

Google Cloud Shell Setup

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Use your U of A Google Account

- ☐ Ensure that you are logged in to **your University Google Account** (not a personal account).
- ☐ If you are faculty or staff, you may need to [sign up for a Google Account](#).

The screenshot shows a web browser window with the URL <https://account.arizona.edu/account/googleapps/googleaccount>. The page header includes the University of Arizona logo and the text "UITS UNIVERSITY INFORMATION TECHNOLOGY SERVICES". On the right, there are links for "Logout" and "UITS Accounts".

On the left side, under the heading "Actions", there are five buttons: "Home", "Manage your Accounts", "DHCP Report", "Entitlements", and "Retiree Email Opt-In".

The main content area features a graphic with the text "Opt in to CatMail!" and a "powered by Google" logo. Below this, the section is titled "Faculty & Staff".

The text states: "Students are automatically provided with Google Apps for Education within their CatMail student email account. Faculty and staff may opt in to a CatMail account in order to have access to Google Apps for Education tools. Faculty and staff email will remain on the existing University email system, but all other apps will be available."

A **NOTE** follows: "Before submitting any information to us please read, understand and agree to the disclaimer and terms of use as stated below."

The text continues: "The following electronic services are provided to University of Arizona students by an agreement with Google Inc. as an official means of communication between students and the University. This service is intended only for students. Accounts are not provisioned for faculty and staff use to conduct official University business. Some faculty and staff members may discover they have been provisioned with a Google account. This is due to previous interactions with the University in the role of a student or prospective student. Faculty and staff may obtain an account from Google to explore the use of Google Apps in support of their students. Faculty and staff use is subject to the terms of a [disclaimer](#)."

It then states: "By accessing these electronic resources, you understand:"

- The University is not responsible for the content of any Gadgets added by you to the start page.
- The University is not responsible for data loss, and there is no facility for recovering deleted files.

Next, it says: "This electronic environment is a University resource and property of Google Inc. The following policies apply to its use:"

- [Policy on Acceptable Use of Computers and Networks at The University of Arizona](#)
- [Google Terms of Service](#)
- [Google Privacy Policy](#)

It then states: "The University does not provide direct support for these resources. Please see the Google Help Center."

Finally, it says: "You are responsible for the security of your account. The best passwords are at least eight characters long, have upper and lower case letters and at least one number and one special character. It is important that you change your password periodically, every few months, to protect someone else from using your personally identifiable information. The University is not responsible for unauthorized access to your account."

A green banner at the bottom of the main content area reads: "Your Google Apps account is enabled. You're all set!"

Open Google Cloud Shell

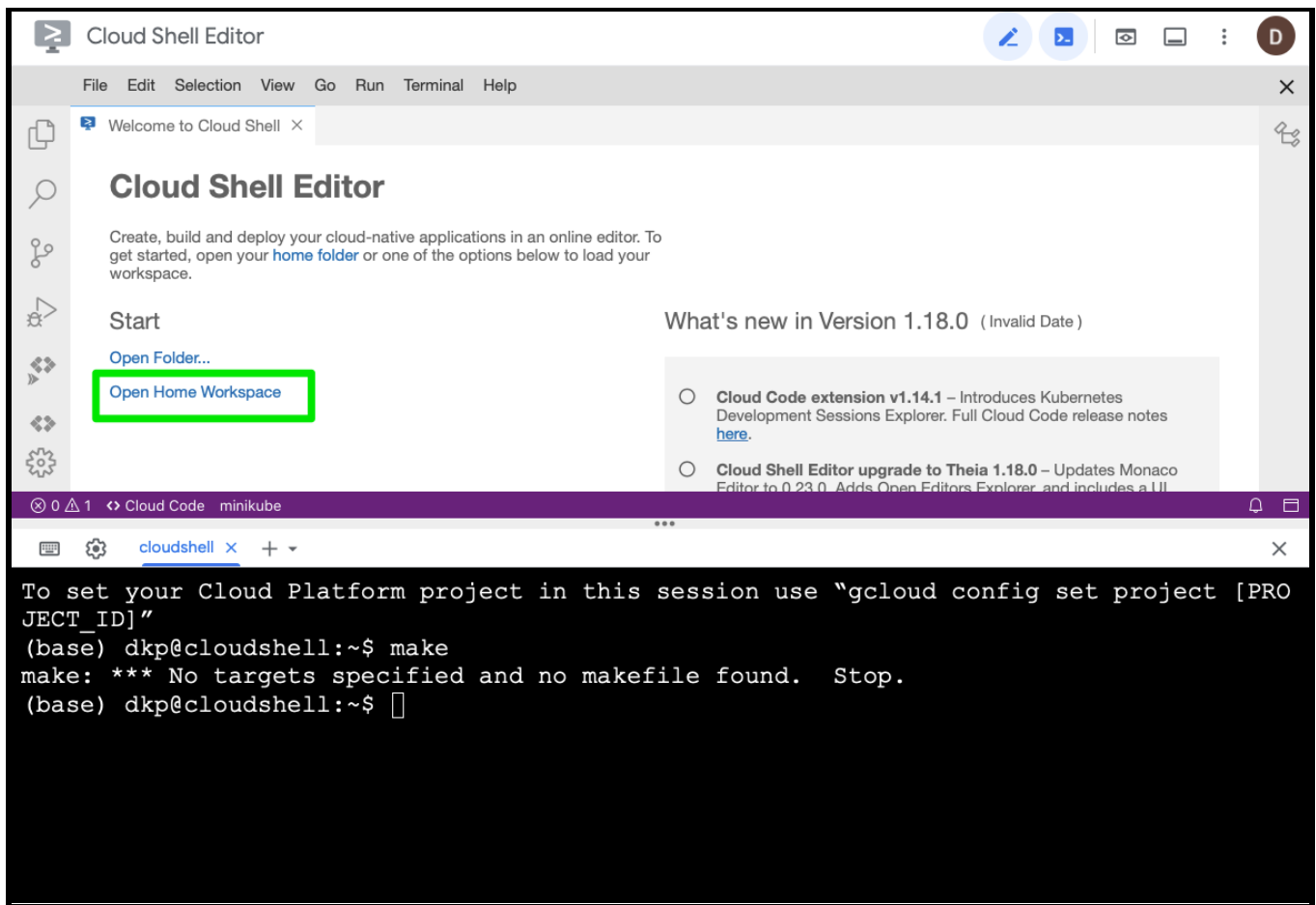
- ☐ Open Google Cloud Shell: <https://shell.cloud.google.com/> (preferably in Google Chrome).
- ☐ Double-check that you are using your University account.

After a few minutes, you should see an interface like the following:

Cloud Shell Editor: The top half is a GUI explorer (light grey) and editor window (white).

Terminal: The bottom half is a black terminal window where you can type unix commands.

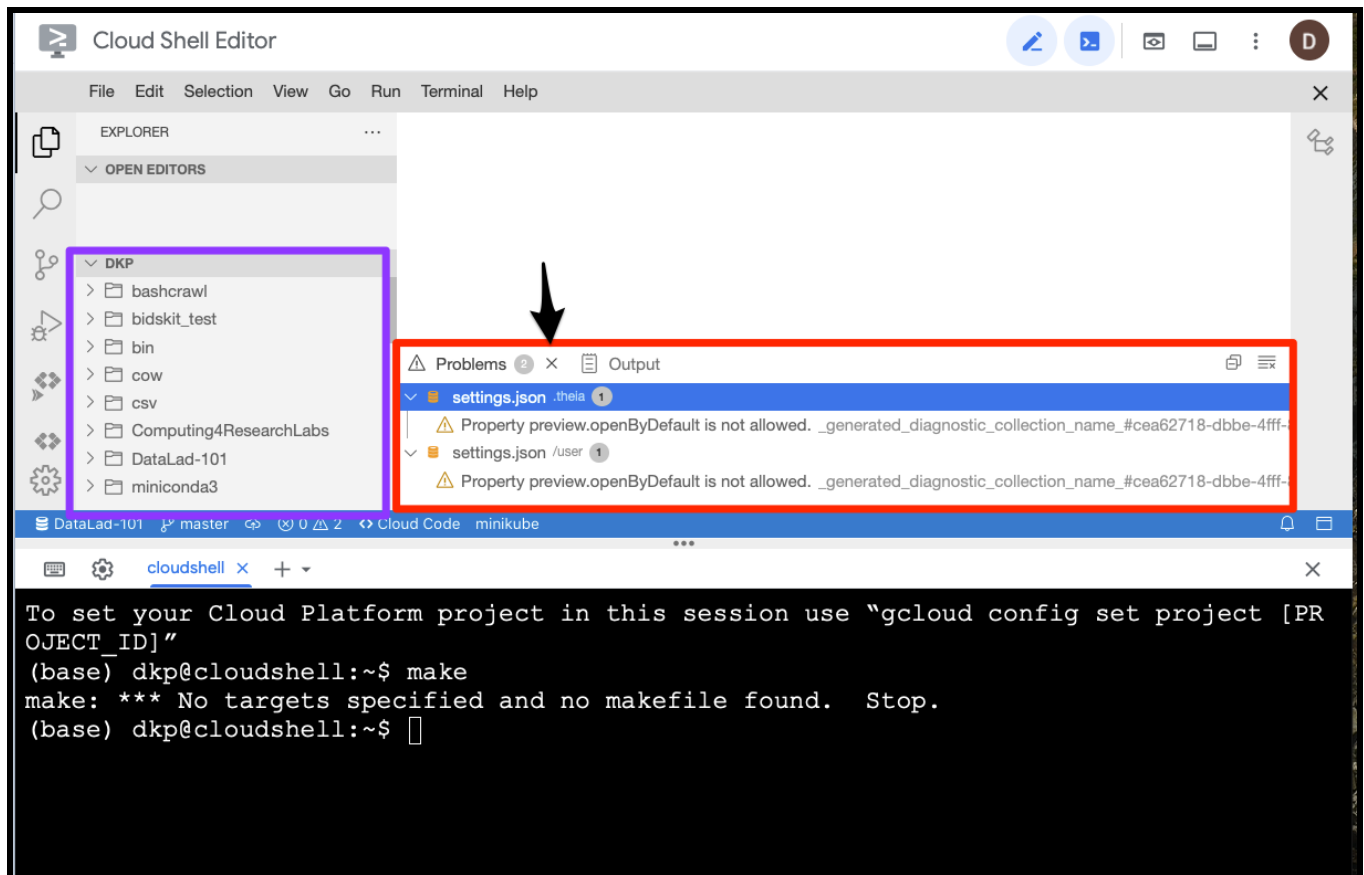
- ☐ Watch [Introduction to Google Cloud Shell](#) (~6-minutes) if you have not watched it already.
- ☐ Select **Open Home workspace** on the left:



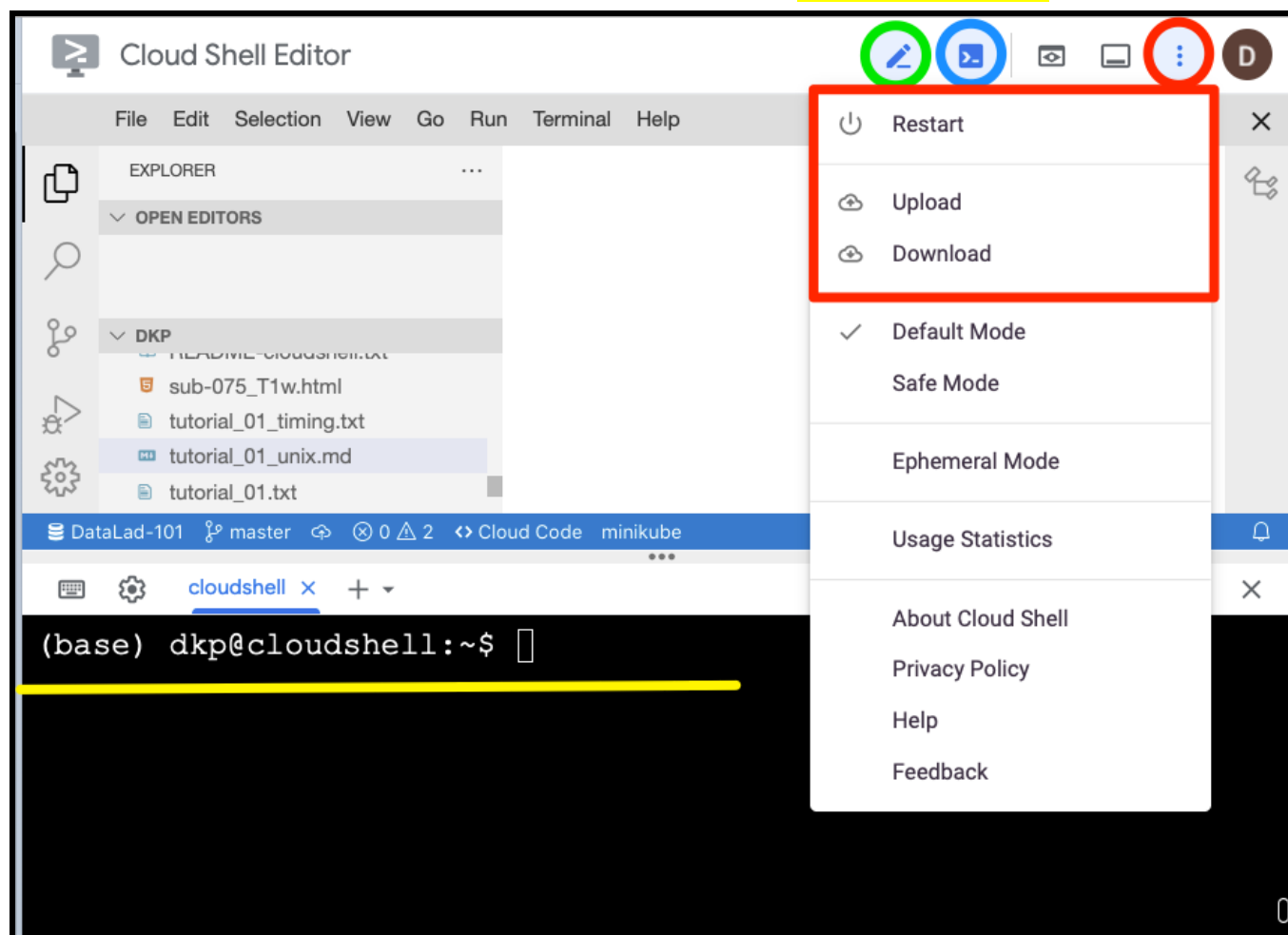
The Cloud Shell Interface

You see an **Explorer** window on the left.

Close the **Problems** window if it appears, by clicking on the **x** (black arrow).



- Find the following parts of the interface, based on the figure below:
 - Green circle** (upper right): The pencil icon opens and closes the **editor**
 - Blue circle** (upper right): The terminal icon opens and closes the **terminal** window.
 - Red circle** (upper right): This icon opens the **kebab** menu (shown). Crucially, it allows you to **restart** the cloud shell and to **upload** and **download** files (**red square**).
 - The command prompt where you will type commands is **underlined in yellow**.



Upload a Tutorial to Cloud Shell

Google Cloud Shell provides a special mechanism for displaying tutorials written in Markdown (*.md files). A selection of RII cloudshell tutorials is available here:

https://bitbucket.org/dpat/neuro4rii/raw/main/cloudshell_lessons

Transfer files to Google Cloud Shell in several possible ways:

- Use **Upload** or **drag the file to the CloudShell Explorer** (on the left)
- Use **wget** as illustrated in the OpenClass lessons, e.g.

```
wget https://bitbucket.org/dpat/neuro4rii/raw/main/cloudshell_lessons/tutorial_01_unix.md
```

The item should now appear in the **CloudShell explorer**.

Run a Cloud Shell Tutorial

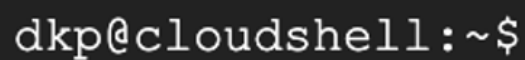
At the terminal command prompt, type *teachme* and the tutorial name, e.g.,:

```
teachme tutorial_01_unix.md
```

Tip: To type in the terminal, you may need to click a couple of times!
The cursor has to change from an **empty rectangle** (left) to a **filled rectangle** (right), indicating that the terminal "has the focus".

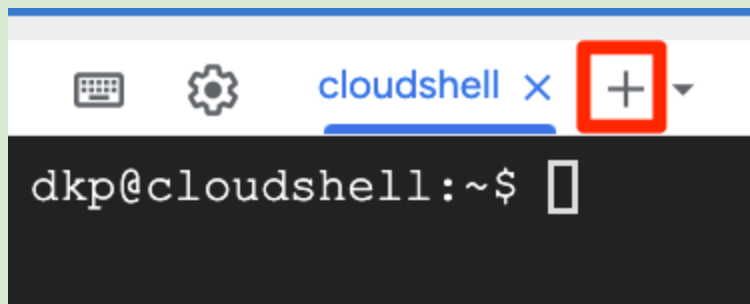


dkp@cloudshell:~\$ □



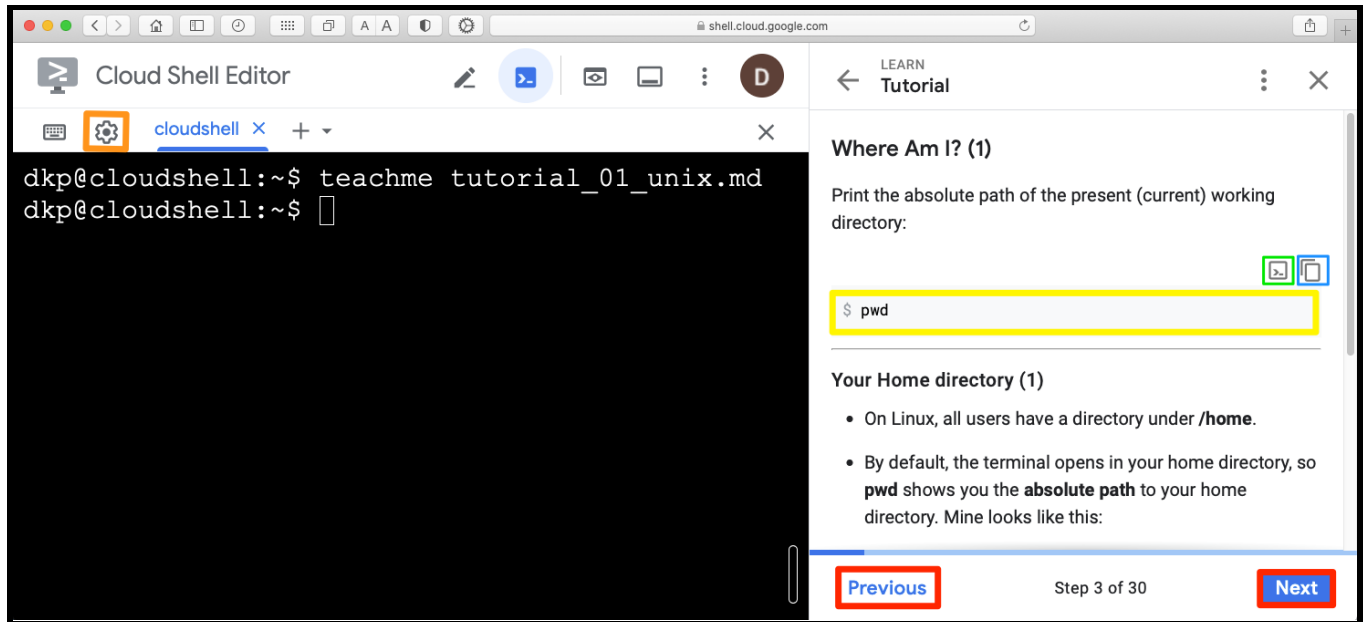
dkp@cloudshell:~\$ ■

Tip 2: Sometimes something goes wrong with the terminal and it won't accept input. You can start another terminal with the **+** sign on the upper left of the terminal (**red box**):

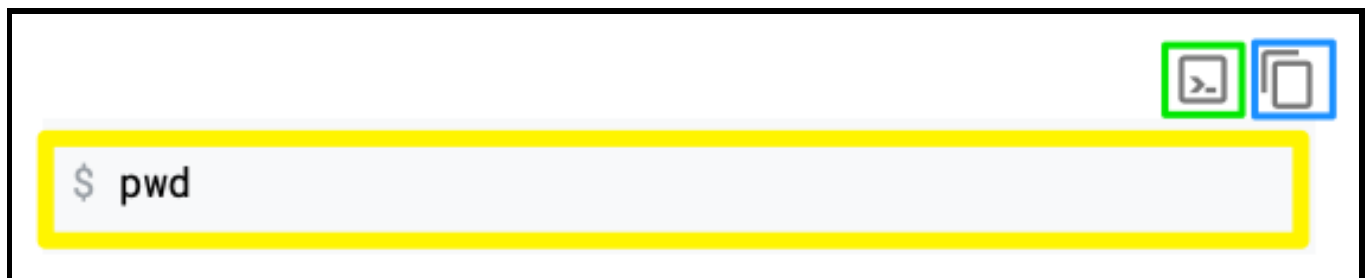


Understand the Tutorial Interface

- Tutorial steps appear on the right, with navigation buttons (red boxes) below. The first page of the tutorial displays a **Start** button instead of a *Previous* and **Next** buttons.
- Settings for terminal color, font size etc. are available (orange box, upper left).
- The tutorial includes text set off in grey code boxes (yellow box, right).



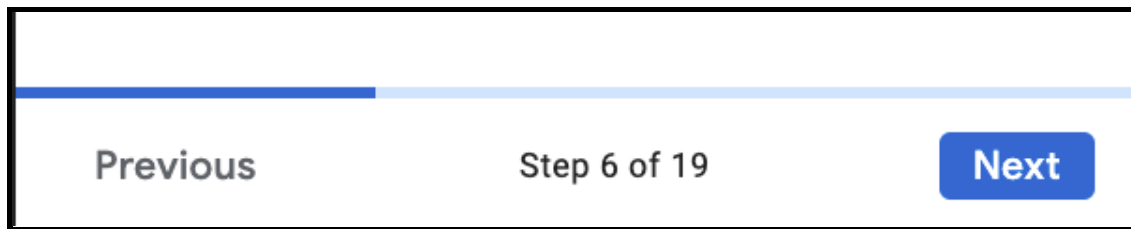
Text in the **code box** will have one or two icons on the upper right: [copy to cloudshell](#) and [copy to clipboard](#):



- The [copy to cloudshell icon](#) copies the command to the terminal.
 - Hit **enter** to run the command.
 - This is the fastest way to enter commands without error.
 - However, you may learn the commands better if you actually type them!
- Only the [copy to clipboard icon](#) is available in some cases:
 - The code box just sets off text for you to look at.

- You need to copy the text into the **editor** instead of the terminal.
- You need to **modify the text** before it is run.
 - Select the [copy to clipboard](#) icon,
 - Select the target of your copy (the terminal or the editor).
 - Use Ctrl+v to paste.
 - You can then edit the results.
- Try both icons so you understand the difference.

☐ A progress bar at the bottom of the tutorial reports your current step:



Tutorial Content

- The tutorial is divided into separate numbered sections to help keep track.
- Take your time and experiment: Understanding is the point.
- Periodically, you'll see a prompt like **Think about this** or **TRY THIS**
- These prompts give you an opportunity to think about what you are doing and help you learn.
- A **Solution** will be presented when you click [Next](#), but you'll learn more if you try to answer the question yourself before reading the solution!
- Tutorials are cumulative. You should be reasonably comfortable with commands in one tutorial before you move on to the next one.

☐ **READ the instructions so you know what you are supposed to do!**

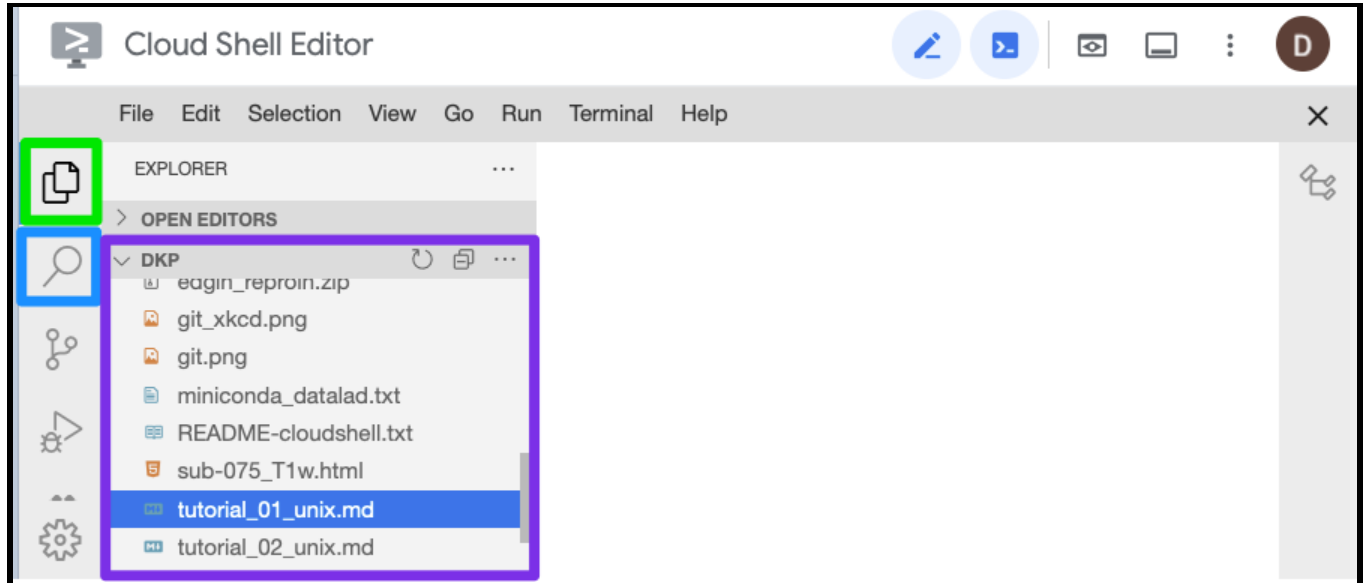
☐ **Report any confusing steps, instructions, or typos so the tutorial can be improved.**

View Files

The top half of the interface should contain an **Explorer** window on the left, and a place to view files on the right (white space for editor).

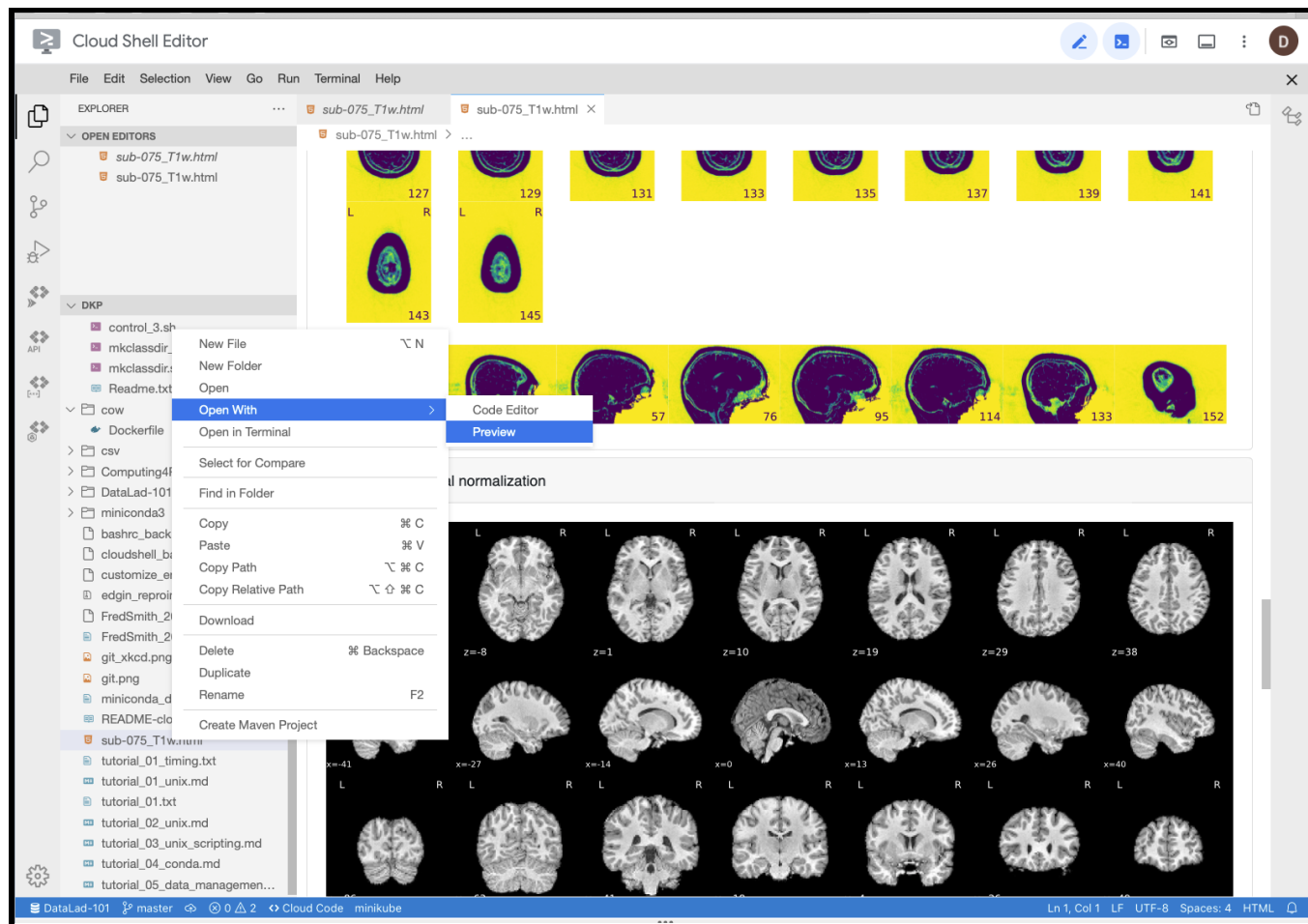
If the **Explorer icon** is selected, then the **Explorer** window is displayed.

If the **search icon** is selected, you can search the contents of files in the directory.



You can select files from the explorer to display, including text files (*.txt) files, markdown files (*.md) and images.

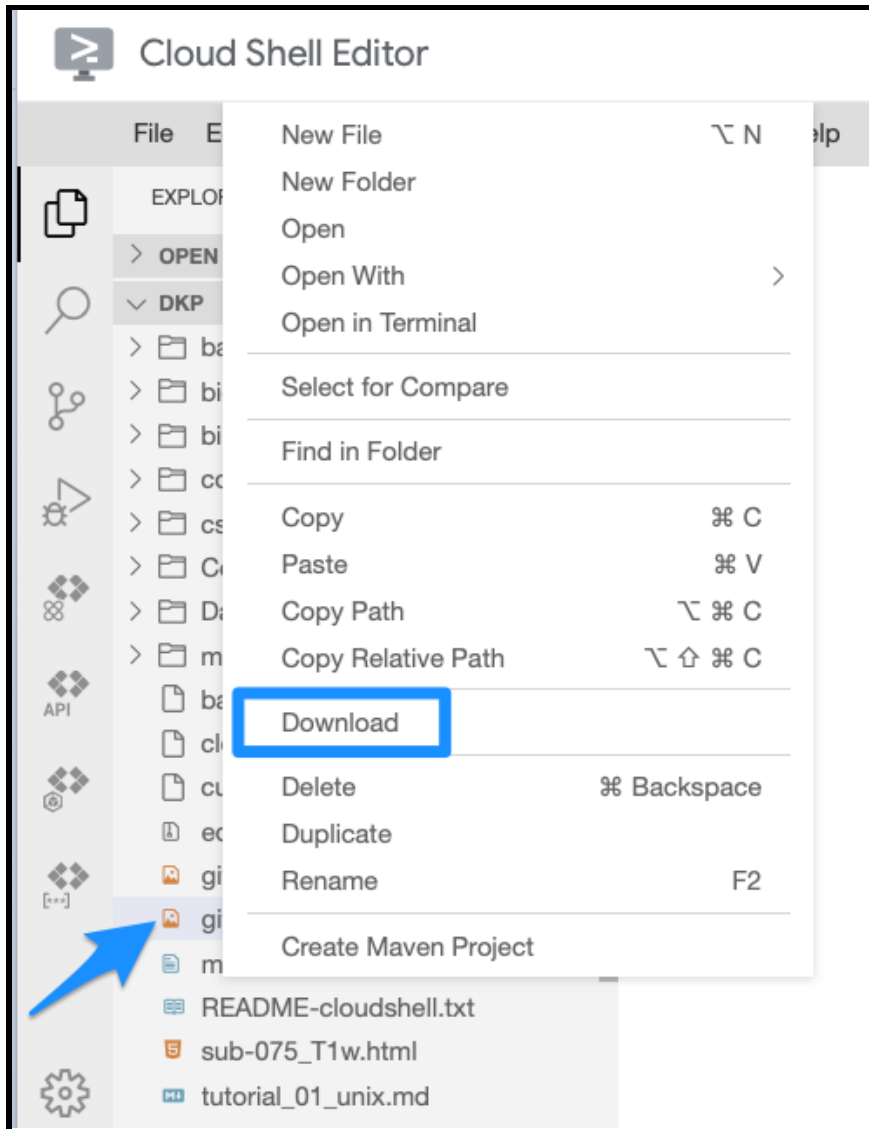
If you select an HTML file, it will display in the code editor by default. However, you can preview the HTML by right-clicking and choosing **Open With** → **Preview**.



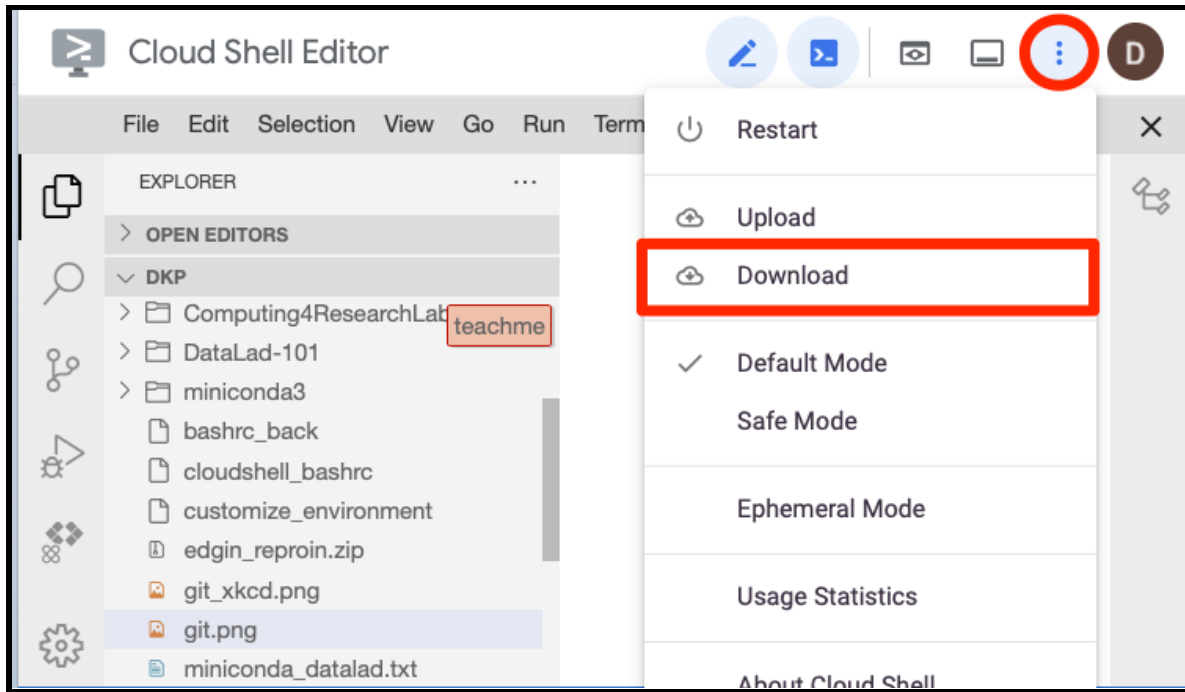
Download a File from Cloud Shell to your Computer

To download a file, you have **two** choices:

In the top half of the cloud shell interface there is a grey Explorer window on the left. Select the file to download ([blue arrow](#)), right-click and choose *Download* ([blue box](#)):



If for any reason the first solution does not work, then try *Download* from the kebab menu (red box, upper right):



You see a Download File box (below). Type the file name and choose **Download**.

