



Ensembl Train the Trainer Workshop

Hans Raj Mahila Maha Vidyalaya (HMV)
Friday, 09th October 2026

Welcome to the *Knowledge Document* for this Ensembl Browser workshop. Everyone who is registered for the course has access to edit this document. Please feel free to use this document to ask questions to the Ensembl team throughout the workshop. If you wish to ask questions privately, please do not hesitate to contact the [Ensembl Helpdesk](#).

The *Knowledge Document* is a great way of capturing the knowledge exchanged during the course and saving it for future use by yourselves and those who can't attend this course. Remember - you don't have to contribute, but any additions will be welcomed!

The course learning outcomes are:

- Describe what makes good/bad training and the skills needed by a trainer.
- Appreciate your own learning approach, how it may differ from others and how you can deliver training appropriate to different learning approaches.
- Design a training session with appropriate aims and learning objectives tailored to your audience.
- Use existing Ensembl training materials to create your own training materials.
- Deliver a short training course on using an aspect of Ensembl.

Course overview

Agenda

Ensembl Train the Trainer Workshop Friday, 09th October 2026 (times shown in IST)	
08:30 – 10:30	Principles of bioinformatics training
10:30 – 10:45	Break
10:45 – 12:00	Components of Ensembl training
12:00 – 13:00	Lunch break
13:00 – 14:30	Practical
14:30 – 14:45	Break
14:45 – 15:45	Presentations
15:45 – 16:00	Feedback and wrap-up

Trainer

[Louisse Paola Mirabueno](#) (EMBL-EBI)

[Demo, exercises and slides available to download](#)

Workshop feedback

[Please complete this feedback survey](#). Your responses will help our team improve these courses for future participants.



Q&A

If you have any questions and/or problems that you would like to share and apply to the whole class please add them below.

Write your **question** after the last one you can see in this document (you can add any screenshots if you think it might help). We will **answer** your question underneath.

1. Q:

A:

2. Q:

A:

3. Q:

A:

4. Q:

A:

5. Q:

A:

6. Q:

A:

7. Q:

A:

8. Q:

A:

9. Q:

A:



10.Q:

A:

11.Q:

A:

12.Q:

A:

13.Q:

A:

14.Q:

A:

15.Q:

A:



Practical

Task

In your group, prepare a five-minute training session on **how to learn more about a genome assembly in Ensembl**. You will have one hour to plan your session. Your session may include:

- A species of interest
- Key concepts or background
- A step-by-step demonstration in Ensembl

You may focus on specific information for the genome assembly, e.g. the available annotation data in Ensembl, the assembly level or assembly statistics.

Content

When planning your session, apply the bioinformatics training principles and Ensembl training approaches discussed during today's workshop. You may adapt materials from the Ensembl Data Platform workshop to suit your own teaching style. Use [this presentation template](#) (make a copy to edit) if you wish to use slides.

Learning objective

Include **one SMART learning objective** for your session. Your objective should match the content you plan to teach and should describe what learners will be able to do by the end of the session.

Use an AI client (e.g. [ChatGPT](#), [Google Gemini](#), [Microsoft Copilot](#), [Perplexity AI](#)) to help draft, refine, or review your learning objective.

Target audience

Your audience is a **mixed group of undergraduate and PhD students in molecular biology**. They already know what Ensembl is, but they have limited hands-on experience using it.

Delivery

- Make sure every group member speaks during the presentation.
- Upload your slides to [this shared Google Drive folder](#) before your session.
- You will present from the trainer's computer.
- You will have five minutes to present, followed by Q&A and feedback.



Additional resources

This section of the *Knowledge Document* provides additional resources that might be useful to you in developing skills and knowledge in the course topic area.

Train the trainer

You can find many useful online resources to help you become a better trainer, including free online courses and publications discussing how learning works, delivering training courses and improving your teaching:

- [ELIXIR SPLASH](#)
- [The Carpentries Instructor Training](#)
- [The Learning Scientists](#)
- How Learning Works: 7 Research-Based Principles for Smart Teaching
- Small Teaching by James M. Lang
- Small Teaching Online by Flower Darby
- Understanding How We Learn: A Visual Guide by Megan Sumeracki, Oliver Caviglioli and Yana Weinstein
- [Train the Trainer: Design Genomics and Bioinformatics Training](#) (free online course) developed by [Wellcome Connecting Science](#)
- [Application of a bioinformatics training delivery method for reaching dispersed and distant trainees](#) (Hall, et al., 2021)
- [Ten simple rules for organising a bioinformatics training course in low- and middle-income countries](#) (Moore, et al., 2021)
- [Peer Teaching as Bioinformatics Training Strategy: Incentives, Challenges, and Benefits](#) (Rahman, et al., 2022)
- [Life Science Trainers](#) website and Slack channel

Genomics and bioinformatics training

We have collated a list of resources focusing on genomics and bioinformatics training below:

- The [EMBL-EBI Training portal](#) provides courses related to genomics and bioinformatics, including free [on-demand online training](#), data resource tutorials and recorded [webinars](#).



- The Global Organisation for Bioinformatics Learning, Education and Training ([GOBLET](#)) is an international community that organises various bioinformatics-related events and provides open-source training materials and resources.
- [National Health Service \(NHS\) Genomics Education Programme](#) offers a range of bitesize genomics-related tutorials and webinars.
- The University of Manchester has curated a [Collection of Bioinformatics Learning/Training Materials](#).
- You can explore a [list of free online bioinformatics courses](#) curated by the Federal Institute of Technology (ETH) Zurich.
- The Online Bioinformatics Resources Collection ([OBRC](#)) contains annotations and links for over 2,000 bioinformatics databases and software tools.

Ensembl sites

There are several Ensembl sites (largely divided into divisions). Depending on your species of interest, you may want to visit one of the following:

- [Ensembl](#) (vertebrate species)
- [Ensembl Genomes](#) (non-vertebrate species)
- Portals:
 - [Ensembl GRCh37](#)
 - [Ensembl COVID-19](#)
- [Ensembl Beta](#) (new Ensembl data platform)
- [Ensembl Projects](#) (list of collaborations that Ensembl is involved in)

Ensembl training

For more in-depth Ensembl training, you can find links to online tutorials, walk-throughs and exercises below:

- [Ensembl: Browser Webinar Series](#)
- [Ensembl: Browsing Genomes](#)
- [Ensembl Genomes \(non-chordates\): Quick Tour](#)
- [Visualising your own data in Ensembl](#)
- [Ensembl REST API](#)
- [Webinar: Introducing the New Ensembl Genome Browser](#)



- [Ensembl Training](#) (walk-throughs and exercises)
- [Ensembl Transition webinar series](#)

EMBL-EBI training

- [EMBL's European Bioinformatics Institute \(EMBL-EBI\)](#)
- [EMBL-EBI databases and tools](#)
- The [EMBL-EBI Training portal](#) provides courses related to genomics and bioinformatics, including free [on-demand online training](#), data resource tutorials and recorded webinars (available on the [training portal](#) or [YouTube](#)).