JAX, Lifebit, & Science and Technology LLC

The Jackson Laboratory x lifebit

Science and Technology Consulting LLC

Dry Bench Skills for the Researcher

Day 2

Git and Collaboration

2020 Dec 4

What are we doing here?

We are taking you through the steps to create reproducible science

DATA → INSIGHT & PUBLICATION

DATA PROCESSING - REUSE & DEVELOPMENT			DATA PROCESSING - EXECUTION		RESULTS
Code versioning	Container-ization	Workflow Deployment	High performance computing	Cloud infrastructure	Reasoning
Reuse code Modify code Share & Collaborate	Containerize separate processes	Stitch them together into a unified workflow to accomplish the analysis	Provision & manage a HPC cluster to analyse the large volumes of genomics data	Provision & scale analysis on cloud to speed up analysis & access compute resources on demand	Manually combine results from data analysis & make decisions based on experience. Collaborate.
open source initiative, GitHub, GitLab	Singularity, docker	nextflow, CWL, CONDA	Ignite, slurm, GRID ENGINE, IBM Spectrum LSF	aws, Google Cloud	jupyter, RStudio, igv

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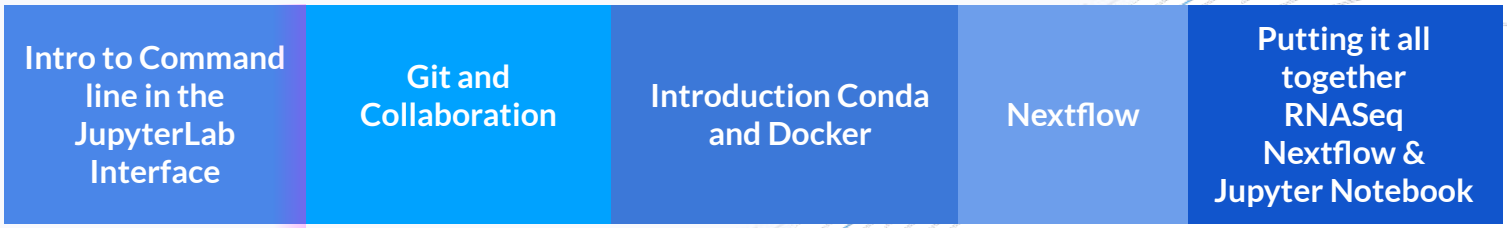
Dry Bench Skills Roadmap



Day 1

Bash skills intro
R
JupyterLab
Volcano plot
Zenodo

Day 2

Git
GitHub for Teamwork
JupyterLab
Volcano plot

Day 3

Conda
Docker
Prepping for Nextflow

Day 4

Nextflow

Day 5

Best Practices
RNASeq workflow

Dry Bench Skills Agenda - Day 2

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CloudOS + jupyter

Intro to Git and GitHub

Agenda for the day:

Time	Programme
12.00 - 12.05	*Workspace set up and agenda for the day*
12.05 - 12.30	1. **Why Git and GitHub?** Motivation and set up in the JupyterLab workspace
12.30 - 13.00	2. **Git Routine 1**: Reusing an available repository with `fork` and how to keep in sync with parent project
13.00 - 13.10	☕ Short break
13.10 - 14.00:	3. **Git Routine 2**: Extend your current code and use Git, GitHub to keep track of changes and contribute

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Supplier

Thank you

...from everyone at

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