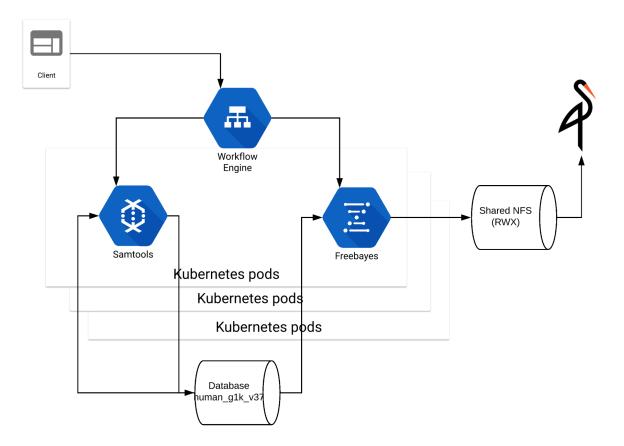
Kubernetes Advanced Practical Batch Processing

David Yuan, Ph.D. Cloud Bioinformatics Application Architect Technology and Science Integration European Bioinformatics Institute, EMBL



EMBL-EB

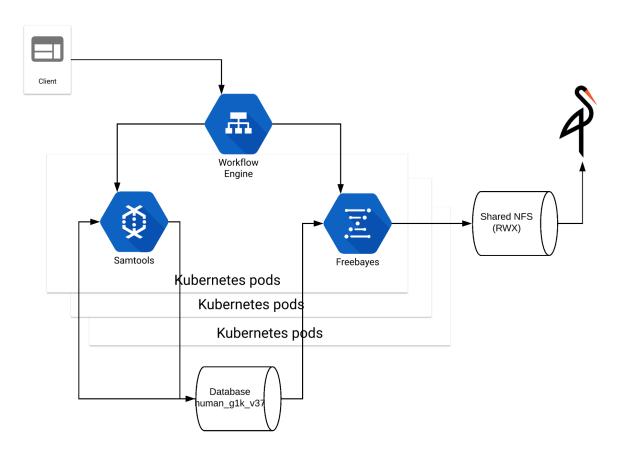
Kubernetes Advanced Practical (batch processing)



<u>Reading 0</u>: Preparing Minikube VM to support NFS volumes



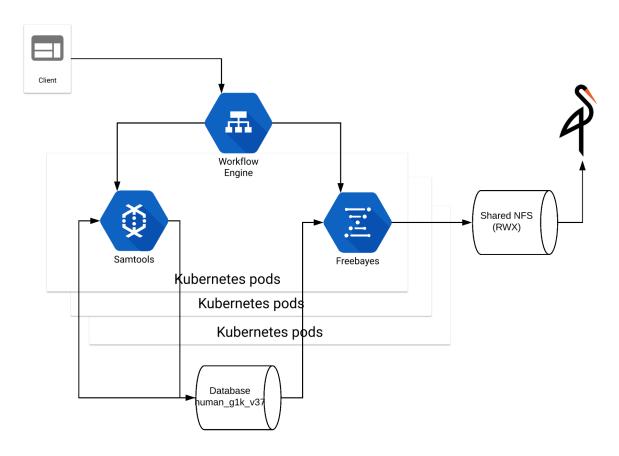
Kubernetes Advanced Practical (batch processing)



- <u>Reading 0</u>: Preparing Minikube VM to support NFS volumes
- Accessing large amount of data from the source:
 - <u>Exercise 1</u>: ReadWriteMany for shared output
 - <u>Exercise 2</u>: ReadOnlyMany for data source
 - <u>Exercise 3</u>: ReadWriteOnce for private workspace
 - <u>Exercise 4</u>: Initialising persistent volumes
 - <u>Exercise 5</u>: Kubernetes secret & S3 interface



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 - <u>Exercise 5</u>: Kubernetes secret & S3 interface
- Scaling up:
 - Exercise 6: Horizontal scaling
 - <u>Reading 1</u>: Vertical scaling
 - Exercise 7: Autoscaling



Kubernetes Advanced Reading

- <u>Reading 1</u>: Bringing compute close to data
- <u>Reading 2</u>: Resource consumption
- <u>Reading 3</u>: Docker builds
- <u>Reading 4</u>: CI/CD toolchain

