A fruitful year for the Galaxy Training materials

Bérénice Batut, Saskia Hiltemann, Björn Grüning and the Galaxy Training Network

GCC/BOSC - June 2018
Galaxy Training materials

Welcome to Galaxy Training!
Collection of tutorials developed and maintained by the worldwide Galaxy community

<table>
<thead>
<tr>
<th>Galaxy for Scientists</th>
<th>Galaxy for Developers and Admins</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topic</strong></td>
<td><strong>Tutorials</strong></td>
</tr>
<tr>
<td>Introduction to Galaxy</td>
<td>14</td>
</tr>
<tr>
<td>Assembly</td>
<td>3</td>
</tr>
<tr>
<td>ChIP-Seq data analysis</td>
<td>2</td>
</tr>
<tr>
<td>Epigenetics</td>
<td>2</td>
</tr>
<tr>
<td>Metagenomics</td>
<td>2</td>
</tr>
<tr>
<td>Proteomics</td>
<td>8</td>
</tr>
<tr>
<td>Sequence analysis</td>
<td>7</td>
</tr>
<tr>
<td>Transcriptomics</td>
<td>5</td>
</tr>
<tr>
<td>Galaxy Server administration</td>
<td>9</td>
</tr>
<tr>
<td>Development in Galaxy</td>
<td>13</td>
</tr>
</tbody>
</table>

How to contribute?
First off, thanks for taking the time to contribute!
You can report mistakes or errors, create more contents, etc. Whatever is your background, there is probably a way to do it: via the GitHub website, via command-line. If you feel it is too much, you can even write it with any text editor and contact us: we will work together to integrate it.

To get you started, check our dedicated tutorials

https://training.galaxyproject.org

One website, aggregating training material covering many current research topics
Interactive learning via hands-on tutorials built around a "research story"

Usable by individual users & instructors
Developed and maintained by the community on GitHub

https://github.com/galaxyproject/training-material
Last year: 1st year of the project

Building an open, collaborative, online infrastructure for bioinformatics training

Bérénice Batut, Galaxy Training Network, Dave Clements, Björn Grünig

Galaxy Community Conference
June 2017

Talks at GCC and BOSC
A fruitful year: more and better content

Number in the repository

- Topics
- Tutorials
- Hands-on
- Slide decks
New + restructured topics

<table>
<thead>
<tr>
<th>Genome Annotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genome annotation is a multi-level process that includes prediction of protein-coding genes, as well as other functional genome units such as structural RNAs, tRNAs, small RNAs, pseudogenes, control regions, direct and inverted repeats, insertion sequences, transposons and other mobile elements.</td>
</tr>
<tr>
<td><strong>Requirements</strong></td>
</tr>
<tr>
<td>Before diving into this topic, we recommend you to have a look at:</td>
</tr>
<tr>
<td>- Galaxy Introduction</td>
</tr>
<tr>
<td><strong>Material</strong></td>
</tr>
<tr>
<td>Lesson</td>
</tr>
<tr>
<td>Genome Annotation</td>
</tr>
<tr>
<td>Genome annotation with Prolia</td>
</tr>
</tbody>
</table>

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</tr>
</thead>
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</tr>
<tr>
<td>Interval-Wise Testing for omics data</td>
</tr>
</tbody>
</table>

**work-in-progress**

Metabolomics lcms preprocess #355
Training for GeneSeqToFamly #778
New + restructured tutorials

- **Making sense of a newly assembled genome**
- **Differential abundance testing of small RNAs**
- **Introduction to Genomics and Galaxy**
- **Genome annotation with Prokka**
- **Rule Based Uploader**
- **Extracting Workflows from Histories**
- **Unicycler Assembly**
- **Mapping and molecular identification of phenotype-causing mutations**
- **Visualization of RNA-Seq results with CummeRbund**
- **Interval-Wise Testing for omics data**
- **Microbial Variant Calling**
- **Hi-C analysis of Drosophila melanogaster cells using HiCExplorer**
## Material

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Slides</th>
<th>Hands-on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview of the Galaxy Training Material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributing with GitHub via its interface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributing with GitHub via command-line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating a new tutorial - Writing content in Markdown</td>
<td></td>
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</tr>
<tr>
<td>Creating a new tutorial - Defining metadata</td>
<td></td>
<td></td>
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<tr>
<td>Creating a new tutorial - Creating Interactive Galaxy Tours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating a new tutorial - Defining the technical infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating a new tutorial - Slides</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Including a new topic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Running the Galaxy Training material website locally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generating PDF artefacts of the website</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good practices to run a workshop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set up a Galaxy for Training</td>
<td></td>
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</tbody>
</table>
A fruitful year: more technical support for training
Galaxy Tour Builder

A web extension to develop interactive tours

Galaxy is an open source, web-based platform for data intensive biomedical research. If you are new to Galaxy start here or consult our help resources. You can install your own Galaxy by following the tutorial and choose from thousands of tools from the Tool Shed.

https://github.com/TailorDev/galaxy-tourbuilder
Annotation with public Galaxy instances

In the top of the tutorial

In the topic page
Training Infrastructure as a Service (TlaaS) on usegalaxy.eu
A fruitful year:

am improved website

https://training.galaxyproject.org
Tags, expandable boxes and co

Tags

Automatic figure caption

Expandable boxes
FAQ

Frequently asked questions

1. Overview Questions
   1. What is this website?
   2. What is Galaxy?
   3. What are the tutorials for?
   4. What audiences are the tutorials for?
   5. How is the content licensed?
   6. How can I cite this effort?

2. For individual learners
   1. Where do I start?
   2. How do I use this material?
   3. Where can I run the hands-on tutorials?
   4. How can I get help?

3. For instructors
   1. Where do I start?
   2. What Galaxy instance should I use for my training?
   3. What are the best practices for teaching with Galaxy?
   4. How do I get help?

4. Contributing
   1. How can I give feedback?
   2. How can I report mistakes or errors?
   3. How can I fix mistakes or expand an existing tutorial using the GitHub interface?
   4. How can I create new content without dealing with git?
   5. How can I contribute in "advanced" mode?
   6. What can I do to help the project?

5. Other Questions
   1. Are there any upcoming events focused on Galaxy Training?

Overview Questions

What is this website?

This website is a collection of hands-on tutorials that are designed to be interactive and are built around Galaxy:

https://training.galaxyproject.org/faq
A fruitful year: a great article

Community-Driven Data Analysis Training for Biology

Released this morning!

Community-driven data analysis training for biology
A fruitful year: an AWESOME community!
Hall of fame

https://training.galaxyproject.org/hall-of-fame
Contribution Fests

- 25-29.06 2016 GCC @ Bloomington
- 6-7.10 2017 ELIXIR/GTN/GOBLET @ Cambridge
- 22-24.05 2017 GCC @ Montpellier
- 26-27.06 2018 ELIXIR/GTN @ Norwich
- 21-23.05 2018 GCC OBF @ Portland
- 29.06 - 02.07
A Similarly Fruitful Future?

• For Users
  ▪ More content!
  ▪ Topic-specific curriculum
  ▪ Internationalization

• For Instructors
  ▪ Mentorship
  ▪ Train the trainers (ELIXIR and The Carpentries)?

• For Contributors
  ▪ Improvement of the contribution experience
  ▪ Per-tutorial article?
A Similarly Fruitful Future?

More Contribution Fests!

- 29.06 - 02.07 2018: GCC OBF @ Portland
- 12-16.11 2018: Biohackathon @ Paris
- 15.02 2019
- 17.05 2019
- 5-6.07 2019: GCC @ Freiburg
Thank you!

BoF Tomorrow at lunch

- Community-driven data analysis training for biology

- training.galaxyproject.org

- github.com/galaxyproject/training-material

Poster G31 (tonight)