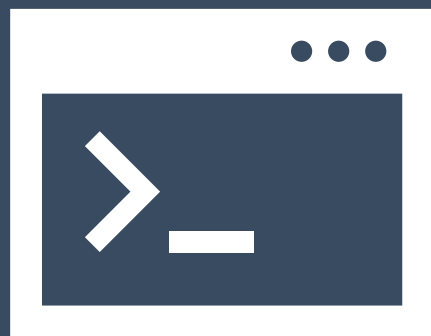


Intro to Bulk RNA-seq (Part I)

<https://tinyurl.com/hbc-shell-online>



Harvard Chan Bioinformatics Core

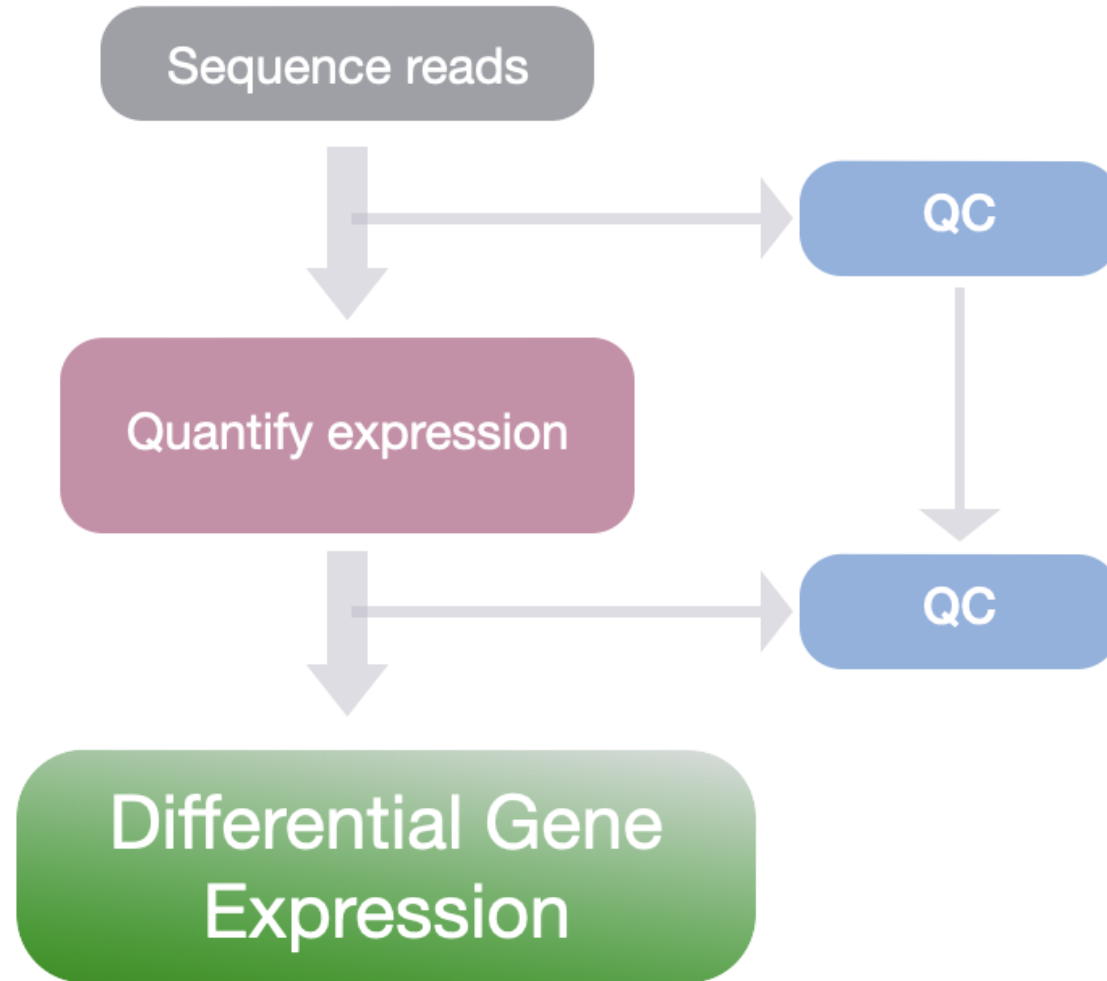


Learning Objectives



- ❖ Describe best practices for designing a bulk RNA-seq experiment
- ❖ Describe steps in an RNA-seq analysis workflow (from sequence data to expression quantification)
- ❖ Implement shell scripts on a high-performance compute cluster to perform the above steps

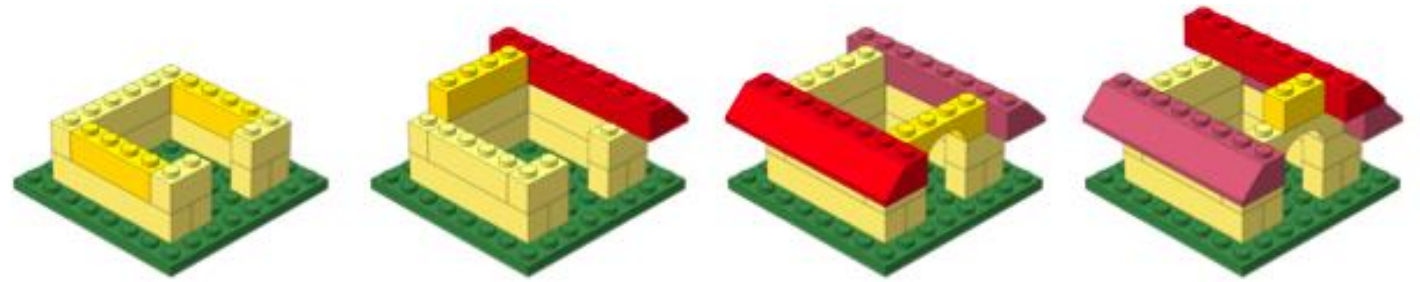
What's next?



Exit survey

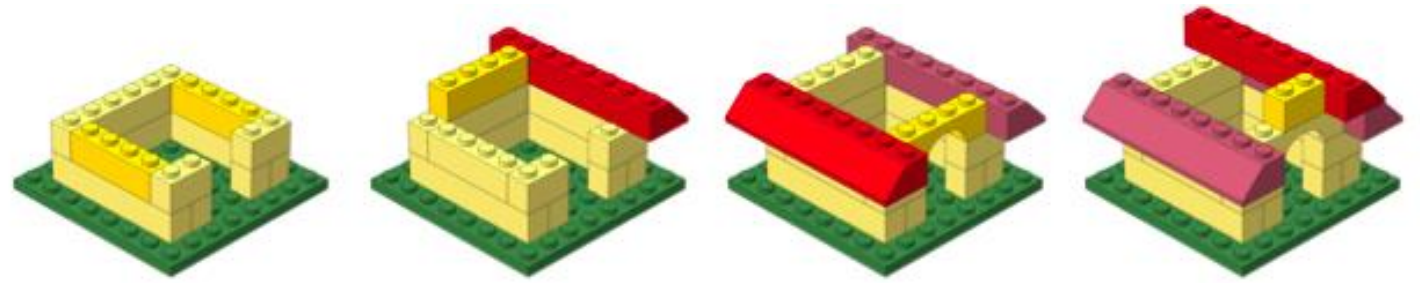
<https://tinyurl.com/hbc-rnaseq-exit>

Keep building!



Topic	Category	Date	Duration	Prerequisites
Introduction to R	Basic	February 18, 21, 25 and 28	Four 2h sessions	None
Introduction to SingleCell RNA-seq	Advanced	March 4, 7, 11	Three 2.5h session	R
Introduction to Differential Gene Expression (DGE) Analysis	Advanced	March 18, 21, 25, 28	Four 2h sessions	R
Pseudobulk	Advanced	April 4, 8, 11	Three 2.5h sessions	R

Keep building!



2025 schedule:

Topic	Pre-requisites	Date/Time	Time	Registration
Foundations of R	None	2/19/25	1 - 4 pm	Registration coming
Reproducible Research using Rmarkdown	Foundations of R	3/19/25	1 - 4 pm	Registration coming
"Track Changes" for Your Code: an Introduction to Git and GitHub	Shell	4/16/25	1 - 4 pm	Registration coming
Coding with Others: Managing Conflicts on GitHub	GitHub Part I	5/21/25	1 - 4 pm	Registration coming

Online Resources

❖ All HBC workshop materials available at:

<https://hbctraining.github.io/main>

Get an O2 account!

Home > Service Catalog

Search IT services and kn



O2 Cluster Account

Description



What does it do?

Get an account on O2, the HMS High Performance Compute cluster

Available To



Who is eligible?

Any HMS or HMS-affiliated researcher who has an HMS eCommons account.

Cost



What does it cost?

There is no cost to labs whose PI has a primary or secondary faculty appointment in an HMS Quad department.

If the PI of your lab does not have a primary or secondary faculty appointment in an HMS Quad department, cluster usage will be charged for beginning later in 2021. Please see the following page for current details about rates: <https://it.hms.harvard.edu/rc/core/rates>.

Support



Please fill out the [online help request form](#), or email rchelp@hms.harvard.edu.

How to Access



How do I get it?

Two-factor authentication is required to request an account on O2, as well as for O2 logins once your account is created. Harvard University uses a mobile app called Duo that makes the process quick and easy. Even if you already use Duo for HarvardKey, you will still need to setup a Duo profile for HMS.

- [Setup HMS two-factor Authentication \(HMS Duo Mobile\)](#)
- [Reactivate or Reconnect HMS two-factor Authentication \(HMS Duo Mobile\)](#)

Once you have Duo set up, Click the "Get Service" link to login and complete the request form.

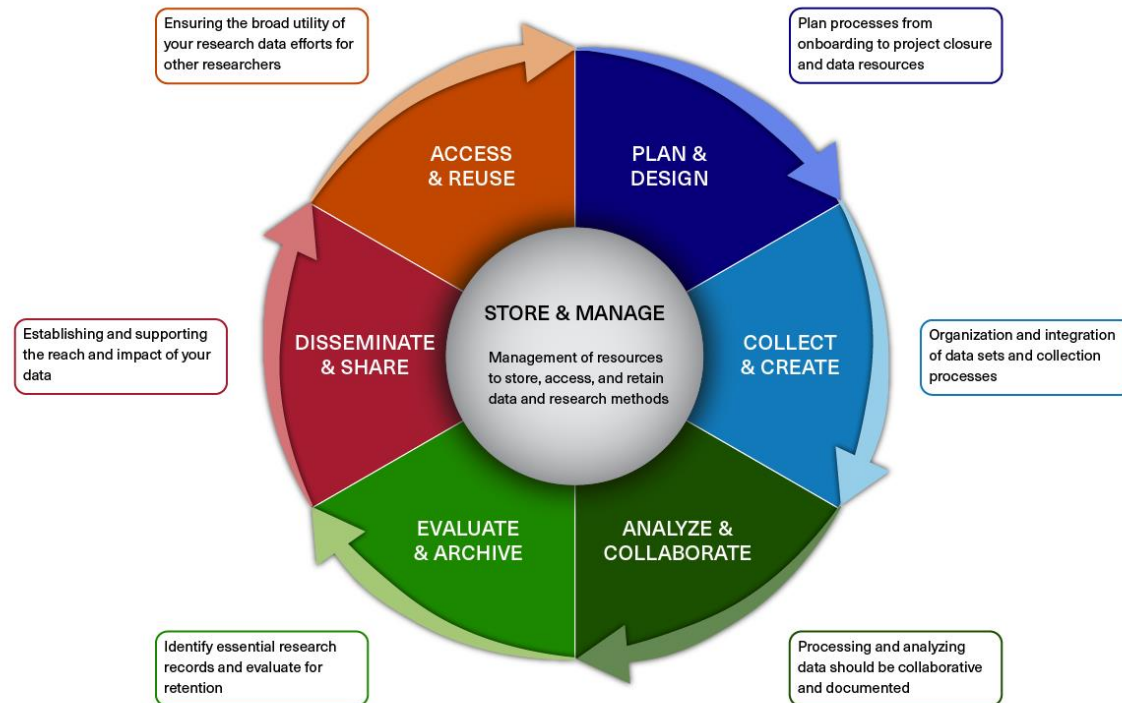
Get this service

Learn more

Don't see what you're looking for?


Research Data Management (RDM)

BIOMEDICAL RESEARCH DATA LIFECYCLE



Spring 2025 Data Lifecycle Training

Plan & Design

February 11 


Data Management
Offboarding for
Research Projects

March 19  

A Guide to Efficient
Research Practices


March 26  

Tips and Tricks for Writing
an Actionable Data
Management Plan


May 21 

Research Data
Stewardship Basics


Collect & Analyze

January 29 


Data Literacy:
Introduction to GIS

February 19 


Foundations in R

March 19 

Reproducible Research
using RMarkdown


April 16 

An Introduction to Git
and GitHub


May 21 

Managing Conflicts
on GitHub


Store & Evaluate

March 10 

Introduction to the
General Records Schedule


April 7 

Managing Paper Records:
Off-Site Records Storage



April 21 

Managing Electronic
Records: Shared Drives
and Emails


Share & Publish

February 27 


Research Management:
Open Access Publishing

April 9  

Research Management:
Closing Out Your Research

April 23 

Data Sharing with
Harvard Dataverse

 In-person

 Virtual



Learn More & Register
bit.ly/rdmwg-calendar



<https://datamanagement.hms.harvard.edu/about/news-events/rdmwg-calendar>

Better RDM practice benefits you

- ❖ HMS Data Management LMA

- ❖ Webpage: <https://datamanagement.hms.harvard.edu>

- ❖ Sign up for quarterly email updates

- ❖ Harvard-wide Research data Management

- ❖ <https://researchdatamanagement.harvard.edu/>

Join us for HBC Community Breakfast!

- ❖ An opportunity to get to know others in the community
- ❖ Free food and beverages
- ❖ Great conversations



More Info:

<http://bioinformatics.sph.harvard.edu/breakfast/>

Thanks!

- ❖ Kathleen Chappell and Andy Bergman from HMS-RC
- ❖ Data Carpentry

These materials have been developed by members of the teaching team at the Harvard Chan Bioinformatics Core (HBC). These are open access materials distributed under the terms of the Creative Commons Attribution license (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

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