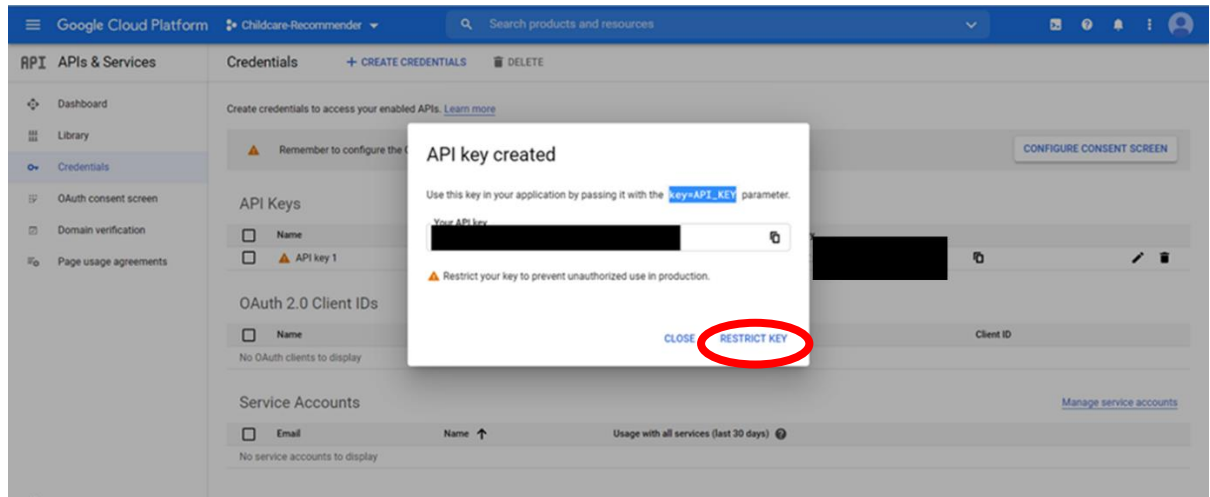


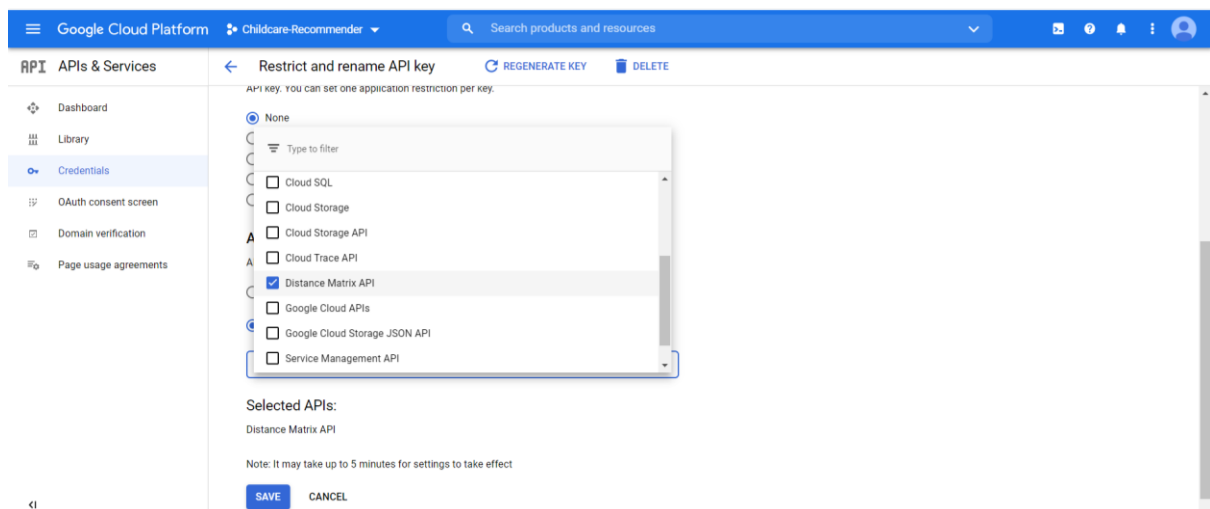
## Before setting up the systems

### Set up Google API key with distance matrix API

1. Go to Google Cloud Platform and create a new credential > Then click “Restrict key”.



2. Select Distance Matrix API so that this key can only access this API. The purpose of this key is to enable distance matrix API only. If you also have any other keys that can access distance matrix API, can also use it for this project.

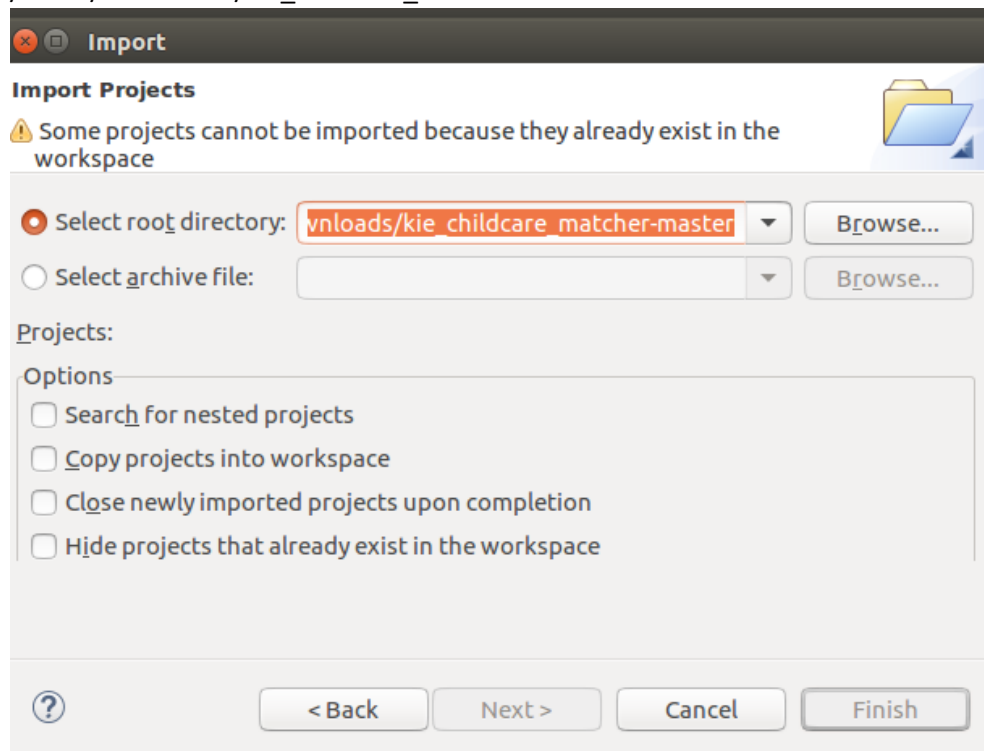


3. Download iss-vim and get it running. We will be using iss-vim for all the setup and use of our app.

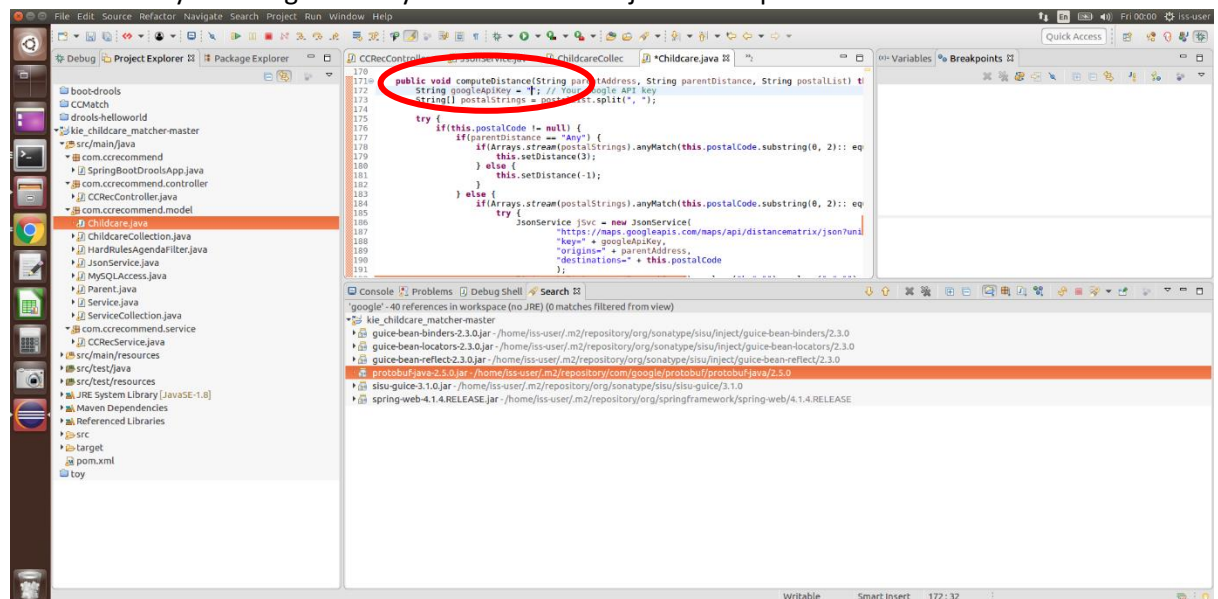
## Set up the KIE system for childcare recommendation system

We have shell script for other processes, except this one because you will need to enter API key in the code. We recommend you set it up in Eclipse for easy entering of Google API key.

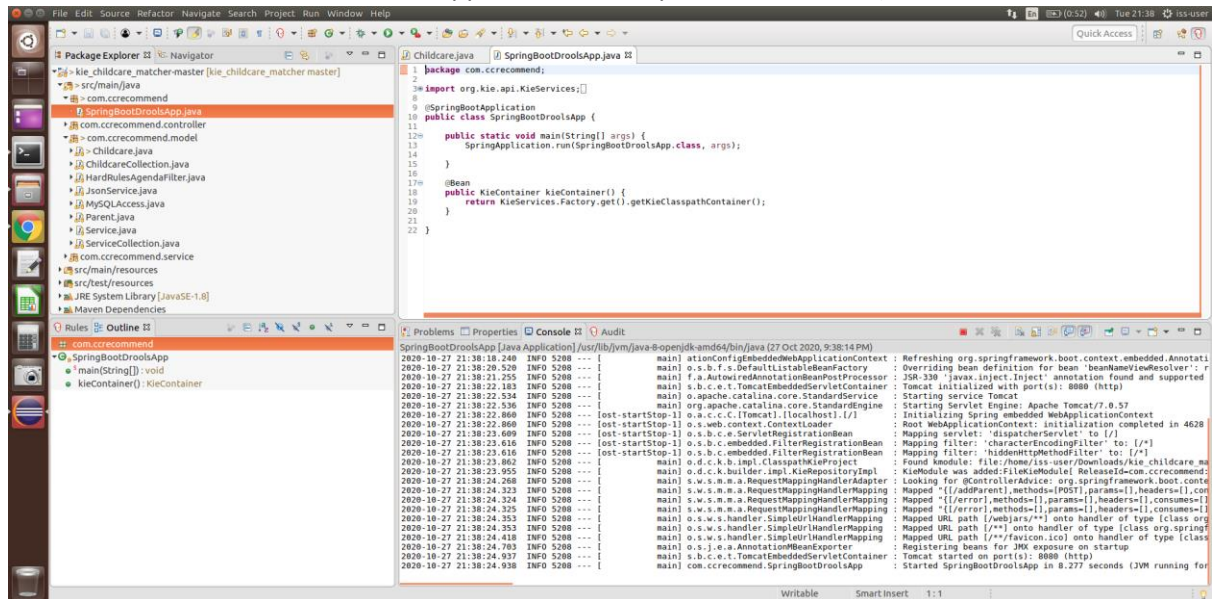
1. Download the zip file from [https://github.com/mabejeok/kie\\_childcare\\_matcher](https://github.com/mabejeok/kie_childcare_matcher)
2. Extract the zipfile out to wherever you like. The extracted file name should be "kie\_childcare\_matcher-master". For our guide, we extracted to /home/iss-user/Download
3. Open Eclipse and click on File from the top bar > Import > General > Existing Projects into Workspace then Browse... for the extracted file. In the picture below, my file location is in /home/Downloads/kie\_childcare\_matcher-master. Then click "Finish" button.



4. Please add in your Google API key here in Childcare.java and tap Ctrl+S



5. Now, we run the project! Open `SprintBootDroolsApp.java` > Go to the Run from the top bar > Run > Run as Java Application and you should see the “Spring” logo in Console. (You may need to wait for a while as the Java Application is set up for first time use)

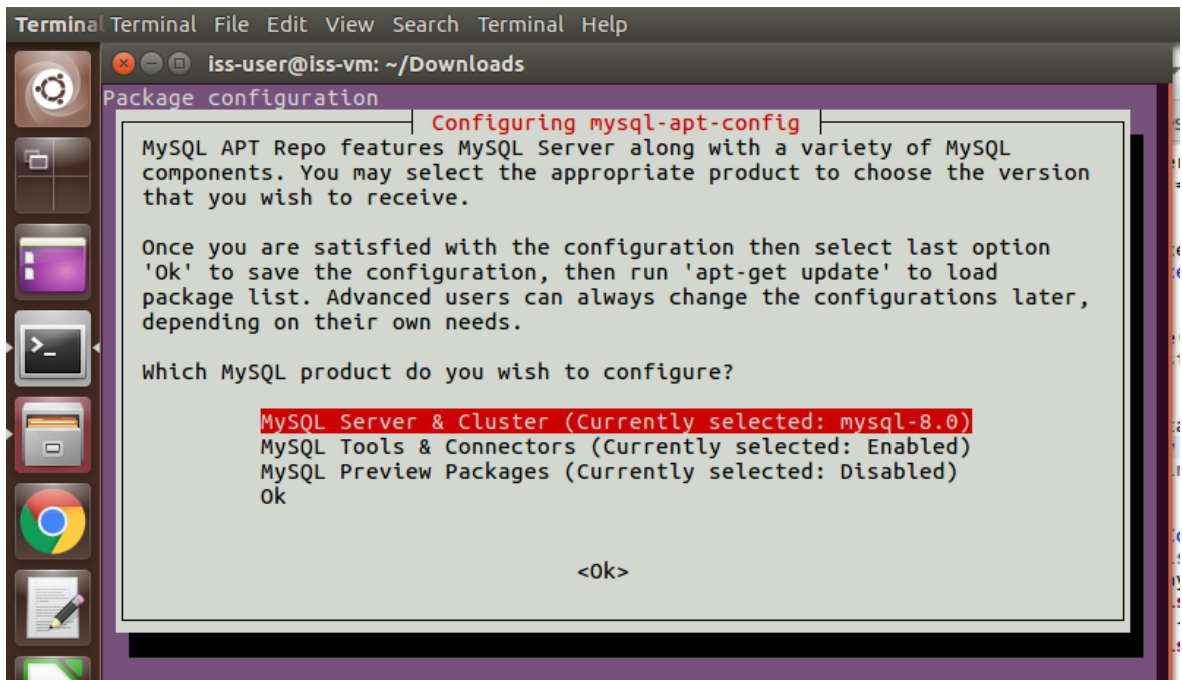


## Set up Python/Flask system for childcare recommendation system

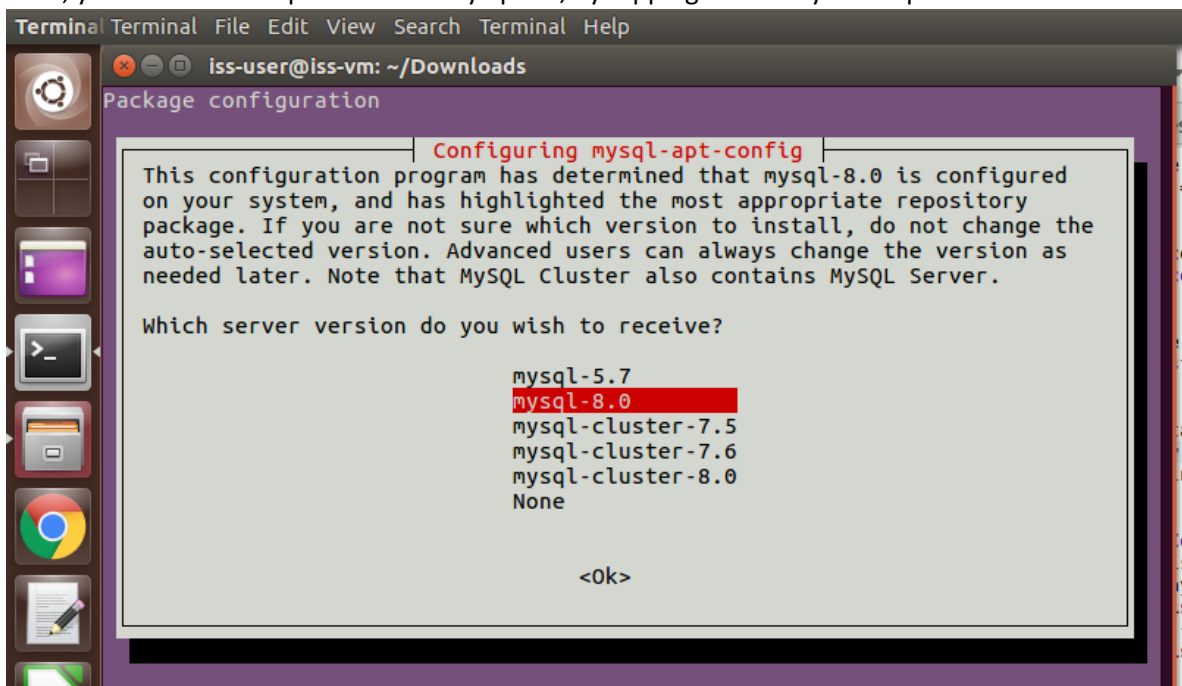
**Important:** Please run this before setting up the childcare matcher system below, as the system requires the MySQL database which is set up here.

(If the following instructions did not work, please try the [more detailed method below.](#))

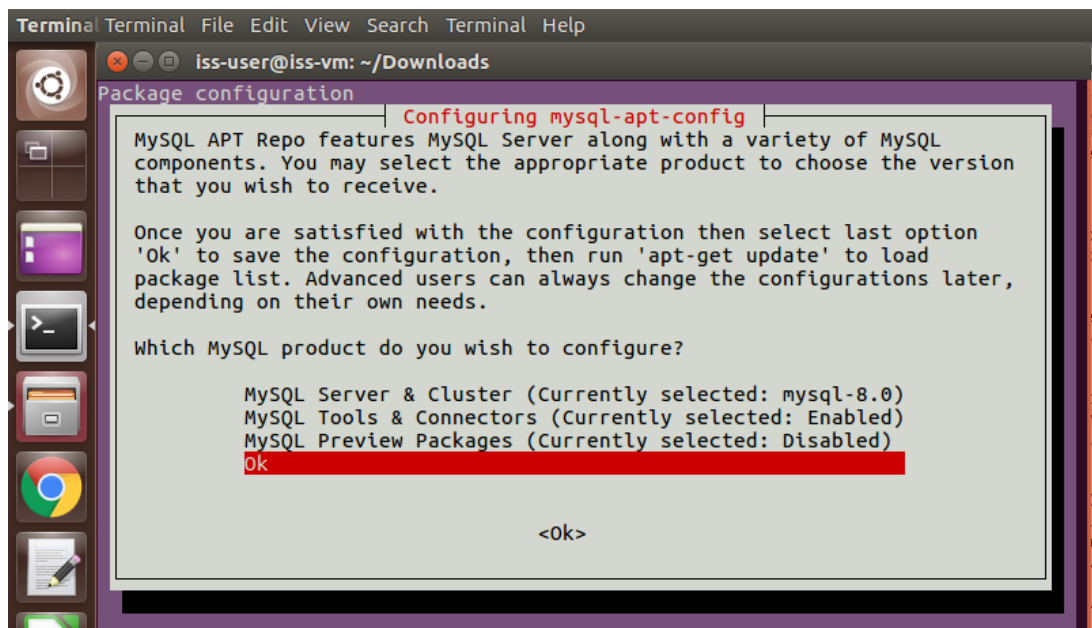
1. Download the shell script from this [URL](#) or from IRS-PM-2020-11-01-ISY5001-GRP1-ChildcareMatcher GitHub project > SystemCode > `mysql_python_rec_system.sh` into `/home/iss-user/Downloads`
2. Download the .sql file from this [URL](#) or from IRS-PM-2020-11-01-ISY5001-GRP1-ChildcareMatcher GitHub project > SystemCode > `childcare_matcher.sql` into `/home/iss-user/Downloads`
3. Open up a terminal in the above Downloads folder (so that the terminal can access the .sh file) and type and enter in “`chmod 755 mysql_python_rec_system.sh`”
4. Next run the shell script by typing “`./mysql_python_rec_system.sh`”
5. During the running of the shell-script, you will be prompted to enter password for sudo and mysql. Enter “`iss-user`” for password every time.
6. Enter “`Y`” when prompted for “`Y/n`”
7. You will also be prompted to select the MySQL version. Tap Enter for this option



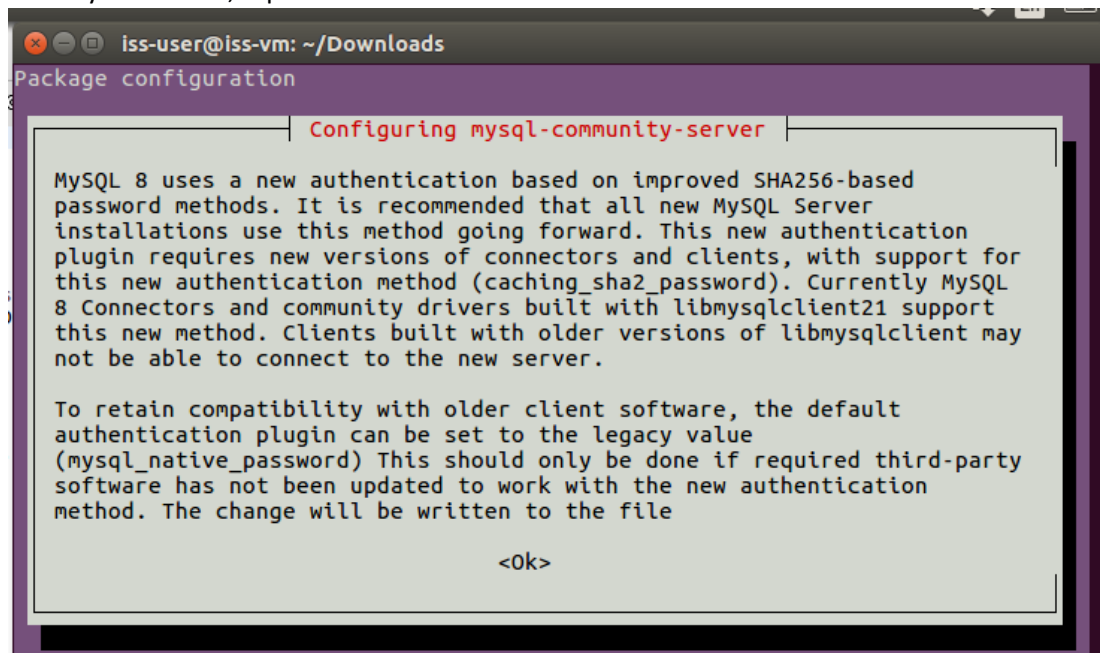
8. Next, you will see this option. Select mysql-8.0, by tapping Down key and tap Enter



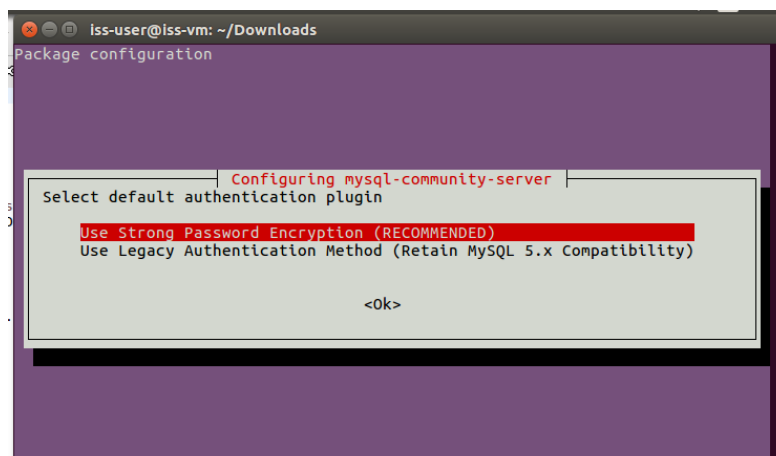
9. You will be prompted back to this window. Select Ok by tapping down key and tap Enter



10. When you see this, tap “Tab” and then “Enter”



11. Tap “Enter” again when you see this.



12. Once you see this, your Python/Flask server is running! You can access the system by going to <http://127.0.0.1:5000/> in Chrome or Edge browser.
13. You can stop by closing the terminal window.

## User guide for recommendation system

1. Choose a child birth date. The date is restricted to before today (use the down button rather than the up-down button in iss-vm/Chrome)
2. Choose an enrolment date. The date is restricted to after today.
3. The study level should auto-populate to a study level according to the birth and enrolment date. However, if the period between child birth date and enrolment date is bigger than 6, the study level will just revert to "Infant" because childcares cannot accommodated children more than 6 years old.

4. Choose whatever else you like and wait for it, look at the spinner at the tab (see image above).
5. If your requirements cannot be fully met, we will try to look for other childcares. A "x" will be shown. Else, you will see a tick for those that fully meets requirements. You can click on the column headers to sort the column.

Search:									
Rank	Meets requirements	Centre Name	Centre Address	Distance from ideal location	Selected study level	Selected service type	Fee	Dietary Restrictions	Second Language
	x	Jafari House Preschool Lakeside	10,JURONG LAKE LINK,#01-33,LAKE GRANDE,648131	-1	Playgroup	Full Day	1450	No Pork No Lard with No Beef (without Certification from MUIS but from Halal Sources)	Chinese
No reviews									
	x	BRILLIANT TOTS PTE. LTD.	610,JURONG WEST STREET 65,#01-534,640610	-1	Playgroup	Full Day	850	No Pork No Lard with Beef (without Certification from MUIS but from Halal Sources)	na
No reviews									
	x	PCF SPARKLETOTS PRESCHOOL @ HONG KAH NORTH BLK 345	345,BUKIT BATOK STREET 34,650345	-1	Playgroup	Full Day	694.39	No Pork No Lard with No	Chinese



- Add rank in the “Rank” column to the childcares you like. Please make sure the ranks are different from each other, if not an error will appear.

but from Halal Sources)

No reviews

5	✓	MY FIRST SKOOL	3,5IMEI STREET 6.#06-06,EASTPOINT MALL,528833	0.6	Playgroup	Full Day	720	No Pork No Lard with No Beef (without Certification from MUIS but from Halal Sources)	Chinese	More than 1 Year	Within 1 Year	More than 1 Year	More than 1 Year	More than 1 Year	Within 1 Year
5	✓	MY WORLD PRESCHOOL LTD.	123,SIMEI STREET 1,#01-402,520123	0.8	Playgroup	Full Day	720	No Pork No Lard with No Beef (from Non-Halal Sources)	Chinese	More than 1 Year	Within 1 Year	Within 1 Year	Within 1 Year	Within 1 Year	More than 1 Year

No reviews

Showing 1 to 7 of 7 entries

If you are interested in any of the following childcare centres, please rank them above and tap on the Submit button after completing the fields below. If a childcare

- For some entries, we managed to scrape reviews and it will show below the entry. For reviews that are answers to a main comment, we currently cannot get the sentiment value for it, for the others a number will appear which is the sentiment score. If you think the table is annoying, you can close it by clicking on the red “-” button, it will then change to green “+” button like above.

SKOOL STREET 6.#06-06,EASTPOINT MALL,528833

Lard with No Beef (without Certification from MUIS but from Halal Sources)

1 Year Year 1 Year 1 Year 1 Year Year

Even if they don't go outdoor they should have an indoor playground I know that Just Kids at Bukit Batok and I think Kinderland at Chua Chu Kang Centre have indoor play areas because outdoor playgrounds are too far away or are across many busy streets If you're concerned about outdoor play then maybe you should look elsewhere But if you're just concerned about whether kids get to play at a playground and you can accept the air-con environment think about the benefits of having a private indoor playground 1 Rain or shine still can play 2 Maintenance and cleaning done by centres themselves so any repairs or replacements can be done without having to wait for government to take action In other words centres have the opportunity to provide clean and age-appropriate and safe playground equipment 3 If there's breakout of HFMD centres who use public playgrounds have to cancel outdoor play At centres with private playgrounds kids may still be able to use the playground	-0.4
Pls share your feedback thanks	
There is a childcare near my company which is exactly like what you talked about Own playground air-coned in classroom and sleeping area coz they rent the place from company But for those in HDB estate probably what they can do is to let the children play in the public playground they could not afford the place and I don't think they are allowed to build up their own playground around	-0.7
Title kim keat NTUC CHILDCARE hi all parents of ntuc childcare kids any comments ?	-0.6
Would like to have some feedback Thank you	
anyone has comment on the curriculum service etc of My First Skool NTUC located at Kallang Bahru?	
I read that they have swimming and skating lessons u can check out the school www skate-with-us com but u must pay for it extra cost I dun like that the spell skool instead of school haha	
I read that they have swimming and skating lessons u can check out the school www skate-with-us com but u must pay for it extra cost I dun like that the spell skool instead of school haha I think it depends on the location of centres For those in HDB estate they are use the public playground around for the in the Jurong Point there will be no such facilities in the mall so they skip the outdoor activities	
I visited the centre and talked to one teacher was told they have 90 children who will share a big hall and be separated by cupboard It is fully air-coned but they will be NO outdoor time at all So the kids will stay in the air-con class for the whole day This makes me hesitate to send my child to this centre as I once read in a book that minimum 3 hours outdoor time is essential for kids around 2-6 years old although this looks not practical for parents who both work full-time I will bring my child to downstairs playground at least 2 times in weekday night plus he has his own outdoor time around 1-1.5 hrs arranged by cc	

- Now after we complete the form, we can submit our details.

Google Chrome browser window showing the 'Results' page for a childcare ranking submission. The page displays two entries with their respective details and rankings.

Rank	Childcare Name	Address	Rating	Hours	Capacity	Religion	Age Range	Other Info
5	MY FIRST SKOOL	3,SIMEI STREET 6.#06-06.EASTPOINT MALL.528833	0.6	Playgroup	Full Day	720	No Pork No Lard with No Beef (without Certification from MUIS but from Halal Sources)	Chinese, More than 1 Year, Within 1 Year, More than 1 Year, More than 1 Year, More than 1 Year, Within 1 Year
3	MY WORLD PRESCHOOL LTD.	123.SIMEI STREET 1.#01-402.520123	0.8	Playgroup	Full Day	720	No Pork No Lard with No Beef (from Non-Halal Sources)	Chinese, More than 1 Year, Within 1 Year, Within 1 Year, Within 1 Year, Within 1 Year, More than 1 Year

No reviews

Showing 1 to 7 of 7 entries

If you are interested in any of the following childcare centres, please rank them above and tap on the Submit button after completing the fields below. If a childcare was in a rank position before, and you gave another childcare the same rank today, today's childcare will replace the previous childcare in the same rank position.

The childcare centres will contact you separately when a suitable vacancy arise. Please note that with submission, your contact details will be shared with the childcare centres.

Buttons: sgfsqd, gsvete, Submit

9. Tada! Check if your submission is correct.

Google Chrome browser window showing the 'PAST SUBMISSIONS' page. The page displays a table of past submissions with columns for Child ID No., Contact No., Centre Code, and Rank.

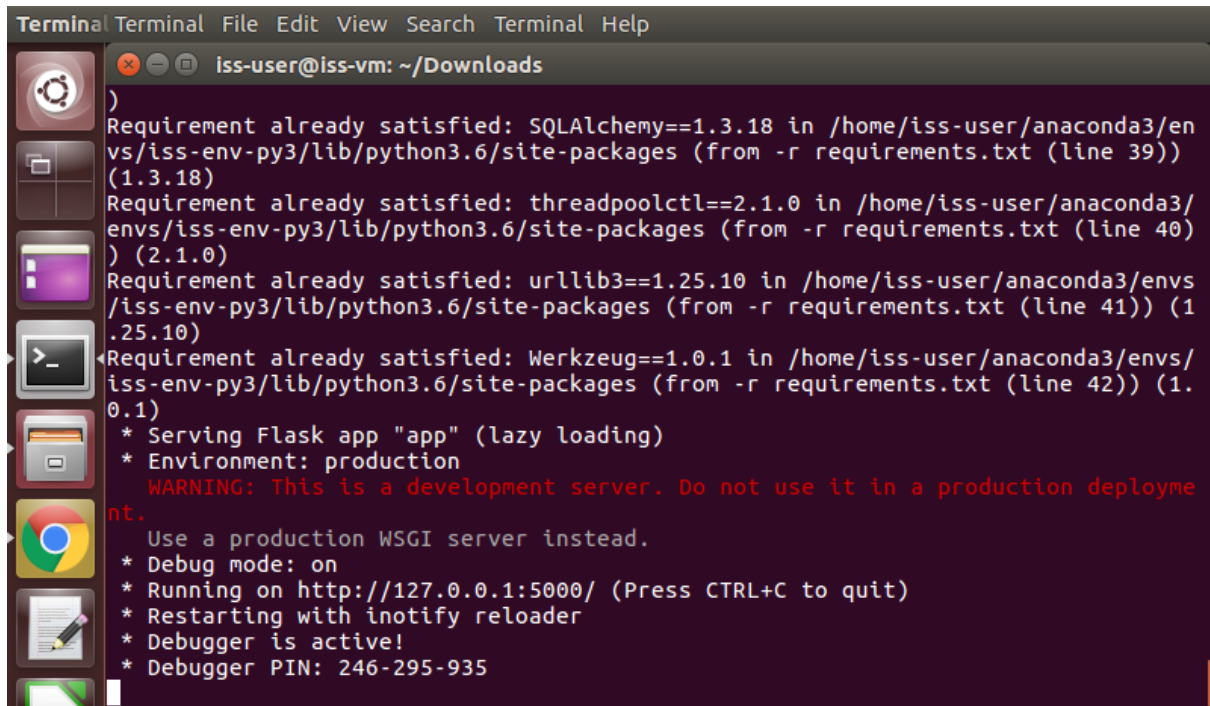
Child ID No.	Contact No.	Centre Code	Rank
sgfsqd	gsvelte	NT0555	5
sgfsqd	gsvelte	YM0100	3

Showing 1 to 2 of 2 entries



## Set up childcare matcher for childcare centres

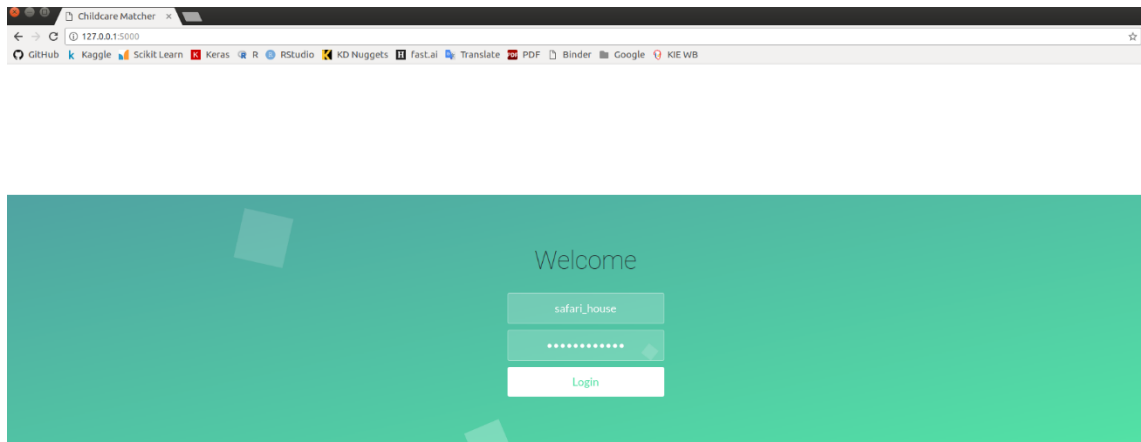
1. Please ensure that the Python/Flask system from childcare recommendation system is stopped.
2. Download the shell script from this [URL](#) or from IRS-PM-2020-11-01-ISY5001-GRP1-ChildcareMatcher GitHub project > SystemCode > python\_cc\_matcher.sh into /home/iss-user/Downloads
3. Open up a terminal and type and enter in "chmod 755 python\_cc\_matcher.sh"
4. Next run the shell script by typing "./python\_cc\_matcher.sh"



```
Terminal Terminal File Edit View Search Terminal Help
iss-user@iss-vm: ~/Downloads
)
Requirement already satisfied: SQLAlchemy==1.3.18 in /home/iss-user/anaconda3/envs/iss-env-py3/lib/python3.6/site-packages (from -r requirements.txt (line 39)) (1.3.18)
Requirement already satisfied: threadpoolctl==2.1.0 in /home/iss-user/anaconda3/envs/iss-env-py3/lib/python3.6/site-packages (from -r requirements.txt (line 40)) (2.1.0)
Requirement already satisfied: urllib3==1.25.10 in /home/iss-user/anaconda3/envs/iss-env-py3/lib/python3.6/site-packages (from -r requirements.txt (line 41)) (1.25.10)
Requirement already satisfied: Werkzeug==1.0.1 in /home/iss-user/anaconda3/envs/iss-env-py3/lib/python3.6/site-packages (from -r requirements.txt (line 42)) (1.0.1)
* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
* Restarting with inotify reloader
* Debugger is active!
* Debugger PIN: 246-295-935
```

## User guide for childcare matcher

1. Sign in to childcare matcher with username “safari\_house” and password “safari\_house”. This is a single childcare’s account. If the credentials are wrong, an error will appear.



2. You will see the first rows without likelihood because these already have actions. You may see some rows with actions and likelihood, because those were predicted before action happened.

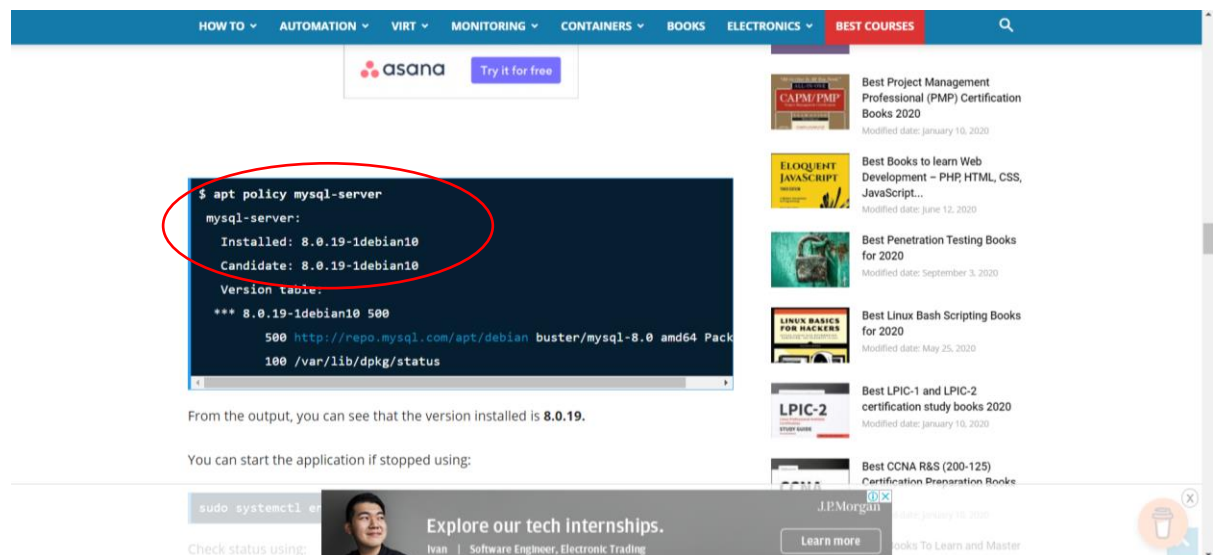
Choice ID	Child ID	Contact Details	Study Level	Enrolment Date	Registration Date	Likelihood	Action
1	Z2035907H	82345677	Playgroup	Oct-2020	01-Jan-2020		No Contact
2	Z6636144Z	25824958	Infant	Oct-2020	02-Jan-2020		Accept Offer
3	X5416515R	86363954	Infant	May-2020	03-Jan-2020		Accept Offer
4	V2105882R	63948254	Infant	Apr-2020	04-Jan-2020		Accept Offer
5	J7870499T	84523523	Infant	Mar-2020	05-Jan-2020		Accept Offer
6	SS175848L	26545765	Infant	Feb-2020	06-Jan-2020		Accept Offer
7	X5956510V	325325436	Infant	Jun-2020	07-Jan-2020		Accept Offer
8	C1630587M	4636325	Infant	Oct-2020	08-Jan-2020		No Contact
9	O9254306C	63576457	Infant	May-2020	09-Jan-2020		No Contact
10	K1648165G	87906546	Infant	Apr-2020	10-Jan-2020		No Contact
11	G3913799N	65463795	Infant	Mar-2020	11-Jan-2020		No Contact

3. You can click on the columns to sort. Once you have the answer from the parent, “No Contact”, “Accept Offer” or “Reject Offer”, you can enter into the action column and submit for it to be committed to our database.

## Set up Python/Flask system for childcare recommendation (Alternative)

### Set up MySQL

10. Within the virtual machine, follow steps in <https://computingforgeeks.com/how-to-install-mysql-8-0-on-ubuntu-linux/> until you see that the version installed is 8.0.19. This is to update the MySQL in iss-vm



11. Open MySQL shell by double clicking on "Tool MySQL"

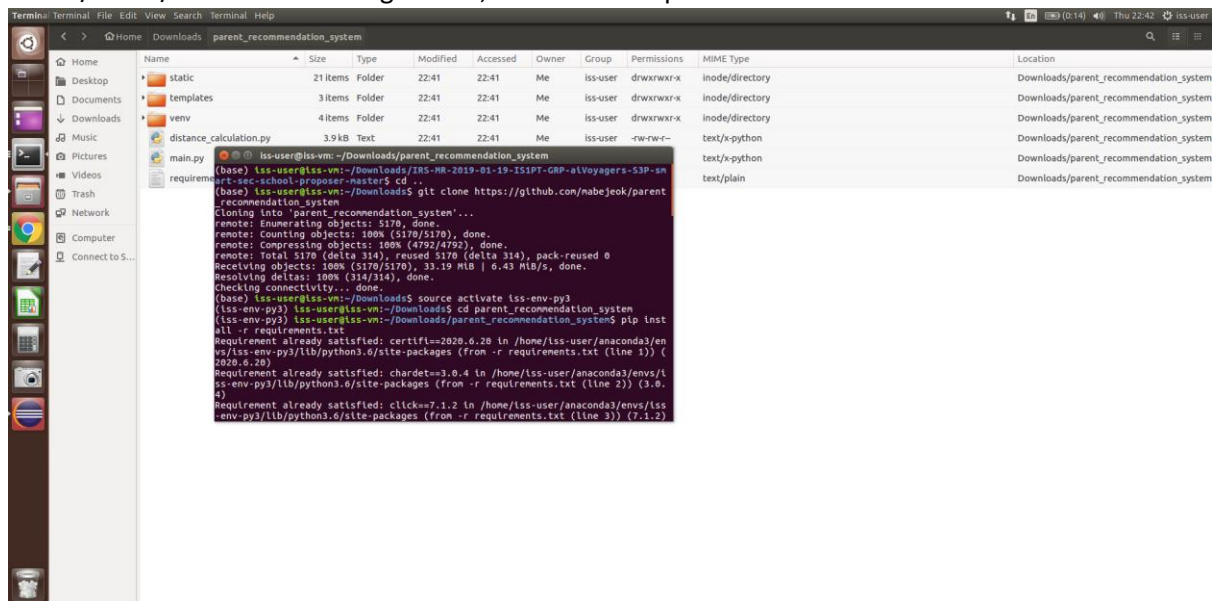


12. In MySQL shell, type in "create database cc\_schema;"
13. Next, type in "show databases;" to ensure cc\_schema is created.
14. Download childcare\_matcher.sql from <https://github.com/mabejeok/IRS-PM-2020-11-01-ISY5001-GRP1-ChildcareMatcher/tree/main/System%20Code> and put it in /home/iss-user
15. Then, go to a new terminal (command line, NOT the MySQL shell) and type in "mysql -u root -p cc\_schema < /home/iss-user/Downloads/childcare\_matcher.sql"
16. Now, go back to the MySQL shell and type in "use cc\_schema;". Then type in "show tables;" to ensure that these tables are in cc\_schema.

```
mysql> show tables;
+-----+
| Tables_in_cc_schema |
+-----+
| childcare_login      |
| childcare_services   |
| childcares           |
| parent_choices       |
| parent_details       |
| reviews              |
+-----+
```

## Set up childcare recommendation system for parents

17. Go to /home/Downloads and right-click, then select “Open with Terminal”



18. In the terminal window, type in “git clone [https://github.com/mabejeok/parent\\_recommendation\\_system](https://github.com/mabejeok/parent_recommendation_system)”
19. Then type “source activate lss-env-py3”
20. Then type “cd parent\_recommendation\_system”
21. Then type “pip install -r requirements.txt”
22. Lastly, type in “python main.py” and leave the server running.

## Set up childcare matcher for childcare centres (Alternative)

1. Go to /home/Downloads and right-click, then select "Open with Terminal"
2. In the terminal window, type in "git clone [https://github.com/mabejeok/childcare\\_matcher](https://github.com/mabejeok/childcare_matcher)"
3. Then type "source activate iss-env-py3"
4. Then type "cd childcare\_matcher"
5. Then type "pip install -r requirements.txt"
6. Lastly, type in "python app.py" and leave the server running.