



CRaG Systems Modelling Training and Consultancy

sales@cragssystems.co.uk 0845 003 9358



SysML and Real-time UML with Enterprise Architect KickStart Model Development Workshop - N Days

CRaG Systems SysML and Real-time UML with Enterprise Architect KickStart Model Development Workshops provide focused, intensive workshops that get your project moving immediately. KickStart Hands-On Model Development teaches the concepts of model-based systems engineering with SysML and realtime software development with UML by applying the methods directly to your real project using Sparx Systems' Enterprise Architect modelling tool with valuable and practical benefits to your team. The modelling methods are learned and retained better by the students since they are relevant to the team project, directly applied to the project, and there are no long theory classes before applying the methods.

The consultant shows the team how to develop whichever of the views of system requirements, structure, functionality, architecture and design are required for the project. The model is constructed using Enterprise Architect in a way that follows model-based systems engineering (MBSE) and software development industry best practice. The consultant teaches the necessary detail of the relevant syntax as the model is developed. Students work either in teams or separately to develop further the models started by the consultant and under his or her guidance. Enterprise Architect, the SysML 1.4 notation and UML 2.5 notation are used throughout. The models produced are sufficiently detailed to allow the students subsequently to complete them unaided.

Delegates will learn some or all of the following SysML and UML skills as required:

- The basics and the necessary detail of the Systems Modelling Language
- The basics and the necessary detail of the Unified Modelling Language
- The basics and the detail of Object Orientation
- How to create and maintain a diagram of hierarchical and interdependent written requirements
- How to create and maintain traceability between requirements and other parts of the model
- How to create an overview of the external functional requirements of a system with actors and use cases on a use case diagram
- How to model high-level system structure and decomposition using block definition diagrams, blocks, ports, interfaces and relationships
- How to model the detailed internal structure of blocks on internal block diagrams using parts, ports, connectors and item flows
- How to define functional behaviour and constraints using constraint blocks, parametric diagrams and constraint properties
- How to model simple, hierarchical and concurrent behaviour using activities, actions, control and object flows on activity diagram
- How to model timing, interaction and messaging between actors, blocks and parts using synchronous and asynchronous messages on sequence diagrams
- How to model state dependant behaviour using states, transitions, events, actions and activities on state machine diagrams
- How to develop a model of a real-time software architecture traceable from a SysML analysis model
- How to create a detailed model of realtime software structure and data using classes and their relationships
- How to develop component and deployment models for the software implementation of the system
- How to model the design of a software component using sub-systems and interfaces
- How to integrate libraries and frameworks into the design of software components

Delegates will learn some or all of the following Enterprise Architect skills as required:

- The basics and the necessary detail of the use of Enterprise Architect

- How to generate and maintain documents from the different parts of the model
- How to link the model with externally maintained documents and data
- How to use the tool in a multi-user environment integrated with a version control system
- How to use the project management capabilities available within Enterprise Architect

Suitable for:



System Requirements Gatherers, System Architects, System Engineers, System Analysts and Software Developers with at least 2 years experience. This workshop is not suitable for those seeking certification as a step towards a qualification. See the Certification Policy for a detailed discussion.

Project Materials Preparation:



The client is advised to provide adequate documentation regarding the overall project goals and functionality of the project to be modelled, under non-disclosure if necessary, at least 2 weeks prior to the start of the training, if possible. If no project documentation is available, then a stakeholder with a suitable knowledge of the problem domain should be available to take part in the workshop sessions. Stakeholder involvement in problem domain modelling sessions is always encouraged.

On-Site Workshop Logistics:



Workshops are delivered at the clients' site and attendance is normally limited to 12 students. Workshops normally start at 9.30am on the first day and 9.00am on subsequent days with an hour for lunch and a 15 minute break in the morning and again the afternoon. Workshops normally finish at 5.00pm each day. The client is expected to provide an appropriate venue, equipment and refreshments. Required equipment includes an XGA/WXGA projector and screen, whiteboard or flipchart and at least one computer per two students loaded with either the evaluation version of Enterprise Architect or a recent licenced copy. For a full discussion of on-site workshop issues please see On-Site Course and Workshop Logistics.

Pricing:



Please use the On-Site Workshop Price Calculator to get firm quotations for workshops of different lengths on-site at your premises depending on your expected need.

Suggested Daily Workshop Outline

AM	PM
<p>Outline</p> <p>Review of model so far - scope modelling for today</p> <p>Modelling</p> <p>Consultant led initial development of chosen modelling area. Assignment of modelling tasks.</p>	<p>Modelling</p> <p>Consultant supported team/individual development of assigned modelling tasks</p> <p>Review</p> <p>Consolidation and review of the days modelling work</p>

Should the content of any SysML and UML with Enterprise Architect workshop training course not fit your exact requirements, then CRaG Systems can create a custom course for you. Please either email or call us to discuss your particular needs.

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