

## Delivery of the course Virtual Machine (VM) image

The Virtual Machine (VM) is a huge download that many users have difficulty with. As a result, we will rely on Globus software to help us.

Globus is a research-oriented file transfer software. The main advantage of using globus is that if there is an internet connection failure during downloading, it will stop and resume from the same position instead of resetting to zero percent.

**Globus website:** <https://www.globus.org>

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VirtualBox is used to run the VM once it is downloaded. More information about virtualbox can be found on its website: <https://www.virtualbox.org>

### Host OS Requirements for Virtual Box

- RAM requirement: 8GB (preferably 12GB)
- Processor requirement: 4 processors (preferably 8)
- Hard disk space: 100GB

**Note:** Please be aware that Virtual Box is currently incompatible with M1/M2/M3 chips on MacBook. It is exclusively designed for use on Intel-based MacBooks. The current version in use is Virtual Box 7.0.

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### Globus VM Downloading Steps:

1. Make a globus connect personal account by going this webpage, and choose the download for your operating system (Mac or Windows), which will prompt you to make an account: <https://www.globus.org/globus-connect-personal>

Choose use globus ID to sign in (picture below)

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Log in to use Globus Web App

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Use your existing organizational login

e.g., university, national lab, facility, project

Look-up your organization...

By selecting Continue, you agree to Globus [terms of service](#) and [privacy policy](#).

Continue

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OR



Sign in with Google



Sign in with ORCID iD

Didn't find your organization? Then use [Globus ID to sign in](#). ([What's this?](#))

Then if you don't have an ID yet, select "Need a Globus ID? Sign up".

Log in to use Globus Web App

Use your existing organizational login

e.g., university, national lab, facility, project

Look-up your organization...

By selecting Continue, you agree to Globus [terms of service](#) and [privacy policy](#).

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Log In with Globus ID

[Need a Globus ID? Sign Up](#)

The client Globus Auth is requesting access to your **globusid.org** account for accessing a third-party website or application located at [auth.globus.org](#). If you approve, please log in to continue.

Username  @globusid.org

Password

Log In

[Forgot password?](#)

Then make sure you specify for research or educational purposes. And create your account. Remember your password for the later steps.

## Create a Globus ID

[Already have a Globus ID? Log In](#)

The client Globus Auth is requesting access to your **globusid.org** account for accessing a third-party website or application located at **auth.globus.org**. If you approve, please create a Globus ID account to continue.

Username  @globusid.org

Your username will be checked for availability.

Usernames may contain both letters and numbers, but must begin with a letter and be between 3 and 31 characters long. NOTE: this is an ID you are creating – not a working e-mail address

Password

☐ show password

Full Name  first and last name

E-mail  user@example.edu

This account will be used for ☐ non-profit research or educational purposes

☐ commercial purposes

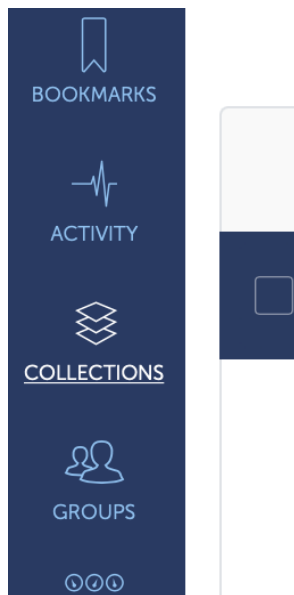
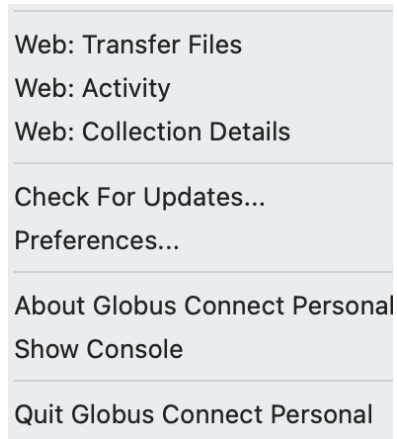
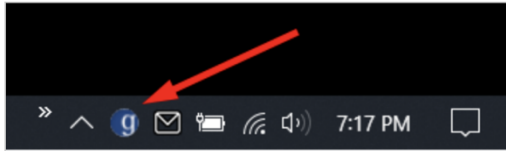
Organization

☐ I have read and agree to the Globus [Terms of Service](#) and [Privacy Policy](#)

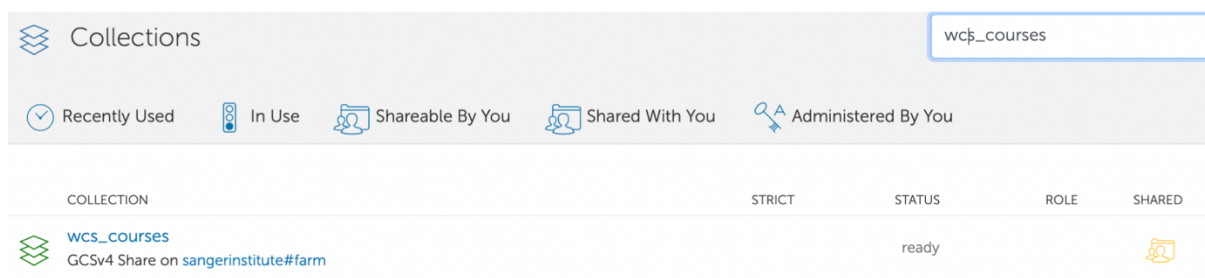
2. Then download the globus client onto your local machine (or where you intend to run the VM), allow it to install. It will ask for a collection name, give it a name you will refer to - example "home\_computer" or "local\_mac". This is a name for the local folders on your computer that we will send the VM to in a later step.

3. Click on the small "g" icon on the task bar and select Web: Transfer Files. For linux users - there may not be a shortcut. Once you start globus personal connect via command line, navigate to <https://app.globus.org/file-manager> to begin the file manager.

4. You will see your own files on this page. Your local endpoint is your computer. Click on "Collections" on the left



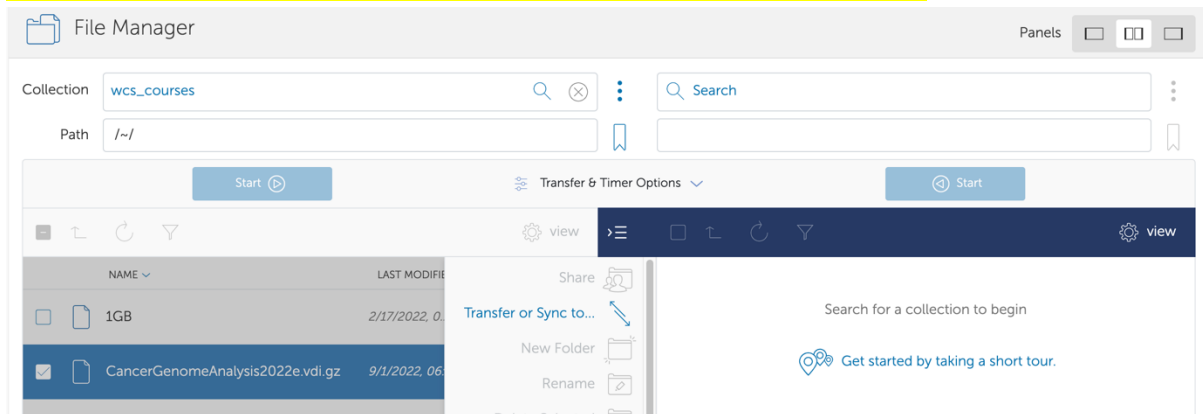
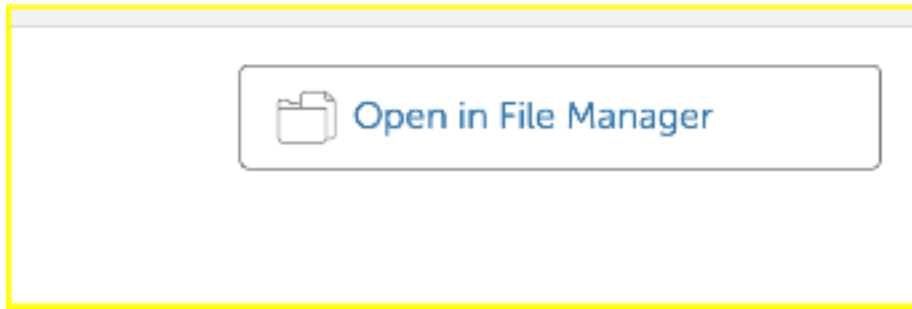
5. Search for the endpoint at `wcs_data_transfers`



Click on the endpoint labelled `wcs_data_transfers`

Then click on “Open in File Manager” will open up a file manager

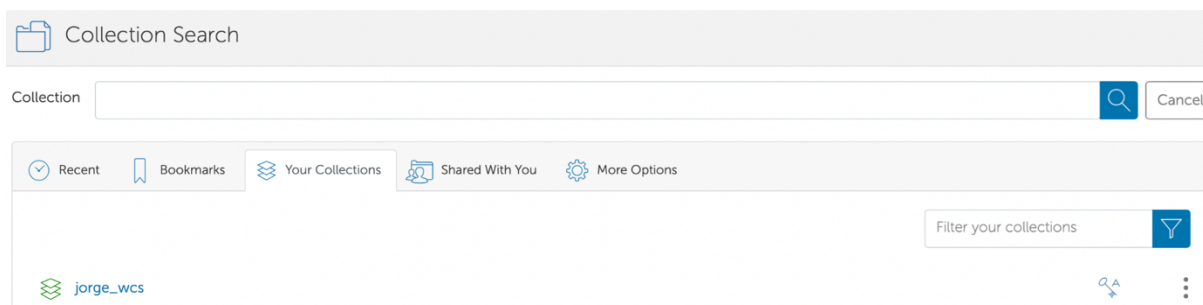
6. Then we begin the steps to transfer the VM to your local machine. First, select the VM file “**GCV2024.vdi.gz**” with the check box. Then click on “Transfer or sync to”



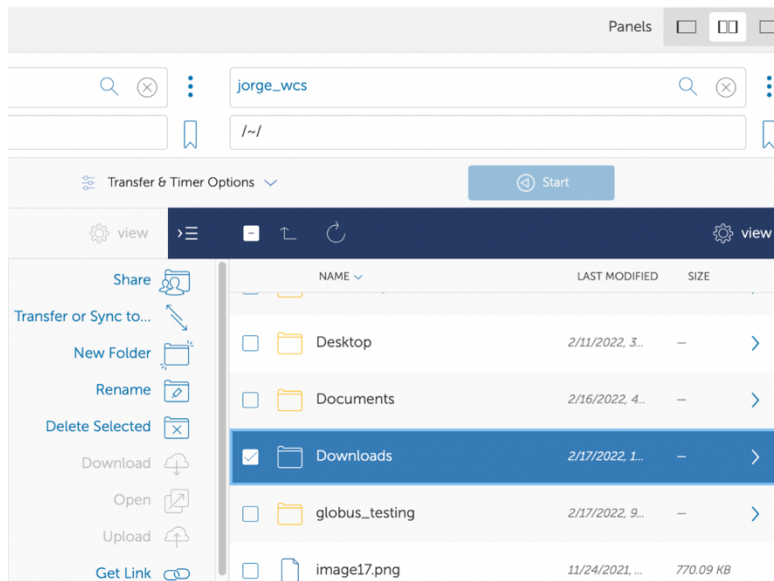
Then click on the search box in the opposite panel

7. Click on “Your Collections”, and select your local endpoint (**the name will be what you gave it during the globus personal connect installation**)

You can browse to choose the specific directory or folder on your local machine you want the VM to download to.



Downloads is selected in this example.



8. When you have chosen the local location, Click on the “Start” button under the “wcs\_data\_transfers” section to begin the download to your local endpoint.

9. Wait for download completion - it will email you to the account you set up, and you can track the transfer in the “Activity” menu.

10. Run the installation of virtualbox, then install the virtual machine you have just downloaded.

## Additional Resources and Troubleshooting

- Globus Documentation: <https://docs.globus.org/guides/>
- Virtual Box Documentation: <https://www.virtualbox.org/wiki/Documentation>
- Virtual Box Manual: <https://www.virtualbox.org/manual/ch01.html>
- Virtual Box Forum: <https://forums.virtualbox.org/index.php> (helpful for finding similar problem queries and solutions)
- Stack overflow: <https://stackoverflow.com/> (Public Q&A platform for debugging)
- Bioinformatics (BioStars) Forum: <https://www.biostars.org/t/Forum/> (General Bioinformatics queries)