



IBM SCLM Developer Toolkit for z/OS

Highlights

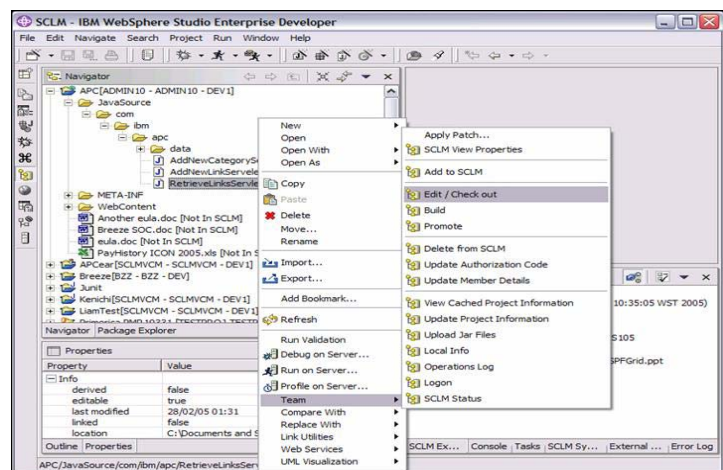
- An Eclipse-based tool that extends SCLM Services to Eclipse-based IDEs
- Facilitates collaboration between z/OS and non z/OS-based developers
- Provides a transparent IDE-based interface to SCLM, long file name support, and a remote portal via SCLM Explorer/Developer View that allows access to other SCLM-based products
- Allows Java/J2EE developers to leverage the security and functionality of SCLM, a centralized, z/OS-based SCM
- May help reduce the learning curve for developers learning how to build z/OS-based applications
- Provides investment protection with an architecture that can extend the languages supported by SCLM
- Provides flexibility by offering a choice of operating independently from or in conjunction with other IBM application and web development tools:
 - IBM Rational Application Developer
 - IBM Websphere Developer for zSeries

SCLM Developer Toolkit combines the functional richness of the Eclipse-based IDE and the proven integrity and dependability of SCLM to give both application developers and SCLM administrators a new interface to a flexible, powerful, and reliable environment for rapidly and securely modernizing z/OS applications on demand.

IBM Software Configuration and Library Manager (SCLM) is a popular industry-standard software configuration management (SCM) tool that is provided as part of the ISPF element of z/OS. SCLM consists of two functional components, a library manager and a configuration manager, and is used to control, maintain, and track all of the software components of an application. It is widely used in the development of z/OS-based applications that employ traditional languages such as COBOL and PL/I. As a part of ISPF,

SCLM provides a conventional 3270 interface, as well as a batch interface.

Developer Toolkit is an Eclipse-based tool that extends the functionality and accessibility of SCLM by providing an Eclipse-based integrated development environment (IDE) interface. With its integrated support for storing into SCLM files with long names, such as Java program files, HTML files, graphics files, and other workstation files, Developer Toolkit lets Java/J2EE developers code and test their applications in an Eclipse-based IDE and then use Developer Toolkit to store their source code in SCLM. Developers can then use Developer Toolkit to build and deploy their applications within the z/OS environment using SCLM, much like COBOL developers do (Developer Toolkit supports deployment of Java and J2EE objects to WebSphere Applications Server running on z/OS).



Example 1: Checking out a file with IBM SCLM Developer Toolkit



Because Developer Toolkit supports long name file storage, it means that SCLM can be used to store all sorts of application components.

Today's application development projects exploit a variety of technologies and platforms. So, centralizing the software configuration management activities of these development projects can avoid or lessen many of the difficulties associated with managing such complex projects.

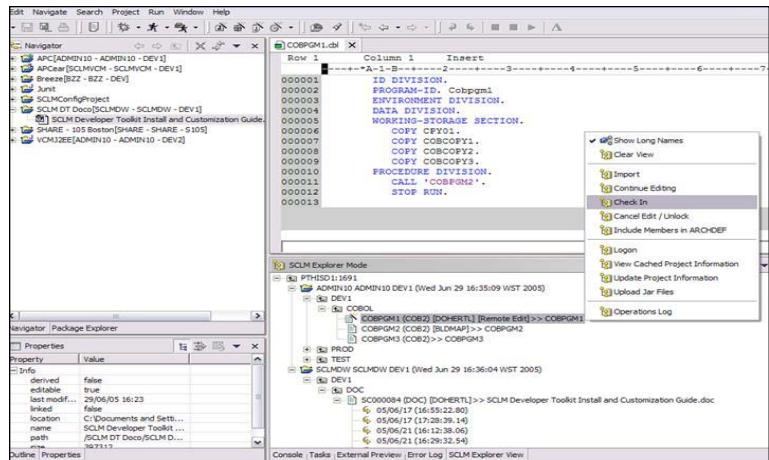
For application developers with little or no prior exposure to the z/OS development environment, learning how to develop z/OS applications can take a long time and a tool that reduces that learning period can significantly improve developer productivity. By removing the reliance on 3270 system access, users can concentrate development activities on the rapidly expanding set of Eclipse IDE-based tools and only need to use a single development environment. The transparent way in which SCLM services can be invoked from the Eclipse IDE means that SCLM can be used as the SCM for application development projects, further shortening developers' learning curves.

The SCLM services are provided in Developer Toolkit using the Eclipse standard team-based actions. Current Eclipse SCM users only need to learn some of the nuances associated with SCLM to effectively drive the SCM services for their development projects.

Features and services such as “check in” and “check out” are universal SCM functions. Developer Toolkit delivers these, and all other SCLM services, including a large number of SCM services such as project synchronization, file comparison, and version control, in an Eclipse SCM consistent manner. This means that developers can exploit the IDE services that currently exist for their Eclipse projects whilst using SCLM for source management.

Whilst Developer Toolkit provides Java/J2EE developers with a transparent IDE-based interface to SCLM, it also provides access to other SCLM projects from the Eclipse IDE by means of the SCLM Explorer/Developer View. This view provides a remote portal to SCLM that developers can use to access SCLM artifacts and services from the Eclipse IDE. This consolidation of access and services around a single platform enhances the usability of SCLM for a wide range of developers and languages.

Developer Toolkit allows application developers to store source code in almost any language in SCLM. Consequently, the Developer Toolkit architecture is able to extend the level of language support that SCLM can provide through the addition of SCLM build translators. As Eclipse tools are added to the development environment Developer Toolkit may move to support those features. Consolidation around these open-source tools using the power of a proven (and developing) mainframe application environment realizes a powerful development scenario. For example, the build services provided with Developer Toolkit use Ant, the Java-based Make tool, as the principal build tool. Using Ant provides a high level of customizability of the build process. Developers can either generate build scripts or they can modify “skeleton” scripts to drive the appropriate build behaviors for the SCLM projects.



Example 2: SCLM project view as seen from SCLM Explorer View



Hardware Requirements

For Host System:

- An IBM eServer zSeries machine capable of running the required software

For Workstations:

- RAM: 1 GB or higher recommended for best performance
 - Minimum 768 MB required when running WebSphere Developer for zSeries
 - Minimum 512 MB required when not running WebSphere Developer for zSeries
- 512 MB of disk space available
- 500 MHz or faster processor
- 1024 x 768 resolution monitor
- TCP/IP connectivity with host

Software Requirements

For Host System:

- z/OS V1R5 or higher (preferred) or z/OS V1R4 with the following PTF applied:
 - ISPF PTF UA02085
- Java 1.3.1 (5655-D35) at service level dated May 10, 2003 or September 25, 2003
- UNIX System Services (USS) must be operational
- ANT runtime installed in USS if performing Java/J2EE builds

For Workstations:

- One of the following operating systems:
 - Windows XP
 - Windows 2000 with Service Pack #3 or later
 - Red Hat Linux Pro 8.0 on Intel x86 with GTK
 - IBM AIX 5L on PowerPC
- Java 1.3 run time or developer kit installed

Limitations

- IBM SCLM Developer Toolkit V1.1 is restricted to z/OS environments for the building and deployment of SCLM artifacts.

Complementary Solutions

SCLM Plus:

- IBM SCLM Developer Toolkit for z/OS is part of the overall package of SCLM Plus application development products. SCLM, which is provided with z/OS, is the base of the SCLM Plus package. Add-on components include IBM SCLM Suite Administrator Workbench, IBM Breeze for SCLM, IBM Enhanced Access Control for SCLM, and IBM Merge Tool.

Both IBM SCLM Developer Toolkit and IBM SCLM Suite Administrator Workbench can be installed either as stand-alone products or as plug-ins to an existing IBM Eclipse-based tooling such as Rational Application Developer (RAD) for WebSphere Software, formerly known as Websphere Studio Application Developer (WSAD), or WebSphere Developer for zSeries, formerly known as Websphere Studio Enterprise Developer (WSED).

IBM Rational ClearQuest CrossPlatform SCM Package:

- SCLM Plus can be used in conjunction with Rational ClearQuest and Rational ClearCase to provide an integrated cross-platform change management solution.

IBM Rational Application Developer (RAD) via SCLM Developer and Suite Administrator Workbench:

- IBM SCLM Plus provides a centralized z/OS-based library and configuration management system where RAD application developers can store their application data, manage changes to the data, perform auditing and versioning, initiate and review application builds, and promote applications through the application lifecycle.

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