



WebSphere® software

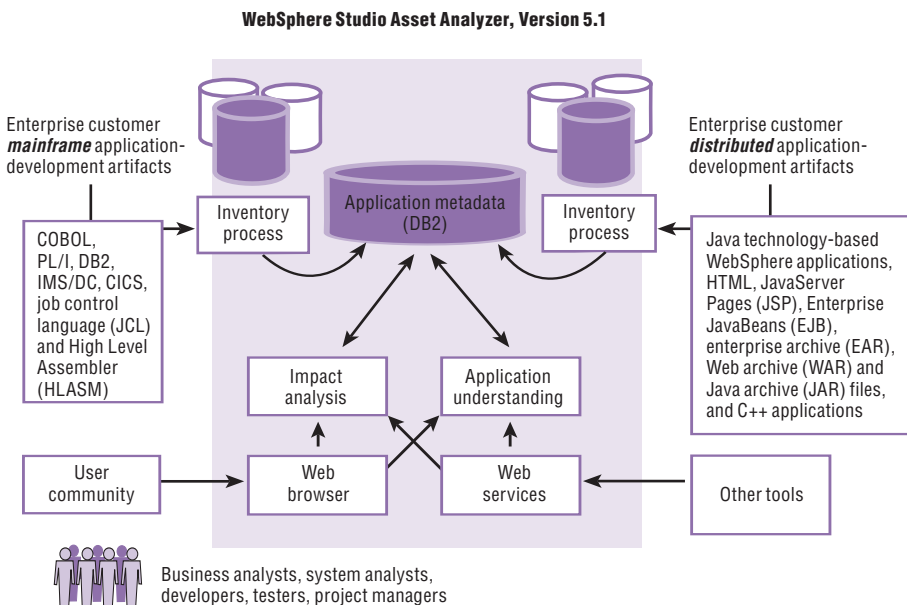
# IBM WebSphere Studio Asset Analyzer, Version 5.1

## Highlights

- **Provides interactive textual and graphic reports that help you better understand mainframe and distributed application assets and their relationships**
- **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**
- **Helps shorten the learning curve for new developers**
- **Helps reduce the complexity of software projects by delivering up-to-date knowledge of application components from the code itself**
- **Improves process and team efficiency by making the same application insight available to all team members**

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 5.1 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 5.1 helps you maintain, extend and transform existing applications.

For IBM System z™ 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) systems, WebSphere Studio Asset Analyzer can help you understand the code that is operating in your runtime 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 (and the ability to scan WebSphere systems, and EAR and WAR files deployed on Linux®, Sun Solaris and IBM System z™ platforms)*
- *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 (PDSEs) on the mainframe, directories on Windows or AIX systems, or in one of a number of source configuration management (SCM) systems.

WebSphere Studio Asset Analyzer also includes metrics for mainframe assets, such as 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. Also, with Version 5.1, you now have the ability to use the open-metrics framework of WebSphere Studio Asset Analyzer to programmatically calculate and store your own metrics with the inventory.

The product includes scanners for distributed assets, such as:

- *Support for scanning WebSphere Application Server, Version 5 and 6*
- *Support for scanning the J2EE, Version 1.4 syntax*
- *Support for scanning Java, Version 1.5 syntax*
- *Sample metrics for distributed software artifacts*

### **Scan applications more effectively**

WebSphere Studio Asset Analyzer, Version 5.1 provides robust scanning capabilities. You can use IBM Enterprise COBOL, Version 3.4 and IBM Enterprise PL/I, Version 3.5 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 upgrading to the latest levels of the compilers. This release includes the ability to analyze Web services to capture their semantics and present their relationships. Also, if you have older COBOL or PL/I source code, the WebSphere Studio Asset Analyzer internal language scanners remain available for your use.

Applications containing both Web and mainframe components, called *composite applications*, are a key component of an effective SOA. This release of WebSphere Studio Asset Analyzer provides composite-application support, including the ability to manually articulate your own relationships between components where WebSphere Studio Asset Analyzer cannot automatically detect them with static analysis.

This capability includes support for finding dependencies that span mainframe and Java components of a composite application.

Scanning and inventory-loading enhancements with this release include:

- *The ability to add statistics or metrics to the file summary page*
- *Annotations enabled on applications and the ability to render annotations on any annotatable asset's summary page*
- *The ability to specify multiple data types and numeric ranges in the data element (DE) summary advanced search*
- *A dashboard of application summary information that can provide a quick snapshot of metrics information about applications*

- *An improved and simplified wizard for creating distributed scan roots*
- *Improvements to the scalability and usability of the source “where used” action*
- *The ability to switch more easily between compiler-based scanning and internal scanning for COBOL and PL/I at the site, application, container and file levels*

Other scanning features include:

- *A user exit to handle preprocessor statements in COBOL applications*
- *Support for duplicate basic mapping support (BMS) map-set IDs*
- *Enhancements designed to handle ambiguous, unqualified DB2 columns*
- *Java and distributed scanning enhancements, and the ability to use multiple machines as scanning roots to make administration more flexible*
- *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 upgrade PL/I application source code to the latest enterprise version of the PL/I compiler*

The top screenshot displays the 'Impact analysis details: Impact analysis results' for 'QAD01:ORDSTA-PART-NO'. It includes a 'Details' section with metadata and an 'Overview' section with a flow diagram. The flow diagram shows 'Direct Impacts' starting with 1 data element in 1 program, leading to 2 data sets, 2 data stores, 0 IMS segments, and 0 DB2 tables. 'Indirect Impacts' result in 2 data elements in 0 programs. The bottom screenshot shows the same interface for 'Trade Sample EJB', with a flow diagram showing direct impacts on various Java artifacts like Archive file, EAR file, WAR file, EJB-JAR, J2EE client file, Connector archive, Java package, Java bytecode class, Java bytecode field, Java bytecode method, EJB, HTML file, Servlet, JSP file, JSP tag, and JSP tag library. Indirect impacts include DataSource, JDBC driver, JMS connection factory, JMS destination, JMS provider, Generic server, J2C connection factory, J2C resource adapter, URL, and URL provider.

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

### Increase productivity

WebSphere Studio Asset Analyzer includes many features designed to improve analyst and developer productivity. Custom queries enable you to create, name, save, share and rerun your own SQL queries to more easily mine WebSphere Studio Asset Analyzer metadata to meet your unique information requirements. You can display the results of these queries in tabular format on the GUI in the same way that it is currently done for the canned summary or details pages. You can also add these custom queries 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.

Composite application support in WebSphere Studio Asset Analyzer, Version 5.1 has been enhanced to automatically discover EJB Query Language (EJB-QL) dependencies and to enable you to create relationships manually and render results graphically. This release also provides analysis-queue information, as well as the ability to select all data items for impact analysis. You can also take advantage of added support to resolve dynamically formed file names (data stores) that are referred to using 88 level-set statements.

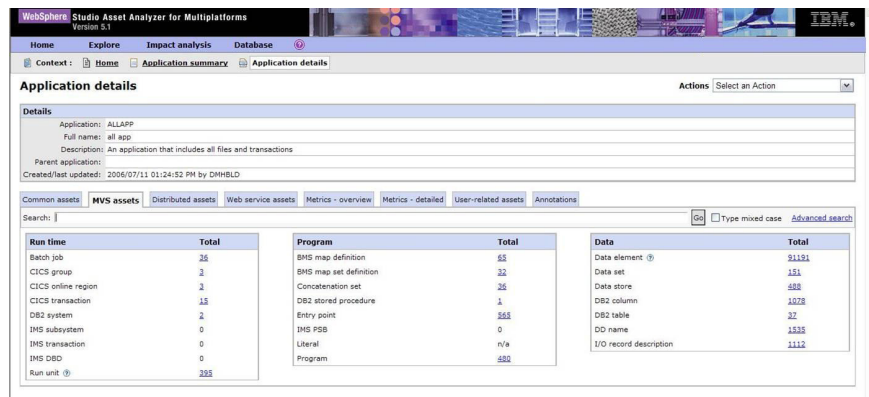
Also, you can use distributed artifacts as the starting point (seed) of an impact analysis, enabling you to determine the impact of changes to assets, such as Java packages, JavaServer Pages (JSPs) and data sources, as well as many other distributed asset types.

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).

### Make the most of 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, including 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.

With this release, WebSphere Studio Asset Analyzer offers enhanced direct and Web services interfaces that enable better integration with IBM WebSphere Developer for System z. For example, with the WebSphere Studio Asset Analyzer Web services external API, you can now retrieve the source, as well as adding and setting metrics information. Also, the WebSphere Studio Asset Analyzer URL API has been expanded to cover all z/OS assets.



WebSphere Studio Asset Analyzer, Version 5.1 provides additional application-level details, such as assets included in the application and metrics at the application level.

### 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 Web-based applications in WebSphere Studio Asset Analyzer.

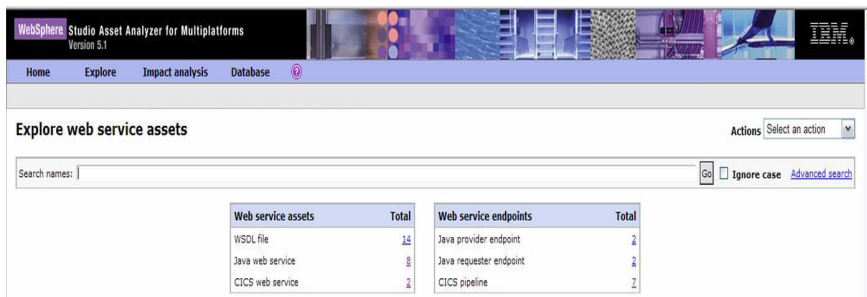
This release of WebSphere Studio Asset Analyzer also includes a new graphical representation of the metadata schema that enables clients to understand it more easily.

### 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.



WebSphere Studio Asset Analyzer now provides support for analyzing Web services, including CICS Web services.

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++, Java and various distributed text formats, such as HTML and XML*
- *Systems, such as IBM CICS®, IBM IMS™, WebSphere Application Server and DB2*
- *Platforms, such as on z/OS, IBM System p™, 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. To help with these tasks, WebSphere Studio Asset Analyzer provides a number of capabilities, 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*
- *IBM Education Assistant to provide narrated presentations, Flash simulations, tutorials, and resource links to help you use WebSphere Studio Asset Analyzer more effectively*

Also, WebSphere Studio Asset Analyzer runs on WebSphere Application Server for z/OS, Version 6.0 or later, and Version 6.1, and provides new support for IBM CICS Transaction Server, Version 3.1, including CICS support for Web services and CICS Transaction Server support for containers and channels. The product also includes updated compiler-based scanners that enable it to support the syntax in the latest levels of IBM Enterprise COBOL, Version 3.4 and IBM Enterprise PL/I, Version 3.6.

Other productivity features include:

- *The ability to easily switch between different proprietary and compiler-based scanners for COBOL and PL/I*
- *Support for scanning the DB2, Version 9 catalog*
- *Support for IMS scanning of IMS, Version 6, 7, 8 and 9*
- *Online data sets that are referenced by CICS or IMS transactions on the application details page*
- *Enhanced performance for the job control language (JCL) scanner*
- *Support for EXEC CICS statements in the COBOL compiler-based scanner*
- *Support for PL/I pointer-based data elements*

## Putting knowledge to work

WebSphere Studio Asset Analyzer can help you understand your core business applications and extend these applications into your 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 through the following capabilities:

- *WebSphere Developer for System z 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 runtime 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 5.1, contact your IBM representative or IBM Business Partner, or visit:

[ibm.com/software/awdtools/wsaa/](http://ibm.com/software/awdtools/wsaa/)

To join the Global WebSphere Community, visit:

[www.websphere.org](http://www.websphere.org)

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## IBM WebSphere Studio Asset Analyzer, Version 5.1 at a glance

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### Hardware requirements

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- Any hardware configuration supported by the licensed programs specified below

### Runtime requirements

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Operating environment:

- z/OS, Version 1.6

Databases (one of the following):

- IBM DB2 Universal Database for z/OS and OS/390®, Version 7, Service Level UQ96293 Universal Database and IBM DB2 Utilities Suite, Version 7.1
- IBM DB2 Universal Database for z/OS, Version 8.0.1, Service Level UK00265, and DB2 Utilities Suite for z/OS, Version 8.0.1
- IBM DB2 for z/OS, Version 9

### Notes:

- RUNSTAT in IBM DB2 Utilities Suite for z/OS is required for tuning the WebSphere Studio Asset Analyzer repository.
- Visit the DB2 Web site at [ibm.com/software/data](http://ibm.com/software/data) to determine the version of the utilities that best matches your database version.

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To scan distributed assets or deploy the WebSphere Studio Asset Analyzer Web applications on AIX or Windows:

- One of the following WebSphere Application Server products installed on AIX or Windows as follows:
    - IBM WebSphere Application Server, Version 5.1, installed on a server or workstation running IBM AIX, Version 5.2 or 5.3, Windows XP Professional with Service Pack (SP) 1, Windows 2000 or Windows 2003
    - IBM WebSphere Application Server - Express, Version 5.1, installed on a server or workstation running IBM AIX, Version 5.2, Windows XP Professional with SP1, Windows 2000 or Windows 2003
    - IBM WebSphere Application Server, Version 6.0.2.15, installed on a server or workstation running IBM AIX, Version 5.2, Windows XP Professional with SP1, Windows 2000 or Windows 2003
    - IBM WebSphere Application Server - Express, Version 6.0.2.15, installed on a server or workstation running IBM AIX, Version 5.2, Windows XP Professional with SP1, Windows 2000 or Windows 2003
    - IBM WebSphere Application Server, Version 6.1, installed on a server or workstation running IBM AIX, Version 5.2, Windows XP Professional with SP1, Windows 2000 or Windows 2003
    - IBM WebSphere Application Server - Express, Version 6.1, installed on a server or workstation running IBM AIX, Version 5.2, Windows XP Professional with SP1, Windows 2000 or Windows 2003
  - IBM DB2 Connect™ Enterprise Edition, Version 7.02, or DB2 Connect Enterprise Edition, Version 8.1
  - 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)
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## IBM WebSphere Studio Asset Analyzer, Version 5.1 at a glance (continued)

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### Runtime requirements (continued)

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To access WebSphere Studio Asset Analyzer from a client workstation :

- Microsoft Internet Explorer, Version 6.0

**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.

### Scanning requirements

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- If you plan to scan DB2 catalog information, one of the following:
    - DB2 Universal Database for z/OS and OS/390, Version 7 with program temporary fix (PTF) UQ96293
    - DB2 Universal Database for z/OS, Version 8.0.1 with PTF UK00265
    - DB2 for z/OS, Version 9
  - If you plan to scan WebSphere applications, one of the following:
    - WebSphere Application Server Advanced Edition, Version 4.0.3, installed on a server or workstation running AIX, Version 5.2 or 5.3, Windows XP Professional with SP1, Windows 2000 or Windows 2003
    - WebSphere Application Server, Version 5.1, installed on a server or workstation running AIX, Version 5.2 or 5.3, Windows XP Professional with SP1, Windows 2000 or Windows 2003
    - WebSphere Application Server, Version 6, installed on a server or workstation running AIX, Version 5.2 or 5.3, Windows XP Professional with SP1, Windows 2000 or Windows 2003
  - If you plan to use the IMS support in WebSphere Studio Asset Analyzer: IMS, Version 6, 7, 8, 9 or 10
  - If you plan to perform IMS database design (DBD) and program specification block (PSB) control block analysis: IBM IMS Library Integrity Utilities for z/OS, Version 1
  - If you plan to use the CICS support in WebSphere Studio Asset Analyzer: IBM CICS Transaction Server, Version 2.2, 2.3, 3.1
  - If you plan to use the COBOL and PL/I compiler-based scanning support, one of the following:
    - IBM Enterprise COBOL for z/OS, Version 3.3 with Service Level UQ97019 or Version 3.4 with PTF UK17513
    - IBM Enterprise PL/I for z/OS, Version 3.3 with service level UK06462, Version 3.4, Version 3.5 or 3.6
  - If you plan to scan Assembler: High Level Assembler for MVS™ and VM and VSE, Version 1.4
  - If you plan to scan from Serena ChangeMan ZMF: Serena Changeman ZMF, Version 5.3
  - If you plan to scan from CVS: CVS client, Version 1.11.1.2 (Build 41)
  - If you plan to scan from PVCS (Windows only): PVCS, Version 6.8.0.0
  - If you plan to scan from IBM Rational® ClearCase®: IBM Rational ClearCase 2003
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03-07  
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