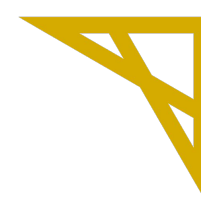




University
of Manitoba



Digital Research
Alliance of Canada

High Performance Computing

Training Workshops and Documentation

UofM-Spring-Workshop 2023

May 17th-19th, 2023

Ali Kerrache
HPC Analyst



- ★ Workshops and Training
 - Local workshops
 - Trainings from the Alliance and its partners

- ★ Getting Help
 - How to ask for help?

- ★ Documentation
 - Grex
 - The Alliance

Local workshops and training

Contact us for:

support@tech.alliancecan.ca

- ★ In person session:
 - Onboard a beginner on Grex and the Alliance clusters.
 - Discussion about a given problem.
- ★ Group session

Autumn workshop, Oct 2022

- Program and updates
- High Performance Computing: Start Guide
- High Performance Computing and software environments
- OSC OpenOnDemand portal on Grex

Spring workshop, May 2022

- Introduction to local and National HPC at UManitoba
- Introduction to High Performance Computing step by step
- Using GP GPU compute on Grex
- High Performance Computing and software environments
- OSC OpenOnDemand portal on Grex

Autumn workshop, November 2021

Slides from Day 1 (Nov 1, 2021):

- Introduction To HPC
- Basics of Linux Shell

Slides from Day 2 (Nov 2, 2021):

- HPC software environments

<https://um-grex.github.io/grex-docs/docs/longread/training/>



National training calendar

- ★ Regular meetings for beginners.
- ★ Workshops from all Alliance regional partners:
 - AceNET
 - Calcul Quebec
 - Compute Ontario
 - BC DRI group
 - Prairies DRI group
- ★ Field oriented subjects

Federation Training Calendar

Calendar interface showing events for May 2023. The calendar is viewed in a week layout. Events are listed in blue bars across the days of the month. Key events include:

- May 1: WestDRI: UVic spring school
- May 2: 10am SciNet: Neural Networks; 1pm SHARCNET: New Learning
- May 3: 11am SHARCNET: "Modelling"
- May 4: (11:00am) AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; (11:00am) AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online; 9:04am SciNet: Neural Networks
- May 5: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 6: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 7: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 8: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 9: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 10: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 11: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 12: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 13: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 14: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 15: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 16: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 17: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 18: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 19: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 20: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 21: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 22: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 23: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 24: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 25: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 26: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 27: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 28: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 29: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 30: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- May 31: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- Jun 1: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online
- Jun 2: 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online; 8am AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online

How to ask for support?

Information required [edit]

To help us help you better, please include the following information in your support request:

- Cluster name
- Job ID
- Job submission script: you can either give the full path of the script on the cluster; copy and paste the s
- File or files which contain the error message(s): give the full path of the file(s); copy and paste the file(s)
- Commands that you were executing
- Avoid sending screenshots or other large image attachments except when necessary - the plain text of
- Software (name and version) you were trying to use
- When did the problem happen?
- If you want us to access, copy or edit your files, or inspect your account and possibly make changes th where they are located in your account and give us permission to access them. If you have already gra support request.

Things to beware [edit]

- **Never send a password!**
- Maximum attachment size is 40 MB.

Provide enough information:

- ★ Name of the cluster
- ★ Job Id's, path to your files
- ★ Program, modules, ...
- ★ Describe the problem

Home	My Account	Resource Application
		View Group Usage
	Acco	My Resources and Allocations
	Acco	Request access to other clusters
		Manage RAP memberships
	Acti	Apply for a New Role
		Contact information
	CC	Manage SSH Keys
	Fed	Multifactor Authentication
	last	Management
	Spd	Manage Shell
	Res	Change Password
		Agreements

Contact support:

support@tech.alliancecan.ca

by and paste if you have trouble with this.

<https://status.alliancecan.ca/>

thing files to an email, you may indicate then you do not need to do it again in your

→ Do not send your password

→ Case by case agreement

→ Agreement to access your data

★ Avoid sending large files

★ Avoid sending images when possible.

https://docs.alliancecan.ca/wiki/Technical_support

 Unofficial GreX
User Guide

Notes of GreX Changes

Accessing Compute Canada resources

GreX HPC Documentation

Access and Usage conditions

Connecting / Transferring data

Storage and Data

Running Jobs

Software

Frequently Asked Questions

Local IT Resources

Support and Training

Disclaimer

User documentation for HPC resources at University of Manitoba

Since you have found this Website, you may be interested in GreX documentation. GreX is the University of Manitoba's High-Performance Computing system.



User documentation for HPC resources at University of Manitoba

For experienced GreX users

For new GreX users

A Very Quick Start guide

Useful links

- Updating the documentation after adding the new hardware.
- Hosted on GitHub
- The link is available as MOTD when login to GreX.

<https://um-grex.github.io/grex-docs/>



GreX documentation: new website

The screenshot shows the GreX web interface. At the top, there's a navigation bar with options like 'Print', 'QR code', 'Shortcuts', 'Taxonomies', 'Versions', and 'About'. A yellow notification banner at the top center reads: "The RAC 2022-2023 application call will be announced soon. A communication will be sent to all groups." Below this, the main content area displays "UNOFFICIAL GREX USER GUIDE" in a stylized font, followed by a photograph of a server room. A sidebar on the left contains a list of navigation items including 'GreX', 'The Alliance', 'Quick Start Guide', 'Access / Usage conditions', 'Connect / Transfer data', 'Storage and Data', 'Running jobs on GreX', 'Scheduler', 'Software / Applications', 'Software specific notes', 'OpenOnDemand', 'Visualization', 'GreX changes', 'Local IT Resources', 'Support and Training', 'Workshops', 'FAQ', 'Disclaimer', 'Sitemap', and 'Template'.

HOW TO USE THIS WEBSITE?

To replace the existing website
<https://um-grex.github.io/grex-docs/>

Online soon !

This screenshot shows the 'Message of the Day' page in the GreX interface. It features a banner for 'GREX, HPC AT UMANITTOBA OPENONDEMAND PORTAL'. The main content area contains a 'Message of the Day' section with a welcome message and instructions for new users. A sidebar on the left is identical to the previous screenshot. On the right, there are 'On this page:' and 'Categories' sections.

This screenshot shows the 'General purpose CPU partitions' table in the GreX interface. The table lists various partitions with their respective nodes, CPUs, and memory. A sidebar on the left is identical to the previous screenshots. On the right, there are 'On this page:' and 'Categories' sections.

Partition	Nodes	CPUs/Node	CPUs	Mem/Node	Notes
skylake	42	52	2184	96 Gb	Cascadelake Refresh
largemem	12	40	480	384 Gb	Cascadelake
compute	316	12	3792	48 Gb	SSE4.2
compute	4	20	80	32 Gb	Avx
	374	-	6536	-	-



The Alliance [Compute Canada] wiki

- Systems and services
- Guides
- Links to specific documentation by disciplines
- Links to the documentation from regional partners

Systems and services [\[edit\]](#)

- [List of current Compute Canada systems](#) [🔗](#)
- [Cedar, Graham and Béluga](#), general-purpose clusters
 - [System status and upcoming outages](#)
 - [Known issues](#)
- [Niagara](#), a cluster designed for large parallel jobs
- [Hélios](#), a GPU cluster
- [Available software](#)
- [National Data Cyberinfrastructure](#), long-term and tape storage services (limited availability)
- [Cloud computing service](#)
- [Globus file transfer service](#)
- [Policy table of contents](#)
- [FAQ, Frequently Asked Questions](#)
- [Using a resource allocation](#), a guide for Principal Investigators
 - [RAC 2019 transition FAQ](#), notes on the implementation of 2019 RAC awards

How-to guides [\[edit\]](#)

- [Getting started](#)
 - [Getting started with the new national systems \(mini-webinar series\)](#)
 - [Niagara Quick Start Guide](#)
 - [SSH - How to connect to our servers](#)
 - [Linux introduction](#)
- [Storage and file management](#)
 - [Transferring data](#)
 - [Scratch purging policy](#)
- [Best practices for data migration](#)
- [Using modules to access software](#)
- [Running jobs](#)
- [Installing software yourself](#)
- [Programming guide](#)
- [Visualization](#)
- [How to get technical support](#)

Discipline guides [\[edit\]](#)

- [AI and Machine Learning](#)
- [Bioinformatics](#)
- [Biomolecular simulation](#)
- [Computational chemistry](#)
- [Computational fluid dynamics \(CFD\)](#)
- [Geographic information systems \(GIS\)](#)
- [Humanities](#)
- [Subatomic physics](#)

Regional partners and services [\[edit\]](#)

- [WestGrid](#) [🔗](#)
- [SHARCNET](#) [🔗](#)
- [SciNet](#) [🔗](#)
- [Centre for Advanced Computing](#) [🔗](#)
- [Calcul Québec](#) [🔗](#)
- [ACENET](#) [🔗](#)
- [ownCloud](#) [🔗](#) storage service

Search...



Français

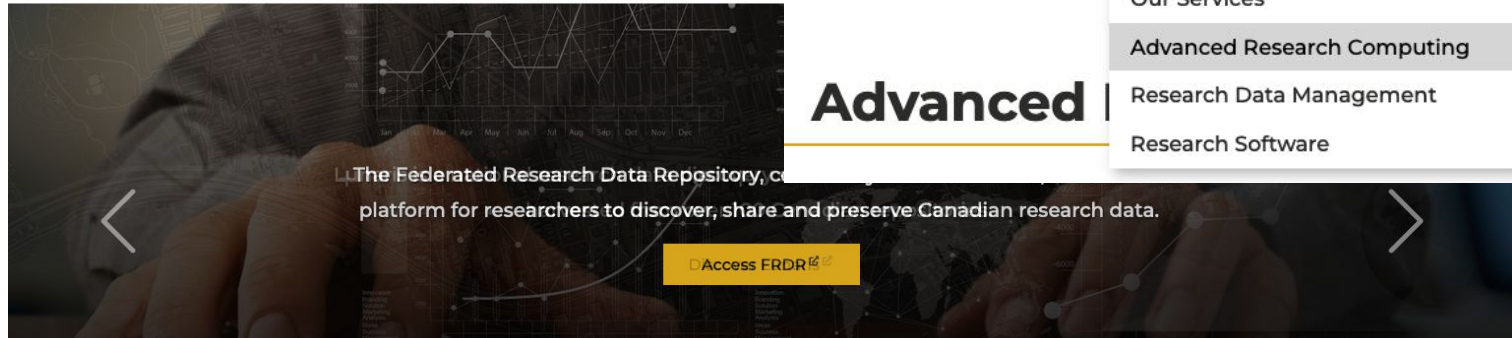


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About

Account Management




current and upcoming trainings






Training Materials



Getting started

If you are new to using clusters, or not sure how to compile codes or submit Slurm jobs, this page is a good starting point.


[More >](#)



Online documentation

Check out Compute Canada's technical documentation wiki, the primary source for information on Compute Canada resources and services.

[More >](#)



Upcoming sessions

We host training webinars and workshops year-round to help you build skills in computational research. Check out our upcoming training events.

[More >](#)

Federation Training Calendar

Print Week Month Agenda

day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	
	30	May 1	2	3	4	5	6	
	(7:00pm) WestDRI: UVic spring school							
		10am SciNet: Neural Net 1pm SHARCNET: New L	11am SHARCNET: "Mod		(11:00am) AceNet: ACENET: Introductory Programming: Unix Shell, (11:00am) AceNet: ACENET: Introductory Programming: Unix Shell, 9:04am SciNet: Neural Net 8am AceNet: ACENET: I			
	7	8	9	10	11	12	13	
	AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online							
	AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online							
		8am AceNet: ACENET B 1pm SHARCNET: New L 1pm WestDRI: webinar	11am SciNet: SciNet Us *2 more	9:04am SciNet: Neural Net 12pm WestDRI: course				
	14	15	16	17	18	19	20	
	AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online							
	AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online							
		11:30am SciNet: Advanc	(7:30am) AceNet: ACENET: Parallel Computing School 2023 - Online					
	21	22	23	24	25	26	27	
	AceNet: ACENET: Introductory Programming: Unix Shell, Git, and Python - Online							
	AceNet: ACENET: Introductory Programming: Unix Shell, Git, and R - Online							
	AceNet: ACENET: Parallel Computing School 2023 - Online							
		(7:00am) Calcul Québec : École de Printemps 2023 - 2600 Rue College Sherbrooke, QC J1M 0C8						
	28	29	30	31	Jun 1	2	3	
	AceNet: ACENET: Parallel Computing School 2023 - Online							
		12pm SciNet: Relations	1pm SHARCNET: New L					

vents shown in time zone: Central Time - Winnipeg

[+ Google Calendar](#)

<https://training.westdri.ca/>

<https://alliancecan.ca/en>

Thank you for your attention

Any question?