

Project Delivery - User Guide

The Lab organizer's Guide to Quicksched

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1 Introduction

We are pleased that you have chosen quicksched for your scheduling needs. Quicksched is a powerful system for TA scheduling and management that has been custom-designed to meet your needs. Some of the key highlights include:

- Assisted Automation
- Automated TA Recruitment

- Schedule Optimization
- Your very own instance
- Easy setup

The purpose of this user manual is to help you, the client, successfully use, administer, and maintain the quicksched instance in your classes going forward. Our aim is to make sure that you are able to easily manage your labs for many years to come.

2 Installation Process

The installation guide of quicksched is in a separate document within this repository. Follow the steps to deploy your Django files and set up your recruitment email and you should be all set and ready to go!

3 Getting Started After the Setup

Now that you have your instance up and running, now we will set up your first semester in order to place your labs.

1. Enter the instance IP/Domain in your browser
2. Login using your Admin Credentials
3. Navigate to the semester management page
4. On the top left corner, click “Add New Semester”
5. Here, you will be able to choose the season and year of your new semester.
6. (Optional) Upload a CSV of the lab information to automatically build them into your semester. The instructions how to format your CSV are located in the tab.
7. Add the semester
8. Select the semester you have created in the middle dropdown.
9. Add any additional labs you may have scheduled for said semester.

Next, we will now recruit your TA's so that they could be scheduled in your semester full of labs.

1. Select the "TA Management tab"
2. Click the button that says "Upload a Roster of New TA's"
3. Upload a comma-separated CSV of the emails of TA's you would like to recruit.
4. Wait for them to submit their schedule informationso that you can assign them to your semester, furthermore into your lab.

Finally, we will assign the TA's to your semester, then generate a template schedule via the optimization algorithm.

1. Navigate back to the "TA Management" tab.
2. View your newly added TA's.
3. Click the accordion to each one and assign them to your current semester. If they are hired for sure, check the contracted option along with it.
4. Save all of your changes.
5. Click on the Schedule button on the left hand side to see your labs.
6. Click the "TA Selector" tab on the left.
7. Check which TA's will be assigned to the schedule.
8. Specify how much you want previous experience to influence assignment priority.
9. Click "Submit"

Your new schedule should be generated in a few moments. If you are happy with the results, click the "propagate" button. If you wish to make changes, refer to the section below.

4 Quicksched Maintenance

After you install quicksched, maintenance of the program itself should not be necessary. Django will handle the database operations, and the lab organizer has full ability to add and delete entities from the schedule. Instead we will show how the lab organzier will be able to edit and maintain the schedule for further use.

4.1 Changing Schedule Versions

Every time you click the “Submit” button on the TA selector, a new schedule version is generated. You can switch between the versions by clicking them at the top and clicking “Go”. Whatever changes you make on that specific schedule version will be kept there. Remember, no changes are absolute until you click the propagate button.

4.2 Switches, Manual Assignments and History

The main way to maintain a schedule in quicksched is the use of switches. Switches are the best way to make changes since the switches tab recommends the best reassignments without ruining the constraints of the schedule. When you click the pointed arrow next to a lab, the available switches are then generated to recommend you the best assignments. Remember, the higher the deviation score, worse the switch option is. We don’t want the best generated schedule to be deviated from too much.

If it is absolutely necessary, the LO can manually assign TA’s to labs using the dropdown in on the TA’s name. This is not recommended, as you can unknowingly break constraints for the schedule.

The history tab records any changes you make to the schedule assignments, and if you are unhappy with certain changes, you can undo up to 10 changes before the oldest changes are discarded. Click the undo button to revert the most recent change made to the schedule.

5 Troubleshooting

5.1 Editing Project Files

You may notice that when you try to edit or access a server file, you may be denied permission. This means you will have to edit them as root by using the “sudo” command. If this is the case, writing to those files will mess up the permissions to that file. This may cause an error, and if this does, run the following command:

```
sudo chown -R daemon:daemon /opt/bitnami/projects/quicksched/*
```

Note: You will also have to run this command if you need to make any changes to the database via python “manage.py” commands. You will see those in use down below.

5.2 General Internal Server Errors

Before reading in regards to the install script, please make sure you have followed every step in the setup guide wholly. If you have made a mistake somewhere, it would be a good idea to delete the instance and set up a new one. It is very easy to do as the lightsail bitnami instances are very disposable.

If you are facing issues regarding an internal server error, it may be a good idea to see the error logs. To do this, ssh into your bitnami instance, and type the following command:

```
cat /opt/bitnami/apache2/logs/error_log
```

Internal server errors should be logged here.

5.3 SMTP Violation

If the logs state an SMTP violation while recruiting TA's it may mean that your credentials for the recruitment email are incorrect. In order to solve this, ensure that the credentials for the email in the file: `/opt/bitnami/projects/quicksched/(.)env` are correct. Use a command line editor such as nano to make any changes necessary.

6 Conclusion

We at Team Magisters are proud that you have decided to use our software for your scheduling needs. As we are moving away from development into our own careers, we would be happy to answer any questions you have regarding the installation, setup or use of the software. Our contact information can be found on our capstone website located at <https://www.ceias.nau.edu/capstone/projects/CS/2022/Magisters/>. We hope you are satisfied with this product and the amount of hours that it saves you in your career.