

Northwestern

Northwestern

INFORMATION TECHNOLOGY

# Introduction to Globus for Research Data Management

Brian Roland  
Data Management Specialist  
Northwestern IT  
Research Computing and Data Services

# What is Globus?

Globus is a powerful data management, transfer, and collaboration tool designed to simplify research workflows and empower users to securely manage and share large amounts of data from a variety of data storage platforms.

# What is Globus?

Globus enables users to transfer and manage data between endpoints that Globus calls *Collections*.

Globus transfers leverage advanced protocols that provide users with:

- High performance data transfers optimized via GFTP

- Automatic fault recovery and error checking

- Fire and forget functionality

- Encryption in transit (HTTPS)

- Post-transfer file integrity verification

# What is Globus?

Additional key features of Globus provides include:

Web based user interface

Downloadable client that enables transfers to local machine storage (Globus Connect Personal)

Automation and scheduling functionality

Data Sharing capabilities

# Why use Globus?



Used by research institutions and government facilities across the globe.

2600+ Connected Institutions



Makes data storage usage more accessible to researchers. Allows researchers to efficiently manage usage on a variety of storage systems.

Institutional Storage  
Local Storage  
Commercial cloud storage platforms



Developers can use Globus to automate data workflows leveraging the Globus API, SDK, and command line tools (Advanced)

# Globus Collections

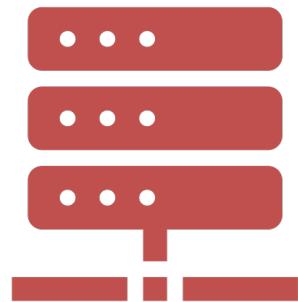
Globus allows users to manage and transfer data between nodes they call *Collections*. Globus supports three types of Collections:

Mapped Collections

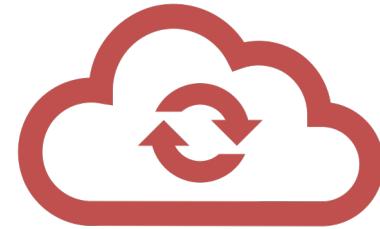
Guest Collections

Globus Connect Personal Collections

# Mapped Collections



A Globus Mapped Collection provides access to centrally administered storage platforms.



NU IT supports Mapped Collections that provide access both on-prem and cloud-based storage systems

# Guest Collections



A Globus Guest Collection is a shared storage space within Globus that enables external collaborators to access specific data.



Guest Collections facilitate secure external collaboration by providing controlled access to designated data. This allows researchers to collaborate with external partners without compromising data security.

# Globus Connect Personal Collections



A Globus Connect Personal Collection is enabled by installing Globus Connect Personal client on a local machine.

Globus Connect Personal Collections allow for efficient transfers between local storage and other Globus endpoints.

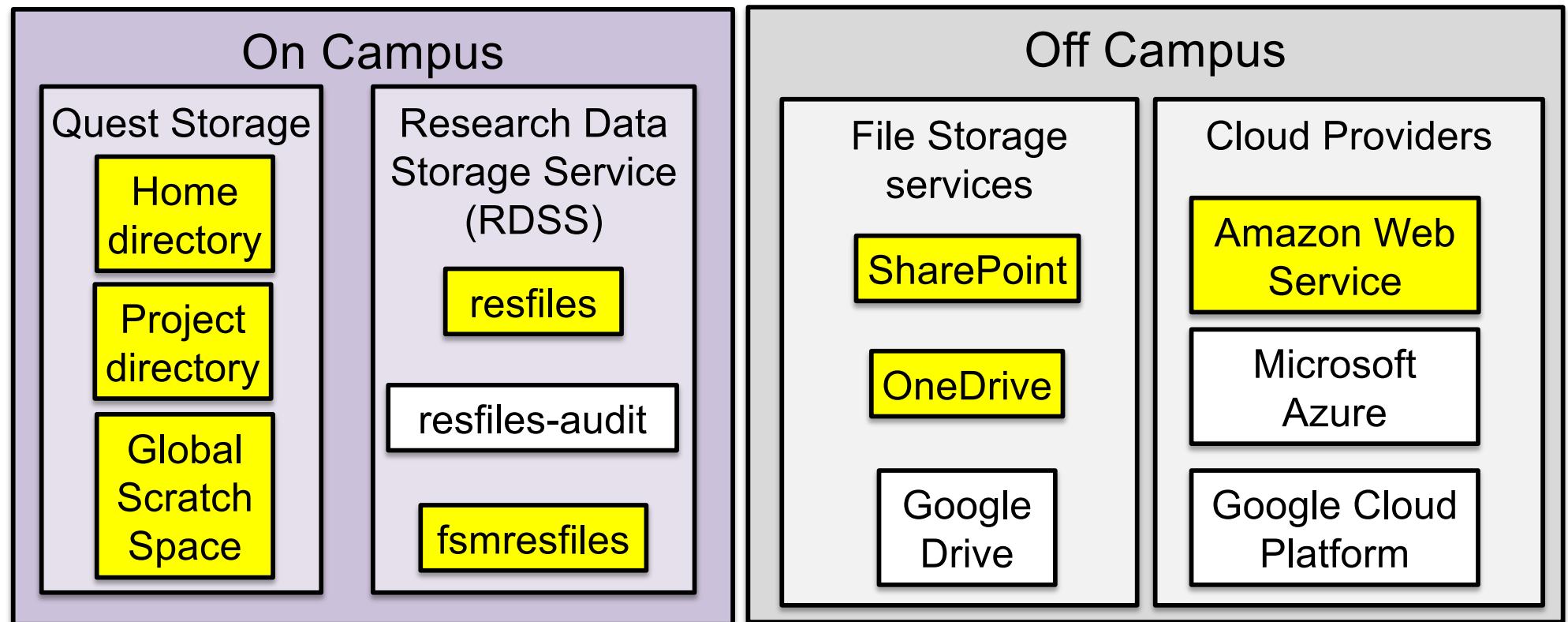
# Globus at Northwestern University

Use of Globus at Northwestern University can only be used with data that is not legally or contractually restricted.

No PHI, PII, HIPAA, FISMA data

# Globus at Northwestern University

NU IT supports Globus Managed Collections that access both on-premises and cloud-based storage



# Northwestern Managed Collections

<u>Name</u>	<u>UUID</u>
Northwestern Quest	d5990400-6d04-11e5-ba46-22000b92c6ec
Northwestern Quest RDSS	8f796c9e-f5c8-11e5-9842-22000b9da45e
Northwestern AWS us-east-1 N. Virginia	bf0474ea-df2f-45f6-82e3-41d062d84ce7
Northwestern AWS us-east-2 Ohio	a14148f0-23dc-488f-affd-bd981f919b10
Northwestern AWS us-west-2 Oregon	880cd765-5d14-43f6-97a6-2dbb355f3560
Northwestern OneDrive Pilot*	930c2fcb-416e-4540-a757-496f86acbe70

\*Provides access to both OneDrive and SharePoint

# Globus and RDSS

- Globus access to RDSS must be requested so that NU IT can configure your Globus access to specific RDSS share paths.
- To submit a request for access, please submit the Request [Access to RDSS via Globus Form](#) found in the NU IT Service Catalog. In the form you will need to include the following information:
  - NetID
  - Full share path:
    - //resfiles.northwestern.edu/SHARENAME/
    - //fsmresfiles.fsm.northwestern.edu/fsmresfiles /DEPARTMENT/LAB/

# Getting started with Globus

Use of Globus with the Northwestern Quest Mapped Collection requires a Quest account.

Globus uses your netID and Password for authentication via Northwestern's Single Sign-On Service (SSO)

Use of Globus with RDSS requires user to complete the [Request Access to RDSS via Globus form.](#)

# Use Case #1

- **Scenario:** Brian Roland has to upload files from his local machine to Quest HPC to perform analysis.
  - Step 1: Install and configure Globus Connect Personal
  - Step 2: Identify the directory he needs to transfer and submit a Globus transfer task

# Globus Connect Personal

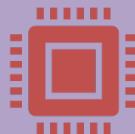


[Download Globus Connect Personal](#)

Supports Mac, Windows, and Linux machines



During installation, the user will need to log into Globus and provide consent for Globus to access the local file system



It is recommended that a globally unique name is used for the Globus Connect Personal Collection during the installation process

# Download Globus Connect Personal

- Select the OS for your local machine and click on **INSTALL NOW**
- Follow the instructions that are provided for your OS to install the free downloadable client
- After Globus Connect Personal in successfully installed, you will be prompted to log in to complete setup. Log in with your Northwestern credentials
- Globus will prompt you to accept the required consents for Globus Connect Personal Setup

The screenshot shows the Globus website homepage. At the top, there's a dark blue header with the Globus logo and the text "a heliogen non-profit service". On the right side of the header are buttons for "GET STARTED" (with a rocket icon) and "LOG IN" (with a user icon). Below the header, there's a navigation bar with links for "Solutions", "Resources", "Pricing", "Newsroom", "Developers", and "About". The main content area has a title "Install Globus Connect Personal" and a subtitle "Create a Globus collection on your laptop. Globus Connect Personal is available for all major operating systems." Below this, there are three cards: one for Mac (with a smiling face icon), one for Windows (with the Windows logo), and one for Linux (with a penguin icon). Each card has a "Globus Connect Personal for [platform]" heading, a note about supported versions, and an "INSTALL NOW" button.

Install Globus Connect Personal

Create a Globus collection on your laptop. Globus Connect Personal is available for all major operating systems.

Globus Connect Personal for Mac  
Mac OS X 10.9 or higher  
INSTALL NOW

Globus Connect Personal for Windows  
currently supported Windows versions  
INSTALL NOW

Globus Connect Personal for Linux  
for common x86 distributions  
INSTALL NOW

Have questions? Look at our [frequently asked questions](#) or contact [support@globus.org](mailto:support@globus.org)

# Logging in via NU Credentials

The screenshot shows a web browser window with the URL [auth.globus.org](https://auth.globus.org). The title bar includes icons for window control, a refresh arrow, and a search/magnifying glass. The main content area has a blue header with the Globus logo. Below it, the text "Log in to use Globus Web App" is centered. A sub-section titled "Use your existing organizational login" with the subtitle "e.g., university, national lab, facility, project" is shown. A dropdown menu lists several organizations, with "Northwestern University" highlighted by a blue arrow pointing from the left. Below the dropdown, a note states: "CILogon and Globus. You also agree for CILogon to issue a certificate that allows Globus to act on your behalf." At the bottom, there are two buttons: "Sign in with Google" (with a G icon) and "Sign in with ORCID iD" (with an ID icon). A link at the bottom says "Didn't find your organization? Then use [Globus ID to sign in.](#) ([What's this?](#))".

Log in to use Globus Web App

Use your existing organizational login  
e.g., university, national lab, facility, project

Northwestern University

North Carolina State University

North Dakota State University Main Campus

Northeastern University

Northern Arizona University

Northern Illinois University

Northern Michigan University

Northwestern University

CILogon and Globus. You also agree for CILogon to issue a certificate that allows Globus to act on your behalf.

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?](#))

# Provide Collection Details

- **Owner Identity:** This should be your [NetID@northwestern.edu](mailto:NetID@northwestern.edu) so that your Globus Connect Personal Collection is affiliated with your Northwestern identity in Globus
- **Collection Name:** A name that you can chose for your Globus Connect Personal Collection.
- **Description:** A short description that can help describe the Collection and/or what it will be used for



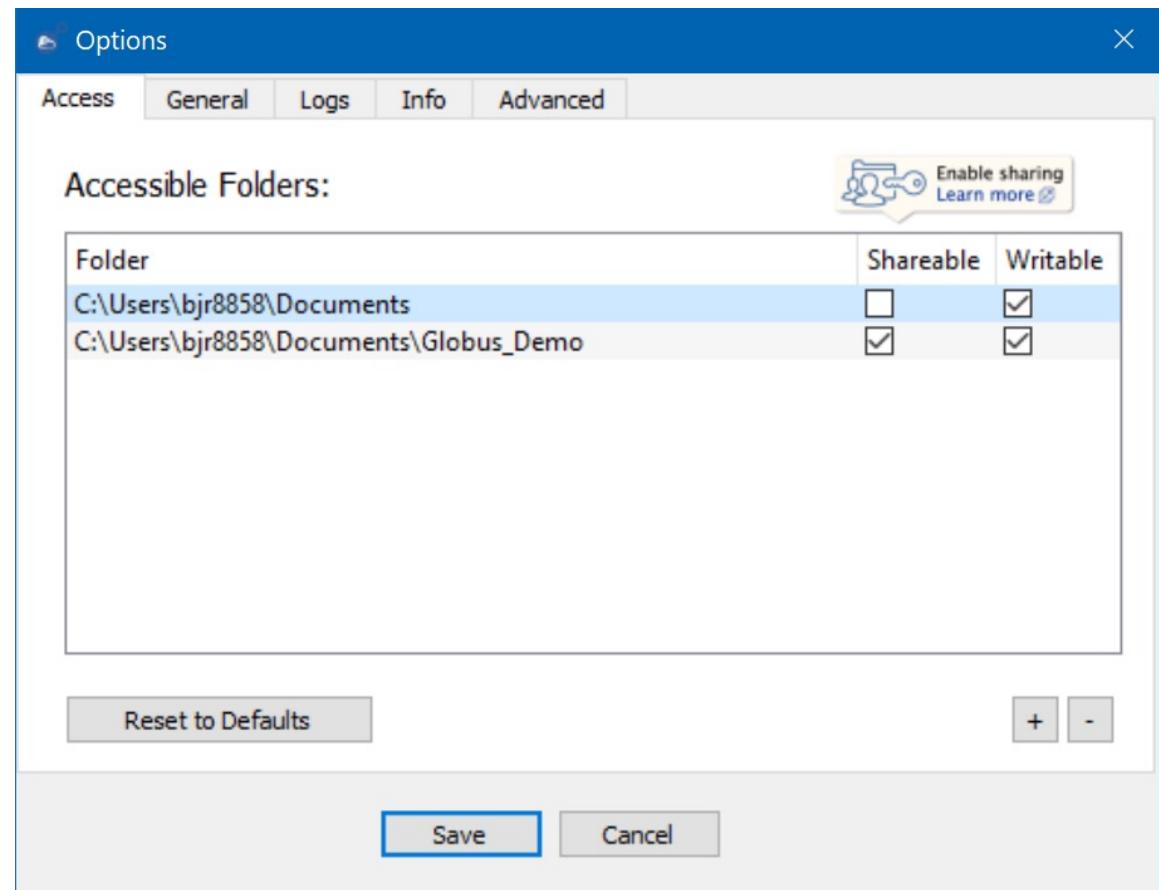
Collection Details

Owner Identity	bjr8858@northwestern.edu
Collection Name	bjr8858 Northwestern Laptop
Description	My work laptop
High Assurance	<input type="checkbox"/> Choose this option only if your institution subscribes to Globus at the High Assurance tier and if your computer stores sensitive data such as Protected Health Information or Controlled Unclassified Information.

**Save**

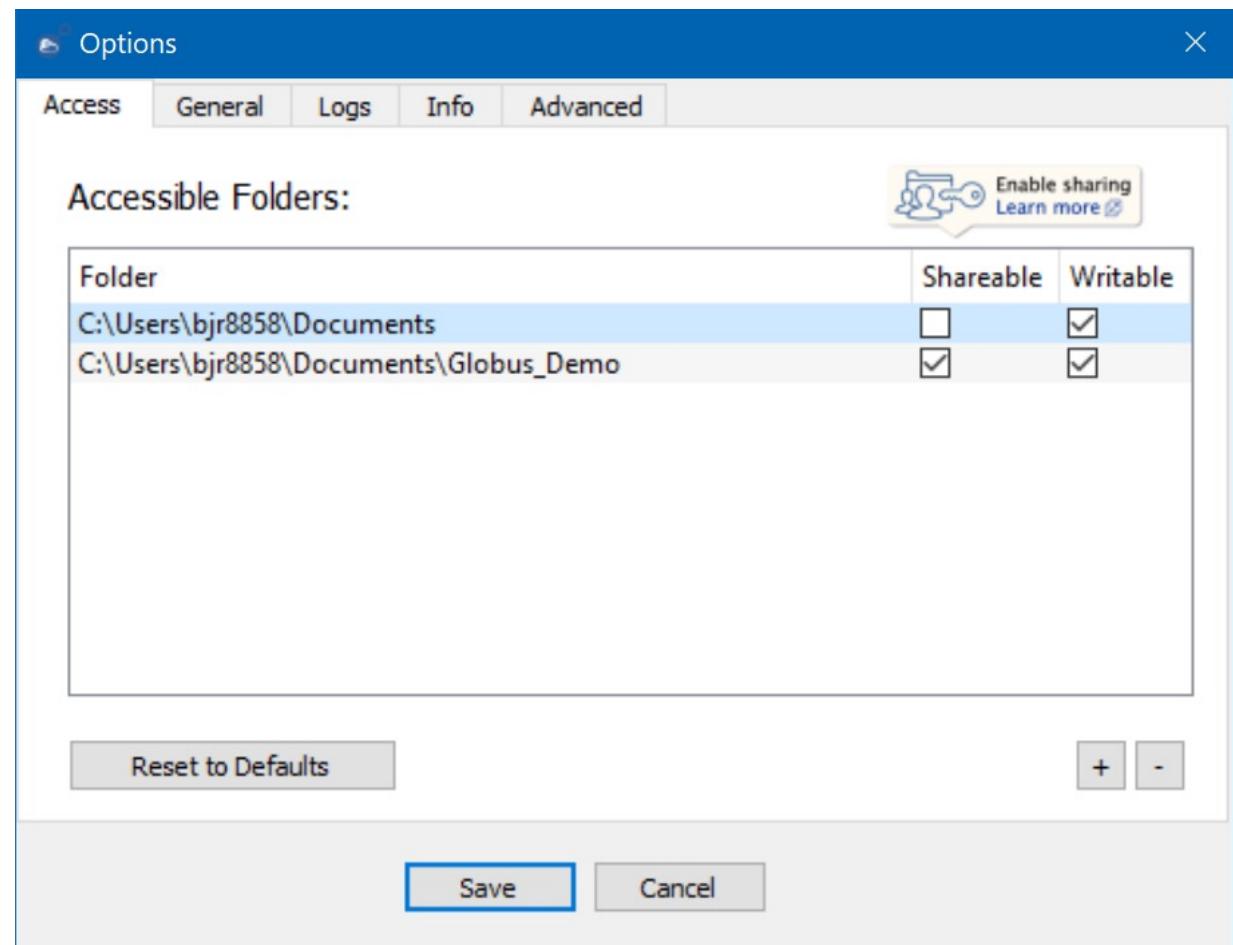
# Configure Globus Connect Personal

- Next you will need to configure Globus Connect Personal on your local machine to define which directories Globus can access and if sharing should be enabled for those Collection.
- To Configure Globus, you will need to right-click on the  icon in your system tray (PC) or the menu bar (Mac) and select **Options...** (PC) or **Preferences** (Mac)
- This will bring up the Globus Connect Personal Options window



# Add Accessible Folders

- To Add folders that Globus Connect Personal can access, click on the **+** button in the bottom right corner of the page.
- This will open a new window that will let you explore your file system and select the folder(s) that you would like to add.
- There are checkboxes for **Shareable** and **Writable** that you can select for each folder
- Shareable:** These folders can be shared via a Globus Guest Collection that you create
- Writable:** This will let Globus know if it can write to the folder or only read from the folder.



<https://www.globus.org/>

The screenshot shows the Globus website homepage with a blue background featuring a network graph pattern. At the top, there is a navigation bar with links for Solutions, Resources, Pricing, Newsroom, Developers, and About. On the far right of the navigation bar are three buttons: "GET STARTED" (with a rocket icon), "LOG IN" (with a user icon), and "LOG OUT". The "LOG IN" button is circled in yellow. Below the navigation bar, there is a large central graphic illustrating the Globus Compute platform. It features a central "On Demand Computing Resources" icon with a person silhouette and a cloud icon. Arrows point from this central icon to various computing environments: "leadership class computing", "commercial computing", "research computing", "institutional computing", and "personal computing". To the right of this graphic, the text "Go beyond data" is followed by a large, bold title "Globus Compute" and the subtitle "Reliable, distributed Function-as-a-Service". Below this, a link "COMPUTE ANYWHERE: EDGE TO SUPERCOMPUTER" is shown with a right-pointing arrow. At the bottom of the page, the tagline "Research IT. Reimagined." is displayed.

globus  
a uchicago non-profit service

Solutions ▾ Resources ▾ Pricing ▾ Newsroom ▾ Developers ▾ About ▾

GET STARTED LOG IN

leadership class computing

commercial computing

research computing

institutional computing

personal computing

On Demand Computing Resources

Go beyond data

# Globus Compute

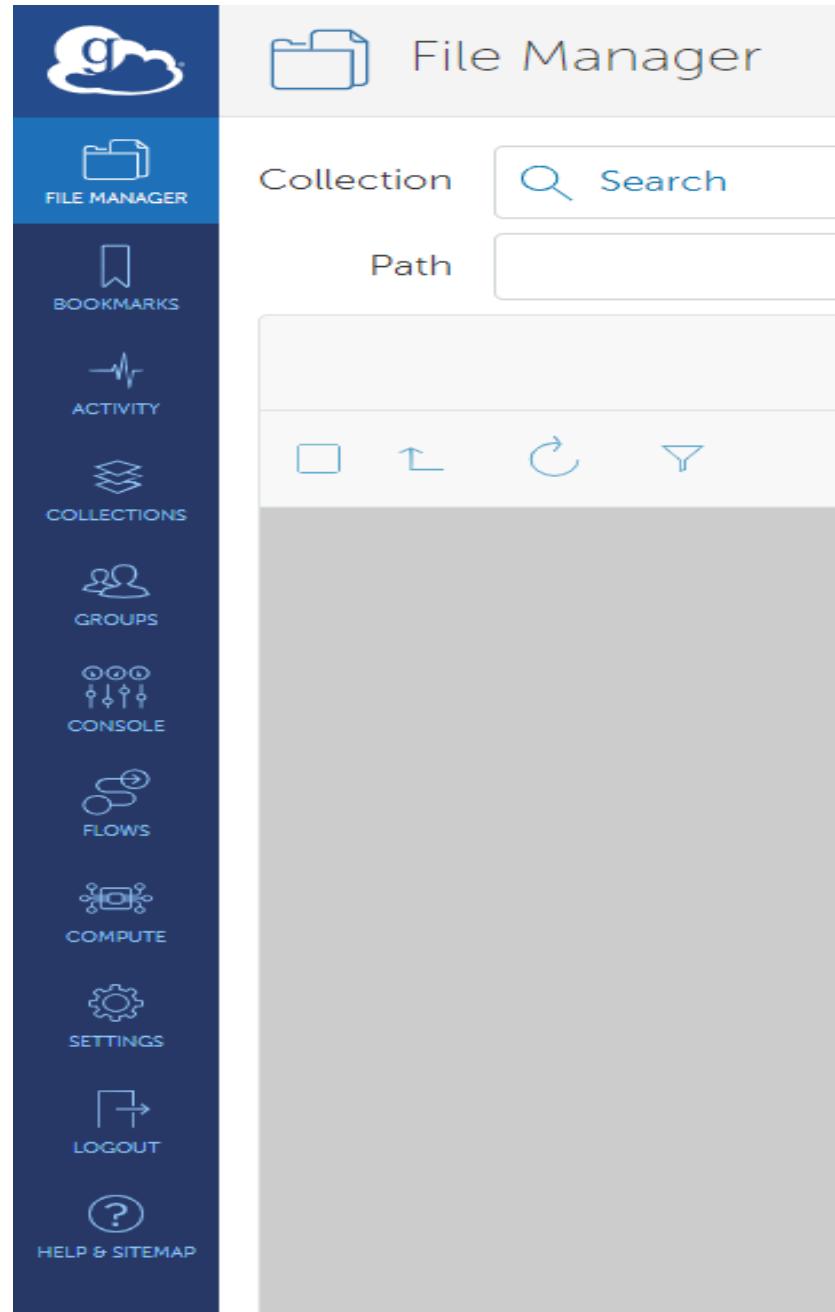
Reliable, distributed Function-as-a-Service

COMPUTE ANYWHERE: EDGE TO SUPERCOMPUTER

Research IT. Reimagined.

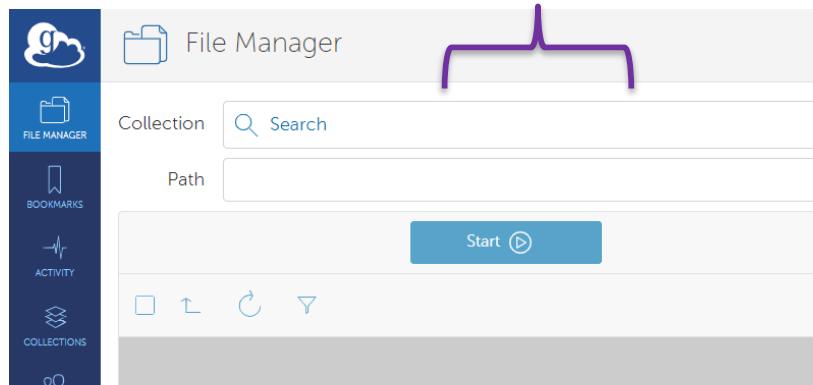
# Navigation Menu

- **File Manager** is where you will setup and submit globus transfers
- **Bookmarks** is where you can find and manage shortcuts you to various Collections frequently accessed
- **Activity** is where users can find the status of current transfers and a history of recently completed transfers.
- **Collections** is where you can search information on publicly listed Globus Collections.
- **Groups** is where users can create, manage, or request access to Globus groups that help manage permissions on Globus Collections
- **Settings** is where users manage their Globus account including consents, Globus Group memberships, and the developer console.

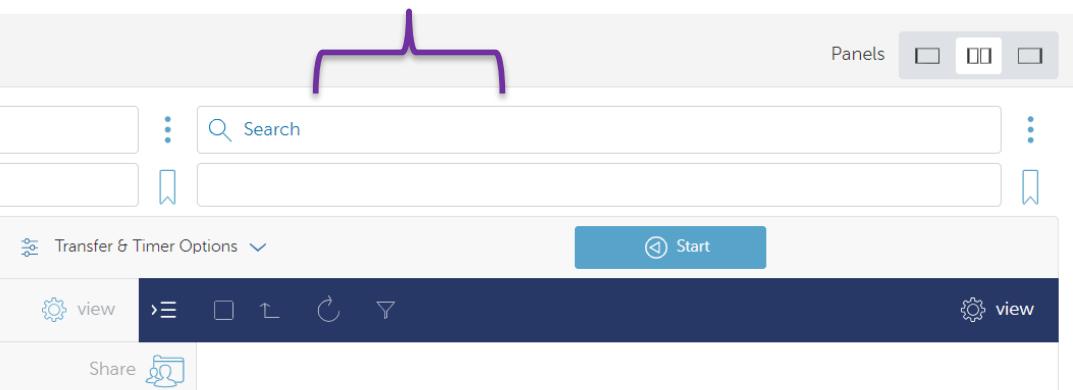


# File Manager: Setting up your transfer

Source Collection

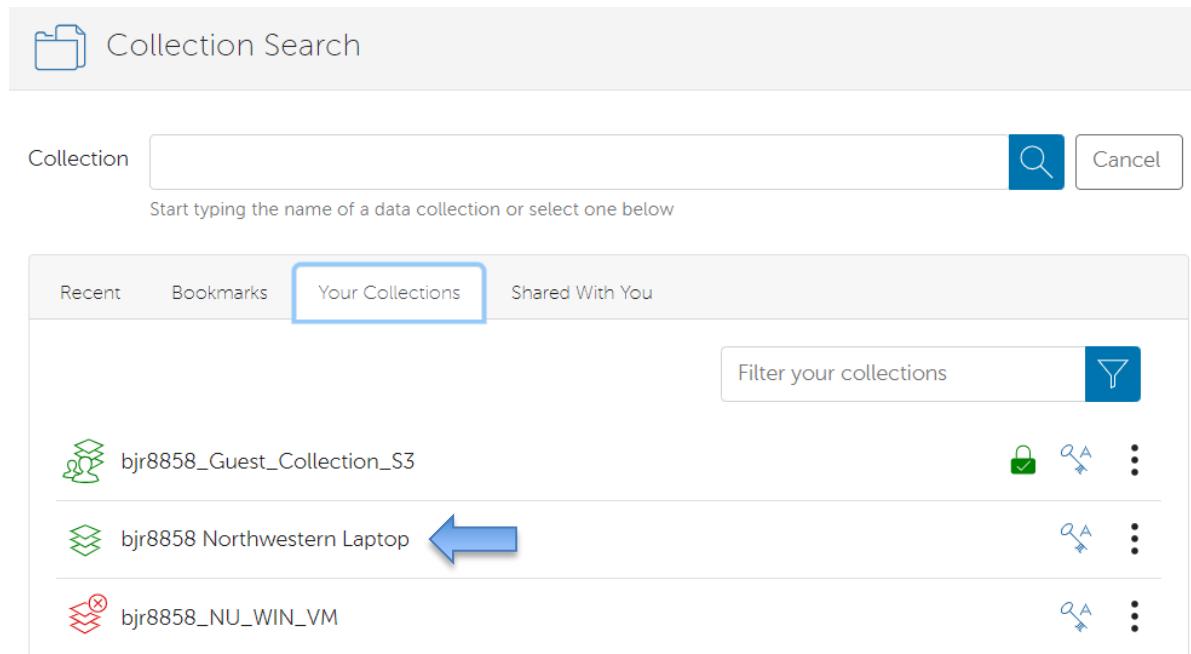


Destination Collection



# Selecting Source of Transfer

- To select a Collection to serve as the *data source*, click in the **Collection** field.
- This action will pull up the **Collection Search** page. You have the option of searching for a Collection by name or UUID.
- Globus also provides convenient shortcuts to access Collections:
  - Recent:** Recently used Collections for transfer tasks
  - Bookmarks:** Bookmarked locations for quick and easy access to Collections and Collection Paths
  - Your Collections:** Globus Connect and Globus Guest Collections that you have created. *This is where you will find your Globus Connect Personal Collection*
  - Shared With You:** Globus Guest Collections that have been created by other users and shared with you



# Selecting Destination of Transfer

- To select a Collection to serve as the *data destination*, click in the **Collection** field.
- This action will pull up the **Collection Search** page. You have the option of searching for a Collection by name or UUID.
- You can type Northwestern Quest into the search bar or the UUID.
- Several Collections will be listed with Northwestern Quest in the name, but you will want to select the *Subscribed Mapped Collection (GCS)* on **Northwestern Quest – qglobus11**

The screenshot shows a 'Collection Search' interface. At the top, there is a search bar with the text 'Collection Northwestern Quest'. Below the search bar, two collection entries are listed:

- Northwestern Quest OneDrive Pilot**  
Subscribed Mapped Collection (GCS) on **Northwestern Quest OneDrive Pilot**  
Owner: a4baf88e-8898-483c-a4bd-681bce99ad9b@clients.auth.globus.org  
Domain: m-50167b.52b7e.8443.data.globus.org
- Northwestern Quest**  
Subscribed Mapped Collection (GCS) on **Northwestern Quest - qglobus11**   
Owner: northwestern@globusid.org  
Domain: m-b55e05.a0115.5898.data.globus.org  
Description: Endpoint provides the access to the HPC Quest cluster for big data transfers.

# File Manager: Transfer & Timer Options

Transfer & Timer Options   

Label This Transfer

Transfer Settings

NOTE: These settings will persist during this session unless changed.

- sync - only transfer new or changed files 
- delete files on destination that do not exist on source 
- preserve source file modification times 
- do NOT verify file integrity after transfer 
- encrypt transfer 
- Skip files on source with errors 
- Fail on quota errors 
- Apply filter rules to the transfer 

Notification Settings

- Disable success notification 
- Disable failure notification 
- Disable inactive notification 

Schedule Start  

Repeat   

every  days

end  

# Recommended Transfer Options

- **Sync:** Data in your files will only be transferred if it meets a selected criteria when comparing the source to the destination of the transfer. Criteria include:
  - Modification time is newer
  - File size is different
  - File does not exist on destination
  - File checksum is different
- **Preserve Source file modification times:** The last modified date of the file that is copied will retain the date of the original file.
- **Encrypt Transfer:** Data in your files will be encrypted while in transit. Both endpoints must support encryption to ensure a successful transfer.
- **Skip files on source with errors:** Files on source with "file not found" and "permission denied" errors will be skipped rather than causing the entire transfer procedure to fail.

# Submitting the Transfer

The screenshot shows the Globus File Manager interface. At the top, there are search bars for 'Collection' (bjr8858 Northwestern Laptop) and 'Path' (/C/Users/bjr8858/Documents/Globus\_Demo/transfer\_me/). Below the path is a 'Transfer & Timer Options' dropdown. A blue arrow points from the 'Transfer & Timer Options' dropdown to the 'Start' button. The main area shows a list of five files: sampleFile\_1.txt through sampleFile\_5.txt, all created on 10/8/2024 at 10:02 AM and 0 B in size. To the right of the list is a context menu with options: Share, Transfer or Sync to..., New Folder, Rename, Delete Selected, Download, Open, Upload, Get Link, Show Hidden Items, and Manage Consent. A message indicates that the target folder is empty: 'This folder is empty.'

File Manager

Collection: bjr8858 Northwestern Laptop

Path: /C/Users/bjr8858/Documents/Globus\_Demo/transfer\_me/

Transfer & Timer Options

Start

sampleFile\_1.txt  
10/8/2024, 10:02 AM 0 B

sampleFile\_2.txt  
10/8/2024, 10:02 AM 0 B

sampleFile\_3.txt  
10/8/2024, 10:02 AM 0 B

sampleFile\_4.txt  
10/8/2024, 10:02 AM 0 B

sampleFile\_5.txt  
10/8/2024, 10:02 AM 0 B

Share Transfer or Sync to... New Folder Rename Delete Selected Download Open Upload Get Link Show Hidden Items Manage Consent

This folder is empty.

# Monitoring Transfer Status

Activity

Tasks Timers

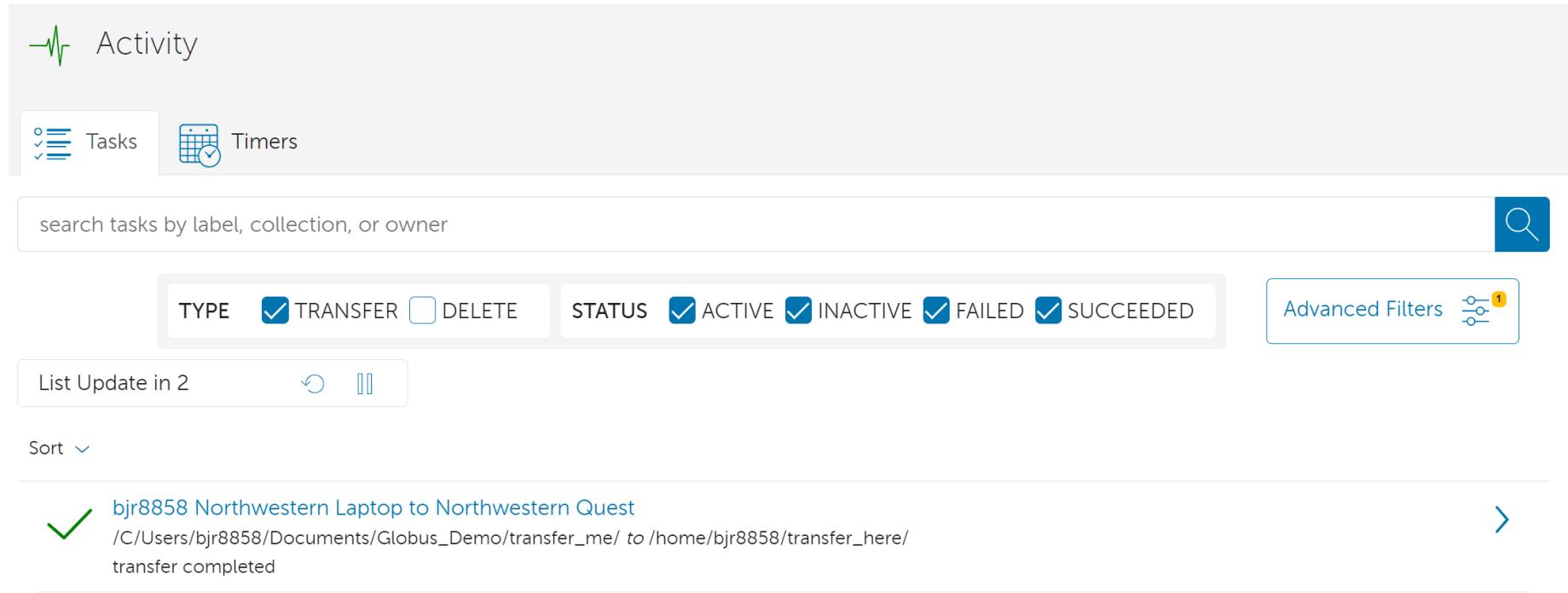
search tasks by label, collection, or owner

TYPE  TRANSFER  DELETE STATUS  ACTIVE  INACTIVE  FAILED  SUCCEEDED Advanced Filters

List Update in 2

Sort ▾

bjr8858 Northwestern Laptop to Northwestern Quest >  
/C/Users/bjr8858/Documents/Globus\_Demo/transfer\_me/ to /home/bjr8858/transfer\_here/  
transfer completed



# Monitoring Transfer Status: Overview

The screenshot shows the Globus Transfer Status Overview page. On the left is a vertical sidebar with icons for FILE MANAGER, ACTIVITY, COLLECTIONS (5), GROUPS, CONSOLE, FLOWS, COMPUTE, SETTINGS, LOGOUT, and HELP & SITEMAP. The main area displays a successful transfer task:

**Task Label:** bjr8858 Northwestern Laptop to Northwestern Quest  
**Status:** transfer completed

**Overview** tab is selected.

**Task Details:**

- Source:** bjr8858 Northwestern Laptop
- Source Local User:** not available  
you do not have permission to monitor activity on this endpoint
- Destination:** Northwestern Quest
- Destination Local User:** bjr8858
- Task ID:** 4e79dfc2-8588-11ef-917d-772a95947cec
- Owner:** Brian Roland (bjr8858@northwestern.edu)
- Condition:** SUCCEEDED
- Requested:** 10/8/2024, 10:16 AM
- Completed:** 10/8/2024, 10:16 AM
- Duration:** 3 seconds
- Base Paths:**
  - Source:** /C/Users/bjr8858/Documents/Globus\_Demo/transfer\_me/
  - Destination:** /home/bjr8858/transfer\_here/
- Transfer Settings:**
  - verify file integrity after transfer
  - transfer is not encrypted
  - preserve source file modification times
  - overwriting all files on destination
  - skip files on source with errors

**Transfer Summary:**

5	Files
0	Directories
5	Files Transferred
0 B	Bytes Transferred
0 B/s	Effective Speed
0	Skipped files on sync
0	Skipped files on error

[View debug data](#)

# Monitoring Globus transfer status: Event Log

The screenshot shows the Globus Event Log interface. On the left is a sidebar with icons for FILE MANAGER, ACTIVITY, COLLECTIONS (with 5 items), and GROUPS. The main area displays a successful transfer named "bjr8858 Northwestern Laptop to Northwestern Quest" with the status "transfer completed". Below this, there are tabs for Overview and Event Log, with Event Log selected. A navigation bar at the top includes "All Events", "Fault Events", "Skipped Errors", and "Successful Transfers". At the bottom, there are buttons for "K First", "Prev", "Next", and "Last". The event log table contains two rows:

Date	Status	Action	View details
10/8/2024, 10:16 AM	succeeded		View details ▾
10/8/2024, 10:16 AM	started		View details ▾

# Event Log w/ Errors

The screenshot shows a user interface for monitoring cloud storage operations. On the left is a vertical sidebar with icons for FILE MANAGER, ACTIVITY, COLLECTIONS (5 items), GROUPS, CONSOLE, FLOWS, COMPUTE, SETTINGS, LOGOUT, and HELP & SITEMAP. The main area displays an event log titled "Northwestern Quest to Northwestern Azure OneDrive Test". A red X icon indicates a failure: "transfer canceled at <10% completed". The log includes tabs for Overview and Event Log, and filters for All Events, Fault Events, Skipped Errors, and Successful Transfers. Navigation controls include a cloud icon, "K First", "< Prev", "Next >", and "Last >". Below the log table, a detailed error message is shown for a specific event.

Date	Event Type	Details
9/12/2024, 01:54 PM	canceled	
9/12/2024, 01:51 PM	endpoint error	<p>Error (transfer) Endpoint: Northwestern Azure OneDrive Test (c41413a8-88f9-4a83-8193-a3d33adcb28d) Server: 157.55.252.99:443 Command: PASV Message: Fatal FTP response --- Details: 500-Command failed.\r\r\n500- : globus_ftp_control_local_pasv failed.\r\n500-globus_xio: globus_l_xio_tcp_contact_string failed.\r\n500-globus_xio: globus_libc_addr_to_contact_string failed.\r\n500-globus_common: globus_libc_gethostaddr failed\r\nEnd.\r\n</p>
9/12/2024, 01:51 PM	started	
9/12/2024, 01:46 PM	endpoint error	
9/12/2024, 01:46 PM	started	
9/12/2024, 01:41 PM	endpoint error	
9/12/2024, 01:41 PM	started	

# Use Case #2

- **Scenario:** Brian Roland must perform a weekly backup of Quest data to RDSS for long term data retention. While he could do this manually every week, he is interested in an automated option
- **Prerequisite:** You must have contacted NU IT via the [Request Access to RDSS via Globus form](#) to get configured for Globus access to RDSS (resfiles, FSMResfiles)

# Automating and Scheduling Globus Transfers

To setup a scheduled or recurring transfer, the user would start by following the same steps as a manual transfer by selecting a data source and destination. Next select the transfer settings.

To automate/schedule you would need to complete the additional Timer Options:

- **Label This Transfer:** A descriptive field for the transfer that can help you identify the automated transfers in the Activity page (recommended)
- **Schedule Start:** The date and time you want to schedule the automated transfer
- **Repeat:** Define the unit of measurement for how often you want the scheduled transfer to repeat. Options are days, hours, and minutes
- **Every:** Provide a numerical value to define the interval between recurring transfers based on the chosen unit of measurement
- **End:** Define the end date that the recurring transfers should stop

Scheduled and repeating transfer tasks can be viewed in the Timers tab of the Activity page.

The screenshot shows the 'Transfer & Timer Options' configuration screen. At the top, there's a note: 'NOTE: These settings will persist during this session unless changed.' Below this are several checkboxes for transfer settings:

- sync - only transfer new or changed files (i)
- delete files on destination that do not exist on source (i)
- preserve source file modification times (i)
- do NOT verify file integrity after transfer (i)
- encrypt transfer (i)
- Skip files on source with errors (i)
- Fail on quota errors (i)
- Apply filter rules to the transfer (i)

Below that is a section for 'Notification Settings' with three checkboxes:

- Disable success notification (i)
- Disable failure notification (i)
- Disable inactive notification (i)

At the bottom, there are fields for scheduling:  
Schedule Start: mm/dd/yyyy --:-- --  
Repeat: days  
every: \_\_\_\_\_ days  
end: never

# Activity: Timers

The screenshot shows the Globus Activity interface. On the left is a vertical sidebar with icons for FILE MANAGER, ACTIVITY (selected), COLLECTIONS, GROUPS, CONSOLE, and FLOWS. The main area has a header with 'Activity' and tabs for 'Tasks' and 'Timers'. A descriptive text block explains that Timers are scheduled and repeating transfer tasks. It includes filters for 'ACTIVE' (checked) and 'COMPLETED', a search bar for 'filter by timer name', and a 'Sort' dropdown. Below this is a table for a specific timer named 'bjr8858 Northwestern Laptop to Northwestern Quest'. The table rows are:

LATEST REQUEST	NEXT REQUEST	EXECUTIONS	FREQUENCY	ENDS ON
10/8/2024, 01:03 PM	10/15/2024, 01:00 PM	3 - no limit set	every 7 days	n/a

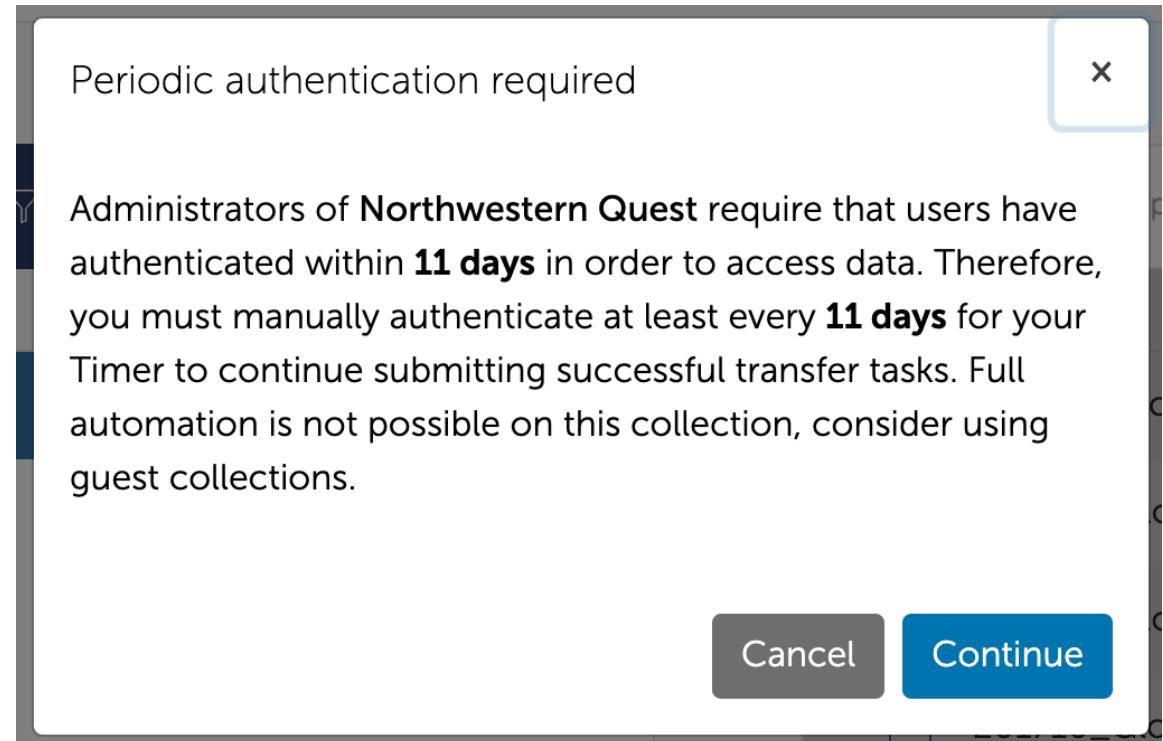
Icons for edit, delete, and more actions are shown to the right of the table.

# Periodic authentication required

It is important to note, that when you set up a recurring automated transfer with a NU IT managed Mapped Collection, that it requires you to authenticate with Globus at least every 11 days. If you do not authenticate, then the automated transfer will not continue.

For full automation without the need to authenticate Globus says to consider using a Guest Collection.

While a Guest Collection's primary function is to aid in sharing data with collaborators, it also aids in automating access to data without the threat of a authentication timeout.



# Use Case #3

- **Scenario:** Brian Roland would like to share data with Professor X, a research collaborator that is doing genomics research. Professor X is being assisted by students in his lab. Brian would like to share a specific subset of data without giving Professor X and his students access to his entire Quest allocation.

# Data Sharing

To share data with Northwestern collaborators as well as external collaborators, users would leverage the Guest Collection functionality in Globus.

- To setup a Guest Collection, navigate to the File Manager. In the Collection field, search for and select the Collection that the Guest Collection will be mapped to for access.
- Once a Collection is selected and the Path is defined, the user should click on the **Share** link/icon to the right of the Collection
- The Globus interface will next show a list of publicly listed Guest Collections. You will need to click on **Add Guest Collection** in the upper right-hand corner of the page

The screenshot shows the Globus File Manager interface. On the left is a sidebar with icons for FILE MANAGER, BOOKMARKS, ACTIVITY, and COLLECTIONS. The COLLECTIONS icon is highlighted. The main area shows a list of files in a collection named "Northwestern Quest" located at the path "/home/bjr8858/Globus\_Demo/". The files are:

NAME	LAST MODIFIED	SIZE
sampleFile_2.txt	5/4/2023, 04:26 AM	0 B
sampleFile_3.txt	5/4/2023, 04:26 AM	0 B
sampleFile_4.txt	5/4/2023, 04:26 AM	0 B
sampleFile_5.txt	5/4/2023, 04:26 AM	0 B
sampleFile.txt	11/4/2022, 01:34 PM	0 B

A context menu is open on the right, with the "Share" option circled in yellow. Other options in the menu include Transfer, Sync to..., New Folder, Rename, Delete Selected, Download, Open, Upload, Get Link, Show Hidden Items, and Manage Consent.

# Data Sharing: Setup Guest Collection

- The user will then be asked to define the root directory for the Guest Collection. This will be the highest-level directory that collaborators will have access to.
- The user is also required to enter a display name for the Guest Collection. This name does not need to be Globally unique, but a unique name is recommended
- Once you have defined the Directory and Display Name for the Guest Collection, you will be able to then create the Guest Collection by clicking the Create Collection button
- You will then be shown Permissions information on the Guest Collection that was just created. To share this Collection with collaborators the user would next need to click on **Add Permissions – Share With**

Create new Guest Collection

You are creating a guest collection on **Northwestern Quest** to share data

Directory: /home/bjr8858/Globus\_Demo/  Browse

Display Name: bjr8858 Globus Demo Collection

Description: Example Guest Collection

Keywords:

Force encryption on transfers to and from this collection

[view more fields](#)

# Data Sharing: Guest Collection Permissions

- A new page will be displayed that will have a field to define the root on the Guest collection that external collaborators have access to. The interface will also display the files available in the path selected
- Users will be able to select individual users or groups whom they want to share the path on the Guest Collection with.
- Read and Write permissions can be assigned to the user or group that that should have access to the path indicated in the Path provided
- By clicking **Add Permission**, users can add the user or group to having access

The screenshot shows the 'Add Permissions - Share With' interface in the Globus File Manager. On the left is a sidebar with icons for FILE MANAGER, BOOKMARKS, ACTIVITY, COLLECTIONS, GROUPS, CONSOLE, FLOWS, COMPUTE, SETTINGS, LOGOUT, and HELP & SITEMAP. The main area has a title 'BJR8858 GLOBUS DEMO COLLECTION' and 'Add Permissions - Share With'. It shows a file list with paths like 'sampleFile.txt', 'sampleFile\_2.txt', 'sampleFile\_3.txt', 'sampleFile\_4.txt', and 'sampleFile\_5.txt'. Below the file list, there's a 'Share With' section with radio buttons for 'user - share with specific individuals' (selected), 'group - make data accessible to members of a group', 'all users - make data accessible to all logged in users of Globus', and 'public (anonymous) - make data accessible to everyone'. There's also a search bar for 'Username or Email' and checkboxes for 'Permissions' (read checked, write unchecked). At the bottom are 'Add Permission' and 'Cancel' buttons.

# Data Sharing: Setup Guest Collection

Globus will return you to the Permissions page of the Guest Collection where it will list the users or groups who have access to the Guest Collection and the root path of each user's access

The screenshot shows the Globus interface for managing a guest collection. On the left is a sidebar with icons for FILE MANAGER, BOOKMARKS, ACTIVITY, COLLECTIONS, GROUPS, CONSOLE, FLOWS, and SUPPORT. The main area has a title "bjr8858 Globus Demo Collection". Below the title are tabs for Overview, Permissions (which is selected), and Roles. A button "Add Permissions – Share With" is visible. The "Shared With" section displays three entries:

User or Group	Created	Read	Write	Role
Path: /	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">Show link for sharing</a>
Brian Roland (bjr8858@northwestern.edu)	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">Edit</a>
Northwestern Quest - qglobus11 (10cd4d6a-317b-43be-b9ab-04c804d94031@clients.auth.globus.org)	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">Edit</a>
Brian Roland (brian.j.roland@gmail.com)	1/15/2024, 12:14 PM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">Edit</a> <a href="#">Delete</a>

# Globus Groups

- Globus Groups are collaborative spaces within the Globus platform that facilitate organized and secure teamwork.
- Enable users to create groups, invite members, and manage access permissions for efficient data sharing.
- Grant fine-grained control over who can access shared resources, ensuring data security and privacy.

# Create a Globus Group

- To create a Globus Group to help manage user permissions, you will want to navigate to the Groups page in Globus and click **Create new group** in the upper right corner of the page
- This action will take you to the Create Group page in Globus where you will need to define a Group Name.
- You also have the option of providing a Description and Terms & Conditions of the group
- Globus will also present you with optional Policies that you can choose to implement
- Once you have defined these details, you would click **Create Group** to create the group

 Create Group

Group Name \*

Description

Terms & Conditions

Policies

Enable High Assurance – enforce an authentication timeout for group members.

Users may request to join this group.

Signup Fields

Members will be required to provide this information before joining your group.

First Name	Last Name	Organization	Address	
Address 1	Address 2	City	Country	Project
Department	Field of Science	Institution	Phone	
State	Zip/Postal Code			

Group Visibility

All Globus users  
 Members of the group

Membership Visibility

All Members  
 Administrators and Managers Only

# Manage Members of Globus Group

- Once you create the group, you are taken to the group Overview page.
- To manage members of the group, select the **Members** tab.
- To invite users to the group, click **Invite Others**
- You will next be prompted to enter the username or email of the user you want to invite to the group
- After you enter the username or email address, you will then click **Send Invitation** to invite the member to join the group
- You can either wait for the user to accept the invitation, or you can immediately make them an active member of the group by clicking their name in the Members section of the group and then click **Add Membership**
- You can also remove users from the group by clicking their name and then click **Remove Membership**

The screenshot shows the 'Members' tab of the Globus Group interface for the 'X-Men' group. At the top, there are tabs: Overview (selected), Members (highlighted in blue), Subgroups, and Settings. Below the tabs, status counts are displayed: 1 active, 0 pending, 0 invited, and 0 inactive. To the right is a button labeled 'Invite Others'. Further down is a filter bar with checkboxes for ACTIVE (checked), WAITING (checked), and INACTIVE (checked). A table lists one member: Brian Roland, whose email is bjr8858@northwestern.edu. He is marked as Active and has the role of Administrator. A right-pointing arrow indicates more members.

NAME	USERNAME	STATUS	ROLE
Brian Roland	bjr8858@northwestern.edu	Active	Administrator

# Advanced Globus Features



## Globus CLI

A command-line tool provided by Globus for interacting with the Globus service through the terminal.



## Globus SDK

A collection of libraries, tools, and resources provided by Globus to simplify the development of applications and services that interact with the Globus platform.

# Globus CLI

- Globus provides the Globus CLI, a command line tool for interacting with the Globus service through the terminal.
- The Globus CLI is an available module on Quest as part of software and applications commonly used on Quest
  - Available version: Globus-cli/3.5.0

# Globus SDK

- The Globus SDK is a collection of libraries, tools, and resources provided by Globus to simplify the development of applications and services that interact with the Globus platform
- Offers pre-built functions and utilities for common tasks

# Use of the Globus SDK

- Registration:
  - Register your application with Globus.
    - Settings > Developers in the Globus web interface
  - Registration types are based on your application's nature
    - Confidential Client: For server-to-server communication.
    - Public Client: For user-interactive applications.
- Authentication:
  - Authenticate and obtain access tokens.
- Functionality:
  - Use the SDK's functions.
  - Perform data management and transfer tasks.

# Globus Resources

## Globus Resources

- [Globus Documentation](#)
- [Globus Connect Personal](#)
- [How To Share Data Using Globus](#)
- [How to configure firewall policy for Globus Connect Personal](#)
- [Globus Command Line Interface \(CLI\) Reference](#)

## NU KB Articles

- [Using the Globus Data Transfer Tool](#)
- [Using the RDS Globus Endpoint](#)
- [Using Globus with Amazon S3 Object Storage](#)
- [Using the OneDrive/SharePoint Globus Collection](#)

# Questions?

[globus-help@northwestern.edu](mailto:globus-help@northwestern.edu)