

SEI Training

Software Architecture Professional Certificate



Software Architect Training

Software architecture is the primary carrier of system qualities, such as performance, modifiability, and security, none of which can be achieved without a unifying architectural vision. Architecture is an artifact for early analysis to make sure that the design approach will yield an acceptable system. Architecture holds the key to postdeployment maintenance and sustainment efforts. In short, architecture is the conceptual glue that holds every phase of the project together for all its many stakeholders.

To realize all of these benefits for your project, you need to build the capability to architect effectively. The SEI offers the Software Architecture Professional Certificate to equip software professionals with state-of-the-art practices for designing, analyzing, documenting, and implementing software architectures.

This program is a collection of three courses that equips software professionals with best practices, so they can efficiently design software-reliant systems that meet their intended business and quality goals. The courses are supported by three widely acclaimed books in the SEI Addison-Wesley Series.

Successful completion of the Software Architecture: Principles and Practices exam is also required to qualify for the certificate.

Requirements

A software professional earns the SEI Software Architecture Professional Certificate by successfully completing the following:



**Software Architecture:
Principles and Practices**
Classroom or eLearning



**Software Architecture
Design and Analysis**
Classroom only



Documenting Software Architectures
Classroom or eLearning



**Software Architecture:
Principles and Practices**
Exam

This three-course sequence provides both breadth and depth in presenting software architecture concepts and practices. Participants begin with an introduction to software architecture fundamentals, and then gain experience in effective architecture design, analysis, and documentation techniques.

We recommend that certificate candidates begin with the Software Architecture: Principles and Practices course,

which is available as instructor-led classroom training and as eLearning. The courses that follow build on the concepts presented and may be taken in any sequence.

There is no fee for the certificate. There are fees associated with the requisite courses and the examination. Additionally, there is no expiration for the certificate.

The Software Architecture: Principles and Practices Course

In this two-day course, you will learn the essential concepts of software architecture and the importance of the business (or mission) context for system design. The course introduces software architectures in a real-world setting and uses “industrial-strength” case studies to cover key technical and organizational issues. Topics covered include what a software architecture is and why it’s important, the architecture influence cycle, the relationships among system qualities and software architectures, architectural patterns and tactics and their relationship to system qualities, and more. This course is based on the book *Software Architecture in Practice, Third Edition*, and is available as a classroom or an eLearning course.

Software Architecture Design and Analysis Course

In this two-day course, you will learn concepts for effectively designing and analyzing a software architecture. You apply the SEI Attribute-Driven Design (ADD) software architecture design method and are introduced to the SEI Quality Attribute Workshop (QAW), the SEI Architecture Tradeoff Analysis Method (ATAM), and several lightweight evaluation techniques. Topics covered include the essential considerations in any architectural design process, the QAW for eliciting critical quality attributes, the ADD method for designing an architecture, the role of architecture evaluation, and how to use these methods in a software development lifecycle. This course is based on the book *Designing Software Architectures: A Practical Approach Using ADD* and is a classroom course.

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.

Documenting Software Architecture Course

This two-day course offers in-depth coverage of key architectural decisions that need to be communicated to diverse stakeholders. You will learn effective documentation practices for providing the right information to the right stakeholders using practices that suit your development methods. The course presents documentation in the context of prevailing prescriptive models, including the Rational Unified Process (RUP), the Siemens Four Views software approach, the IEEE 1471-2000 standard, and the Unified Modeling Language (UML). This course is based on the book *Documenting Software Architectures: Views and Beyond, Second Edition*, and is available as a classroom or an eLearning course.

Software Architecture: Principles and Practices Exam

The Software Architecture: Principles and Practices Examination provides an objective validation of the candidate’s knowledge and understanding of software architecture. Candidates for the Software Architecture Professional Certificate must achieve a passing score of 75% in order to qualify for the certificate.

This requirement accords with industry standards for professional certificates, which require that candidates pass an examination based on a set of uniform standards after taking a required sequence of professional development courses.

For More Information

To learn more and to register for courses, visit sei.cmu.edu/training/certificates/architecture

Training courses provided by the SEI are not academic courses for academic credit toward a degree. Any certificates provided are evidence of the completion of the courses and are not official academic credentials.

Contact Us

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