

WebSphere® software

IBM WebSphere Development Studio for iSeries, Version 5 Release 2

Highlights

- Lets you capitalize on iSeries system versatility to reach new markets
- Speeds development time and helps reduce cost
- Helps developers make the transition to e-business development quickly
- Extends the life of existing applications with dynamic, new tools

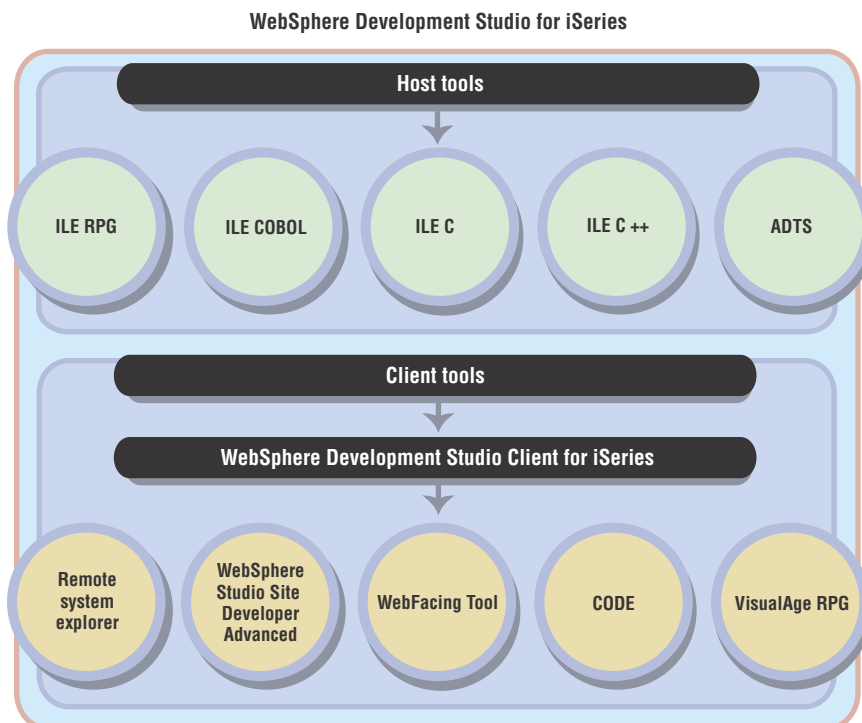
Host tools help iSeries servers empower your e-business solutions

IBM WebSphere® Development Studio for iSeries offers you host and workstation tools for a complete application development solution built for the IBM @server iSeries™ system. The Eclipse technology-based integrated development environment (IDE) enables the integration of both IBM and non-IBM application development tools with IBM WebSphere Studio Workbench. WebSphere Development Studio for iSeries adds enhanced

interoperability features that can improve e-business application development for the iSeries platform. Host tools for iSeries servers include:

Integrated Language Environment RPG for iSeries

Easy to use and tightly integrated with the iSeries system, Integrated Language Environment (ILE) Report Program Generator (RPG) compiler for the RPG programming language is a key component of WebSphere Development Studio for iSeries. ILE RPG provides free-form calculation specifications, enhanced interoperability with Java™ components and improved complex and externally described data structure support.



IBM WebSphere Development Studio for iSeries combines new host and workstation tools to help build effective e-business applications.

ILE RPG uses a two-octet, universal character set (UCS-2)—Unicode— data type to permit development of applications for multinational release, with minimal reauthoring or converting code. Using ILE RPG, your developers have greater programming flexibility— with long file-naming options and enhanced keyed input or output fields and lists, for example—and more built-in functions. Code options make it easier to handle errors, and keywords give you better control over file opening during runtime. ILE RPG enhancements include:

- *31-digit and decimal-place support*
- *Conversion from character parameters to numeric values*
- *Complex data structures including arrays of structures and subfields which are structures*
- *New ways to specify key lists*
- *Performance enhancements for Force End of Data (FEOD) operation*

ILE COBOL for iSeries

WebSphere Development Studio for iSeries includes ILE COBOL compiler for the COBOL programming language. ILE COBOL compiler supports standard

COBOL as defined in the ILE COBOL Programmer's Guide. ILE COBOL supports external file, nested source and variable-length record and complex Occurs-Depending-On statements which ease migration from IBM @server zSeries™ and other platform programs. ILE COBOL also provides UCS-2 support and improved Java interoperability. WebSphere Development Studio, Version 5 Release 2 ILE COBOL enhancements include:

- *More intrinsic function, such as MAX, VALUE, RANGE and SUM*
- *Program Call Markup Language (PCML) generation*
- *Recursive program and local-storage section support*
- *Integrated File System (IFS) support*

ILE C for iSeries

The ILE C compiler is the most current C compiler that IBM offers on any platform. It includes greater ANSI support and improved cross-platform portability. You can enable C compiler-generated code to address storage allocated by teraspace memory model and to boost portability. As a result, memory management is more consistent with other platforms. The ILE C

compiler supports a dynamic preprocessor that allows C programs to target a user-defined coded character set identifier (CCSID) increasing national language support and wide-character Unicode support to better enable C applications for international use.

ILE C++ for iSeries

WebSphere Development Studio for iSeries provides an ANSI- and International Standards Organization technology-compliant* C++ compiler, native to the iSeries system. The C++ compiler replaces both the IBM VisualAge® C++ cross-compiler and the native C++ PRPQ compiler. Language features, such as namespaces and Boolean data types, are recognized. Enhancements to the iostream class provide 64-bit file indexing and explicit CCSID control for text conversion. iSeries teraspace support has also been added. ILE C++ compiler includes an improved AT&T class library, a complete ANSI standard template library.

Application Development ToolSet (ADTS)

WebSphere Development Studio for iSeries gives you an end-to-end solution to help developers make the transition to Web-based application development. Support for IBM AS/400® application developers continues with a toolset that includes source entry utility (SEU), screen design aid (SDA), report layout utility (RLU), programming development manager (PDM) interface, interactive source debugger (ISDB) and data file utility (DFU). Incremental enhancements to individual tools increase compatibility with advanced technology, language compiler improvements and the Web-enabled platform.

WebSphere Development Studio Client for iSeries

WebSphere Development Studio for iSeries offers a comprehensive workstation toolset to extend the versatility of iSeries servers for application development. WebSphere Development Studio Client for iSeries helps you Web-enable existing applications and quickly build new e-business applications. WebSphere Development Studio Client for iSeries,

built on the Eclipse technology-based IBM WebSphere Studio Site Developer Advanced, Version 4.0.3, includes:

- *Java development tools*
- *A Web development environment*
- *Server development tools*
- *XML tools*
- *Web services*
- *Database support*

WebSphere Development Studio Client for iSeries includes the following components.

Remote system explorer

WebSphere Development Studio Client for iSeries includes a generic remote systems framework that supports views, tools and tool extensions for working with the iSeries servers to develop host-based applications. The remote systems framework makes it easy to connect to your iSeries servers, and the remote system explorer allows you to develop new applications for them.

IBM WebSphere Studio Site Developer Advanced, Version 4.0.3

IBM WebSphere Studio Site Developer increases developer productivity with graphical user interface (GUI-)based application development, and easy-to-use coding tools, wizards and templates. WebSphere Studio for iSeries offers an IDE designed so you

can easily create and manage Web development projects. Integration with IBM VisualAge for Java for iSeries allows development-time site testing and the transfer of JavaBeans components and servlets to and from VisualAge for Java for iSeries. So you build and deliver dynamic function to the Web, faster.

IBM WebFacing Tool

IBM WebFacing Tool provides an effective way to create Web interfaces for existing 5250 applications. With WebFacing Tool, you can create industry-standard JavaServer Pages (JSP) components from the display file data description specification (DDS) source at development time. You can have a simple, cost-effective way to Web-enable many 5250 applications.

The process requires minimal change to the application's business logic, no separate tool costs and no runtime charges. You can rapidly deploy generated JSP components and JavaBeans components to an application server, providing a Web interface for your application. With IBM WebFacing Tool, the same application supports both 5250 and Web browser interfaces.

IBM CoOperative Development Environment

IBM CoOperative Development Environment (CODE) is a comprehensive development environment for writing host applications for iSeries systems. The comprehensive CODE tool suite features workstation-based editing, syntax checking, program verification, compiling and enhanced, multitiered debugging support for your iSeries applications. CODE supports RPG, COBOL, C, C++, control language (CL), DDS and Java technology.

IBM VisualAge RPG

IBM VisualAge RPG features point-and-click simplicity for RPG programmers at their workstations. Use VisualAge RPG to write RPG applications that run on Microsoft® Windows® and still access iSeries system data and programs without disruption. Your new applications can be compiled into Windows executable files, Java applications or applets. You can edit, compile, debug and execute RPG through an easy-to-use, customizable GUI.

Facilitate e-business application development with iSeries

WebSphere software from IBM capitalizes on the reliability, security and scalability of iSeries servers to provide a solution for e-business application development. With WebSphere Development Studio for iSeries you can rapidly and cost-effectively Web-enable existing applications and create new e-business applications.

For more information

To learn more about WebSphere Development Studio for iSeries, visit:

ibm.com/software/ad/iseries

IBM WebSphere Development Studio for iSeries, Version 5 Release 2 at a glance

Hardware requirements

Workstation (minimum requirements)

- Intel® Pentium® II, 600MHz processor or faster recommended
 - 256MB (512MB recommended). When using the IBM WebSphere Application Server test environment, a minimum of 512MB required; when using the CODE and VisualAge RPG classic tools, a minimum of 128MB required
 - 1.4GB hard drive space
 - Additional 500MB of temporary hard drive space needed during product installation
 - VGA display 800 x 600 (1024 x 768 recommended), 256 colors
 - CD-ROM or DVD drive
 - Mouse or pointing device
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iSeries system

- iSeries and AS/400 RISC models. If WebSphere Application Server on iSeries is used for applications built with WebSphere Development Studio Client components, refer to the WebSphere Application Server documentation for minimum iSeries hardware requirements.
- Memory and disk space:

Option	Auxiliary storage
Base	22MB
Utilities (including PDM, DFU and SDA)	50MB
ADM	35MB
ADS	42MB
RPG options	50MB
COBOL options	65MB
C and C++ compiler options**	185MB

** The C++ compiler requires a machine capable of running IBM OS/400® PASE.

Software requirements

Workstation

For Microsoft Windows 98, Windows Me or Windows XP

- Microsoft Internet Explorer, Version 5.5 with Service Pack 1 or higher

For Windows NT

- Windows NT® Server or Workgroup, Version 4.0 with Service Pack 6a or higher
- Microsoft Internet Explorer, Version 5.5 with Service Pack 1 or higher

For Windows 2000

- Windows 2000 Professional, Server or Advanced Server with Service Pack 1 or higher
 - Microsoft Internet Explorer, Version 5.5 with Service Pack 1 or higher
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iSeries system

- Websphere Development Studio for iSeries: OS/400, Version 5 Release 2 Modification 0 (product number 5722-SS1).
- The C and C++ compilers: "openness includes" (5722-SS1, option 13). Installing "openness includes" is optional for RPG and COBOL. The C++ compiler requires OS/400 PASE (5722-SS1, option 33). To use the ixlc shell command, the Qshell interpreter (5722-SS1, option 30) must be installed.
- OS/400, Version 5 Release 1 or higher, IBM WebFacing Tool and remote system explorer need additional PTFs; PTF information available on ibm.com/software/ad/wds400.
- OS/400 needed only if programming objects are located on the iSeries server, or applications contain back-end code on the iSeries server.

Component or feature	Host software requirements
ILE RPG option	OS/400, Version 5 Release 2 (5722-SS1)
ILE COBOL option	OS/400, Version 5 Release 2 (5722-SS1)
ILE C and C++ option	OS/400, Version 5 Release 2 (5722-SS1) and option 13; C++ requires option 33
ADTS	OS/400, Version 5 Release 2 (5722-SS1)



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* 1998 C++ standards from ANSI X3J16/ISO W612 committees