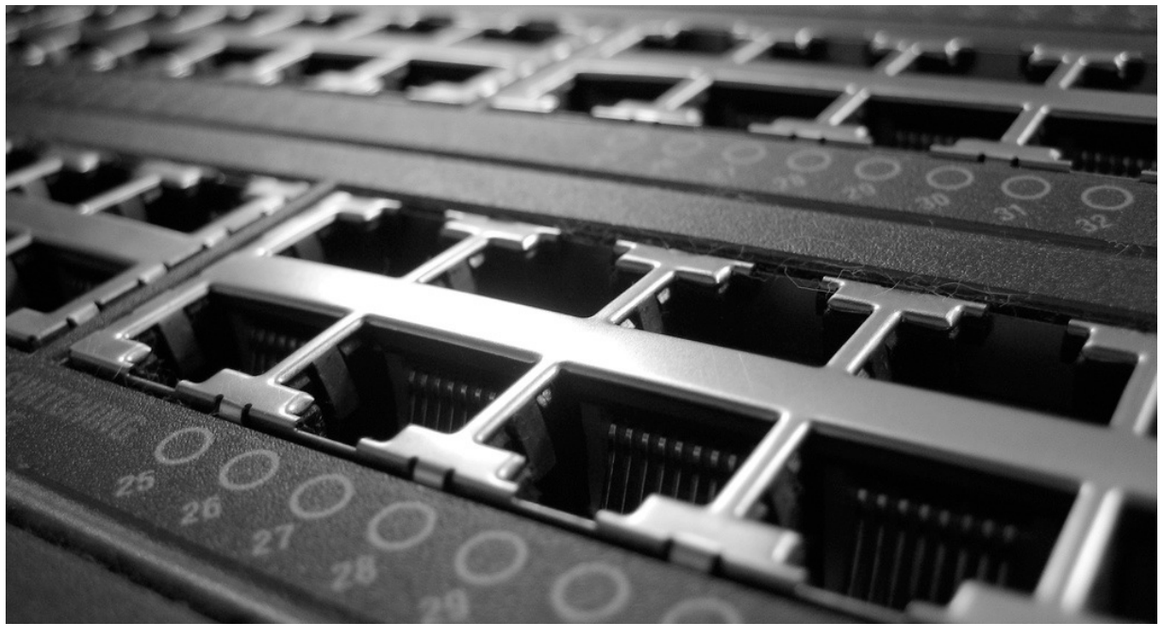


Introduction to RNA-seq using High-Performance Computing (HPC)

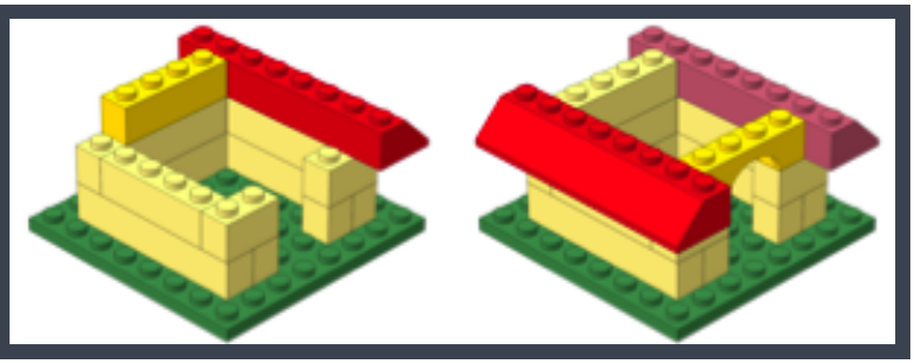
Harvard Chan Bioinformatics Core

in collaboration with

HMS Research Computing

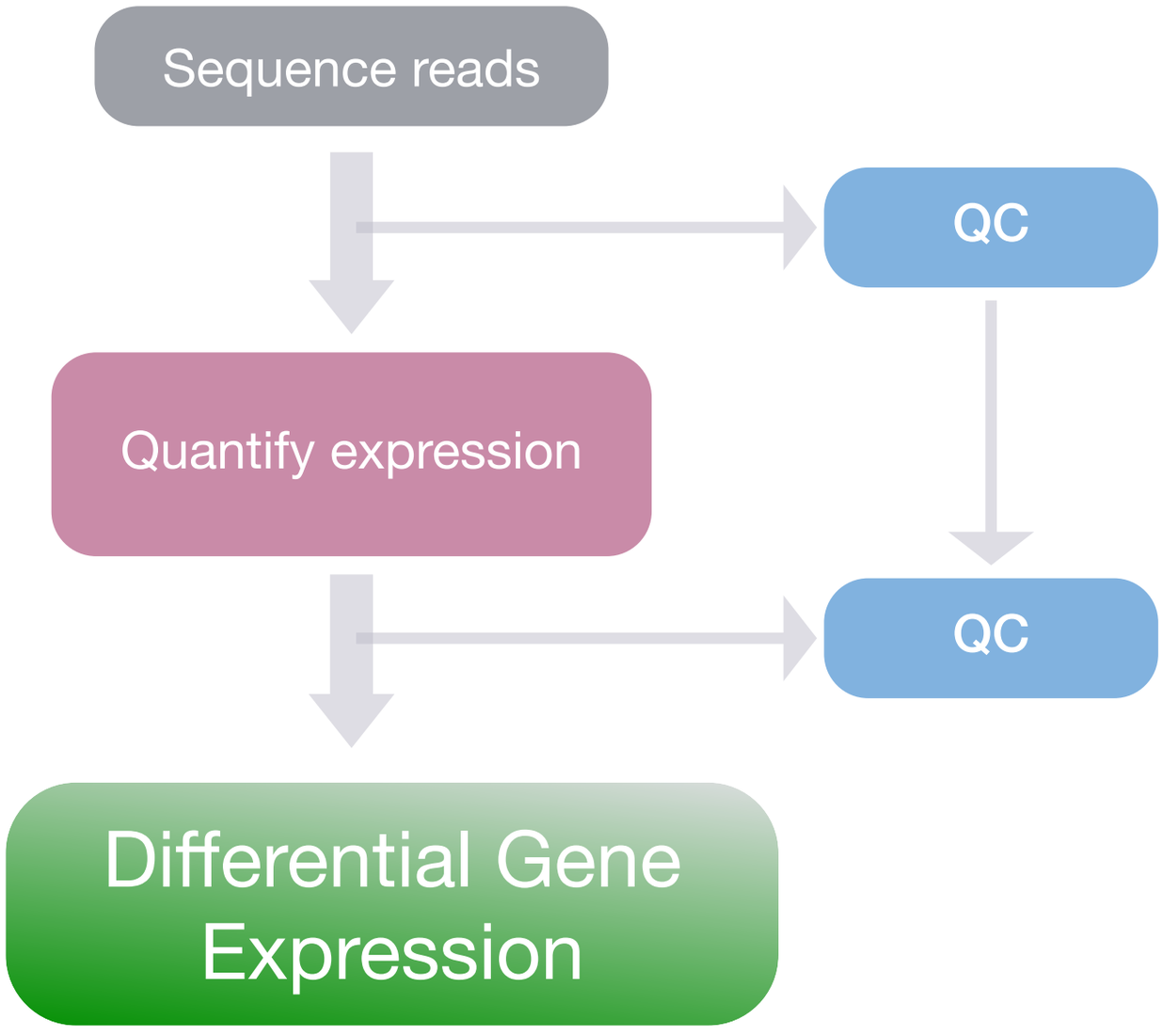
https://tinyurl.com/hbc-rnaseq

Learning Objectives

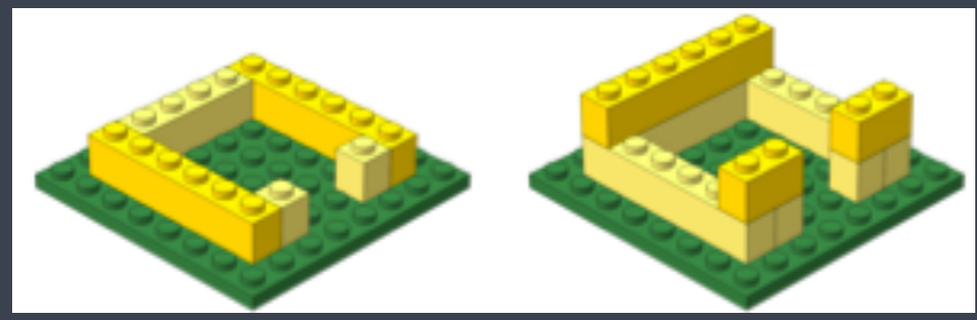


- ✓ Describe best practices for designing a bulk RNA-seq experiment
- ✓ Describe steps in an RNA-seq analysis workflow (from sequence data to expression quantification).
- ✓ Implement shell scripts on a high-performance compute cluster to perform the above steps.

What's next?


Sequence reads
QC
Quantify expression
QC
Differential Gene Expression

What’s next?



Topic	Category	Date	Duration	Prerequisites
Bulk RNA-seq (Part 1 - FASTQ to counts)	Advanced	March 29, April 2, 5	Three 2.5h sessions	Shell
Introduction to R	Basic	April 9, 12, 16, 19	Four 2h sessions	None
Introduction to Differential Gene Expression (DGE) analysis	Advanced	April 30, May 3, 7, 10	Four 2h sessions	R
Introduction to Command line interface and HPC (Shell)	Basic	May 17, 21, 24	Three 2.5h sessions	None

https://bioinformatics.sph.harvard.edu/upcoming-workshops

Your feedback matters!

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

How to request 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?

Big data? Big computer!
The skill set you need to succeed

https://hbctraining.github.io/Training-modules/

Spring 2024 schedule - Big data? Big computer! The skill set you need to succeed:

Topic	Pre-requisites	Date/Time	Time	Registration
Accelerate with Automation - Making your code work for you	Basic Shell	3/20/24	1 – 4pm	Register!
Needle in a Haystack - Finding and summarizing data from colossal files	Basic Shell	4/17/24	1 – 4pm	Register!
Shell Tips and Tricks on O2	Basic Shell	5/15/24	1 – 4pm	Register!

Interested in additional training?

All HBC workshop materials available at:

https://hbctraining.github.io/main

Upcoming relevant courses from our partners at Countway Library

Thanks!

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

Contact us!

HBC training team: hbctraining@hsph.harvard.edu

O2 (HMS-RC): rchelp@hms.harvard.edu

HBC consulting: bioinformatics@hsph.harvard.edu

Twitter

HBC: @bioinfocore

HMS-RC: @hms_rc