

WebSphere® software

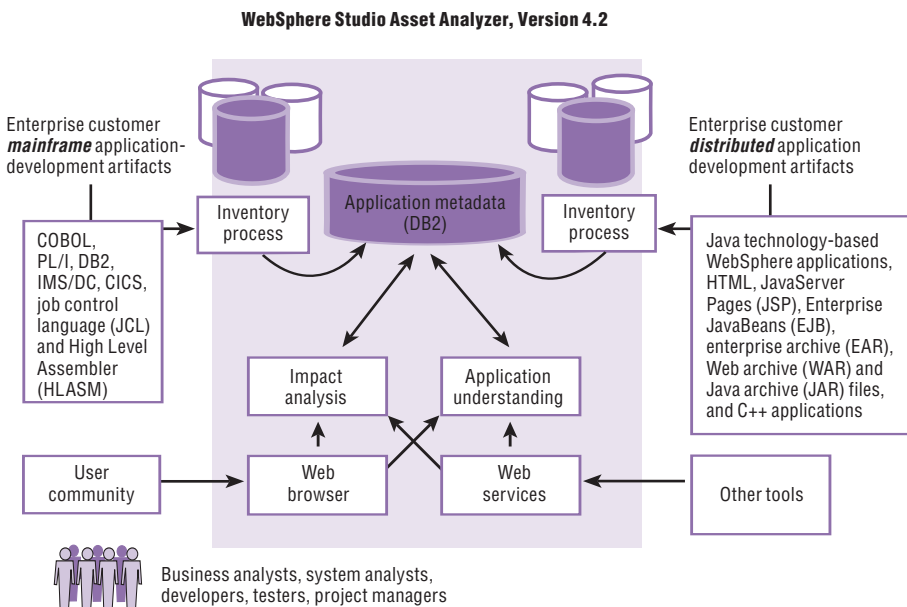
IBM WebSphere Studio Asset Analyzer for Multiplatforms, Version 4.2

Highlights

- **Provides interactive textual and graphical reports that help you better understand mainframe and distributed application assets and their relationships**
- **Helps reduce the complexity of software projects by delivering up-to-date knowledge of application components from the code itself**
- **Enables you to identify the artifacts that a proposed code or operational change affects so that you can make changes more quickly, with less risk**
- **Improves process and team efficiency by making the same application insight available to all team members**
- **Helps shorten the learning curve for new developers**
- **Helps identify existing application assets which are, or could be, reusable components in Web or SOA applications**

Existing applications are an IT organization's most valuable assets, and maintaining them consumes a large portion of the typical IT budget. To maximize business efficiencies, you need to find new ways to increase maintenance productivity and reduce costs. You also need to devote a greater portion of your IT budget to projects that add new business value. And in the process, you can respond with more flexibility to changing markets and IT requirements—and enable existing applications to integrate with your service oriented architecture (SOA).

IBM WebSphere® Studio Asset Analyzer for Multiplatforms, Version 4.2 helps you maintain, extend and transform existing applications through rapid application understanding and impact analysis, and provides management information for making informed decisions about application projects. You can use the information provided by this product to modernize your existing enterprise assets.



WebSphere Studio Asset Analyzer, Version 4.2 helps you maintain, extend and transform existing applications.

For IBM @server® zSeries® and distributed environments, WebSphere Studio Asset Analyzer provides information about finding and reusing application code and the components that connect that code. For your Java™ 2 Platform, Enterprise Edition (J2EE) environment, WebSphere Studio Asset Analyzer can help you understand the code that is operating in your run-time environments. You can build and deploy applications that include mainframe and distributed components. And WebSphere Studio Asset Analyzer can grow with your business to become an integral repository for insight about critical application assets.

Designed to meet your business needs

WebSphere Studio Asset Analyzer consists of the following components:

- Scanners running on IBM z/OS®, IBM AIX® or Microsoft® Windows® systems
- An application metadata repository in IBM DB2® on z/OS systems
- Web applications running on z/OS, AIX or Windows systems

The product's open architecture offers:

- *Interactive access to application insight through a Web browser.*
- *Programmatic access through either direct Structured Query Language (SQL) queries or a Web services application programming interface (API).*
- *The option to create custom queries and attach them to an action drop-down menu on most pages of the Web user interface.*

WebSphere Studio Asset Analyzer scans mainframe and distributed software assets, storing related application information in a DB2 repository that resides on the mainframe. You do not have to download your mainframe application inventory to a workstation, nor do you have to upload your distributed application inventory to a mainframe. WebSphere Studio Asset Analyzer

scans the source where it resides, whether in partitioned data sets (PDSs) or partitioned data sets extended (PDSsE) on the mainframe, directories on Windows or AIX systems, or in one of a number of source configuration management (SCM) systems.

And with this release, WebSphere Studio Asset Analyzer, Version 4.2 includes new metrics for mainframe assets, including Halstead, and McCabe's Cyclomatic Complexity and Essential Complexity, as well as more application-level reports. Together, these metrics provide the information that you need to help you understand the relative complexity of applications and to estimate the effort required for a given project.

The screenshot shows the 'Application details' page for an application named 'METRICS'. It includes a 'Details' section with application information and a 'Metrics' section with three tables: 'Run time', 'Program', and 'Data'. Below these is a 'Statistics' section with a table of application-level metrics.

Run time	Total	Program	Total	Data	Total
Batch job	25	BMS map definition	1	Data element	2352
CICS group	0	BMS map set definition	1	Data set	389
DB2 table region	0	Consolidation set	1	Data store	70
DB2 table	0	DB2 table in archive	0	DB2 column	5
DB2 system	4	Entry point	23	DB2 table	2
IMS subsystem	0	IMS PDS	0	DB2 name	823
IMS transaction	0	Literals	n/a	I/O record description	225
IMS DBID	0	Program	15		
Run unit ID	14				

Attributes (4)	Total	Average
Number of lines in file	13715	157
Halstead Effort	1022287	645161
Essential Complexity	68	4
Cyclomatic Complexity	7267	171

WebSphere Studio Asset Analyzer, Version 4.2 provides additional application-level details such as assets included in the application and metrics at the application level.

Scan applications more effectively

WebSphere Studio Asset Analyzer, Version 4.2 provides robust scanning capabilities. You can use IBM Enterprise COBOL, Version 3.4 and IBM Enterprise PL/I, Version 3.4 compilers when scanning source code for WebSphere Studio Asset Analyzer—helping to make scanning completely consistent with the compilers. And by identifying syntax- and semantic-related issues that could hinder your progress, WebSphere Studio Asset Analyzer helps simplify the task of migrating to the latest levels of the compilers. If you have older COBOL or PL/I source code, the WebSphere Studio Asset Analyzer internal language scanners remain available for your use.

Applications with Web and mainframe components, called *composite applications*, are a key component of an effective SOA. This release of WebSphere Studio Asset Analyzer provides a technology preview of composite-application support. This preview includes initial use-case support for creating and finding dependencies that span mainframe and Java components of a composite application.

Additional enhancements are designed to provide you with more control over impact analyses, including:

- *The ability to determine their scope based on the applications involved*
- *The ability to tune WebSphere Studio Asset Analyzer resource usage to match the system resources you devote to it by including a “governor” to control unexpectedly large or long-running impact analyses, and by enabling you to control the number of concurrent impact analyses that can be run*

Scanning and inventory-loading enhancements with this release include:

- *Support for remote IBM CICS® transactions*
- *A user exit to handle preprocessor statements in COBOL applications*
- *Support for duplicate BMS map-set IDs*
- *Enhancements designed to handle ambiguous, unqualified DB2 columns*
- *Java and distributed scanning enhancements, including a wizard that helps simplify inventory load and related administration, and the ability to use multiple machines as scanning roots to make administration more flexible*

Other scanning features include:

- *Extensive COBOL and PL/I support, including SQL CALL and SQL CREATE PROCEDURE statements and DB2 syntax introduced in IBM DB2 Universal Database™, Version 8.*
- *The ability to identify PL/I-controlled variables and file declarations, which makes it easier to migrate PL/I application source code to the latest enterprise version of PL/I compiler.*
- *Distributed-artifact support, which enables WebSphere Studio Asset Analyzer, Version 4.2 to scan IBM WebSphere Application Server, Version 5.1 run time environments. This run time helps developers understand the topology and application structure of running Web applications. J2EE, Version 1.3 artifacts are also supported.*

Increase productivity

WebSphere Studio Asset Analyzer includes several features designed to improve productivity. Custom queries enable you to create, name, save and rerun your own SQL queries to more easily mine WebSphere Studio Asset Analyzer metadata to meet your unique information requirements. In WebSphere Studio Asset Analyzer, Version 4.2, these custom queries can be added as an action on the pull-down menu on most pages. Bookmarking capabilities make it easy to retrieve preconfigured summary and detail pages provided by WebSphere Studio Asset Analyzer. Bookmarking also helps simplify the task of returning to pages with search results that you designate as important in your daily work. A flexible impact-analysis user interface enables you to interact more directly in the analysis process:

- *A wizard-driven interface enables you to create impact analyses.*
- *You can indicate the scope of analysis, such as analysis only within programs or across program and application boundaries, by specifying an analysis level.*
- *More informational messages indicate status when creating and performing analyses.*

- *Tabbed output on the impact-analysis details page enables you to move quickly among summary, detailed and graphical views of the results of an impact analysis.*

Also, you can use distributed artifacts as the starting point (seed) of an impact analysis, enabling you to determine the impact of changes to assets, such as Java packages, JavaServer Pages (JSPs) and data sources, as well as many other distributed asset types.

Options for viewing data elements enable you to see only the data elements of interest for your particular task at hand (top-level only, used, or used and declared).

Leverage your application insight by integrating other tools

WebSphere Studio Asset Analyzer provides a Web services interface that externalizes much of its application insight and makes this insight accessible to other commercial or homegrown tools. And Version 4.2 now includes Java and other distributed asset types. IBM Asset Transformation Workbench uses this interface to initiate an impact analysis in WebSphere Studio Asset Analyzer and retrieve the results of this analysis. WebSphere Studio Asset Analyzer can pass a list of all application components and their locations in your source-code management system to IBM Asset Transformation Workbench for download and further analysis.

The image displays two screenshots of the WebSphere Studio Asset Analyzer impact analysis interface. The top screenshot, titled "Impact analysis details: Impact analysis results", shows a summary view. It includes a "Details" section with fields for "Impact analysis" (QAD01:MASTER-STK-PART-NO), "Description" (Change to MASTER-STK-PART-NO), "Starting points for the impact analysis" (Program/Element: QAD01:MASTER-STK-PART-NO), "Scope of analysis" (Full method), and "Levels of impact analysis" (Full method). Below this is an "Overview" section with tabs for "Summary" and "Details". The main content area shows a flow diagram: "Starting with 1 data element in 1 database" leads to "Direct Impacts" (2 Data elements, 0 Entry points, 0 Other impacted programs) and "Indirect Impacts" (2 Data elements, 5 Programs). The bottom screenshot, also titled "Impact analysis details: Impact analysis results", shows a detailed view. It includes a "Details" section with fields for "Impact analysis" (bankaccount/Customer - LMS3.A), "Description" (GENERATED for EIB (bankaccount)Customer), "Type of asset analyzed" (Impact Analysis - EIB), "Asset" (bankaccount), and "Asset" (Customer). Below this is an "Overview" section with tabs for "Summary" and "Details". The main content area shows a flow diagram: "Starting with 2 EIB" leads to "Direct Impacts" (0 Archive file, 0 EAR file, 1 Web file, 0 EIB-JAR, 0 J2EE client file, 0 Connector archive, 0 Java package, 14 Java bytecode class, 0 Java bytecode field, 25 Java bytecode method, 0 EJB, 2 HTML file, 2 Servlet, 0 ZIP file, 0 JSP tag, 0 JSP tag library) and "Indirect Impacts" (0 WAS datasource, 0 WAS JDBC driver, 0 WAS JDBC connection factory, 0 WAS JMS destination, 0 WAS JMS provider, 0 WAS JMS provider, 0 WAS generic server, 0 WAS J2C connection factory, 0 WAS J2C resource adapter, 0 WAS URL, 0 WAS URL provider).

WebSphere Studio Asset Analyzer provides impact-analysis tools for both mainframe and distributed assets.

The Flashline Registry also uses this Web services interface to populate its registry with the applications and components you designate. Together, WebSphere Studio Asset Analyzer and Flashline Registry promote application reuse and better IT governance by making mainframe and distributed application assets and their interdependencies visible to development teams and IT managers.

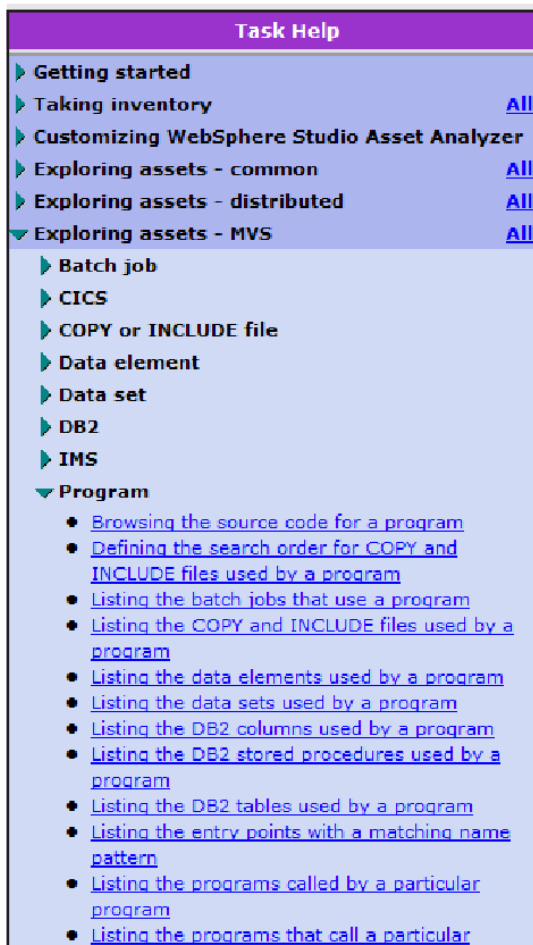
Broad platform support

WebSphere Studio Asset Analyzer includes support for z/OS, Windows and AIX systems, both for scanning application assets and as a deployment platform for WebSphere Studio Asset Analyzer Web-based applications.

Automate the discovery phase of the development cycle to help maximize productivity

The analysis phase of an application's development cycle can consume a significant portion of total development costs. WebSphere Studio Asset Analyzer helps reduce these costs by increasing developer and analyst productivity through automating the discovery phase of a development cycle. With WebSphere Studio Asset Analyzer, you can help reduce the complexity of software projects by providing access to up-to-date knowledge of all application components from the source code — and supplementing outdated or nonexistent developer and analyst documentation.

WebSphere Studio Asset Analyzer helps improve process and team efficiency by making the same application insight available to all team members. It also helps foster team understanding and improve communication through customized, annotated metadata.



New task help in WebSphere Studio Asset Analyzer, Version 4.2 can help developers quickly learn how to use the metadata collected.

You can use this product to help shorten the learning phase for new developers, and to help developers comprehend application dependencies at multiple levels, including:

- *Jobs and transactions*
- *Files and databases*
- *Programs and applications*
- *Programming languages, such as COBOL, PL/I, Assembler, C, C++, Java and various distributed text formats, including HTML and XML*
- *Systems, such as CICS, IBM IMS™, WebSphere Application Server, IBM WebSphere MQ and DB2*
- *Platforms, such as on z/OS, IBM @server pSeries, AIX and Windows systems*

With WebSphere Studio Asset Analyzer, you can help reduce the risk involved in routine application maintenance and operational changes by providing a more thorough analysis of proposed changes. You can verify that you have all the source components for an application at your main work site or at your disaster-recovery site.

WebSphere Studio Asset Analyzer, Version 4.2 includes a number of enhancements, such as:

- *Best practices to help you maximize the benefits you can derive from WebSphere Studio Asset Analyzer*
- *Making WebSphere Studio Asset Analyzer documentation and help available as a plug-in to IBM WebSphere Help Center or any Eclipse, Version 3 integrated development environment (IDE), as well as directly from the Web*
- *IBM Support Assistant to help make it easier to find the information you need to quickly solve problems on your own*

Also, WebSphere Studio Asset Analyzer now runs on WebSphere Application Server for z/OS, Version 6 and works with (but does not yet exploit new features in) IBM CICS Transaction Server, Version 3.1, IBM Enterprise COBOL, Version 3.4 and IBM Enterprise PL/I, Version 3.4.

Putting knowledge to work

WebSphere Studio Asset Analyzer can help you understand your core business applications and extend these applications into your On Demand Business environment. As you gain a greater understanding of your applications, you can start the change process efficiently — while minimizing the risk to your current business operations. Combine WebSphere Studio Asset Analyzer with other IBM products to maximize business value:

- *IBM WebSphere Developer for zSeries offers a single IDE to help you develop and maintain a new generation of COBOL, J2EE and Web services applications.*
- *IBM CICS Interdependency Analyzer provides an understanding of your CICS application inventory through run-time analysis of CICS systems.*
- *IBM Asset Transformation Workbench helps simplify and accelerate large mainframe application-transformation projects and to componentize your existing assets.*

For more information

To learn more about IBM WebSphere Studio Asset Analyzer, Version 4.2, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/software/awdtools/wsaa/

To join the Global WebSphere Community, visit:

www.websphere.org

IBM WebSphere Studio Asset Analyzer, Version 4.2 at a glance

Hardware requirements

- Any hardware configuration supported by the licensed programs specified below
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Run-time requirements

Operating environment:

- z/OS, Version 1.3 or later
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Databases (one of the following):

- IBM DB2 Universal Database for z/OS and OS/390, Version 7, Service Level UQ96293 or later and IBM DB2 Utilities Suite, Version 7.1
- IBM DB2 Universal Database for z/OS, Version 8, Service Level UK00265 or later and DB2 Utilities Suite for z/OS, Version 8.1

Note: RUNSTAT in IBM DB2 Utilities Suite for z/OS is required for tuning the WebSphere Studio Asset Analyzer repository.

Application servers (one of the following):

- IBM WebSphere Application Server for z/OS, Version 5.1, Service Level UQ96206) or later, installed on the host with WebSphere Studio Asset Analyzer
 - IBM WebSphere Application Server for z/OS, Version 6.0.1, Service Level UK05470 or later, installed on the host with WebSphere Studio Asset Analyzer
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If scanning distributed assets or deploying the WebSphere Studio Asset Analyzer Web applications on AIX or Windows, you must have WebSphere Application Server installed on Windows or AIX as follows:

- IBM WebSphere Application Server Edition, Version 5.1 or later, installed on a server or workstation running IBM AIX, Version 5.1 or later; Windows XP Professional with SP1 or later; Windows 2000; or Windows 2003.
- Java Runtime Environment (JRE) as supported by WebSphere Application Server (for example, JRE, Version 1.4.2 with WebSphere Application Server, Version 6.0.1)
- IBM DB2 Connect™ Enterprise Edition, Version 7.1 or later

Note: Visit the DB2 Web site at ibm.com/software/data to determine the version of the utilities that best matches your database version.

To access WebSphere Studio Asset Analyzer from a client workstation :

- Microsoft Internet Explorer, Version 6.0 or later

Note: WebSphere Studio Asset Analyzer takes advantage of Adobe technology to render graphics in the Scalable Vector Graphics (SVG) format. Currently the Adobe Web browser plug-in for SVG exists in its most robust form for only Microsoft Internet Explorer.

To access WebSphere Studio Asset Analyzer programmatically:

- If using Web services, use the WebSphere Studio Asset Analyzer Web services API.
 - If accessing DB2 directly, use any supported DB2 client or other method of issuing SQL commands against the WebSphere Studio Asset Analyzer repository in DB2.
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IBM WebSphere Studio Asset Analyzer, Version 4.2 at a glance (continued)

Scanning requirements

- If you plan to scan DB2 catalog information, one of the following:
 - DB2 Universal Database for z/OS and OS/390, Version 7 or later
 - DB2 Universal Database for z/OS, Version 8 or later
- If you plan to scan WebSphere applications, one of the following:
 - WebSphere Application Server Advanced Edition, Version 4.0.3 or later, installed on a server or Windows XP Professional with SP1 or later, Windows 2000, or Windows 2003
 - WebSphere Application Server, Version 5.1 or later, installed on a server or workstation running AIX, Version 5.1; or running Windows XP Professional with SP1 or later, Windows 2000, or Windows 2003
- If you plan to use the IMS support in WebSphere Studio Asset Analyzer:
 - IBM IMS/ESA® Database Manager, Version 5 or later
 - IBM IMS/ESA Transaction Manager, Version 5 or later
 - IBM IMS Library Integrity Utilities for z/OS, Version 1 or later, or IMS Library Management Utilities for OS/390, Version 1 or later
- If you plan to use the CICS support in WebSphere Studio Asset Analyzer: IBM CICS Transaction Server, Version 1.3 or later

Note: WebSphere Studio Asset Analyzer, Version 4.2 works with, but does not yet scan the new language syntax introduced in CICS Transaction Server, Version 3.1.

- If you plan to use the COBOL and PL/I compiler-based scanning support that was introduced in WebSphere Studio Asset Analyzer, Version 4.1, one of the following:
 - IBM Enterprise COBOL for z/OS, Version 3.3 with Service Level UQ97019
 - IBM Enterprise PL/I for z/OS, Version 3.3 with service level UK06462, Version 3.4 or Version 3.5

Note: WebSphere Studio Asset Analyzer, Version 4.2 works with, but does not yet scan the new language syntax introduced with the Version 3.4 COBOL compiler, and the Version 3.4 and Version 3.5 PL/I compilers.

- If you plan to scan Assembler: High Level Assembler for MVS™ and VM and VSE, Version 1.3 or later
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