

WebSphere Developer Asset Analyzer Technology Preview



User's Guide

Version 7 Release 0

Note

Before using this information and the product it supports, read the information in "Notices" on page 17.

Second edition (July 2007)

This edition applies to version 7.0 (Technology Preview) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this Book

This book explains how to use WebSphere® Developer Asset Analyzer to view information about COBOL and PL/I programs, and to scan, search, and analyze the impact of changes to software assets from a WebSphere Developer for System z™ workspace. For hardware and software prerequisites and for installation instructions, refer to [readme.html](#), available on the WebSphere Developer Asset Analyzer Technology Preview download site, [Tech Preview Download Site URL Goes Here](#).

Who Should Read this Book

This *User's Guide* is designed to be used by anyone using WebSphere Developer Asset Analyzer.

Related Information

WebSphere Developer Asset Analyzer brings some of the capabilities of WebSphere Studio Asset Analyzer v.5.1.0 to the WebSphere Developer for System z workspace. For more information on WebSphere Studio Asset Analyzer, refer to the following documents:

- *Configuration and Migration Guide (GC18-9517-00)*
- *Getting Started (SC18-9528-00)*
- *Quick Tour (SC18-9526-00)*
- *Taking an inventory using WebSphere Studio Asset Analyzer for Multiplatforms (SC18-9527-00)*
- *Web Services Guide (SC18-9518-00)*
- *Messages and Codes (GC18-9516-00)*

Using WebSphere Developer Asset Analyzer

WebSphere Developer Asset Analyzer enables you to use the asset management functions of WebSphere Studio Asset Analyzer from within a WebSphere Developer for System z workspace. When installed and configured, it automatically scans the files within your WebSphere Developer for System z v7.0 or v7.1 workspace and stores information about your files in a DB2[®] inventory database.

Overview of technology preview content

This technology preview contains the following functions:

- Automatic scanning of COBOL and PL/I assets on the workstation
- Search for programs
- Search for declarations, references, and modifications of data elements
- Search for declarations of data elements from within the LPEX editors
- Display programs in a tree view
- Display external assets used by a program in a diagram
- Display data elements in a program in a table
- Search remote z/OS[®] hosts
- Edit z/OS programs through search results
- Impact analysis for data elements

Before you start

Before you can scan and search assets on the workstation, you need to install Open Object Rexx and DB2. Refer to the readme file for software prerequisites and installation instructions.

Setting up WebSphere Developer Asset Analyzer

Whenever you add, remove, or modify a file in your WebSphere Developer for System z workspace, WebSphere Developer Asset Analyzer updates information about the file in the inventory database so that you can search the database.

Enabling local scanning

To enable WebSphere Developer Asset Analyzer to scan files in your WebSphere Developer for System z workspace, follow these steps:

1. From the WebSphere Developer for System z **Window** menu, select **Preferences**.
2. In the Preferences dialog, select **WebSphere Developer Asset Analyzer**.

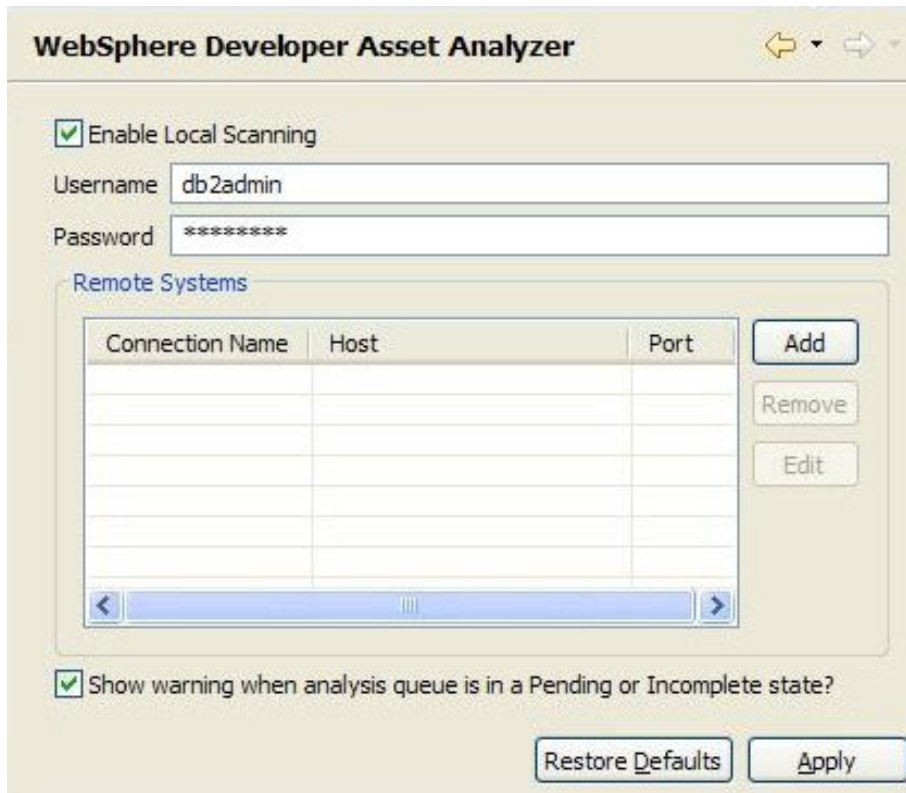


Figure 1. WebSphere Developer Asset Analyzer Preferences

3. Select **Enable Local Scanning** and type a DB2 user ID and password with administrator authority in the **Username** and **Password** fields.
4. Click **OK** or **Apply**.

Disabling local scanning

To disable local scanning, open the WebSphere Developer Asset Analyzer preferences page and clear the **Enable Local Scanning** check box. If you leave the values entered in the **Username** and **Password** fields, WebSphere Developer Asset Analyzer can search the local files that have already been scanned. The search results, however, will reflect the content of files when they were last scanned and will not provide up-to-date information.

Defining a remote system

WebSphere Developer Asset Analyzer allows you to search for assets on a remote z/OS host on which WebSphere Studio Asset Analyzer v5.1.0 is installed and running. To do so, you need to define how to connect to the remote system using the Remote Systems dialog. To define a remote system, do one of the following:

From the WebSphere Developer Asset Analyzer Preferences page

1. Click the **Add** button in the Remote Systems section of the page. The Add Remote System dialog opens.

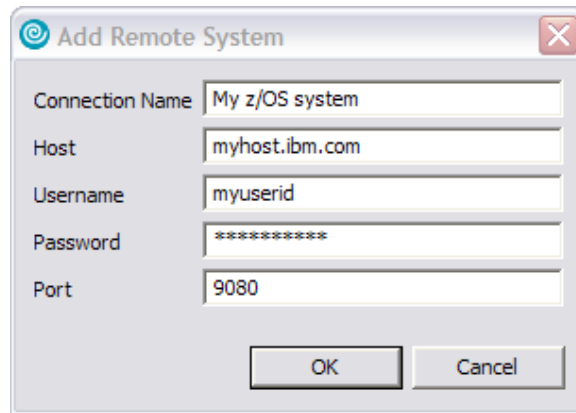


Figure 2. Add Remote System dialog

2. In the Add Remote System dialog complete each field as follows:

Connection Name

Type a name to identify this connection. This name is used on the WebSphere Developer Asset Analyzer search page to identify a remote system to search.

Host Type the host name or IP address of the remote system on which WebSphere Studio Asset Analyzer is installed.

Username

Type a user ID that has access to WebSphere Studio Asset Analyzer on the remote system.

Password

Type a valid password for the user ID.

Port Type a port address appropriate for the installation of WebSphere Studio Asset Analyzer on the remote system. The default port address is 9080.

3. Click **OK**. The connection is added to the Remote Systems section of the page.

From the WebSphere Developer Asset Analyzer search page

1. To open the WebSphere Developer Asset Analyzer search page, select **Search** from the WebSphere Developer for System z **Search** menu and then select the **WebSphere Developer Asset Analyzer** tab.

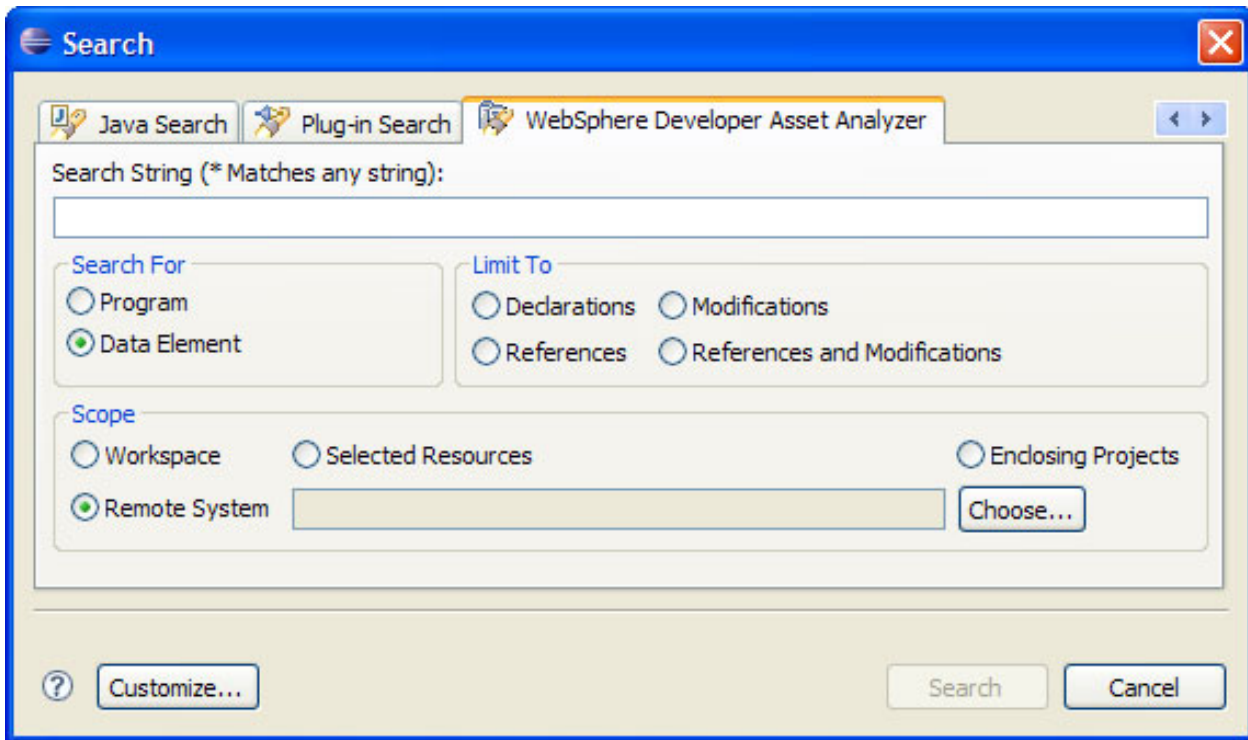


Figure 3. WebSphere Developer Asset Analyzer search page

2. Select **Remote System** from the **Scope** section of the page and then click **Choose**. The Remote systems dialog opens.

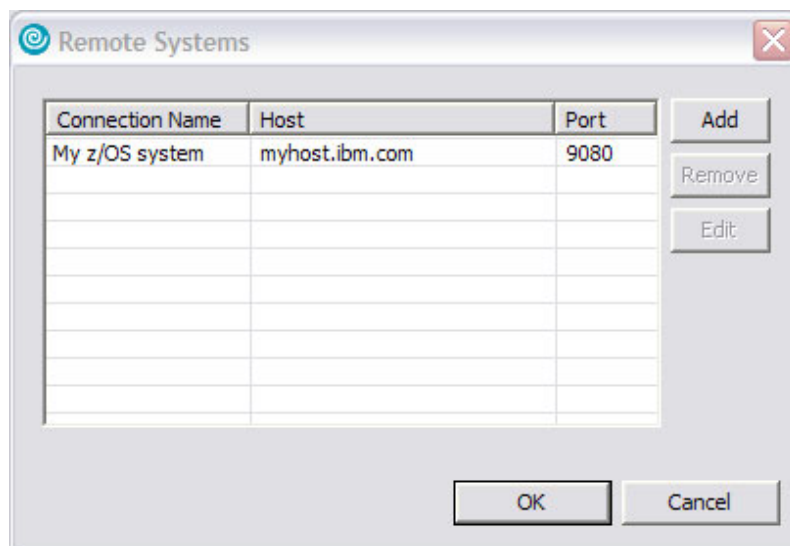


Figure 4. Remote Systems dialog

3. Click **Add** to open the Add Remote System dialog and complete the fields as described in “From the WebSphere Developer Asset Analyzer Preferences page” on page 2.

After you have added a remote system, you can search it by selecting it from the list of available connections. See “Searching for data elements and programs” on page 5 for instructions.

Searching for data elements and programs

WebSphere Developer Asset Analyzer allows you to search through COBOL and PL/I files that have been scanned for data elements and programs. The search for local files works only if you specify a user name and password on the WebSphere Developer Asset Analyzer Preferences page.

To search for declarations of data elements and programs, follow these steps:

1. From the WebSphere Developer for System z **Search** menu, select **Search**, or press **Ctrl+h**. The Search dialog opens.
2. Click the **WebSphere Developer Asset Analyzer** tab.

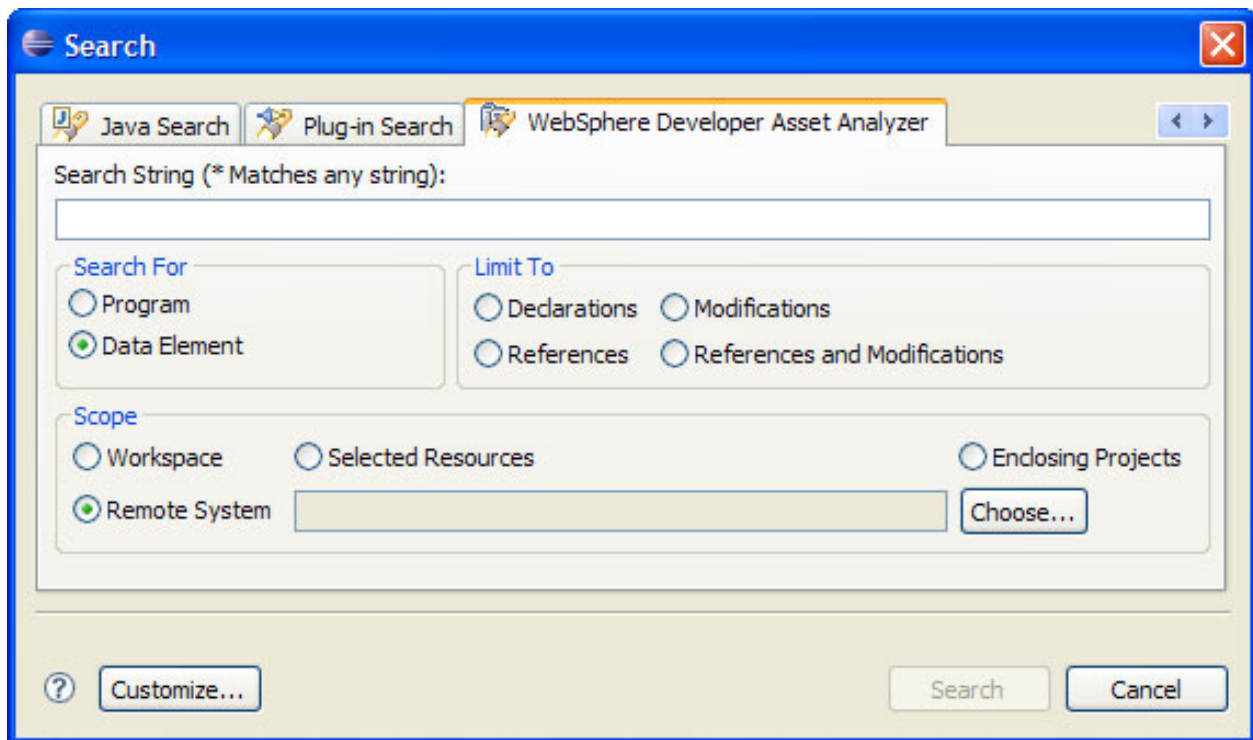


Figure 5. WebSphere Developer Asset Analyzer search page

3. In the **Search String** field, type the string you want to search for. Search strings are not case-sensitive and can include * as a wildcard character. Searching on p*t, for example, yields results for both "PRINT" and "pTot".
4. To select the asset type you want to search for, select **Program** or **Data element**.
5. If you select **Data element**, you must select one of the following options:

Declarations

Searches for data element declarations.

Modifications

Searches for locations where data elements are modified.

References

Searches for locations where data elements are referenced. These locations do not include locations where data elements are modified.

References and Modifications

Searches for both references and modifications.

6. To set the scope for the search, select one of the following options:

Workspace

Searches your entire workspace.

Selected Resources

Searches resources that are currently selected in the Navigator view. To use this option, you need to select resources in the Navigator view before opening the Search dialog.

Enclosing Projects

Searches the projects that hold the currently selected resources. To use this option, you need to select resources in the Navigator view before opening the Search dialog.

Remote System

Searches a remote system. To use this option, follow these steps:

- a. Click **Choose** to open the Remote Systems dialog.
- b. Select a Connection Name from the list.
- c. Click **OK**.

See “Defining a remote system” on page 2 to learn how to add a remote system connection to this list.

7. Click **Search**.

The results are displayed in the Search view. To open a file listed in the search results, double-click the file name. If you requested a data element search, the file opens with markers indicating the data element declarations, references, or modifications.

When you double-click search results from a remote system, WebSphere Developer Asset Analyzer attempts to open the file using a WebSphere Developer for System z connection. If there is only one connection, WebSphere Developer Asset Analyzer uses that connection. If there is more than one WebSphere Developer for System z connection, WebSphere Developer Asset Analyzer uses the WebSphere Developer for System z connection that has a host name whose IP address matches the IP address of the host of the remote system selected on the search page. If there are no WebSphere Developer for System z connections, a wizard opens to guide you in setting up a connection.

In the event that you receive the warning, “The analysis queue is in a Pending or Incomplete state. Results might not be accurate,” try your search again in a few minutes. If the warning persists, most likely the scanners encountered an error, which has been left in the analysis queue. If you are searching against a remote system, contact your WebSphere Studio Asset Analyzer administrator to correct the problem. If you are searching locally, shut down WebSphere Developer for System z. WebSphere Developer Asset Analyzer clears the analysis queue when it is shut down.

Searching for declarations of data elements from the LPEX editor

To search for declarations of data elements in COBOL or PL/I files from the LPEX editor, follow these steps:

1. Place the cursor on the data element name you want to search for.
2. Click mouse button 2 to open the context menu and then select **Asset Analyzer Search** from the **Search** menu. The Search dialog opens.

3. Set search options. For the scope, only the **Workspace** and **Enclosing Projects** options are available, and they only work if you are editing a local file. If you are editing a file on z/OS, they have no effect.
4. Click **Search**. The search results are displayed in the Search view.

If you are editing a file on z/OS, you must define a remote system to enable this functionality, as described in “Defining a remote system” on page 2. If there is one remote system defined, WebSphere Developer Asset Analyzer uses that remote system to do the search. If there is more than one remote system, WebSphere Developer Asset Analyzer gets the host name from the WebSphere Developer for System z connection used to access the file and computes the IP address for it. Then WebSphere Developer Asset Analyzer examines each remote system and computes the IP address of the host of each system. If the IP addresses match, that remote system is used for the search. If there is no match, WebSphere Developer Asset Analyzer reports an error.

Editing a file on z/OS

After you have searched for assets on a remote system, you can edit the files on the host from your workstation, provided your z/OS host has WD/z Host Component installed. To edit a file on z/OS, follow these steps:

1. Search for assets on a remote system. See “Searching for data elements and programs” on page 5 for instructions.
2. From the results listed in the Search view, double-click the file you want to edit.

WebSphere Developer Asset Analyzer attempts to open the file using a WebSphere Developer for System z connection. If there is only one connection, WebSphere Developer Asset Analyzer uses that connection. If there is more than one WebSphere Developer for System z connection, WebSphere Developer Asset Analyzer uses the WebSphere Developer for System z connection that has a host name whose IP address matches the IP address of the host of the remote system selected on the search page. If there are no WebSphere Developer for System z connections, a wizard opens to guide you in setting up a connection.

Displaying the program tree

To display the program tree for a COBOL or PL/I program, open the file containing the program with an LPEX editor. You can either open the file directly or search for the program you want as described in “Searching for data elements and programs” on page 5, then double-click the file from the search results page to open the editor. From within the LPEX editor, click mouse button 2 to open the context menu and then select **Asset Analyzer Program Tree**. The program tree will be displayed.

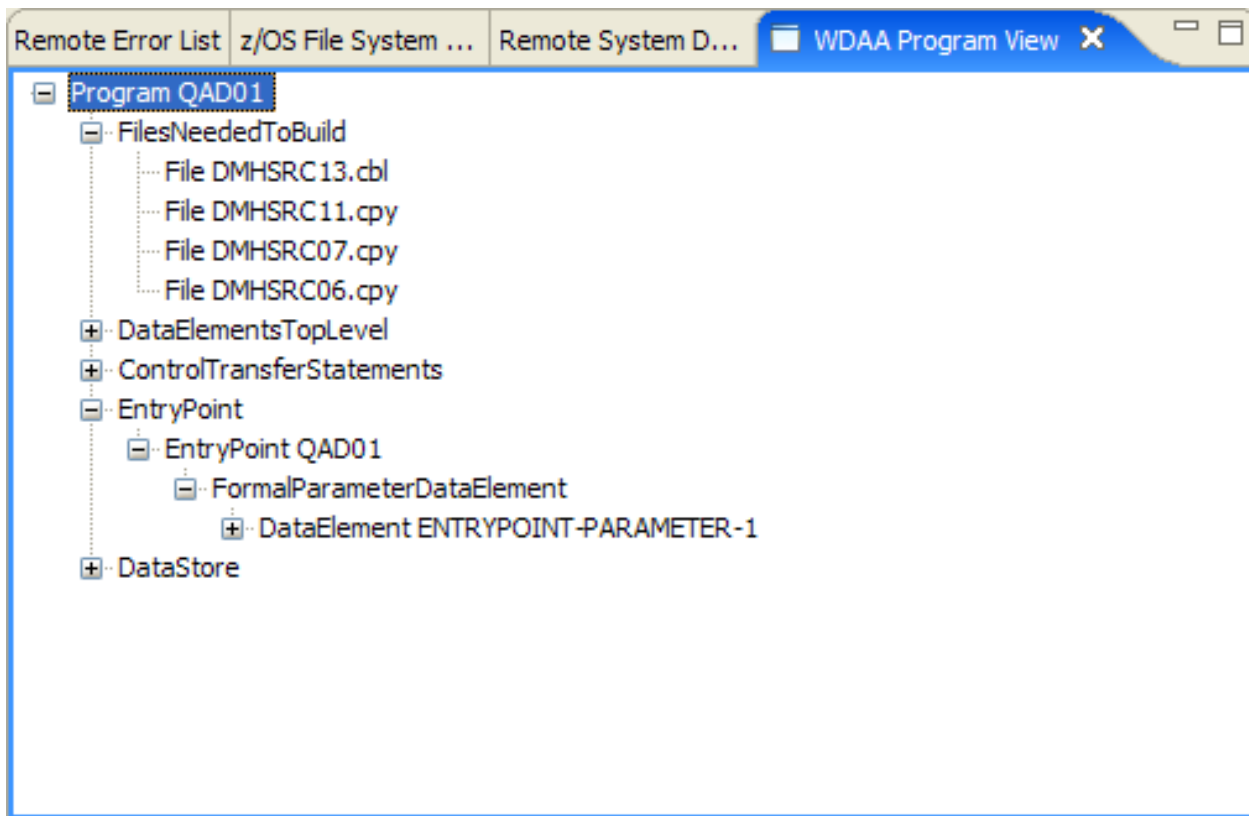


Figure 6. Sample program tree view

If you are editing a file on z/OS, you must define a remote system to enable this functionality, as described in “Defining a remote system” on page 2. If there is one remote system defined, WebSphere Developer Asset Analyzer uses that remote system to obtain information about the program. If there is more than one remote system, WebSphere Developer Asset Analyzer gets the host name from the WebSphere Developer for System z connection used to access the file and computes the IP address for it. Then WebSphere Developer Asset Analyzer examines each remote system and computes the IP address of the host of each system. If the IP addresses match, that remote system is used to obtain information about the program. If there is no match, WebSphere Developer Asset Analyzer reports an error.

If you select an asset in the program tree, the **Properties** window displays the values of properties for that asset. The properties are listed in alphabetical order in the **Properties** window. For a list of the properties that are displayed for each asset type, see “WebSphere Studio Asset Analyzer asset types and properties” on page 13.

The following table describes the relationships that you can view in the program tree for each asset type displayed in the tree:

Asset type	Relationship	Description
Program	FilesNeededToBuild	Files needed to compile the program
	DataElementsTopLevel	Top level data elements in the program
	ControlTransferStatements	Statements that transfer control in a program
	EntryPoint	Primary or secondary entry points for a program
	DataStore	Data stores used by a program
	CicsTransaction	CICS® transactions called by this program
	ImsTransaction	IMS™ transactions called by this program
	Db2Table	DB2 tables used by the program
	Db2Column	DB2 columns used by the program
EntryPoint	FormalParameterDataElement	Formal parameters for the entrypoint, in the order they appear in the program
DataStore	IORecordDataElement	Data elements that are used in input and output statements that affect the datastore
Db2Table	Db2Column	The columns in the table

For data elements displayed in the program tree, you can expand the data element node to view the immediate child data elements. This enables you to view the data element hierarchy.

For the program node, the context menu contains the following two items:

Show Program Diagram

Shows the program diagram

Show Data Element Table

Shows the data element table

For data element nodes, the context menu contains the following items:

Declaration

Shows the declaration for the data element in the editor.

Modifications

Shows the modifications in a search result view.

References

Shows the references in a search result view. References do not include locations where data elements are modified.

References and Modifications

Shows both references and modifications in a search result view.

Impact Analysis

Starts impact analysis for the data element.

For statement nodes, you may select **View Source** from the context menu to highlight the statement in the editor

Displaying the program diagram

To display the program diagram, display the program tree for the program as described in “Displaying the program tree” on page 7. Then click on the program node with mouse button 2 to show the context menu and select **Show Program Diagram**.

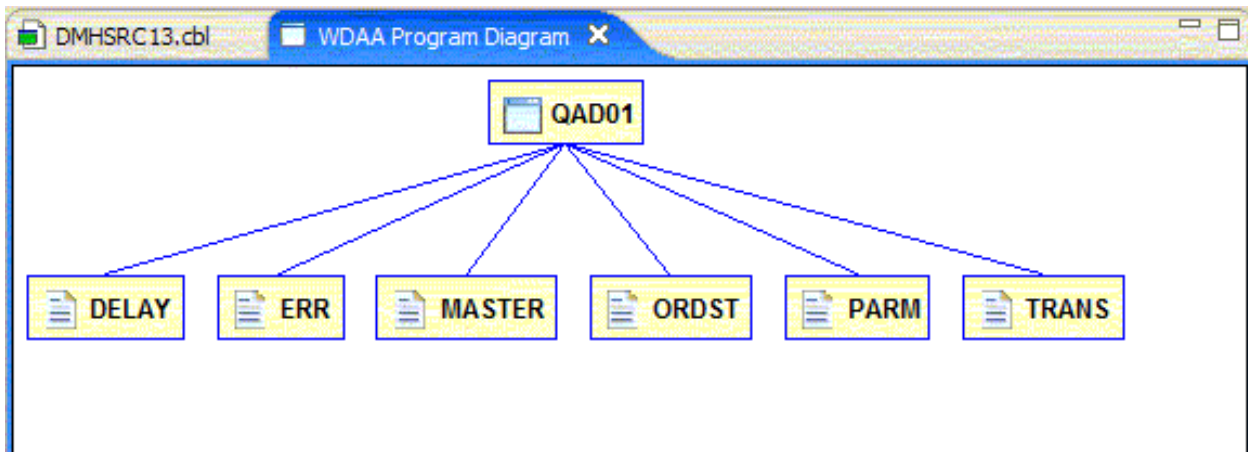


Figure 7. Sample program diagram

The diagram shows the program and the following assets related to the program:

- Data stores
- DB2 tables
- CICS transactions
- IMS transactions

When you move the mouse over a node in the diagram, you can see the name of the asset and the asset type.

When you select a node in the diagram, the properties for the asset are displayed in the **Properties** window.

The icons used in the program diagram are as follows:



A data store that represents a CICS file



A data store that represents a file



A CICS transaction



An IMS transaction



A DB2 table



A program

Displaying the data element table

To display the data element table, display the program tree for the program that has the data elements as described in “Displaying the program tree” on page 7. Then click on the program node with mouse button 2 to show the context menu and select **Show Data Element Table**.

Name	Level	Type	PhysicalLength	LogicalLength	InitialValue	Scale
DELAY-FILE	0	FD	0	0		0
DELAY-STATUS-OK	88	UNKN	2	0	00	0
ENTRYPOINT-PARAMETER-1	1	GRP	120	0		0
ERROR-DATA	5	NUMB	5	5		0
ERROR-DESC	5	CHAR	30	30		0
ERROR-FILE	0	FD	0	0		0
ERROR-REC	1	GRP	35	0		0
ERROR-STATUS-OK	88	UNKN	2	0	00	0
FILLER	5	CHAR	74	74		0
FIRST-NAME	5	CHAR	20	20		0
INP-DELAY-RCPT-REC	1	GRP	21	0		0
INP-DRCPT-EXPECTED-DT	5	CHAR	6	6		0
INP-DRCPT-PART-NO	5	CHAR	4	4		0
INP-DRCPT-PENDING-QTY	5	NUMB	5	5		0
INP-DRCPT-RECEIVED-DT	5	CHAR	6	6		0
INPUT-FILE	0	FD	0	0		0
INPUT-PART-IN	5	NUMB	3	3		0
INPUT-PART-NO	5	NUMB	4	4		0
INPUT-REC	1	GRP	7	0		0
INPI IT-STATUS-OK	88	UNKN	2	0	00	0

Figure 8. Sample data element table

These are the properties that are displayed in the data element table:

- Name
- Level
- Type
- Physical length
- Logical length
- Initial value
- Scale

You can sort the table by clicking mouse button 1 on a column header. The first time you click, the table is sorted by that column in ascending order. The second time you click, the table is sorted by that column in descending order.

If you select a row in the table by clicking mouse button 1, all of the properties of the data element are displayed in the **Properties** view.

If you click mouse button 2 on a row in the table, a context menu appears that contains the following items:

Declaration

Shows the declaration for the data element in the editor.

Modifications

Shows the modifications in a search result view.

References

Shows the references in a search result view. References do not include locations where data elements are modified.

References and Modifications

Shows both references and modifications in a search result view.

Impact Analysis

Starts impact analysis for the data element.

Analyzing the impact of a change

WebSphere Developer Asset Analyzer can help you determine the impact of changing a data element on a local or remote system. Performing an impact analysis returns a tree view of the WebSphere Studio Asset Analyzer impact analysis project asset.

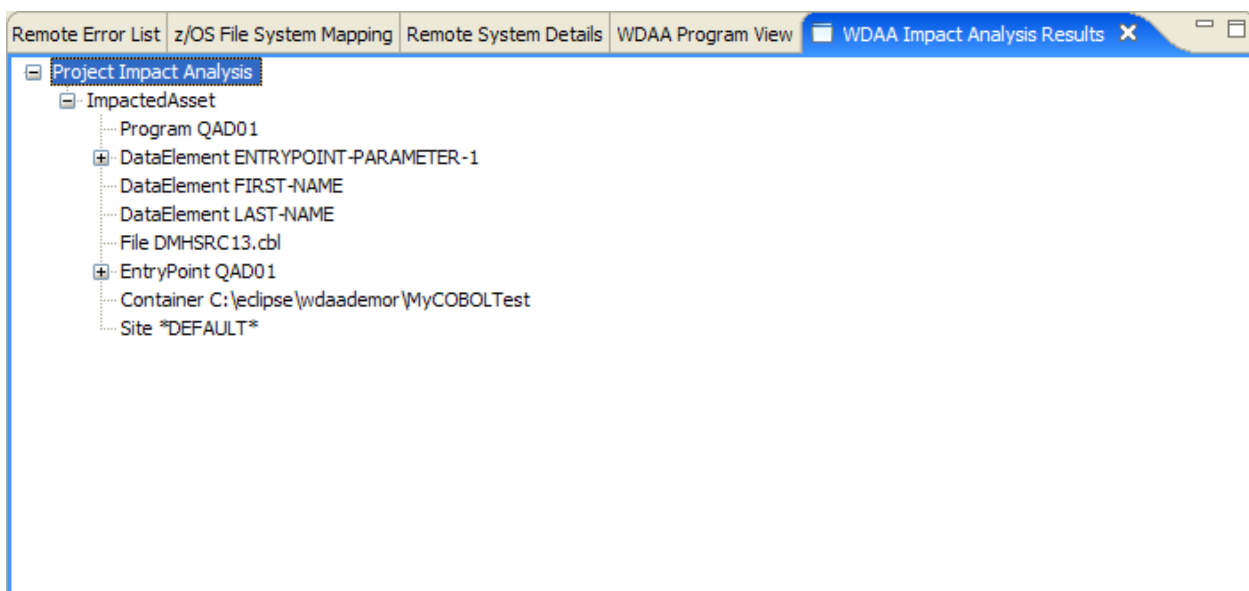


Figure 9. Sample impact analysis results

You can perform an impact analysis on a data element from either the program tree view or the data element table. See “Displaying the program tree” on page 7 for a description of the program tree, and “Displaying the data element table” on page 11 for a description of the data element table.

The impact analysis may take some time to complete. After it is finished, a tree view opens with an impact analysis project asset. You can view the assets that are impacted by a change to the data element by clicking on the ImpactedAssets relationship in the tree. The impacted assets include directly and indirectly impacted assets. If you select an asset in the tree, the properties of the asset are displayed in the **Properties** window.

WebSphere Studio Asset Analyzer asset types and properties

For a complete description of WebSphere Studio Asset Analyzer asset types and properties, please consult the WebSphere Studio Asset Analyzer documentation listed in “Related Information” on page vii.

The following table includes the properties that WebSphere Developer Asset Analyzer displays for each of the WebSphere Studio Asset Analyzer asset types that are used:

Asset type	Property
CICS transaction	External annotation
	Group name
	Name
	Region name
	Run unit name
	Site
Data element	Analysis status
	Container access method
	Container name
	Declared in copy
	Definition column
	Definition line
	Filename
	Initial value
	Language
	Level
	Logical length
	Name
	Physical length
	Program name
	Scale
	Site
	Source location
	Type
Data store	Name
	Site
	Source location
	Type

Asset type	Property
DB2 column	DB2 system name
	DB2 table
	Length
	Name
	Site
	Type
DB2 table	DB2 system name
	Name
	Site
Entrypoint	Name
	Program name
	Site
	Source location
	Type
File	Analysis status
	Comment lines
	Container access method
	Container name
	Cyclomatic complexity
	Essential complexity
	External annotation
	File size
	File source
	File type
	Halstead effort
	Language
	Name
	Number of lines in file
	Site
	Source location
IMS transaction	External annotation
	IMS PSB name
	IMS subsystem
	Name
	Site

Asset type	Property
Program	Analysis status
	Container access method
	Container name
	Cyclomatic complexity
	EBusiness transformation index
	Essential complexity
	Filename
	File type
	Halstead effort
	Language
	Name
	Number of blank lines
	Number of comment lines
	Number of data IOs
	Number of external control flow transfers
	Number of lines in file
	Number of lines in program
	Number of noncomment lines
	Number of screen IOs
	Number of splitting nodes
	Number of variables defined
	Site
	Source location
Statement	File line number
	Name
	Verb column

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Programming interface information is intended to help you create application software using this program.

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However, this information may also contain diagnosis, modification, and tuning information. Diagnosis, modification, and tuning information is provided to help you debug your application software.

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