type cc2650:' and a list of motes including 'hello-world.elf'. To the right of the motes, there are icons for a dropdown menu, edit, save, and delete. A red arrow points to the dropdown menu icon. Below the job details, the 'Results:' section lists two runs with their respective run times and durations. Each run entry has 'Remove' and 'Download' links. Red arrows point to the 'Download' links for both runs.

NUS School of Computing INDRIYA 2

Home About People Connectivity My Account

My Jobs How to use & FAQ Admin Motes Sign out

You have a quota (dd.hh:mm) of 00.00:30
(00.00:00 of pending jobs and 00.00:30 available)

Time now: Tue Feb 12 2019 22:56:32 (SGT)

+ ↺

You have 64 jobs in total

test

Mote Type cc2650:

- hello-world.elf

Results:

1. Run time: Tue Mar 06 2018 17:00:00 (SGT)
Duration (dd.hh:mm): 00.00:10
[Remove](#) [Download](#)
2. Run time: Tue Mar 06 2018 16:20:00 (SGT)
Duration (dd.hh:mm): 00.00:10
[Remove](#) [Download](#)