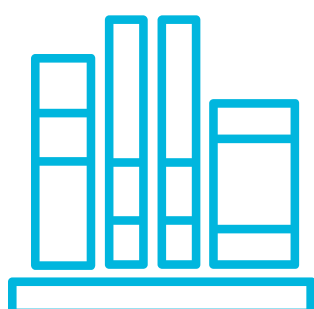


Advanced openEHR Clinical Modelling

Welcome to the Advanced openEHR Clinical Modelling Course!

This course has been created in co-operation between Rosaldo Oy and freshEHR Clinical Informatics Ltd. Dr Ian McNicoll, Heidi Koikkalainen and David Jobling from freshEHR have been responsible for preparing the Course materials and are also acting as the facilitators on this course. Ian is the Director of freshEHR and has been working in health informatics for over 30 years. Heidi and David have been working as openEHR clinical modellers since the beginning of 2020.



If you study this Course together with a team, active communication with the other participants as well as with the facilitator is encouraged during your study. Chatting, commenting and asking questions will help you digest and analyze the topics from several viewpoints. If you study this Course alone, you have the chance to address your comments and questions to the facilitator.

You can also receive a certificate for completion of the Course.

The Course will give you a deeper insight into the openEHR clinical modelling approach and teach you how to use the key tools to build archetypes and templates. We use an example use case to work through the modelling process step-by-step and illustrate it with practical exercises. During the course you will learn about key aspects of the Reference Model that underpins openEHR clinical models, how to maximize archetype reuse, and build templates, and how to modify and develop archetypes.



Furthermore, the course will give an overview of the archetype review and publication process. After completing the course you will have learnt to use the key clinical modelling tools and gained an understanding of the openEHR clinical modelling process and the steps that it involves.

TRAINING CONTENT

The Course is structured in 12 parts

Introduction to the Course

Clinical modelling tools introduces the tools that are used in this Course.



Step 1 - Understanding the use case introduces an example use case and the key concepts used in this course, and discusses how to determine the modelling requirements.

Step 2 - Archetype mapping discusses the principles of archetype reuse and how to map data items to existing archetypes.

Step 3 - Reusing CKM archetypes and Reference Model overview describes how to export existing archetypes from the CKM and provides an introduction to the key Reference Model classes.

Step 4 - Building a template gives an overview of how to build a template using existing archetypes from the CKM.

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Step 5 - Developing new archetypes describes how to create new archetypes on Archetype Designer.

Step 6 - Handling external terminologies discusses the use of external terminologies in templates.

Step 7 - Exporting and reusing templates explains how to export templates from Archetype Designer in different formats.

Step 8 - Archetype governance and localisation provides an overview of the archetype review and publication process and discusses how to localise international archetypes.

Advanced archotyping provides an overview of some archetype patterns that are commonly used within the openEHR community.

Takeaways from the Course

PART 1

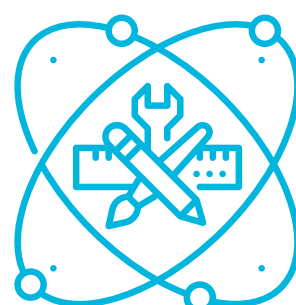


Introduction to the Course

The content of the Course and the facilitator are introduced in this part. You will also find general instructions regarding navigation and active participation in the Claned eLearning environment.

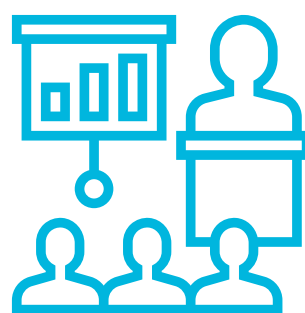
Clinical modelling tools

This part introduces the tools that are used in this course – Archetype Designer, Clinical Knowledge Manager (CKM), and XMind. We explain what clinical modellers use them for and give a demonstration of how to use XMind. Instructions for how to get started with Archetype Designer and CKM are also provided in case you are not yet familiar with those tools.



Step 1 - Understanding the use case

In this section we introduce an example use case and give an overview of the key concepts that we will be using during this Course. You will learn about the first step in the clinical modelling process: analysing the use case and determining the data items to be modelled. We explain the importance of this step and demonstrate it through a practical example.



1.1. Use case description

In this part we introduce the example use we will be working through during this course.

1.2. Key concepts used in the course

This part introduces the key concepts and terms used in the course.

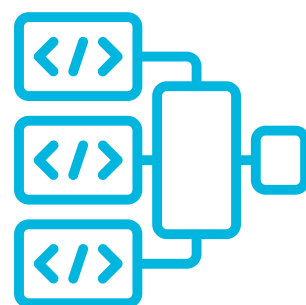
1.3. Use case analysis

In this part you will learn about the first step in the clinical modelling process: analysing the use case and determining the data items to be modelled.

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Step 2 - Archetype mapping

In this section you will learn about the main principles of archetype reuse and how to find existing archetypes on the CKM. Through the example use case, we explain how to map data items to existing archetypes and identify any gaps where archetype modification or development may be required.



Step 3 - Reusing CKM archetypes and Reference Model Overview

In this section you will learn how to reuse archetypes that are on the openEHR CKM. We guide you through the process of exporting archetypes from the CKM and importing them to Archetype Designer. We also introduce the key Reference Model classes and give an overview of the EHR and COMPOSITION classes.



3.1. Reusing international CKM archetypes

In this part you will learn how to reuse archetypes that are on the openEHR CKM. We guide you through the process of exporting archetypes from the CKM and importing them to Archetype Designer.

3.2. Key Reference Model (RM) classes

This part introduces you to the key Reference Model classes and gives an overview of the EHR and COMPOSITION classes.

PART 2

Step 4 - Building a template

This section provides an overview of how to build a template by using the archetypes we imported from the CKM in the previous step. You will learn how to create a new template, add archetypes to the template, and adjust and extend the archetypes to fit the example use case. We also discuss the idea of slots and slot rules in openEHR data models, and give overview of the SECTION, ENTRY (including OBSERVATION, EVALUATION, INSTRUCTION, ACTION and ADMIN_ENTRY) and CLUSTER Reference Model classes

4.1. Creating a new template

In this part you will learn how to create a new template on Archetype Designer and add SECTION archetypes to it. We also discuss the idea of slots and slot rules and give an overview of the SECTION Reference Model class.



4.2. ENTRY and CLUSTER archetypes

In this part you will learn how to add archetypes to a template. We also give an overview of the ENTRY Reference Model class and three of its subclasses - ADMIN_ENTRY, EVALUATION and OBSERVATION - and discuss the use of CLUSTER archetypes.

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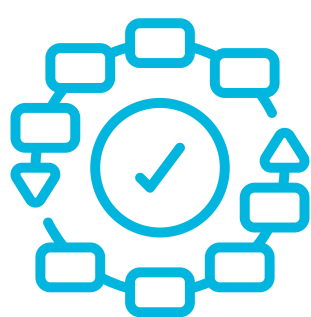
4.3. Constraining the template

In this part you will learn how to adjust archetypes in a template to fit a specific use case by constraining and modifying data elements.

4.4. INSTRUCTION and ACTION archetypes

In this part we give an overview of the INSTRUCTION and ACTION Reference Model classes and show how to use them in a template.

PART 3

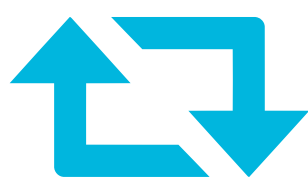


Step 5 - Developing new archetypes

In this section we guide you through the archetype development process through practical examples. You will learn how to create a new archetype on the Archetype Designer and add data elements, clusters and slots. We also discuss the general openEHR style guides and show how to add required metadata to a new archetype.

Step 6 - Handling external terminologies

In this section we discuss the use of external terminologies and, through a practical example, show how to add SNOWMED CT terms to a template. You will also learn how to hook up a template to a FHIR value set using an external terminology server.

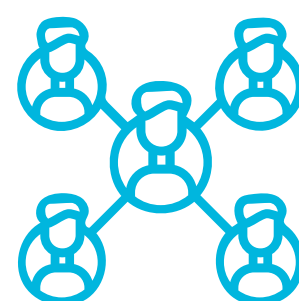


Step 7 - Exporting and reusing templates

In this section you will learn how to export templates from Archetype Designer in different output formats. We also discuss template reuse and demonstrate how to create embedded templates.

Step 8 - Archetype governance and localisation

This section provides an overview of archetype governance on the CKM and discusses how to localise international archetypes to fit local requirements. You will learn how to propose new archetypes and make change requests for existing archetypes on the CKM. We give an overview of the archetype review and publication process and discuss the principles of archetype revision management.



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Advanced archotyping

In this section we give an overview of some archetype patterns that are commonly used within the openEHR community.

Takeaways from the course

This concludes the most important takeaways from the training. As mentioned, you can also get a certificate of completion!

