JAX, Lifebit, & Science and Technology LLC

The Jackson Laboratory x lifebit

Science and Technology Consulting LLC

Dry Bench Skills for the Researcher

Day 4

Nextflow

2020 Dec 9

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	Conda and environments 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	CONDA, docker, Singularity	nextflow, R, Python	Ignite, slurm, GRID ENGINE, IBM Spectrum LSF	aws, Google Cloud	jupyter, RStudio, igv

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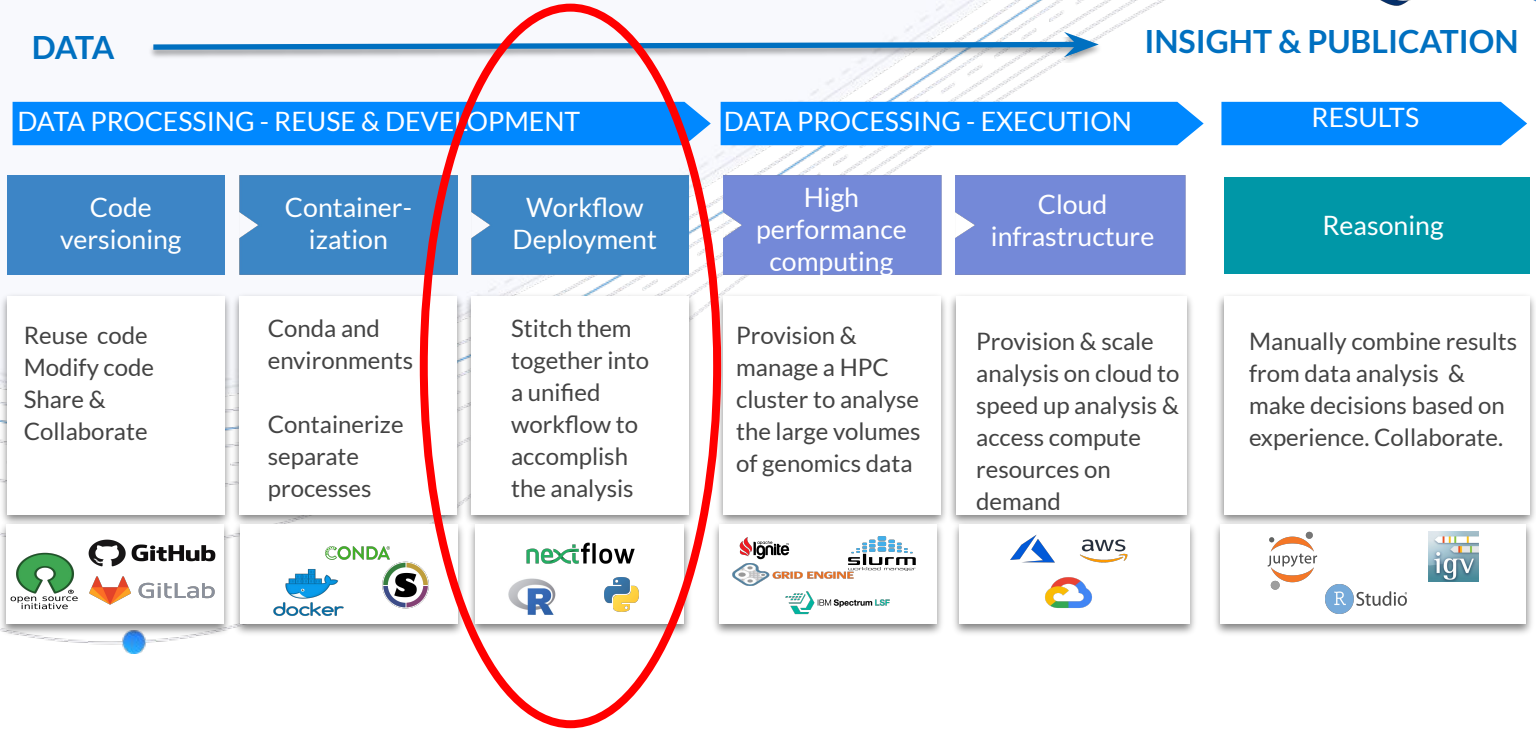

Dry Bench Skills Roadmap

Day 1

Bash skills intro
R
JupyterLab
Volcano plot
Zenodo

Day 2

Git
GitHub for Teamwork
JupyterLab
Volcano plot

Day 3

Conda
Docker
JupyterLab
Volcano plot
Prepping for Nextflow

Day 4

Nextflow

Day 5

Best Practices
RNASeq workflow

Dry Bench Skills Agenda - Day 4

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Introduction to Nextflow

CloudOS + jupyter

Agenda for the day:

Time	Programme
12.00 - 12.05	*Workspace set up and agenda for the day*
12.05 - 12.20	1. What is Nextflow, how can it help me with my research?
12.20 - 13.00	2. Introduction to the basic ingredients of a Nextflow workflow
13.00 - 13.10	☕ Short break
13.10 - 14.00:	3. Running a Nextflow workflow + bonus how to find data

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HM Government
G-Cloud
Supplier

Thank you

...from everyone at

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