

Dry Bench Skills for the Researcher

Day 5

Putting it all together RNASeq 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.



Dry Bench Skills Roadmap

Intro to Command
line in the
JupyterLab
Interface

Day 1

Bash skills intro
R
JupyterLab
Volcano plot
Zenodo

Git and
Collaboration

Day 2

Git
GitHub for Teamwork
JupyterLab
Volcano plot

Introduction Conda
and Docker

Day 3

Conda
Docker
JupyterLab
Volcano plot
Prepping for Nextflow

Nextflow

Day 4

Nextflow

Putting it all
together
RNASeq
Nextflow

Day 5




Best Practices
RNASeq workflow

Dry Bench Skills Agenda - Day 5

Introduction to Nextflow



Agenda for the day:

Time	Programme
12.00 - 12.10	<i>Course Agenda Recap</i> , Getting Controlled Access Data , Illustrative end-to-end Example and Getting today's data
12.10 - 12.20	1. Nextflow concepts: Configuration files and revisiting reproducibility
12.20 - 13.00	2. Nextflow  and nf-core  , utilising community available resources for analyses
13.00 - 13.10	 Short break
13.10 - 13.50	3. Running a modified forked nf-core workflow on Lifebit CloudOS
13.50 - 14.00	4. Closing remarks and future directions



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HM Government
G-Cloud
Supplier



• Thank you

...from everyone at



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