Defogging the cloud: An educator's guide to course service technology for computational biology

iEvoBio team

1 Abstract

Stuff about computing.

2 Introduction

We have so many choices about how to teach a computation class! What's a girl to do?

- Biology departments are increasingly offering computational course work. This can come in a variety of forms from data science type work, to biostatistics, to big data work with genomic data.
- Educators have an array of choices in front of us. What language will we use? How will students interact with the materials?
- Every choice comes with costs and benefits. Our goal here is to explain some popular course service technologies, how they work and when they are the best choice for you
- We will be explaining this with a special eye towards serving diverse sets of learners, both in terms of their motivations, and in terms of their life experiences.

2.1 Local Installs

When should you choose to have students do local installs? What are the pros? What are the cons? Do you require IT support to do this?

2.1.1 RStudio Server

When should you choose to have students use RStudio Server? What are the pros? What are the cons? Do you require IT support to do this?

Diversity and Inclusion call out box!

```
What special issues are there to consider from a diversity and inclusion angle if
   you choose this path?
```

2.1.2 JupyterHub

When should you choose to have students use RStudio Server? What are the pros? What are the cons? Do you require IT support to do this?

2.1.3 Raspberry Pi

When should you choose to have students use RStudio Server? What are the pros? What are the cons? Do you require IT support to do this?

2.1.4 HPC and Cloud

Some of these technologies require HPC or cloud computing. What do educators need to know about choosing a provider?

> Regular call out box! Special info goes here.

References

Version dated: May 14, 2019