Developing Component-Based Software:
Arming Yourself for the Full Lifecycle

Ali Arsanjani

Developing component-based software has been thought of as an implementation-level or deployment level activity. In this tutorial we present the aspects of component-based development that must be conducted within a methodological scope in order to ultimately realize components within an implementation language.

Although the UML and RUP have artifacts to represent components, their emphasis is on deployment and at best, implementation. They do not have full life-cycle support for analysis, architectural and detailed design needed to create componenteware. In this tutorial we explore simple extensions to the RUP that have been applied to multiple project engagements and provide workproduct(artifact) and activity (workflow) that allow practitioners to perform subsystem analysis and variation-oriented analysis to support component-based development integration from the early stages of the life-cycle.

The tutorial provides a walkthrough of these extensions with an online order-entry application as a case study from business modeling down to detailed design. Participants will be able to describe the new workproducts and activities and understand the rationale for each as they see it applied to a working example.

Ali Arsanjani has over 17 years industry experience and is a Consulting I/T Architect for IBM’s National E-business Application Development Center of Competency were he leads the Component-based Development and Integration Competency. Mr. Arsanjani has been architecting n-tier e-business systems based on object and component technology for IBM’s larger clients. His areas of experience and research include best-practices for component-based development, business rules modeling and implementation, creation and evolution of reusable assets, extending methods for CBD, building business frameworks and components and incorporating patterns and pattern languages to build resilient and stable software architectures. He has been actively presenting and publishing in these areas for a variety of audiences in industry and academia.