

Detour to WebSphere Development Studio Client 5.1

By Phil Coulthard and George Farr



In our ongoing series of Roadmap articles we've been introducing each of the steps in a possible roadmap for those looking to modernize their skills and applications. Here, we take a small detour from the Roadmap in order to talk a bit about the new 5.1 release of WebSphere Development Studio Client (WSDc), which contains most of the tools described in the roadmap.

The 5.1 release of WSDc was generally available on October 17, 2003 for both the standard and advanced editions. Remember, these clients tools are numbered to be consistent with WebSphere Application Server (WAS), not OS/400, so they actually support all active releases of OS/400. This means they can connect and work with source on any iSeries at V5R1 or higher. The 5.1 number of this release is actually slightly out of character as it is designed to support the 5.02 release of WAS, recently made available on all platforms, including iSeries. The reason for this numbering scheme is that this release of the tools is proactive and will also support later releases of WAS. [Note: Version 6.0 of WAS is now available.]

The 5.1 release is relatively small for the tools, however, it is still an important release! The main focus of the release is quality, performance, and high-request items from users.

Remote System Explorer

The enhancements to the Remote System Explorer (RSE), which is for RPG and Cobol development (and C, C++, CL, and DDS, of course) include the following:

- Traditional function keys have been enabled, such as F5 for refresh and F4 to prompt in the editor.
- Jobs are now listed in the tree, partitioned by OS/400 subsystem, making it easier to work with long lists of jobs.
- CL command prompting, such as from the command line or when editing CL, now uses a native Eclipse graphical user interface (and not a Java Swing user interface). Numerous fixes and enhancements have also been made to the prompter, including support to prompt within prompts (e.g., for the SBMJOB (Submit Job) command) and more effective caching in disconnected mode (**Figure 1**).



Figure 1.

- New actions let you quickly create a filter from a selected library or file, so that the contents of the library or file are shown when the new filter is expanded. You can also drag and drop individual items to an existing filter.
- You can now select multiple members for compile. The error list view

shows a separate page for each member. You can also set your preferences to affect the

order in which the compiles happen, by member type.

- There is more robust monitoring of communications sessions and handling of orphaned jobs and leftover member locks when connections are lost.
- The verifier caching support is more robust and intuitive, automatically using the cached information when it is available. There is a new "Refresh cache" option on the prompt dialog for the verify action (e.g., to force an update of the cached information for F-specs and copy members).
- The new right-click action on the iSeries Objects subsystem directly opens a member for edit or browse or creates a new one, saving the effort of drilling down to the member. The shortcut is Ctrl+Shift+N.
- Just as in CODE/400, a wizard creates RPG IV subprocedures when you're editing RPG IV members. After prompting for parameter information, the wizard generates a subprocedure stub and a prototype for you. The former goes to the bottom, and the latter goes to the top, after the last D-spec.
- The outline view for RPG IV has been enhanced to honor case, show prototypes, and does a better job positioning when a subprocedure is selected.
- Very robust code-assist support is provided for ILE Cobol. For example, use Ctrl+Space after typing FUNCTION to see a list of intrinsic functions.

- Enhanced code-assist support is provided in the editor for RPG IV. This includes parameter help for D-, H-, and F-spec keywords; free-form opcodes; built-in functions; and subprocedure calls. It also includes support for compiler directives, reserved words, I-specs, D-spec keywords, and a number of other areas of the language. Also, the inserted code now honors the case of the immediately surrounding text.
- You can now open a member for editing by dragging it to an open editor.
- Template support for free-format RPG, ILE Cobol, and C++ lets you define a code snippet called a “pattern” and give it a name. When editing, if you enter one or more characters of the name and press Ctrl+Space, you’ll see all templates whose name matches what’s been typed, and when one is selected, the code for that template is inserted. There are a several supplied tem-

- plates. Templates are extremely handy for often-used code constructs.
- A new “link to editor” action in the local toolbar for the Remote Systems view causes the edited member to be selected in the tree view when an edit pane is given focus.
- New actions on the iSeries Objects subsystem start and stop the Agent Controller server on the iSeries. This new server enables a number of interesting capabilities of the tools, such as profiling Java applications running on an iSeries system, analyzing iSeries WebSphere and Apache log files (see the “problem determination” section of the documentation), and publishing Web projects directly to WAS on an iSeries and subsequently debugging those applications. The Agent Controller server is now available for V5R2 and V5R1 by way of PTFs.
- Programs and service programs can now be expanded to see their modules, and modules in turn can

be expanded to see their publicly exported ILE procedures.

- You can specify generic library, file and member names when searching remote members for a given string, making it easier to quickly search many members.
- Numerous enhancements for non-iSeries support include new content assistance in the Unix, Microsoft Windows and Linux command console for executable commands found on your server path.

iSeries Projects

In a previous article, “Better Tools: iSeries Projects”, we introduced iSeries Projects. **Figure 2** shows the new iSeries Projects perspective. The enhancements to iSeries Projects include the following:

- The initial layout of the iSeries Projects perspective is more intuitive.
- A new right-click action replaces the selected members with the version in the library associated with this project.

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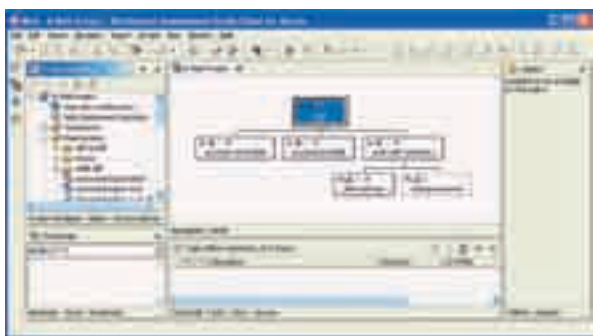


Figure 2.

- A new prompt saves pending changes when pushing members to the associated library.
- The build action now compiles members in the correct order according to member type, and you can affect this with command execution preferences. The build issues a warning before overriding an edited CL compile member (COMPILE.CLLE). The build also supports two new right-click actions for members to let you define your own compile commands by member type, and to select which compile command is used in the generated CL compile member, again by member type.
- A new “link to editor” action in the local toolbar for the iSeries Projects Navigator view causes the edited member to be selected in the tree view when the edit pane has focus.
- New actions for adding tasks and bookmarks to selected members allow you to associate them with a member so that double-clicking in the task view or bookmarks view opens the associated member in the editor. Other new actions launch CODE Designer for DPSF, PRPF, and PF members.
- The Eclipse 2.1 development environment provides the ability to create projects that link to existing local folders and files, so that you can access these resources directly through workbench perspectives such as the iSeries Projects perspective, without having to import them first.

IBM WebFacing Tool

Here are the key enhancements to WebFacing for 5.1:

- A new preference setting specifies whether the generated XML files

should be archived in a JAR file. Not archiving makes team support easier. The preference setting can be overridden for particular projects with a property setting.

- Better error handling for the user ID and password prompt includes support to alert users when their passwords have expired.
- New property settings provide more control of the process. You can now position function key buttons within windowed records while keeping them at the side for non-windowed records. Another setting enables compression of the Web pages when running in an environment with slow communication speed. Yet another property setting maps a key to the field exit key in 5250. Web settings on an output field provide support for dynamic function key label fields, whether they contain the translated description for a particular function key or they contain function key descriptions that are determined at runtime.
- Significantly reduced WebSphere resources are now needed for subfiles, so that applications with large numbers of concurrent users do not exhaust memory. Similar improvements are provided for the processing of the SLF-NXTCHG keyword.
- The new IBM Web Site Designer lets the WebFacing-generated Web pages be used within a larger Web site, sharing the same style as the other pages. The Web Site Designer lets you design Web page templates that reserve areas for the actual page content. A Web-enabled application can run inside one of these reserved areas of a Web site page. See the documentation for details on this powerful new capability, which can be enabled in the WebFacing project wizard.
- In the advanced edition, support for Struts development has been updated to the 1.1 release of Struts.

Struts is an open-source framework that vastly simplifies Web application development. The 1.1 release of Struts is a major enhancement over the 1.0 release, and you can now use either release

Programming in Java with iSeries Java Tools

Enhancements improve the iSeries Java tools in Version 5.1. Ease-of-use enhancements to the Program Call wizard provide new right-click actions for deleting parameters and defining externally described parameters, just as in the Web Interaction wizard.

Enhancements Inherited from the Base Products

Although the enhancements to the iSeries extensions in WSDc are the most interesting to most users, there are also many great enhancements to the general functions in the base Studio products that it's based on: WebSphere Studio Site Developer for the standard edition, and WebSphere Studio Application Developer for the advanced edition. Of the numerous enhancements, here are some of the highlights:

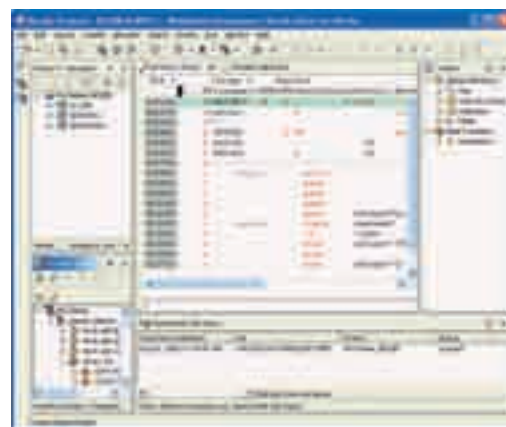



Figure 3.

- The new Eclipse 2.1 workbench has major enhancements, especially for the Java development tools. For example, it supports hot replacement of Java code while debugging. You can find a full list of Eclipse 2.1 enhancements at <http://www.eclipse.org>.
- The J9 Java Virtual Machine offers significant performance enhancements for all activities done in the workbench.

- Specific enhancements reduce startup time, memory footprint and performance for debugging, the WebSphere unit test environment, EJB deployment (advanced), Web service tools, and Web tools.
- The latest standards are supported, including Application Server 5.0.2, Struts 1.1, Web Markup Language (WML), Compact Hyper-Text Markup Language (CHTML), Apache Axis 1.0, Web Services Description Language (WSDL) 1.1, Web Services Interoperability (WS-I) basic profile 1.0 (the work by IBM and Microsoft to ensure Web services interoperability), and IBM DB2 UDB Version 8.1.
- The new Web Site Designer (mentioned earlier and shown in **Figure 3**) helps you create, import, and manage whole Web sites. While the Page Designer is, like SDA, a visual editor for an individual Web page, Site Designer is a visual tool for the whole Web site, where you can easily add, delete, and move pages. It visualizes the page hierarchy, which affects the site navigator and map. You can easily apply page templates to the pages in the site; changing the template changes all the pages using it. Page Designer supplies a palette of Web site parts that you can drag and drop to individual pages, such as the Web site navigator and Web site map.
- The enhanced Web perspective includes a significantly improved set of palettes for Web page development and a vastly simplified Web project wizard.
- A new WSDL editor and enhancements to the Web Services Explorer help you create and validate that Web services comply with WS-I.
- The Advanced product inherits wonderful support for visual editing of Java and EJBs using integrated Universal Modeling Language (UML). Not only is the UML model of your code visualized on fly, but the visualization stays in synch as you edit. This ability, one of the first fruits of IBM's acquisition of Rational Software Corporation, is a tremendous boost to understanding your code.

There are many more enhancements across the wide range of tools in WSDc, both standard and advanced.

Just a Taste

This is but a small taste of the enhancements in this new release, most of which are the direct results of user feedback and industry evolution. We hope and trust you'll agree this is an exciting and dynamic product, whose development team listens and reacts. Be sure to continue following along with the Roadmap series as we continue our enumeration of the steps in the RPG-to-J2EE Roadmap. 

This article was first published in *iSeries News* magazine.

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