

Programming Tutorial with the Globus Toolkit Version 4

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Presenters:

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Background:

The tutorial will provide an in-depth introduction to programming with the latest version of the Globus Toolkit version 4 (GT4).

The Globus Toolkit (www.globus.org/toolkit) is the flagship product of the Globus Alliance, which produces open source middleware used in building grids around the world. It provides libraries and components that enable the development of service-oriented Grid applications and infrastructures. Core Globus components address basic issues relating to security, resource access and management, data movement and management, resource discovery, and so forth. A broader Globus ecosystem includes numerous tools and components that build on core Globus functionality to provide application-level functions.

GT4, released at the end of April 2005, provides a range of new services and features. In addition, by delivering the first robust implementation of Globus Web services components, GT4 completes the first stage of the migration of Web services that began in 2003 with GT3.

The tutorial is geared toward developers who want to learn about the newest work of the Globus Alliance and how to apply fundamental concepts in grid computing.

The first day teaches developers how to build a Java Service that makes use of GT4 mechanisms for state management, security, registry and related topics. It is organized as a series of hands-on exercises in which attendees add increasing functionality to a skeletal service implementation. Fundamental patterns and interactions of grid computing are highlighted.

The second day is less hands-on and more presentation-oriented. It provides a comprehensive introduction to GT4, covering execution management services, data movement and management services, and security services, and also reviewing some of the higher-level tools that build on Globus mechanisms. A brief introduction to administering a GT4-based Grid is also provided.

The APAC Grid is being built using the Virtual Data Toolkit (www.cs.wisc.edu/vdt) which incorporates the Globus Toolkit. The tutorial will therefore be able to investigate the installation of GT4 for the APAC Grid. It will also provide a forum to discuss the future middleware directions for the APAC Grid.