

# UToronto Hub is throwing 500 errors when users try to login

Status: Reviewed

## Overview

Users were getting 500 errors when they tried to login to the University of Toronto JupyterHub. This was repeat of an earlier outage from a week ago, as the fix for that issue (new credentials for AzureAD) were not made permanent with a PR to our infrastructure repo. The outage was fixed when the credentials were added to our repository.

## What Happened

After <https://2i2c.freshdesk.com/a/tickets/183> was resolved one week ago, the final part of the fix - committing the new credentials to the 2i2c-org/infrastructure repository - was not completed. The resolution was a deployment from a local checkout. When a redeployment of the UToronto hub was triggered in CI/CD by an unrelated change, it reverted back to the known bad credentials - causing a repeat of the outage from last week.

## Resolution

Upon discovery, a local deployment from the same engineer who dealt with this last time resolved it by providing correct credentials. This was immediately put into CI/CD with <https://github.com/2i2c-org/infrastructure/pull/1688> and merged, to prevent a recurrence.

## Where we got lucky

- The Laptop with the local commit containing the new credentials was still around. The engineer who made the fix the last time had a laptop failure just after the fix, and it was pure luck that the laptop that failed was \*not\* the laptop that had the new credentials!
- This happened 2 days before classes started, not 2 days after.

## What Went Well?

- Our deployment scripts are great - a deployment succeeded and immediately restored service once started

## What Didn't Go So Well?

- The application secret expires every year, which is very unideal.
- The existing incident report got lost in GitHub, and it was not clear to the team that an important step had been missed from the resolution to the previous outage.
- We did not have a non-single-point-of-failure way for University IT to share credentials with our team in a secure fashion, so instead it was shared with a single engineer - causing a single point of process failure.
- Our escalation policies weren't clearly defined, so it was unclear if the one engineer known to be in possession of the new credentials could be paged or not.

## OWNER OF REVIEW PROCESS

[Yuvi Panda](#)

## IMPACT TIME

Sep 6 at 05:25 to Sep 6 at 10:48

## DURATION

5h 23m

\*All times listed in this report are in Pacific Time (US & Canada).

## Action Items

- Consider increasing validity of the UToronto AzureAD credentials - <https://github.com/2i2c-org/infrastructure/issues/1693>
- Make sure we catch the next expiry before it happens - <https://github.com/2i2c-org/infrastructure/issues/1694>
- Institute a way for community representatives to send us secrets in a way that does not create a single point of failure - <https://github.com/2i2c-org/infrastructure/issues/639>
- Clarify our escalation policies during hub outages - <https://github.com/2i2c-org/infrastructure/issues/1118>
- Re-work our incident response process to prevent steps being accidentally missed - <https://github.com/2i2c-org/team-compass/pull/508>

## Additional Notes

We are trialing using PagerDuty to improve our escalation procedures. This post-mortem feature is an important reason we are considering using incident response service such as PagerDuty. In order to create this report, there had to be an corresponding incident in the system. The PagerDuty Notifications/Acknowledgements logged on Sept 8 did not occur during the actual outage but were created after the fact to allow us to produce this post-mortem report.

## Timeline

Aug 31, 2022

2:35 PM (1 week prior) The UToronto Hub is reported as down, with 500 errors being thrown when users try to log in. Reported via <https://2i2c.freshdesk.com/a/tickets/183>



4:20 PM The issue is resolved - the AzureAD credentials used by the hub has expired, and needed to be renewed.



Toronto IT reached out, and provided new credentials. This was committed locally and deployed, \*but this was not pushed to the repo\*

Sep 7, 2022

5:25 AM University of Toronto Hub is redeployed using the older expired credentials in the repo, marking the beginning of the outage



<https://github.com/2i2c-org/infrastructure/actions/runs/2999517788> was an unrelated PR merge that (rightfully) retriggered a redeploy of all hubs from their state in the 2i2c-org/infrastructure repo. Unfortunately because the new credentials had not been committed to the repository yet, they reverted the hub back to the expired credentials, beginning the outage.

7:07 AM UToronto community rep reports hub is down:



<https://2i2c.freshdesk.com/a/tickets/188>

7:21 AM Issue is acknowledged, and posted on Slack:



Message says: "UToronto is reporting 500 errors for all users on the hub: <https://2i2c.freshdesk.com/a/tickets/188>" <https://2i2c.slack.com/archives/C028WU9PFBN/p1662560469509149>

7:35 AM Cause of the outage is determined to be the missing commit:



Message says: "I wonder if <engineer> deployed locally with the new secret and then a CI redeploy overwrote that?"

10:47 AM Engineer with access to new credentials comes online



10:50 AM Yet another local redeploy fixes the issue immediately:



Commands used were:

1. ``git checkout <branch-name>`` to the local branch with the new credentials
2. ``python3 deployer deploy utoronto prod`` to do a deploy

[https://2i2c.slack.com/archives/C028WU9PFBN/p1662573041370449?thread\\_ts=1662562930.376269&cid=C028WU9PFBN](https://2i2c.slack.com/archives/C028WU9PFBN/p1662573041370449?thread_ts=1662562930.376269&cid=C028WU9PFBN)

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10:51 AM New PR is put up and merged to make sure the credentials are persisted for future deployments



<https://github.com/2i2c-org/infrastructure/pull/1688>

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Sep 8, 2022

1:39 PM



**Triggered by Yuvi Panda.**

**Description: UToronto Hub is throwing 500 errors when users try to login ([View Message](#))**

[INCIDENT #5](#)

UToronto Hub is throwing 500 errors when users try to login

9:48 PM



**Resolved by Yuvi Panda through the website.**

[INCIDENT #5](#)

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