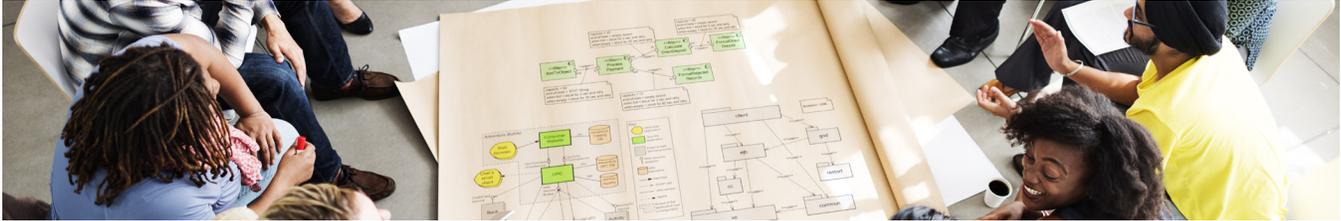


SEI Training

Documenting Software Architectures



About the Course

Software architecture provides the conceptual basis for the development of nontrivial software in all application areas and by organizations of all sizes. Effectively communicating an architecture is as important as crafting it; if the architecture is not understood—or worse, if it is misunderstood—it cannot be analyzed effectively or meet its goal as the unifying vision for system and software development.

- How do you produce *just enough* documentation to communicate with your stakeholders?
- How do you represent architectures using well-known styles such as client-server, pipe and filter, layered, and generalization?
- What are effective architecture documentation guidelines?
- How do you represent architectural elements and the relations among them?
- How do you document interface semantics and architectural rationale?
- Are there templates for architecture documentation?

This two-day course provides in-depth coverage of efficient software architecture documentation practices that meet the needs of the entire architecture stakeholder community. This course presents the information in the context of prevailing prescriptive models, including the Rational Unified Process (RUP), the Siemens Four Views software approach, the ISO/IEC/IEEE 42010 standard, and the Unified Modeling Language (UML). The course is based on the book *Documenting Software Architectures: Views and Beyond (2nd Edition)*.

Objectives

This course provides software architects with a comprehensive set of documentation skills that they can use to communicate with stakeholders in the most effective ways, which range from lightweight yet expressive models to comprehensive documentation packages.

After attending this course, participants will have a better understanding of

- the basic principles of sound technical documentation
- a stakeholder and view-based approach to documenting software architectures
- which views are available for documenting an architecture
- how to choose the set of views that will be most valuable to the architecture's community of stakeholders
- the information needed to document a view
- how to use formal and informal notations (including UML) to represent elements and relations in a view
- how to document a software interface and software behavior
- the information needed to document information that applies across views

This course is also a required course in the SEI's Software Architecture Professional certificate program.

Who Should Attend?

This course is targeted to

- software architects and developers whose jobs include communicating the software architecture
- software technical managers whose jobs include overseeing and/or managing the architecture definition process
- software engineers who may be expected to use and contribute to architecture documentation

Topics

- principles of sound documentation
- viewtypes, styles, and views
- choosing relevant views
- advanced concepts such as refinement, context diagrams, variability, software interfaces, and how to document interfaces
- documenting the behavior of software elements and software systems
- using and tailoring a seven-part template to guide the documentation process

Prerequisites

Before registering for this course, participants must

- have experience in designing and developing software-intensive systems
- understand the basic concepts of software architecture. If desired, they can gain this understanding by completing the Software Architecture: Principles and Practices course, which is available as instructor-led classroom training and as eLearning.

Materials

Participants receive a copy of the lecture slides, exercises, and the book *Documenting Software Architectures: Views and Beyond (2nd Edition)*.

Three Ways to Attend

1. Public instructor-led offering at an SEI office
2. Private, instructor-led training at customer sites
3. eLearning

“Gives a good overall description and concepts/application of the software documentation process”

“The detailed dives into the styles and views were very helpful especially in context of how they all can fit together and describe the system”

“The discussion on agile was helpful as it is the development methodology used at my place of employment”

— Course Attendees

About Us

For four decades, the Software Engineering Institute (SEI) has been helping government and industry organizations to acquire, develop, operate, and sustain software systems that are innovative, affordable, enduring, and trustworthy.

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