
FIT3047 - Industry Experience (S2 2021)

Schoolbox User Documentation



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1 - Introduction

This document is intended to act as a point of reference for the usage of the new statistical dashboard for Schoolbox. It will provide a comprehensive overview of the main sections of the web presence, as well as detailed instructions for performing day to day administrative tasks and website maintenance, following the formal handover of the web presence from Team 26 ("Team Marble") to Schoolbox.

The new web presence is broken into two distinct sections:

- **The Website** - for Schoolbox employees and administrators to log in, see fact details, and monitor server health, and
- **The "Cron Jobs"**- for Andy (and other administrative / senior staff of Schoolbox) to automatically update and delete data within the system,

As such, this report will be broken into four main sections, covering the website, the cron jobs, website and database backups, and monitoring website analytics. Where relevant, pictograms and videos will be provided to clearly illustrate required actions.

2 - The Sign in / Out page

Here is a description of the login and logout screens. This is the login screen after entering the webpage, click on the Google logo to login.

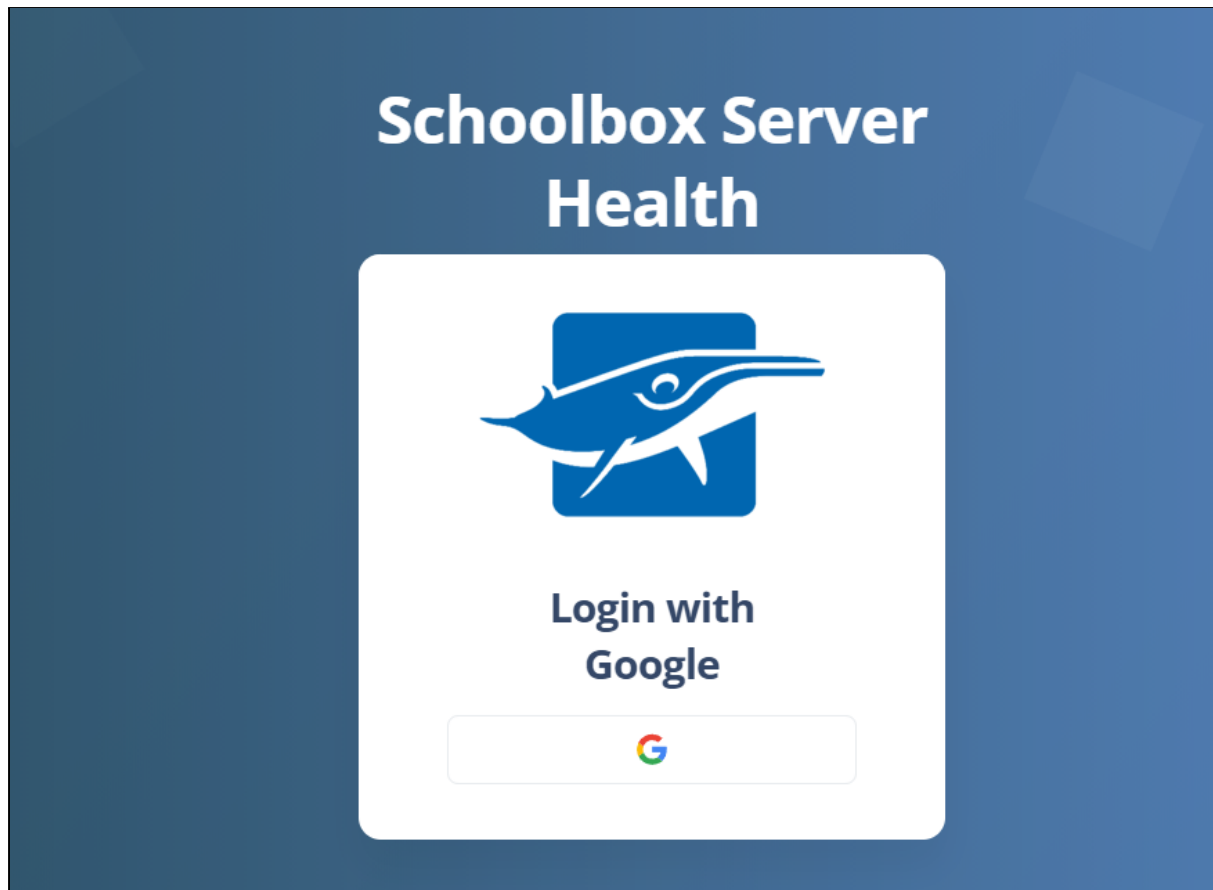


Figure 1 - Screenshot of Login page

Once logged in the dashboard screen will be accessed and there will be a logout button in the bottom left and top right corner.

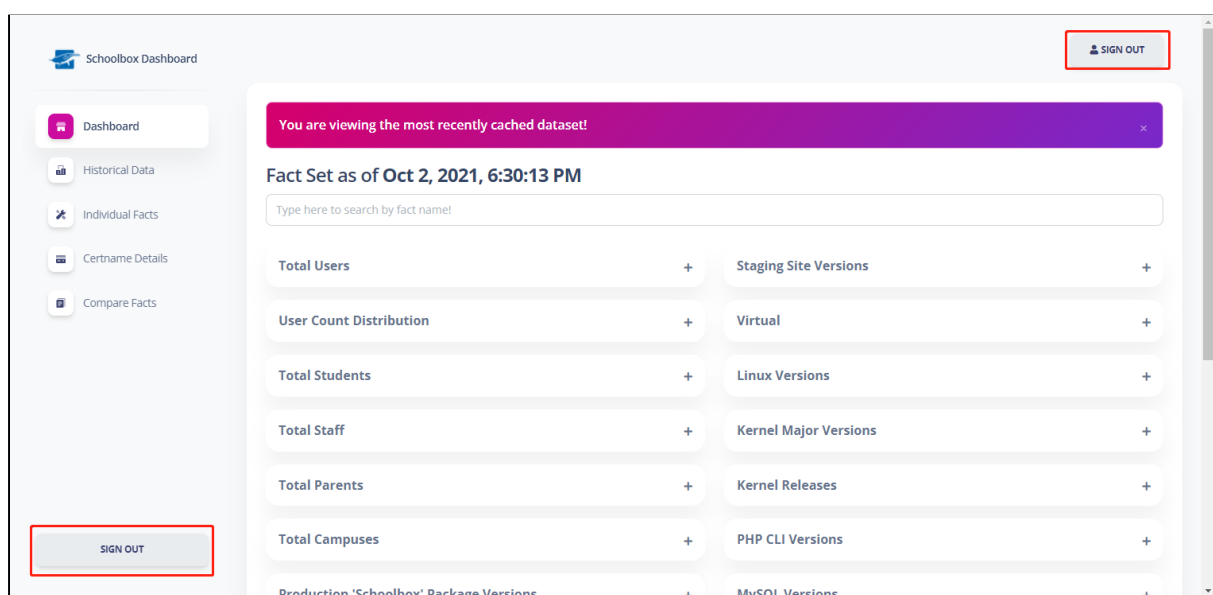


Figure 2 - Screenshot of after login

When clicking on logout, it will return to this page and a pop-up will appear to inform that the logout was successful.

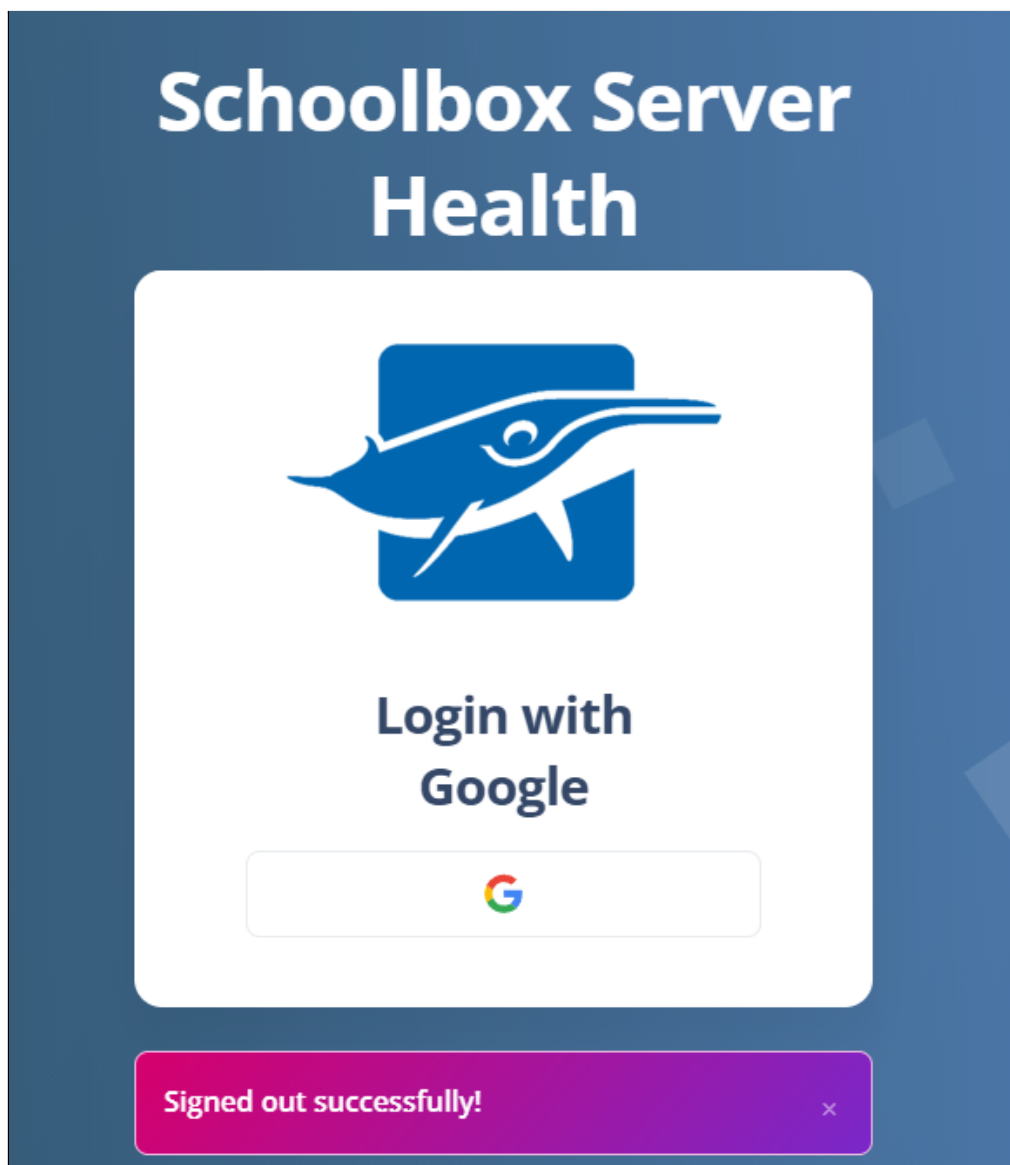


Figure 3 - Screenshot of logout page

3 - The Website

The publicly viewable pages make up most of the website, and are intended to be customer-facing. This section will thus cover the three main sub-sections of the publicly viewable pages.

3.1 - Dashboard

The 'Dashboard' of the website consists of the data stored time & search fact function and the fact sets data.

3.1.1 - Search Functionality

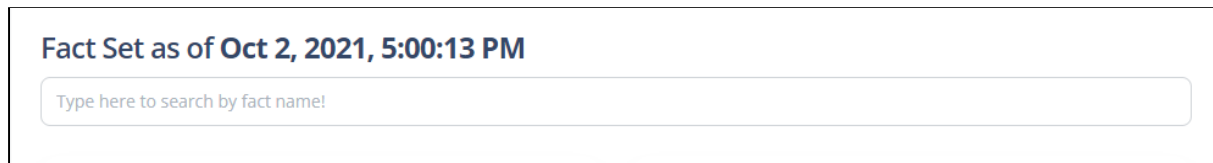


Figure 4 - Screenshot of data stored time & search fact function

From this part the system will display the time of the most recently recorded data (which is generated automatically every half hour). A search function is also provided to improve efficiency by allowing users to search via the name of a specific fact.

3.1.2 - Specific Fact Sets

On the dashboard, users can browse each different fact set. Clicking on the plus sign next to each group shows the specific data:

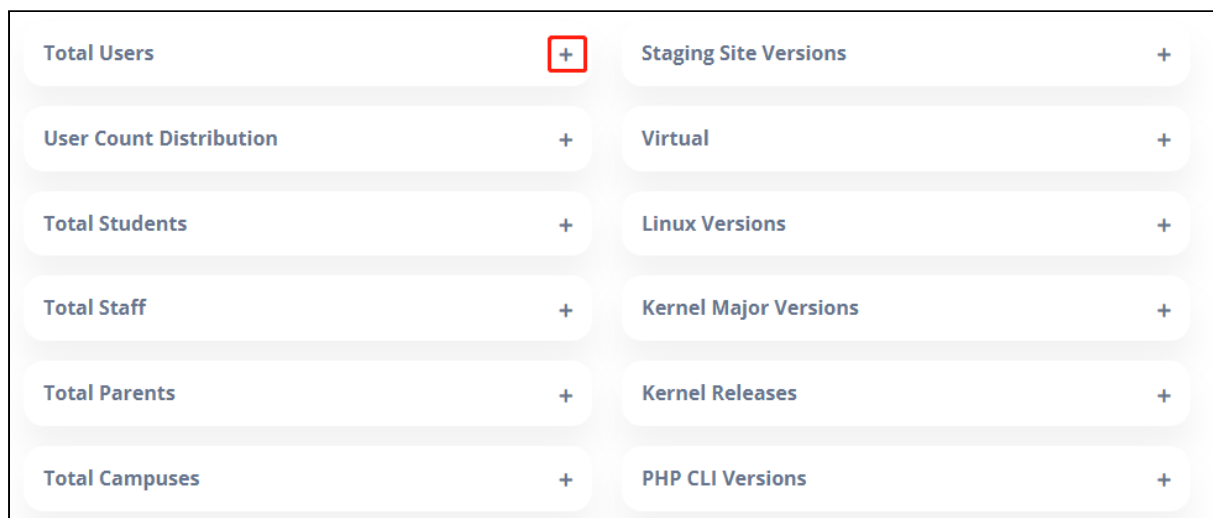


Figure 5 - Fact sets screenshot

There are two types of display data sets. One is a simple display of a total numeric count, such as total users, students, staff, parents, and campuses:

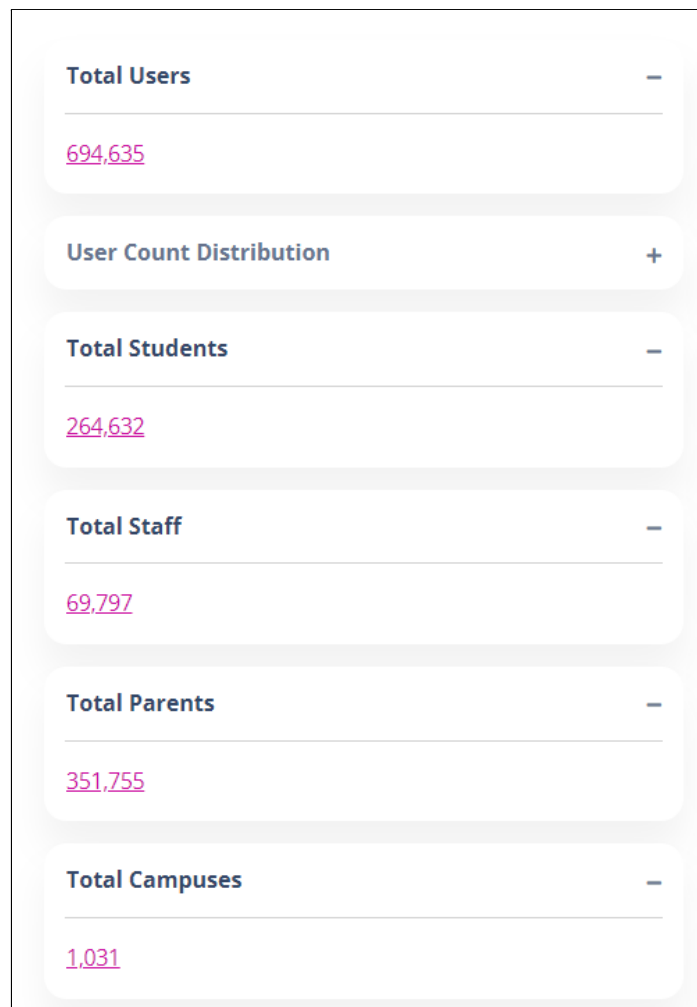


Figure 6 - Numerical data fact sets

The other is for slightly more complex data, offering the option to include how much to display, a search box for each subset, and a choice of ascending and descending order for different data. It also provides the percentage of this current subset that each data represents:

Staging 'Schoolboxdev' Package Versions

Show 10 entries

Search:

Value	Amount	Percentage
21.0.8-2	176	93.62%
21.0.7-3	7	3.72%
21.0.5-2	2	1.06%
21.0.6-2	2	1.06%
19.1.12-3	1	0.53%

Showing 1 to 5 of 5 entries

<

1

>

Figure 7 - Example of complex data set

3.2 - Historical Facts

Users are able to view all previous data saved (which occurs automatically every half hour) via the “View Historical Facts” page.

3.2.1 - Date Picker

Users can enter a specific date in form of day/month/year, which will return only results from that day.

The screenshot shows a web interface titled "Historical Facts". Below the title is a text prompt: "Please select the historical fact set you would like to see from the list below, or select a specific date on the right:". To the right of this text is a date input field containing "02/10/2021", a calendar icon, and a "SEE DATE" button. Below this is a table with two columns: "TIMESTAMP" and "ACTIONS". The table lists six timestamps from October 2, 2021, each with a corresponding "VIEW" button.

TIMESTAMP	ACTIONS
Oct 2, 2021, 5:30:14 PM	VIEW
Oct 2, 2021, 5:00:13 PM	VIEW
Oct 2, 2021, 4:30:13 PM	VIEW
Oct 2, 2021, 4:00:13 PM	VIEW
Oct 2, 2021, 3:30:13 PM	VIEW
Oct 2, 2021, 3:00:13 PM	VIEW

Figure 8 - Historical Facts search function

When clicking on the date picker, a calendar will appear, which allows for a user to select a date from graphical interface rather than entering the date manually:

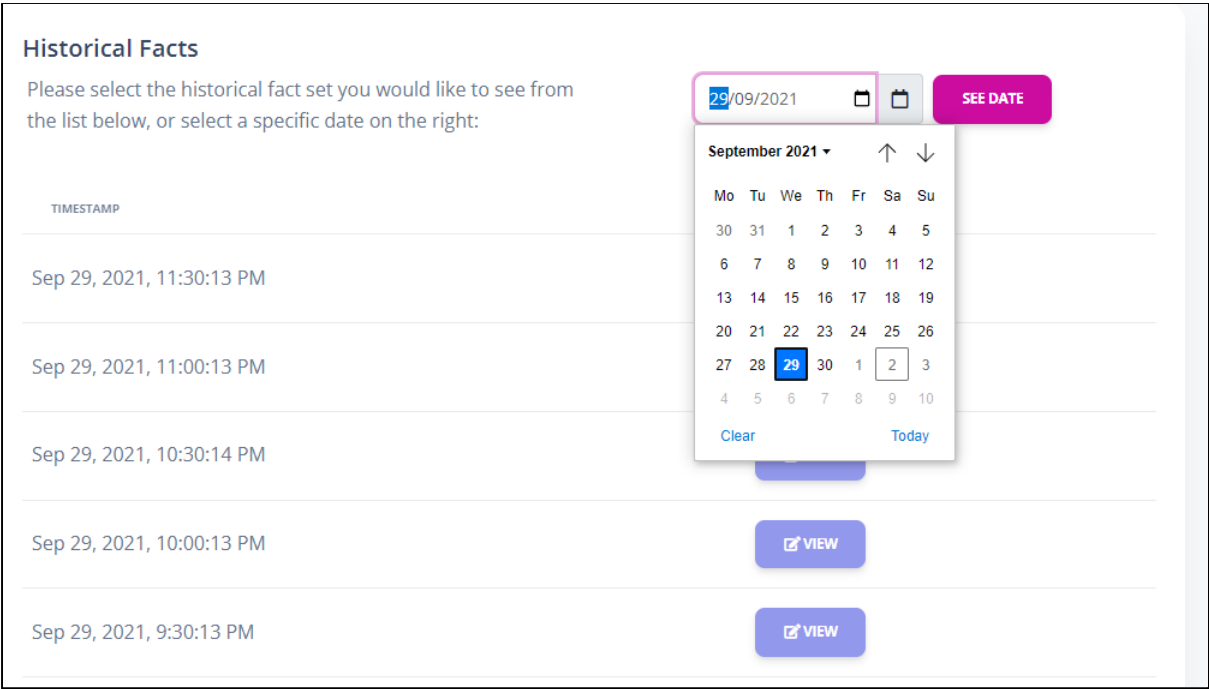


Figure 9 - Historical Facts search function

When data is found for a specific time the user can click on the view to enter.

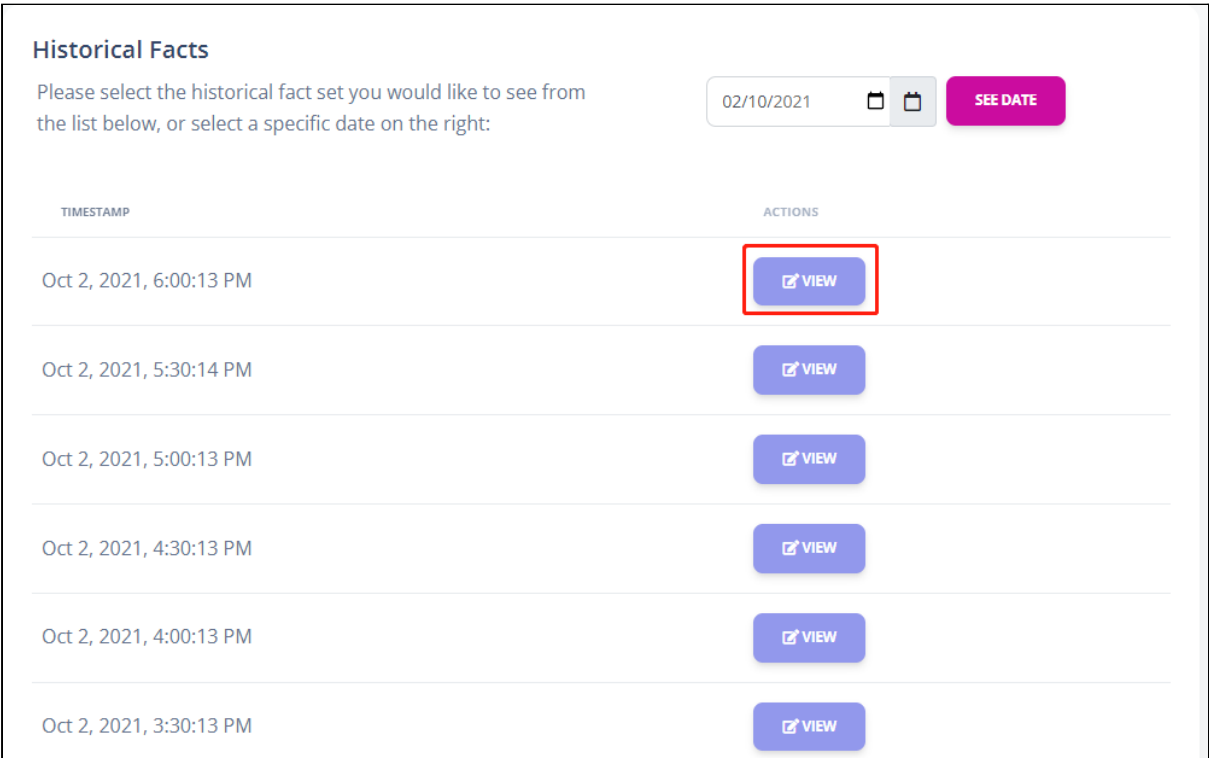


Figure 10 - Historical Facts view function screenshot

Regular deletion of previous data has been set to ensure storage space is saved.

- After a month, reduce to once per day (reduction from ~744 entries to ~30)
 - After 3 months, reduce to once per week (reduction from ~30 to 4)
 - After 6 months, reduce to one per month
-

3.3 - Individual Facts

Schoolbox's Individual facts page provides users with the ability to look up overall data by data type for different certain names. A number of additional data types are also available for optional viewing. (e.g. 32-bit 64-bit).

3.3.1 - Individual Fact search function

Users can use a drop down table to select each different data in detail.

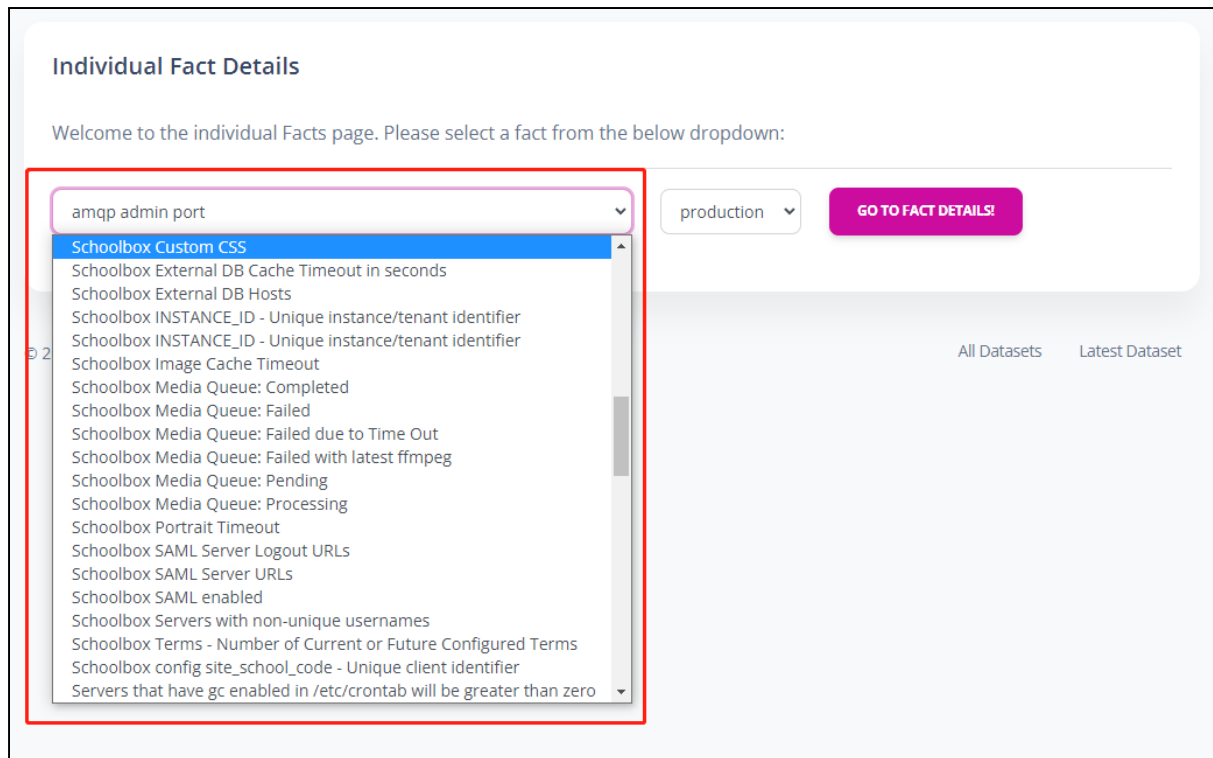


Figure 11 - Dropdown list for fact

Additionally, the type of server ("production" or "staging") can be selected by users to filter data more accurately:

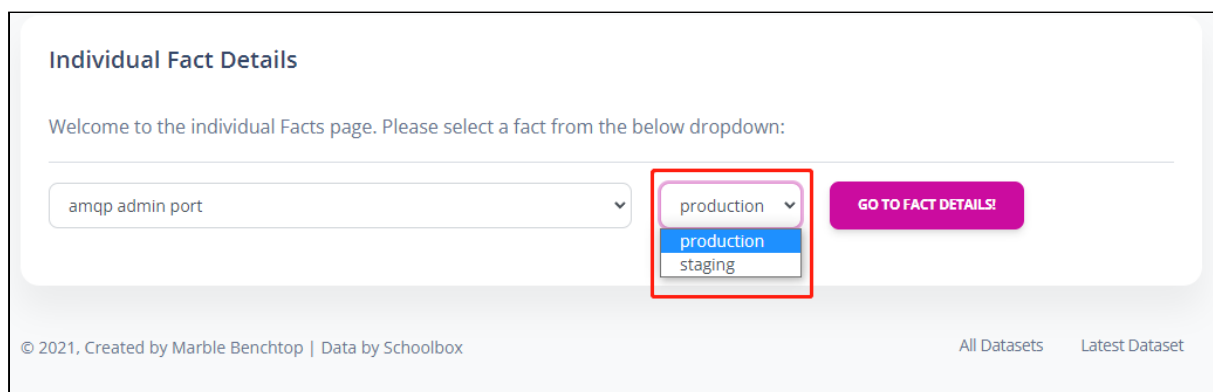
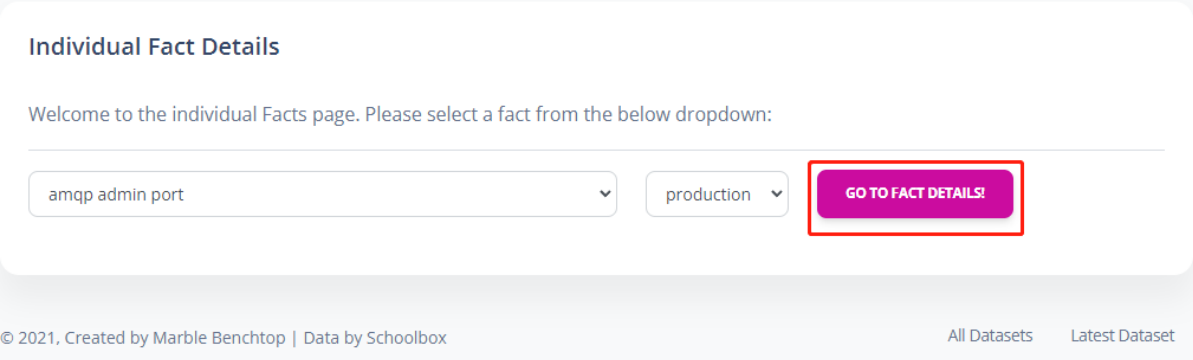


Figure 12 - Dropdown list for server type

Once the selection has been made, the detailed data can be viewed by clicking on the button.



Individual Fact Details

Welcome to the individual Facts page. Please select a fact from the below dropdown:

amqp admin port ▼ production ▼

GO TO FACT DETAILS!

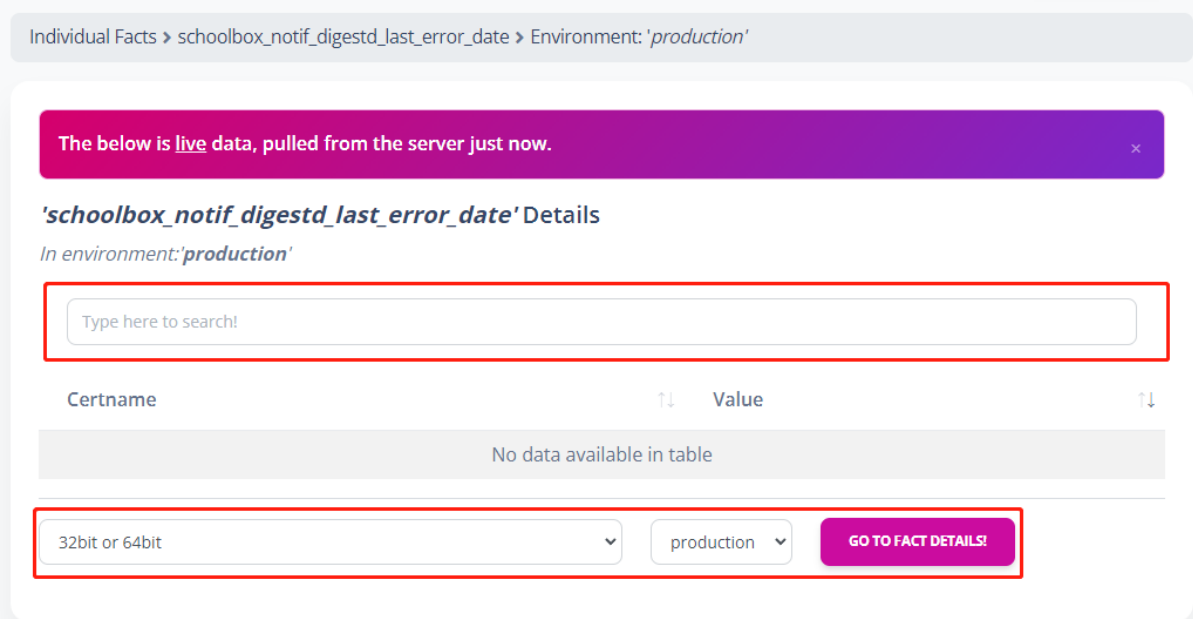
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All Datasets Latest Dataset

Figure 13 - The search button location.

3.3.2 - Individual Fact detail page

By clicking on the “Go to fact details!” button, users are taken to that data details page, which contains more specific information. It also provides the same search functionality as on the dashboard, and the drop down form for re-selection is at the bottom.



Individual Facts > schoolbox_notif_digestd_last_error_date > Environment: 'production'

The below is **live** data, pulled from the server just now.

'schoolbox_notif_digestd_last_error_date' Details

In environment: 'production'

Type here to search!

Certname	Value
No data available in table	

32bit or 64bit ▼ production ▼

GO TO FACT DETAILS!

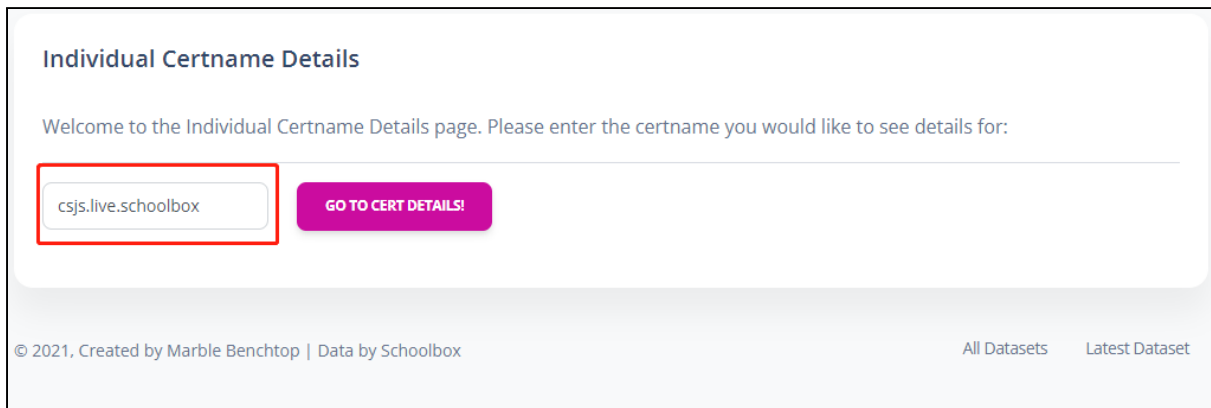
Figure 14 - Details of data page

3.4 - Individual Certname Details

Users can search for a given certname in order to return a list of all facts for the certname (e.g.csjs.live.schoolbox).

3.4.1 - Individual Certname detail page

Enter the certname to view all related information.



Individual Certname Details

Welcome to the Individual Certname Details page. Please enter the certname you would like to see details for:

csjs.live.schoolbox

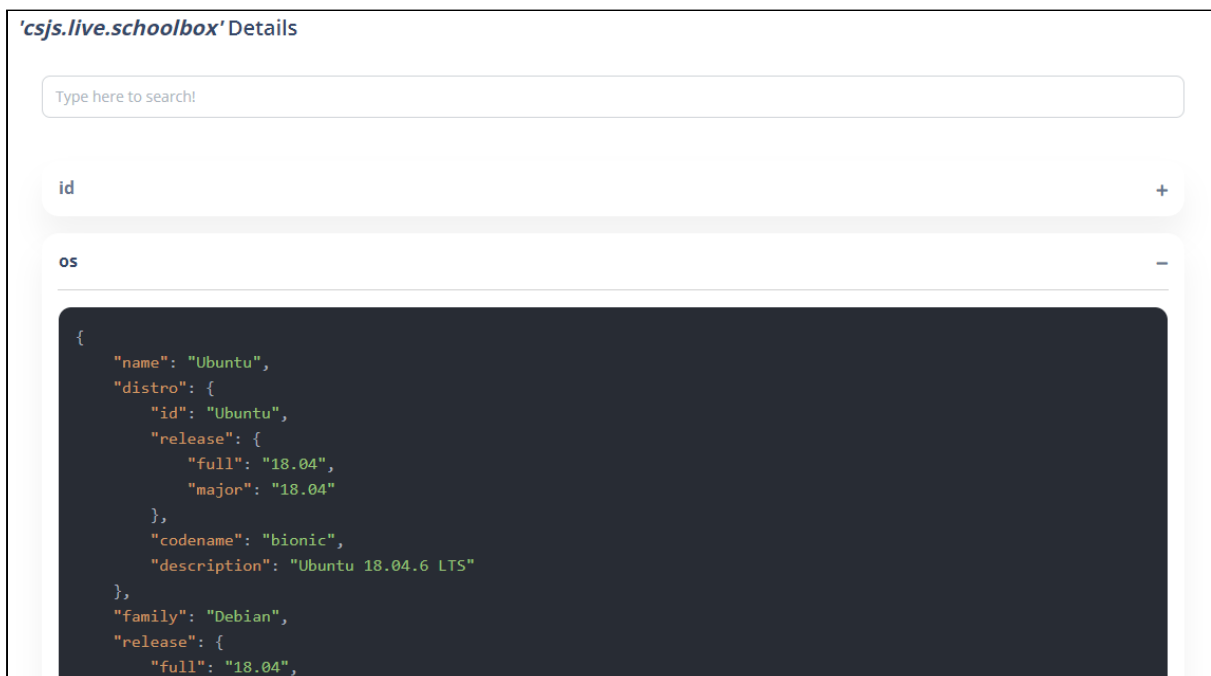
GO TO CERT DETAILS!

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All Datasets Latest Dataset

Figure 15 - Details of data page

After pressing “Go to cert details!”, the relevant fact sets for the certname will be provided, and can be searched and expanded in the same way as on the dashboard.



'csjs.live.schoolbox' Details

Type here to search!

id

os

```
{
  "name": "Ubuntu",
  "distro": {
    "id": "Ubuntu",
    "release": {
      "full": "18.04",
      "major": "18.04"
    },
    "codename": "bionic",
    "description": "Ubuntu 18.04.6 LTS"
  },
  "family": "Debian",
  "release": {
    "full": "18.04",
    "major": "18.04"
  }
}
```

Figure 16 - Details of data page

A search button is provided at the bottom of this page to search without having to go back to the previous page.

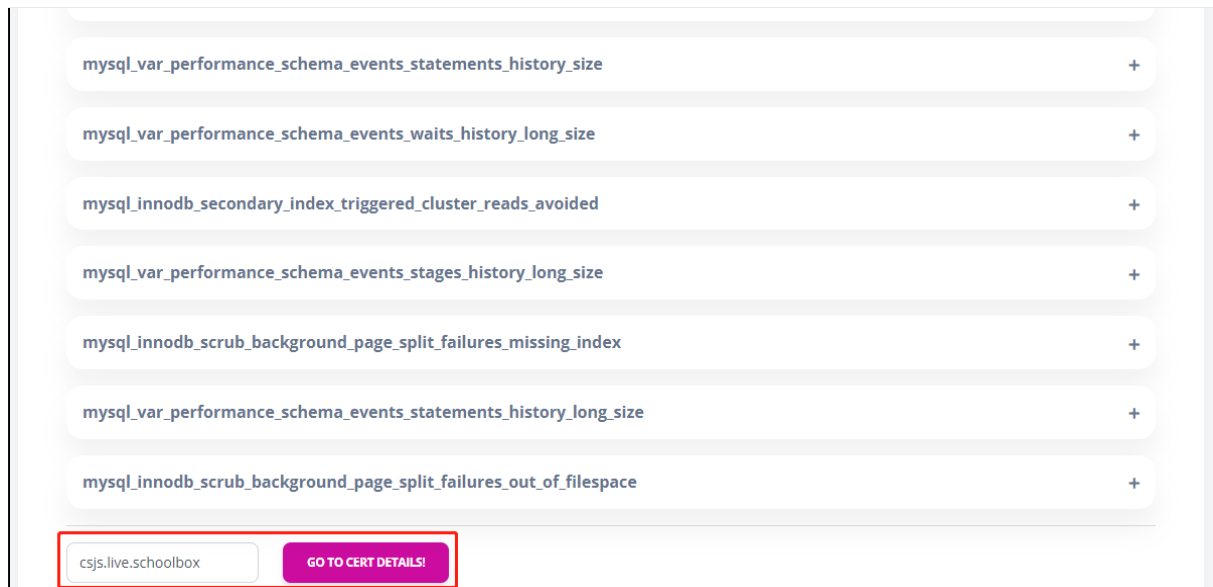


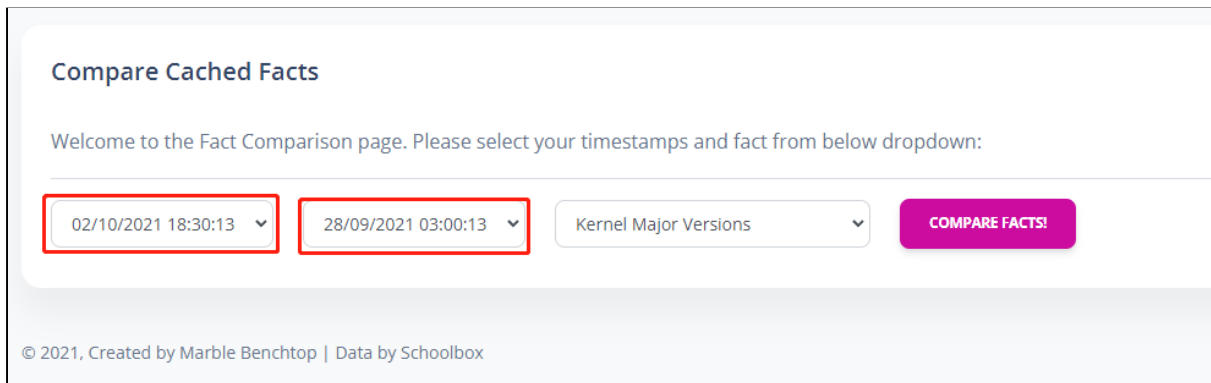
Figure 17 - Details of data page

3.5 - Compare Facts Page

Users can compare the values stored for a given fact (between two separate timestamps) in order to get a better idea of the change over time.

3.5.1 - Compare Facts page

This page is set up to compare data from different periods. The drop down table can be used to select the date and time of the data for comparison.



Compare Cached Facts

Welcome to the Fact Comparison page. Please select your timestamps and fact from below dropdown:

02/10/2021 18:30:13 28/09/2021 03:00:13 Kernel Major Versions **COMPARE FACTS!**

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Figure 18 - Compare Cached Facts

Once clicked on “Compare Facts!”, the results will show how the data differs from one period to the next and will be highlighted. Increasing data is coloured green and shows exactly how much it has increased, while decreasing data is coloured red.

Compare Cached Facts

Comparing values for: 'kernelmajversion', between Oct 2, 2021, 6:30:13 PM and Sep 28, 2021, 3:00:13 AM

Show 10 entries

Search:

Value	↑↓	Oct 2, 2021, 6:30:13 PM	↑↓	Sep 28, 2021, 3:00:13 AM	↑↓	Difference	↑↓
5.4	20		19		- 1		
5.3	1		1				
5.0	5		5				
4.4	4		4				
4.18	10		10				
4.15	371		374		+ 3		

Showing 1 to 6 of 6 entries

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>

02/10/2021 18:30:13

28/09/2021 03:00:13

Kernel Major Versions

COMPARE FACTS!

Figure 19 - Compare Cached Facts

Users can also filter, sort, and search the table in the same way that as on the main dashboard. For convenience, the search function is displayed at the bottom of the page so users can easily compare facts again.

4 - Managing User Roles

In order to prevent standard users from performing privileged actions (such as deleting historical data sets), the website contains two different user types - standard user and administrator. This section will thus cover how administrators can make standard users administrators.

4.1 - Changing User Roles

Administrators are the only users that are able to modify other user roles. This section will cover making a standard user an administrator, and presumes that there is at least one administrator available at any given time.

In the case that there is no administrator account available / accessible, please refer to the Schoolbox Technical Documentation in order to manually configure an administrator account.

4.1.1 - Making a User an Administrator

The user management page can be accessed through the navigation bar on the left hand side of the page:

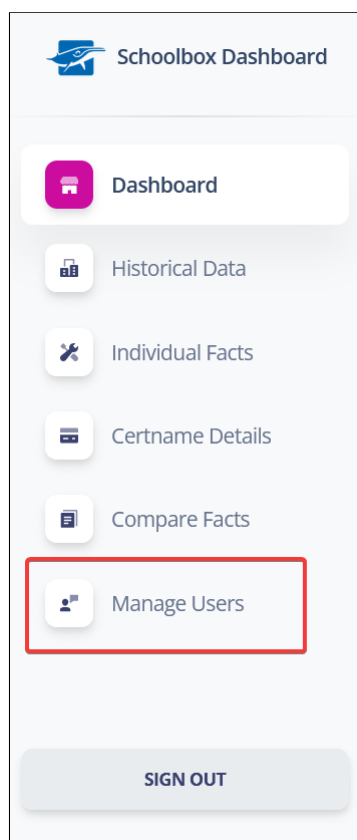
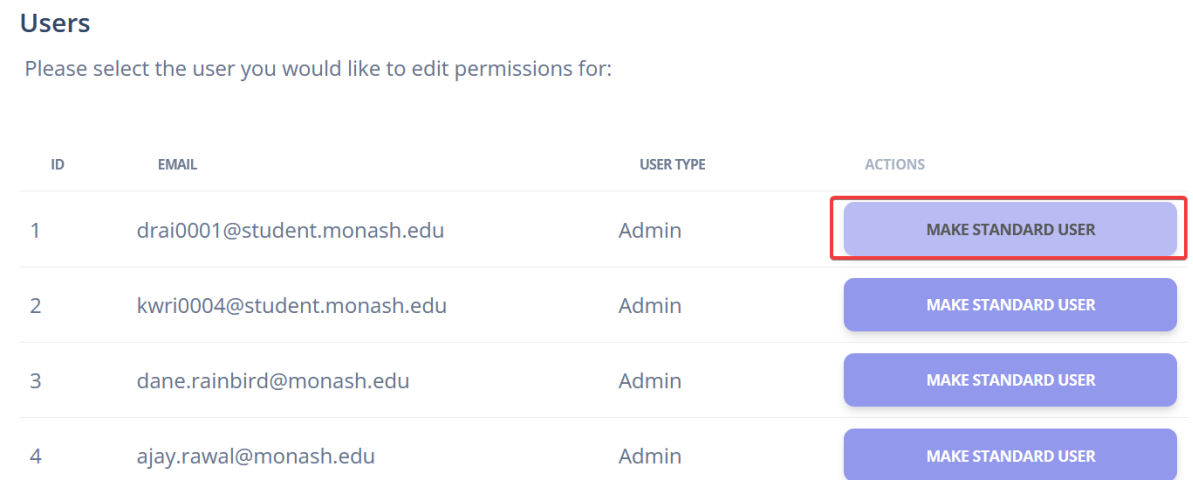


Figure 20 - The “Manage Users” button on the page.

Please note: *You must be signed in as an administrator in order to see this button, otherwise it will not appear.*

Once the page has loaded, a list of all users that have signed into the website are displayed, with a button to change a user's role:



ID	EMAIL	USER TYPE	ACTIONS
1	drai0001@student.monash.edu	Admin	MAKE STANDARD USER
2	kwri0004@student.monash.edu	Admin	MAKE STANDARD USER
3	dane.rainbird@monash.edu	Admin	MAKE STANDARD USER
4	ajay.rawal@monash.edu	Admin	MAKE STANDARD USER

Figure 21 - The list of users and their corresponding user type, alongside an option to change their type.

Selecting “Make Standard User” will convert the user from an administrator to a standard user, and “Make Administrator” will convert the user from a standard user to an administrator, and display a confirmation message.

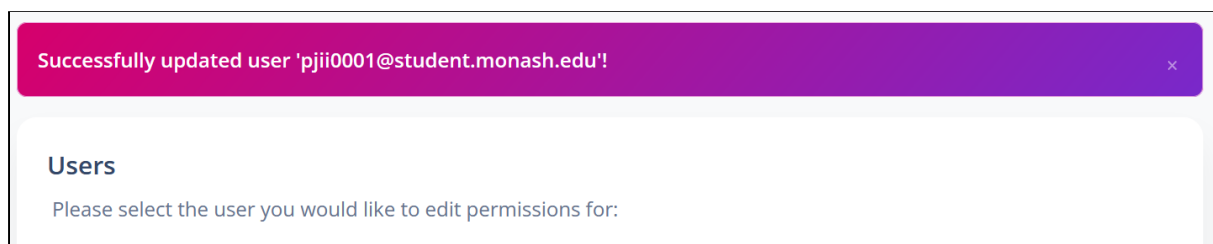


Figure 22 - The confirmation message displayed when updating a user's role.

For safety reasons, it is recommended to keep multiple copies of this file in various locations (such as one on a USB drive, and another on a Paul's Honey laptop / desktop computer).

For data security reasons, it is recommended that only users who explicitly need the ability to delete data and manage other users have administrative roles at any given time.

5 - Website Backup and Restoration

In order to backup and restore the website and its data, administrator access to the hosting platform is required. In this document, we will outline the procedures for backing up / restoring the website on an Apache installation on Ubuntu 20.04.

5.1 - Website Backup Procedure

We recommend taking regular backups of both the source code of the site (which will be covered in 5.1.1), and the contents of the database (which will be covered in 5.1.2)

5.1.1 - Website Content Backup

The current source code of the website is located within the `/var/www/html` directory on the Ubuntu Server.

```
ubuntu@ip-:~$ ls -lah /var/www/html/
total 336K
drwxr-xr-x 16 www-data www-data 4.0K Oct 11 02:17 .
drwxr-xr-x  3 www-data www-data 4.0K Oct 11 00:30 ..
-rw-r--r--  1 root    root      379 Oct 11 00:30 .editorconfig
drwxr-xr-x  8 root    root      4.0K Oct 11 00:30 .git
-rw-r--r--  1 root    root      699 Oct 11 00:30 .gitattributes
-rw-r--r--  1 root    root     1.2K Oct 11 00:30 .gitignore
-rw-r--r--  1 root    root      475 Oct 11 02:17 .htaccess
-rw-r--r--  1 root    root      199 Oct 11 00:30 BugReport.md
-rw-r--r--  1 root    root       23 Oct 11 00:30 README.md
drwxr-xr-x  2 root    root      4.0K Oct 11 00:30 'SQL Files'
-rw-r--r--  1 root    root      163 Oct 11 00:30 'Template Documentation.url'
drwxr-xr-x  2 root    root      4.0K Oct 11 00:30 bin
-rw-r--r--  1 root    root     2.0K Oct 11 00:30 composer.json
-rw-r--r--  1 root    root    223K Oct 11 00:30 composer.lock
drwxr-xr-x  3 root    root      4.0K Oct 11 01:07 config
drwxr-xr-x  3 root    root      4.0K Oct 11 00:30 cronjob
-rw-r--r--  1 root    root      649 Oct 11 00:30 index.php
drwxr-xrwx  2 root    root      4.0K Oct 11 01:09 logs
-rw-r--r--  1 root    root      160 Oct 11 00:30 phpcs.xml
-rw-r--r--  1 root    root      186 Oct 11 00:30 phpstan.neon
-rw-r--r--  1 root    root     1.2K Oct 11 00:30 phpunit.xml.dist
drwxr-xr-x  2 root    root      4.0K Oct 11 00:30 plugins
drwxr-xr-x  2 root    root      4.0K Oct 11 00:30 resources
drwxr-xr-x  8 root    root      4.0K Oct 11 03:49 src
drwxr-xr-x 12 root    root      4.0K Oct 11 00:30 templates
drwxr-xr-x  4 root    root      4.0K Oct 11 00:30 tests
drwxr-xrwx  5 root    root      4.0K Oct 11 00:32 tmp
drwxr-xr-x 37 root    root      4.0K Oct 11 00:32 vendor
drwxr-xr-x  8 root    root      4.0K Oct 11 00:30 webroot
```

Figure 23 - The `/var/www/html` directory, containing all of the website source code.

Once within the hosting platform, a compressed copy of the website source code can be created by running the following command:

```
tar -zcvf <archive_name>.tar.gz /var/www/html
```

This will generate a file named `<archive_name>.tar.gz` within your current working directory. It is recommended that you keep multiple copies of this file in various locations (such as one on a USB drive, and another on a Schoolbox server).

5.1.2 - Database Content Backup

The current content of the database can be backed up (known as “dumping” the SQL files) through the use of the following command:

```
$ mysqldump -u {account_username} -p {account_password}  
u21s1026_schoolbox > backup.sql
```

This will create a file named `backup.sql` within the current working directory, which you can save to an external location. For safety reasons, it is recommended to keep multiple copies of this file in various locations (such as one on a USB drive, and another on a Schoolbox Server).

More details related to this process can be found within the Schoolbox Dashboard Technical Documentation.

5.2 - Website Recovery Procedure

In the event of any data or website corruption, the backups created in 5.1 can be used to restore the website. This will cover restoring both the source code (which will be covered in 5.2.1), and the contents of the database (which will be covered in 5.2.2)

5.2.1 - Website Content Recovery

The backed up content of the website can be restored to the correct directory by locating your backup file generated in 4.2.1, and moving it to the `/var/html/www` directory.

Once this file is within the directory, the following command can be used to extract the archive:

```
tar -zxvf <archive_name>.tar.gz .
```

Please note that trailing full stop is important, as it indicates to extract directly to the current folder (rather than creating a new folder).

Once the files have been extracted, you can confirm they are on the system by using the following command:

```
ls -lah
```

If successfully extracted, the files seen within Figure 23 should be shown on your screen.

5.2.2 - Database Content Recovery

Restoring the previously generated backup file can be achieved by using the file as an import to the MySQL command line. Please execute the following command:

```
$ mysql -u {account_username} -p {account_password} < backup.sql
```

More details related to this process can be found within the Schoolbox Dashboard Technical Documentation.