

XSEDE New User Tutorial: Georgia Southern University

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XSEDE

Extreme Science and Engineering
Discovery Environment

Outline

- Setting Up a User Portal Account
- Requesting an Allocation
- Using Your Allocation
- Getting Help

Creating an XSEDE User Portal Account

The XSEDE logo is positioned in the bottom right corner of the slide. It features the text "XSEDE" in a bold, white, sans-serif font. The background behind the text is a dark blue gradient with a grid pattern and some light blue highlights, suggesting a digital or network environment. The overall slide background is a light blue gradient with a subtle image of a globe and data points at the bottom.

Create a Portal Account at Any Time

The screenshot shows the XSEDE User Portal interface. At the top left, the logo reads "XSEDE | USER PORTAL" with the tagline "Extreme Science and Engineering Discovery Environment" below it. A search bar on the top right contains the text "Search XSEDE...". A "SIGN IN" link with an envelope icon is also present. A navigation menu below the header includes "MY XSEDE" (highlighted), "RESOURCES", "DOCUMENTATION", "ALLOCATIONS", "TRAINING", "USER FORUMS", "HELP", and "ABOUT". A secondary menu under "MY XSEDE" lists "Summary", "Allocations/Usage", "Accounts", "Jobs", "Profile", "Publications", "Tickets", "Change Password", "Add User", "Community Accounts", and "SSH Terminal".

The main content area is titled "Enter the Portal" and features a login form with the following elements:

- USER NAME: A text input field.
- PASSWORD: A text input field.
- A "SIGN IN" button.
- A "REMEMBER ME" checkbox.
- Links for "CREATE ACCOUNT", "VERIFY ACCOUNT", "FORGOT PASSWORD", and "FORGOT USERNAME".

To the right of the form, a welcome message reads: "Welcome to The XSEDE User Portal (XUP), the home on the web for XSEDE users! The XUP provides XSEDE users access to view and manage their accounts and allocations, as well as find information about and access the XSEDE services and resources." Below this, it says "Here's a few of the things you can do here without even logging in" and lists three links: "See XSEDE resource and service status", "View user news and upcoming events", and "Find and register for training classes". A final prompt says "Log in or create an account to get started!".

A vertical "FEEDBACK" button is located on the right side of the page.

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Step 1- Request an Account

The screenshot shows a web browser window with the URL https://www.xsede.org/web/xup/my-xsede?p_p_id=58&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-1&p_... open. The page title is "XSEDE User Portal | My XSEDE". The browser's address bar shows the Amazon logo and search icons. The page content includes a navigation menu with "File", "Edit", "View", "History", "Bookmarks", "Tools", and "Help". The main content area is titled "PERSONAL INFORMATION" and contains a form with the following fields:

- FIRST NAME**, **MIDDLE NAME**, and **LAST NAME** (text input fields)
- ORGANIZATION** and **DEPARTMENT** (text input fields)
- DEGREE** (dropdown menu, currently showing "Choose one") and **DEGREE FIELD OF STUDY** (text input field)
- POSITION** (dropdown menu, currently showing "Choose one")
- ADDRESS** (large text area)
- CITY** and **ZIP/POSTAL CODE** (text input fields)
- COUNTRY** (dropdown menu, currently showing "United States") and **STATE/PROVINCE** (dropdown menu, currently showing "Choose one")
- EMAIL** and **PHONE** (text input fields)
- COUNTRY OF CITIZENSHIP** (dropdown menu, currently showing "United States") with a link "Same as above"

Below the form is a section titled "CHOOSE A REGISTRATION KEY". It includes the instruction: "You will use your registration key to identify yourself in the Verify Account step. Use only letters and numbers; maximum 6 characters." and a label "REGISTRATION KEY (THE CODE YOU CHOSE DURING THE CREATE ACCOUNT STEP)".

The browser's taskbar at the bottom shows icons for Windows, Internet Explorer, Firefox, File Explorer, Windows Media Center, and PowerPoint. The system tray on the right shows the date and time: "8:29 PM 12/2/2013".

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Step 2 – Account Request Verification

XSEDE User Portal | My XSEDE - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://www.xsede.org/web/xup/my-xsede?p_p_id=58&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-1&p...

Holiday Inn Statesboro-University Are... XSEDE User Portal | My XSEDE

Please provide the following information to create your User Portal account.

PERSONAL INFORMATION

FIRST NAME MIDDLE NAME LAST NAME

ORGANIZATION DEPARTMENT

DEGREE DEGREE FIELD OF STUDY

POSITION

ADDRESS

CITY ZIP/POSTAL CODE

COUNTRY STATE/PROVINCE

EMAIL PHONE


COUNTRY OF CITIZENSHIP Same as above

CHOOSE A REGISTRATION KEY

You will use your registration key to identify yourself in the Verify Account step. Use only letters and numbers; maximum 6 characters.

REGISTRATION KEY (THE CODE YOU CHOSE DURING THE CREATE ACCOUNT STEP)

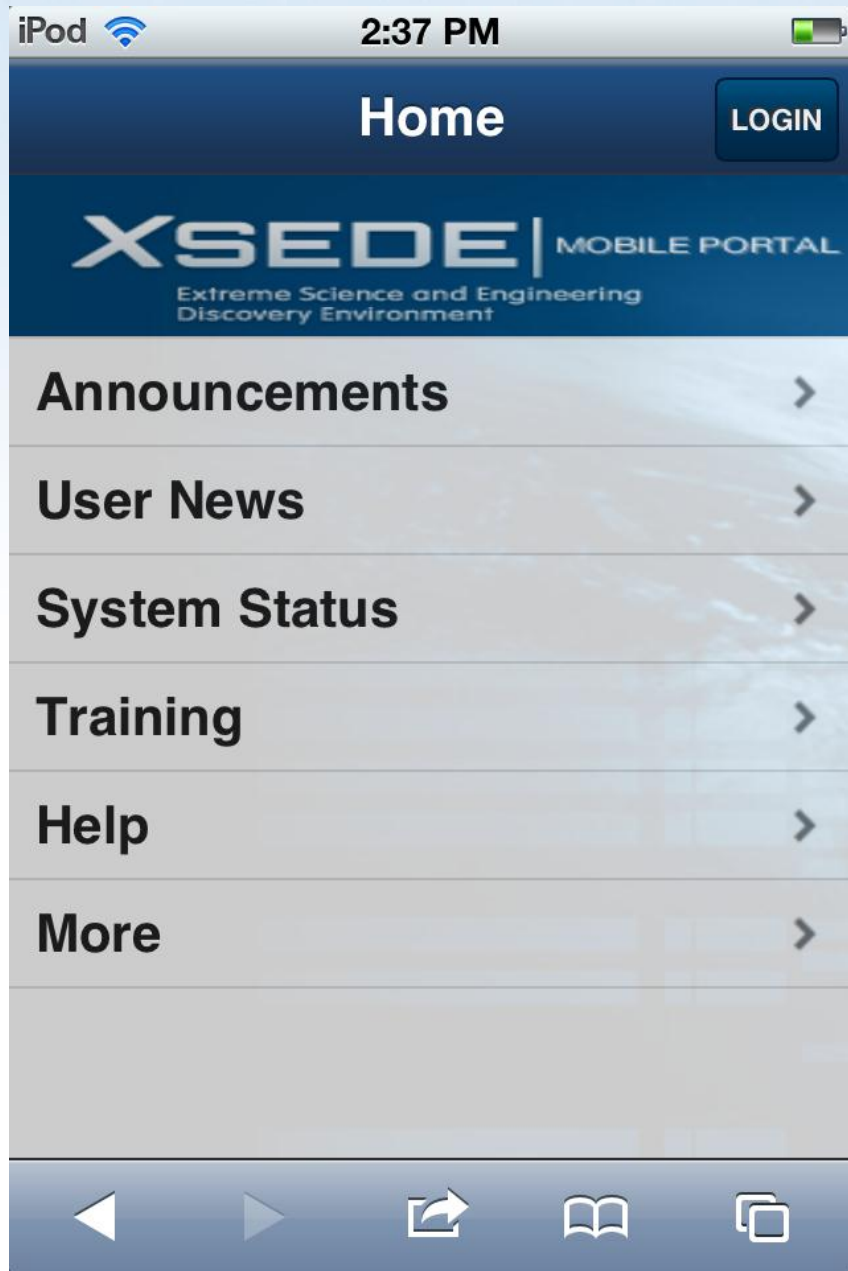
FEEDBACK



8:29 PM
12/2/2013

Why a User Portal?

- Updated Account Information
- Access to Allocated Resources
 - The portal provides a single location from which to access XSEDE resources.
- Easy Training and Event Registration
- XSEDE News
- Interfaces for data management
- Access to Help



Also available:

Mobile User Portal

<https://mobile.xsede.org>

XSEDE

Requesting Access to XSEDE Resources

The footer features a dark blue background with a grid pattern and a glowing blue light source. On the left, there are several spherical objects resembling planets or moons. The XSEDE logo is prominently displayed in white, bold, sans-serif font on the right side of the footer.

XSEDE

XSEDE Allocations

- XSEDE allocates access/time on powerful, valuable systems providing different capabilities
 - HPC
 - High throughput computing
 - Remote visualization
 - Data storage
 - Etc.
- Single Sign-On allows you to use just one username and password (your User Portal one). You will be recognized by all XSEDE services on which you have an account, without having to enter your login information again for each resource.

Resource Access Options

- Apply for an XSEDE Allocation
- Request to be added to an existing allocation
- Contact your local campus champion
- Use a Science Gateway

Eligibility

- Principal investigator (PI) must be a researcher or educator at a U.S.-based institution, including federal research labs or commercial organizations.
- A postdoctoral researcher is eligible to serve as PI.
- A qualified advisor may apply for an allocation for his or her class, but a high school, undergraduate or graduate student may not be a PI.

Overview: Startup/Education Requests

- Requires only CV and abstract
- Reviewed by a XSEDE Staff (Startup Allocations Committee)
- *2 weeks from submission to award availability*
- *For code development / performance evaluation/ small-scaling computations / classroom & training instruction*

Requests/Allocations

Reviewed: Anytime

Awards begin: ~ 2 weeks after submission

Limits Per Resource

Resource name	Startup allocation limit (SUs)
Gordon ION	0
Kraken-XT5	200000
Mason	0
Lonestar4	50000
Keeneland-KIDS	0
Gordon Compute Cluster	100000
Trestles	50000
Quarry	1
Stampede	100000
Blacklight	30000
Keeneland	10000

Overview: Research Request

- Web forms: Investigator, Grants, Resource Request,...
- Requires a written “proposal” (pdf upload)
- Reviewed by experts in same Field of Science
- *3 months from deadline to award availability*
- *For Research Projects*

Proposals/Allocations

Limit: “Unlimited”

Reviewed: Quarterly

Deadlines: 15th of October, Jan., April, July

Awards begin: 1st of January, April, July, October

The Awards

- *One per PI (generally)*
- Variable duration
- *Unused SUs are forfeited* at the end of an award period (Can request extensions)
- Supplemental Requests
- *Annual Progress report* required for renewal requests.
- *Add users* to an allocation via XSEDE User Portal



Research Allocation Proposal Outline

- I. Research Objectives
- II. Codes and methods to be used
- III. Computational plan
- IV. Justification for SUs (TB) requested
- V. Additional considerations

Note: Sections III and IV are often integrated.

Preparing a Request

- Identifying Resource(s)
 - System environment
 - Software availability
- Information Sources
 - User Guides
 - User Forums
 - SU Converter
 - Software Search
 - Help Question (Campus Champion or via Portal)



Stampede

[User Guide](#)

Debuting Intel's new innovative MIC technology on a massive scale, TACC's Stampede system commenced production in January, 2013.



Blacklight

[User Guide](#)

Blacklight is a SGI shared memory system intended for applications that require a large shared memory for computational tasks.



Gordon

[User Guide](#)

Gordon is a unique, a flash-based supercomputer designed for data-intensive applications.



Keeneland

[User Guide](#)

Keeneland is a balanced hybrid CPU/GPGPU system for use with codes that can take advantage of accelerator performance. Keeneland has over 200 nodes with 3 GPUs per node making it an excellent resource for scaling highly parallel codes. Applications from scientific domains such as materials, combustion, molecular dynamics, and astrophysics have seen substantial performance increases on Keeneland.



Kraken

[User Guide](#)

The Kraken system is a Cray XT5 system with compute nodes interconnected with SeaStar, a 3D torus. Kraken is intended for highly scalable parallel applications.



Lonestar

[User Guide](#)

Lonestar, a Dell Linux Cluster, is a powerful, multi-use cyberinfrastructure HPC and remote visualization resource. Lonestar is intended primarily for parallel applications scalable to thousands of cores. Normal batch queues will enable users to run simulations up to 24 hours. Lonestar also provides access to large memory nodes, and nodes containing NVIDIA GPU's, giving users access to high-throughput computing and remote visualization capabilities respectively.



Mason

[User Guide](#)

Mason at Indiana University is a large memory computer cluster configured to support data-intensive, high-performance computing tasks using genome assembly software.



Trestles

[User Guide](#)

Trestles employs flash-based memory and is designed for modest-scale research providing very fast turnaround time. It is intended for moderately scalable parallel applications with an emphasis on improving productivity for a broad spectrum of users. Trestles is ideal for applications with fast local I/O requirements that can benefit from the flash memory available on each compute node.

xseede.org

Resources



XSEDE

Extended Collaborative Support Service

- Can solicit ECS support for help:
- Porting applications to new resources
- Providing help for portal and gateway development
- Implementing algorithmic enhancements
- Implementing parallel math libraries
- Improving scalability of codes to higher processor counts
- Optimizing codes to efficiently utilize specific resources
- Assisting with visualization, workflow, data analysis, and data transfer

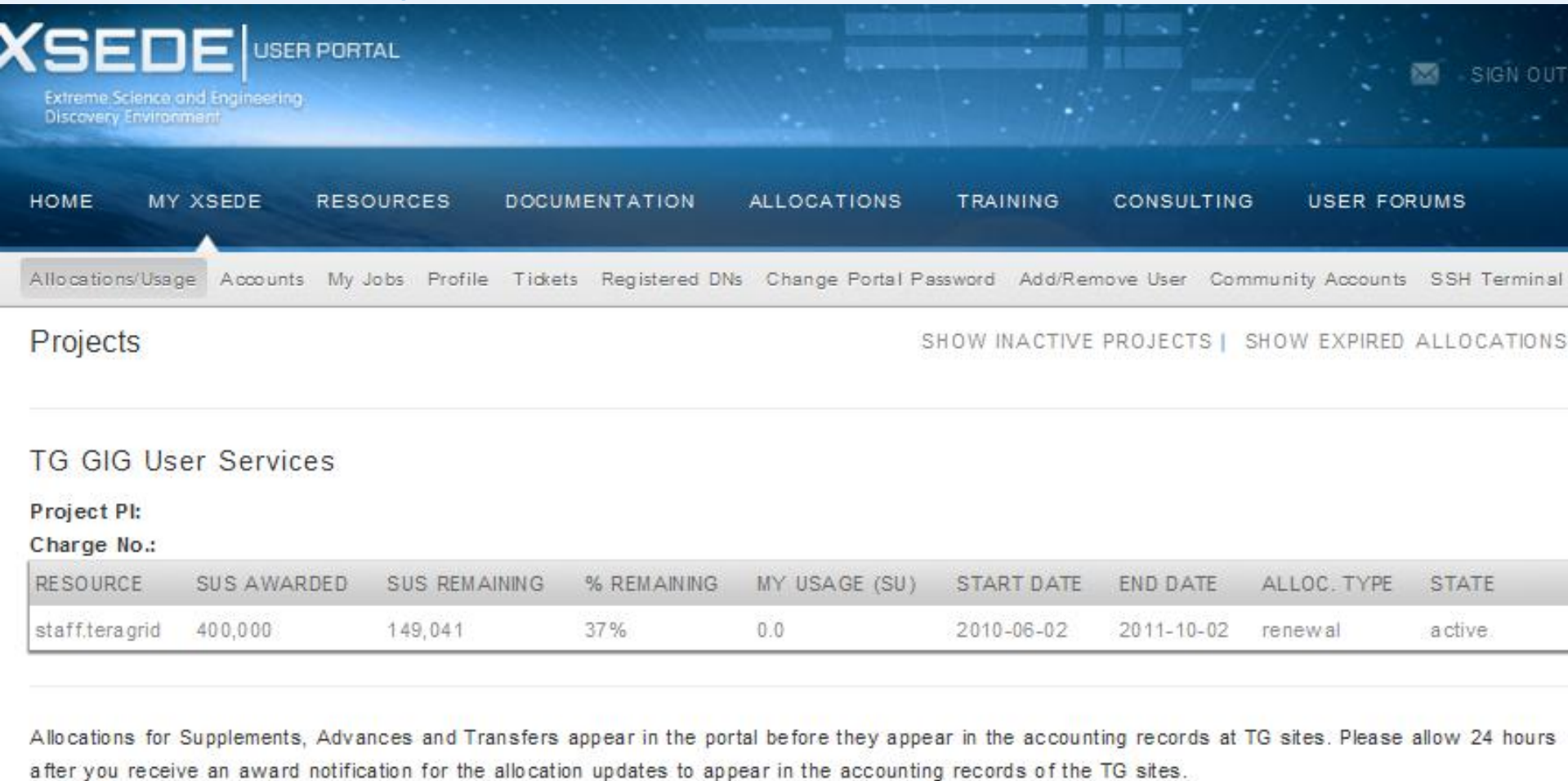
Using Your Allocation

The footer features a dark blue background with a grid pattern and a bright light source. On the left, there are several spheres resembling planets or moons. The text 'XSEDE' is prominently displayed in a white, sans-serif font on the right side.

XSEDE

My XSEDE: Allocations/Usage

When the allocation is active it will show in the Portal, MyXSEDE, Allocations/Usage tab:



XSEDE USER PORTAL
Extreme Science and Engineering
Discovery Environment

SIGN OUT

HOME MY XSEDE RESOURCES DOCUMENTATION ALLOCATIONS TRAINING CONSULTING USER FORUMS

Allocations/Usage Accounts My Jobs Profile Tickets Registered DNs Change Portal Password Add/Remove User Community Accounts SSH Terminal

Projects [SHOW INACTIVE PROJECTS](#) | [SHOW EXPIRED ALLOCATIONS](#)

TG GIG User Services

Project PI:
Charge No.:

RESOURCE	SUS AWARDED	SUS REMAINING	% REMAINING	MY USAGE (SU)	START DATE	END DATE	ALLOC. TYPE	STATE
staff.teragrid	400,000	149,041	37%	0.0	2010-06-02	2011-10-02	renewal	active

Allocations for Supplements, Advances and Transfers appear in the portal before they appear in the accounting records at TG sites. Please allow 24 hours after you receive an award notification for the allocation updates to appear in the accounting records of the TG sites.

SSO via User Portal

HOME MY XSEDE RESOURCES DOCUMENTATION ALLOCATIONS TRAINING CONSULTING USER FORUMS

Allocations/Usage Accounts My Jobs Profile Tickets Registered DNS Change Portal Password Add/Remove User Community Accounts SSH Terminal

Search:

RESOURCE NAME	LOGIN NAME	INSTITUTION	USERNAME	CONNECT
Athena	athena-gsi.nics.utk.edu	NICS	no account	
Big Red	login.bigred.iu.teragrid.org	IU		Login
Blacklight	blacklight.psc.teragrid.org	PSC		Login
Condor	tg-condor.purdue.teragrid.org	Purdue		Login
Dash	dash.sdsc.teragrid.org	SDSC		Login
Ember	login-ember.ncsa.teragrid.org	NCSA		Login
Frost	tg-login.frost.ncar.teragrid.org	NCAR		Login
Kraken	kraken-gsi.nics.utk.edu	NICS		Login
Lincoln	lincoln.ncsa.uiuc.edu	NCSA		Login
Lonestar	lonestar.tacc.teragrid.org	TACC		Login
Longhorn	tg-login.longhorn.tacc.teragrid.org	TACC		Login
NSTG	tg-login.ornl.teragrid.org	ORNL		Login
Pople	tg-login.pople.psc.teragrid.org	PSC		Login
Queen Bee	queenbee.loni-lsu.teragrid.org	LONI		Login
Ranger	tg-login.ranger.tacc.teragrid.org	TACC		Login
Spur	tg-login.spur.tacc.teragrid.org	TACC		Login
Steele	tg-steele.purdue.teragrid.org	Purdue		Login
Trestles	trestles.sdsc.edu	SDSC		Login

- Make sure you are logged into the XSEDE User Portal
- Go to 'My XSEDE' tab
- Go to the 'Accounts' link
- Resources you have access to will be indicated by a 'login' link
- Click on the 'login' link of the resource you would like to login to

Accessing Resources: Direct Access

- SSO is the default method.
- However, if you choose direct access:
you'll need to request the direct access password for the machine (by submitting a ticket).
 - Use a secure shell (ssh) client.
 - From Linux or Mac terminal window:
 - `ssh -l <username> <machinename>`
 - E.g.: `ssh -l username ranger.tacc.utexas.edu`
 - From Windows:
 - Download one of many ssh clients
 - Free ones include “putty”
 - Most campuses have a site license for a fancier one.

File transfers between XSEDE resources

or

Between your laptop and an XSEDE resource

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XSEDE

USAGE MODE	TRANSFER METHOD	PROS	CONS
GRAPHICAL USER INTERFACE	PORTAL	Easy to use, single sign-on via user portal, desktop download available	Basic/beginner usage
	Globus Online	Easy to use web interface, can use Portal (SSO), desktop download available	Basic/beginner usage
COMMAND LINE INTERFACE	Globus-url-copy uberftp	Advanced syntax available for scripting, can use XSEDE single sign on, handles large and small files	Advanced knowledge required for authentication and scripting capabilities
	scp sftp	Easy to use	Must use local username and password, meant for small files < 2GB



File Transfers: Small (< 2 GB) Files

- To transfer **small files** between XSEDE Resources and/or your own workstation you can:
 - *scp* or *sftp* from the Unix command line. Easy to use. Provides poor performance for very large files. **Requires local username and password.**
 - From Linux or Mac, you can run these commands directly from the terminal.
 - From Windows, use your ssh client to do this (putty has free downloads for these tools, too! – just Google “putty sftp”).
- These are easy to use and secure, but provide poor performance for large files.

File Transfer: User Portal File Manager

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Resource Monitor Scheduled Downtimes **File Manager** Queue Prediction Remote Visualization Science Gateways Data Collections

The XSEDE File Management Service enables you to use a GSI-enabled file browsing applet to view and manage your files within and across multiple XSEDE systems automatically from the convenience of the user portal using a simple drag-and-drop interface. The java-based applet can sign you in to all your hpc, storage, viz and XSEDE Share accounts with a single click. You can also access your Amazon S3 account and add other gsissh-enabled resources through a simple interface. The XSEDE File Management Service applet requires [Java Runtime Environment \(JRE\) Java 1.6 JRE](#) or higher installed. It works best in IE 7+, Firefox 3.5+, or Safari 5+.

The service is also available as a desktop application. You can download the executable file [here](#). To find out more about the other comprehensive file management services in the XSEDE, such as [XSEDE Share](#), your [Virtual File Space](#), and the [Mobile File Manager](#) check out the XSEDE data management [info page](#).

NOTE: Opening the applet for the first time will take a few moments while the libraries load and you will need to accept the security messages before the applet starts.

To open the session in a new window, go to File -> Open in new window. To run the applet as a desktop application, download the executable [here](#).

- Log into the XSEDE User Portal

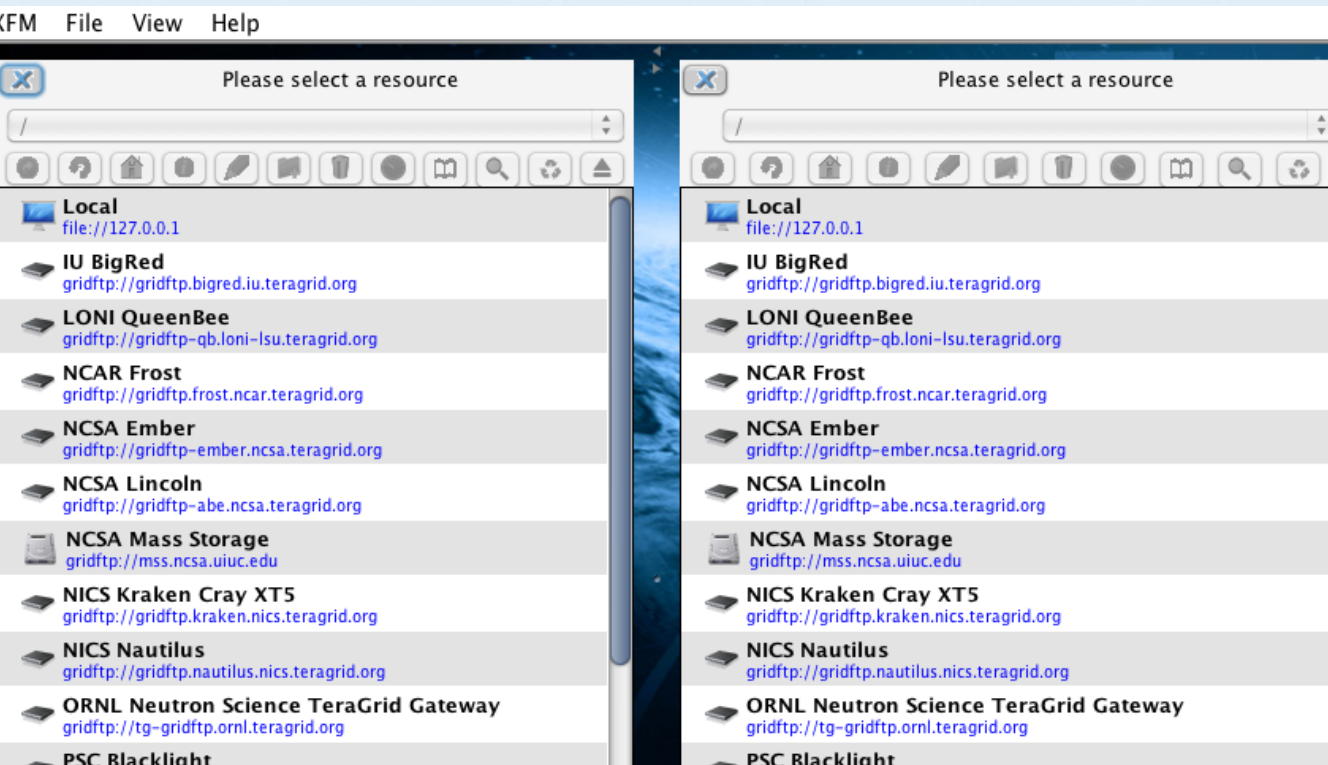
- Select “Resources” tab

- Select “File Manager” tab

- (now wait for Java Applet to load)



portal.xsede.org → Resources → File Manager



Click on the X (XSEDE logo) to list all machines. *This includes:*

- your local machine.
- XSEDE\$Share: 2 GB of space to collaborate. Allows you to share files with your collaborators.

 XSEDE \$SHARE
xshare://loving.corral.tacc.utexas.edu

- Click on the 'View' tab and select "Show Transfers" to get information on past and ongoing file transfers and speed.
- Drag files between resources.

XSEDE

Globus On-line

- Fast, reliable service for high performance file transfer
- High performance: Move terabytes of data in thousands of files
- Automatic fault recovery - Across multiple security domains
- Designed for researchers - Easy "fire and forget" file transfers
- No client software installation - New features automatically available –
- Consolidated support and troubleshooting - Works with existing GridFTP servers
- Ability to move files to any machine (even your laptop) with ease
- Create a free account at www.globusonline.org ; For help: send email to support@globusonline.org

Need Help?

The footer features a dark blue background with a grid pattern and a bright light source. On the left, there are several spherical objects resembling planets or moons. The text 'XSEDE' is prominently displayed in a large, white, sans-serif font on the right side.

XSEDE

Reporting and Tracking Issues

- portal.xsede.org → Help
Submit ticket
- portal.xsede.org → My XSEDE → Tickets
 - Submit ticket
 - View past tickets (both open and closed)
- Can also email help@xsede.org or call 1-866-907-2383, at any hour (24/7)
- Your Campus Champion

Help: Submitting a ticket

HOME MY XSEDE RESOURCES DOCUMENTATION ALLOCATIONS TRAINING CONSULTING USER FORUMS

Help Desk Security Incident

The XSEDE Help Desk provides a single source of assistance and resolution for any XSEDE-related problems. This includes providing useful answers regarding accounts, access, and running on XSEDE resources. In addition, the XSEDE Help Desk is used to report bugs experienced while using XSEDE resources, the XSEDE web site, and the User Portal.

To reach the XSEDE Help Desk please submit your request via this form or send email to help@xse.de.org. The help desk uses the XSEDE Ticketing System (XTS) and will assign your email or form submission to a ticket. You will receive auto-notification back that lets you know your email has been received, and provides you with a ticket number for reference. You can also reach the XSEDE Help Desk by phone at 1-866-907-2383, at any hour.

For feedback specific to the XSEDE User Portal including enhancements, suggestions, and feature requests, please submit your comments and suggestion via the [Feedback form](#).

Note: All fields are required unless otherwise specified.

First Name:	<input type="text"/>
Last Name:	<input type="text"/>
E-Mail Address:	<input type="text"/>
Subject:	<input type="text"/>
Category:	Select Category <input type="button" value="v"/>
Site: (optional)	Select Site <input type="button" value="v"/>
Priority: (optional)	Select Priority <input type="button" value="v"/>
Problem Description:	<input type="text"/>
<input type="button" value="SUBMIT CONSULTING TICKET"/>	

Preferred method:

Ensures all relevant details are provided for quick routing

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More “helpful” resources

xsede.org → User Services

- Resources available at each Service Provider
 - User Guides describing memory, number of CPUs, file systems, etc.
 - Storage facilities
 - Software (Comprehensive Search)
- Training: portal.xsede.org → Training
 - Course Calendar
 - On-line training
- Get face-to-face help from XSEDE experts at your institution; contact your local Campus Champions.
- Extended Collaborative Support (formerly known as Advanced User Support (AUSS))



DATA SAMPLE PART 01:

Without further context this collection of information could be considered
random and chaotic, however, the human tendency to organize, to create
meaning and structure, influences perception. In this case, the human ability
to create a narrative around random data allows us to understand it.

"What do these numbers represent? What are they trying to tell us?"
These questions, while seemingly simple, are complex. Perception is not
inherent, it is learned. It is a process of interpretation, of making sense
of the world around us. The data in this sample is a collection of numbers,
but it is the human mind that gives it meaning.

DATA SAMPLE PART 02:

These numbers represent a collection of data points that have been
collected over a period of time. The data shows a clear upward trend,
which could indicate a positive growth or an increase in a certain
variable. However, the data also shows some fluctuations, which could
be due to external factors or noise in the data.

DATA SAMPLE PART 04:

This data sample consists of a series of numbers that are arranged in a
specific pattern. The numbers are: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. This
sequence is a simple arithmetic progression, which is a common
mathematical concept.

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