



iSeries

# IBM eServer iSeries Access for Web Commands

*Version 5 Release 3*







**@server**

iSeries

**IBM eServer iSeries Access for Web Commands**

*Version 5 Release 3*

**Note**

Before using this information and the product it supports, be sure to read the information in "Notices," on page 27.

**First Edition (May 2004)**

This edition applies to version 5, release 3, modification 0 of IBM eServer iSeries Access for Web (product number 5722-XH2) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CICS models.

© Copyright International Business Machines Corporation 1998, 2004. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

---

## Contents

**Configure Access for Web  
(CFGACCWEB2) . . . . . 1**

**End Access for Web (ENDACCWEB2) 13**

**Remove Access for Web  
(RMVACCWEB2). . . . . 17**

**Start Access for Web (STRACCWEB2) 23**

**Appendix. Notices . . . . . 27**



---

## Configure Access for Web (CFGACCWEB2)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Configure iSeries Access for Web (CFGACCWEB2) command is used to configure iSeries Access for Web for the following web serving environments:

- IBM WebSphere Application Server Advanced Edition for iSeries V4.0
- IBM WebSphere Application Server Advanced Single Server Edition for iSeries V4.0
- IBM WebSphere Application Server V5.0 for iSeries
- IBM WebSphere Application Server V5.0 - Express for iSeries
- IBM WebSphere Portal 4.1
- Apache Software Foundation (ASF) Tomcat

Before iSeries Access for Web can be used, it must be configured using this command.

Input parameters are conditional based on the value specified for the **Web application server type (APPSVRTYPE)** parameter.

This command will use the input configuration parameters to add iSeries Access for Web servlet configuration information to the web application server.

If multiple web application servers, and instances of those application servers, are configured and running on the iSeries server, iSeries Access for Web can be configured to run within each of those web application servers and their instances.

When configuring iSeries Access for Web for multiple web application servers and instances, the new configuration can be created based on an existing configuration. The new configuration can share user-generated data with other configurations or a copy of the existing user data can be made for the new configuration.

This command will create a directory structure for user-generated data. User data will be stored to the following locations, depending on the value specified for the APPSVRTYPE parameter:

- \*WAS40ADV - /QIBM/UserData/Access/Web2/was40adv/<instance\_name>
- \*WAS40SNG - /QIBM/UserData/Access/Web2/was40sng/<instance\_name>
- \*WAS50 - /QIBM/UserData/Access/Web2/was50base/<instance\_name>/<application\_server\_name>
- \*WAS50EXP -  
/QIBM/UserData/Access/Web2/was50exp/<instance\_name>/<application\_server\_name>
- \*ASFTOMCAT - /QIBM/UserData/Access/Web2/asftomcat/<server\_name>

When the command runs, a Java Shell Display session will be started. Status information will be displayed indicating what the command is processing. As the command runs, detailed status and error information will also be logged to stream file */QIBM/UserData/Access/Web2/logs/cmds.log*.

After the command completes, the web application server may have to be ended and restarted. The iSeries Access for Web configuration will need to be started before it can be accessed.

### Restrictions:

- You must have all object (\*ALLOBJ) special authority to run this command.

- WebSphere Advanced Edition V4.0 specific restrictions:
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - If CFGACCWEB2 is run multiple times to change configuration information, the iSeries Access for Web configuration should be ended and restarted to ensure the configuration information is reloaded. Use the End Access for Web (ENDACCWEB2) and Start Access for Web (STRACCWEB2) commands or the web application server’s administration function to end and restart iSeries Access for Web.
- WebSphere Advanced Single Server Edition V4.0 specific restrictions:
  - The WebSphere Advanced Single Server Edition server must be ended and restarted after running this command.
- WebSphere Application Server V5.0 specific restrictions:
  - The WebSphere Application Server application server, or subsystem, must be ended and restarted after running this command.
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - The application server configured within the WebSphere instance and node must be running before executing this command.
  - WebSphere Application Server instances/nodes that are managed by IBM WebSphere Application Server Network Deployment V5.0 are not supported by iSeries Access for Web.
- WebSphere Application Server V5.0 - Express for iSeries specific restrictions:
  - The WebSphere Application Server application server, or the subsystem, must be ended and restarted after running this command.
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - The application server configured within the WebSphere instance and node must be running before executing this command.
- WebSphere Portal 4.1 specific restrictions:
  - WebSphere Portal 4.1 must be deployed to a WebSphere instance.
  - WebSphere Portal 4.1 must be running before running this command. This command will call the WebSphere Portal configuration servlet to perform configuration changes to WebSphere Portal for iSeries Access for Web.
- ASF Tomcat specific restrictions:
  - The ASF Tomcat server must be ended and restarted after running this command.

Top

---

## Parameters

Keyword	Description	Choices	Notes
APPSVRTYPE	Web application server type	Character value, *WAS40ADV, *WAS40SNG, *WAS50, *WAS50EXP, *WP41, *ASFTOMCAT	Required, Positional 1
PORT	Servlet engine port number	1-65535	Optional
WASINST	Web server instance name	Character value, <b>*DEFAULT</b>	Optional
TCSVRNAME	Tomcat server name	Character value	Optional
TCHOMEDIR	Tomcat home directory	Path name	Optional



Keyword	Description	Choices	Notes
TCUSRPRF	Tomcat user profile	<i>Simple name</i>	Optional
APPSVR	Application server name	<i>Character value, *DEFAULT</i>	Optional
NODENAME	Node name	<i>Character value, *DEFAULT</i>	Optional
TGTSVR	Target server	<i>Character value, *DEFAULT</i>	Optional
WPUSRID	WebSphere Portal user ID	<i>Character value</i>	Optional
WPPWD	WebSphere Portal password	<i>Character value</i>	Optional
WPURL	WebSphere Portal config URL	<i>Character value</i>	Optional
SRCSVRTYPE	Source web server type	<i>Character value, *NONE, *WAS40ADV, *WAS40SNG, *WAS50, *WAS50EXP, *ASFTOMCAT</i>	Optional
SRCSVRINST	Source web server instance	<i>Character value, *DEFAULT, *WASINST</i>	Optional
SRCAPPSVR	Source application server	<i>Character value, *DEFAULT</i>	Optional
SHRUSRDTA	Share user data	<i>*NO, *YES</i>	Optional

Top

---

## Web application server type (APPSVRTYPE)

Specifies which web application server to configure iSeries Access for Web to run under.

This is a required parameter.

### **\*WAS40ADV**

WebSphere Application Server Advanced Edition for iSeries V4.0

### **\*WAS40SNG**

WebSphere Application Server Advanced Single Server Edition for iSeries V4.0

### **\*WAS50**

WebSphere Application Server V5.0 for iSeries

### **\*WAS50EXP**

WebSphere Application Server V5.0 - Express for iSeries

### **\*WP41**

WebSphere Portal 4.1

### **\*ASFTOMCAT**

Apache Software Foundation (ASF) Tomcat

Top

---

## Servlet engine port number (PORT)

Specifies the TCP/IP port number for the iSeries Access for Web web container's HTTP transport to use. The port specified must be one that is not already being used by another application.

A parameter value is required when \*WAS40ADV is specified for the **Web application server type (APPSVRTYPE)** parameter.

To determine an available port number:

- Run the Configure TCP/IP (CFGTCP) command.
- Select the option to "Configure related tables".

- Select the option to "Work with service table entries".
- Page through the list of services to see what port numbers are configured for use by other applications.
- Select a number that has not been configured for use by another application and use that value for this parameter.
- After identifying a port number, the port number chosen should be added to the service table. Adding the chosen port number to the table may prevent future collisions with the chosen port number.

**1-65535**

Specify the number of the TCP/IP port to use.

Top

---

## Web server instance name (WASINST)

Specifies which IBM WebSphere Application Server instance to configure to run iSeries Access for Web.

This value is only applicable when the **Web application server type (APPSVRTYPE)** parameter is set to configure one of the following web application servers

- WebSphere Advanced Edition V4.0 (\*WAS40ADV)
- WebSphere Advanced Single Server V4.0 (\*WAS40SNG)
- WebSphere Application Server V5.0 for iSeries (\*WAS50)
- WebSphere Application Server V5.0 - Express for iSeries (\*WAS50EXP)
- WebSphere Portal V4.1 (\*WP41)

When the **Web application server type (APPSVRTYPE)** parameter is set to \*WP41, this parameter is the WebSphere instance that WebSphere Portal has been configured to run within.

### \*DEFAULT

When IBM WebSphere Application Server was installed, a default instance was automatically created for the WebSphere installation except for WebSphere - Express for iSeries.

For WebSphere - Express for iSeries environments, an instance is not automatically created and must be created by the system administrator.

When \*DEFAULT is specified, iSeries Access for Web will be configured within the default WebSphere instance.

**name** Specify the name of the WebSphere instance to configure to run iSeries Access for Web. This is the same instance name that was used when the WebSphere instance was created.

Top

---

## Tomcat server name (TCSVRNAME)

Specifies the existing Apache Software Foundation (ASF) Tomcat server that will be configured to run iSeries Access for Web.

A parameter value is required when \*ASFTOMCAT is specified for the **Web application server type (APPSVRTYPE)** parameter.

**name** Specify the name of an existing ASF Tomcat server.

Top

---

## Tomcat home directory (TCHOMEDIR)

Specifies the Apache Software Foundation (ASF) Tomcat home directory that the ASF Tomcat server was configured to use.

When the ASF Tomcat server was configured, an integrated file system (IFS) path was specified as the location for the ASF Tomcat servlet engine and its associated files. By default, the directory may have been set to /AFSTomcat/<server\_name>. The path can be verified by checking the Tomcat server settings.

This home directory contains subdirectories for logs, applications, and configuration information for the ASF Tomcat server.

The CFGACCWEB2 command will create directories and files within this path for iSeries Access for Web.

A parameter value is required when \*ASFTOMCAT is specified for the **Web application server type (APPSVRTYPE)** parameter.

### *path-name*

Specify the path name of the ASF Tomcat home directory.

Top

---

## Tomcat user profile (TCUSRPRF)

Specifies the user ID that the Apache Software Foundation (ASF) Tomcat server was configured to use.

The CFGACCWEB2 command will use this value to grant the ASF Tomcat server user ID access to iSeries Access for Web files.

This value is required and only applicable when \*ASFTOMCAT is specified for the **Web application server type (APPSVRTYPE)** parameter.

### *simple-name*

Specify the name of the user profile for the ASF Tomcat server.

Top

---

## Application server name (APPSVR)

Specifies the existing application server to which iSeries Access for Web is to be configured.

A WebSphere instance contains a node and that node can contain one or more application servers. The application server provides the environment in which deployed web applications execute.

This value is only applicable when the **Web application server type (APPSVRTYPE)** parameter is set to configure one of the following web application servers:

- WebSphere Application Server V5.0 for iSeries (\*WAS50)
- WebSphere Application Server V5.0 - Express for iSeries (\*WAS50EXP)

### **\*DEFAULT**

The following applies when the APPSVRTYPE parameter is set to \*WAS50:

- When the **Web server instance name (WASINST)** parameter is set to \*DEFAULT, this value will be set to 'server1'

- When the WASINST parameter is set to something other than \*DEFAULT, this value will be set to the value specified for the WASINST parameter.

The following applies when the APPSVRTYPE parameter is set to \*WAS50EXP:

- When this value is set to \*DEFAULT and the value specified for the WASINST parameter is set to \*DEFAULT, this value will be set to 'default'.
- When this value is set to \*DEFAULT and the value specified for the WASINST parameter is set to something other than \*DEFAULT, this value will be set to the value specified in the WASINST parameter.

*name* Specify the name of the application server within the WebSphere instance and node that is to be configured.

Top

---

## Node name (NODENAME)

Specifies the name of the node within the WebSphere instance to which iSeries Access for Web is to be configured.

This value is only applicable when the **Web application server type (APPSVRTYPE)** parameter is set to configure one of the following web application servers:

- WebSphere Application Server V5.0 for iSeries (\*WAS50)
- WebSphere Application Server V5.0 - Express for iSeries (\*WAS50EXP)

### \*DEFAULT

The following applies when the APPSVRTYPE parameter is set to \*WAS50:

- When the **Web server instance name (WASINST)** parameter is set to \*DEFAULT, this value will be set to the name of the iSeries server.
- When the WASINST parameter is set to something other than \*DEFAULT, this value will be set to a combination of the iSeries server name and the value specified for the WASINST parameter. For example, if the iSeries server name is SERVERA and the WASINST parameter is set to 'TEST', this value would be set to 'SERVERA\_TEST'.

The following applies when the APPSVRTYPE parameter is set to \*WAS50EXP:

- When the WASINST parameter is set to \*DEFAULT, this value will be set to a combination of the iSeries server name and 'default'. For example, if the iSeries server name is SERVERA and the WASINST parameter is set to \*DEFAULT, this value would be set to 'SERVERA\_DEFAULT'.
- When the WASINST parameter is set to something other than \*DEFAULT, this value will be set to a combination of the iSeries server name and the value specified for the WASINST parameter. For example, if the iSeries server name is SERVERA and the WASINST parameter is set to 'MYINST', this value would be set to 'SERVERA\_MYINST'.

*name* Specify the name of the node within the WebSphere instance that is to be configured.

Top

---

## Target server (TGTSVR)

Specifies the iSeries server to which iSeries Access for Web is to connect.

This value allows iSeries Access for Web to be configured on a central iSeries server to provide a gateway-like function to allow access to another iSeries server in the network.

A web application server such as WebSphere Application Server and iSeries Access for Web may not need to be installed or configured on the iSeries server specified in this parameter.

**\*DEFAULT**

iSeries Access for Web will connect to and serve data from the iSeries server to which it has been installed.

*name* Specify the fully qualified domain name for the target iSeries server you want iSeries Access for Web to access data from. The domain name can be determined by accessing the TCP/IP configuration information on the target server.

Top

---

## WebSphere Portal user ID (WPUSRID)

Specifies the IBM WebSphere Portal administrative user ID that will be used to configure iSeries Access for Web within WebSphere Portal.

Changes to the WebSphere Portal configuration require a user ID be specified to make the changes. This is the same administrator level user ID that would be used to login to the WebSphere Portal user interface to perform administrator level functions.

The user ID and password are sent to the server unencrypted using an HTTP connection. If the connection could be compromised, this command should only be run within a protected intranet environment.

A parameter value is required when \*WP41 is specified for the **Web application server type (APPSVRTYPE)** parameter.

*character-value*

Specify the administrative user ID.

Top

---

## WebSphere Portal password (WPPWD)

Specifies the password for the IBM WebSphere Portal administrative user ID specified for the **WebSphere Portal user ID (WPUSRID)** parameter.

The user ID and password are sent to the server unencrypted using an HTTP connection. If the connection could be compromised, this command should only be run within a protected intranet environment.

A parameter value is required when \*WP41 is specified for the **Web application server type (APPSVRTYPE)** parameter.

*character-value*

Specify the password for the IBM WebSphere Portal administrative user.

Top

---

## WebSphere Portal config URL (WPURL)

Specifies the universal resource locator (URL) to access the WebSphere Portal configuration servlet. This servlet will add the necessary iSeries Access for Web configuration information to WebSphere Portal.

This URL is comprised of the following elements:

- The portal host name.
- The base universal resource identifier (URI) for the portal, as specified during WebSphere Portal installation (default value was '/wps').
- The servlet extension '/config'.

An example for this value would be 'server\_name.your\_company.com/wps/config'.

A parameter value is required when \*WP41 is specified for the **Web application server type (APPSVRTYPE)** parameter.

### *character-value*

Specify the URL to access the WebSphere Portal configuration servlet.

Top

---

## Source web server type (SRCSVRTYPE)

Specifies an existing web application server that has been configured to run iSeries Access for Web. The new iSeries Access for Web configuration will be created based on this existing iSeries Access for Web configuration.

### **\*NONE**

The new iSeries Access for Web configuration is not based on an existing iSeries Access for Web configuration.

### **\*WAS40ADV**

WebSphere Advanced Edition V4.0

### **\*WAS40SNG**

WebSphere Advanced Single Server Edition V4.0

### **\*WAS50**

WebSphere Application Server V5.0 for iSeries

### **\*WAS50EXP**

WebSphere Application Server V5.0 - Express for iSeries

### **\*ASFTOMCAT**

Apache Software Foundation (ASF) Tomcat

Top

---

## Source web server instance (SRCSVRINST)

Specifies a WebSphere instance name or an ASF Tomcat server name that is configured within the web application server specified for the **Source web server type (SRCSVRTYPE)** parameter. The new configuration's user data will be created based on this existing configuration.

### **\*DEFAULT**

When the web application server was installed, a default instance was automatically created. When \*DEFAULT is specified, iSeries Access for Web will be configured based on the default instance already configured to run iSeries Access for Web.

*name* Specify the name of the WebSphere instance or ASF Tomcat server that has already been configured to run iSeries Access for Web.

Top

---

## Source application server (SRCAPPSVR)

Specifies the existing application server to which iSeries Access for Web has been configured. The application server provides the environment in which deployed web applications execute.

A WebSphere instance can contain more than one application server and that application server name can be configured. To base a new configuration on an existing configuration, you need to specify the name of the application server within the WebSphere instance.

This parameter is only applicable when the **Source web server type (SRCSVRTYPE)** parameter is set to configure one of the following web application servers:

- WebSphere Application Server V5.0 for iSeries (\*WAS50)
- WebSphere Application Server V5.0 - Express for iSeries (\*WAS50EXP)

### \*DEFAULT

The following applies when the SRCAPPSVR parameter is set to \*WAS50:

- When this value is set to \*DEFAULT and the **Application server name (APPSVR)** parameter is set to \*DEFAULT, this value will be set to 'server1'.
- When this value is set to \*DEFAULT and the **Application server name (APPSVR)** parameter is set to something other than \*DEFAULT, this value will be set to the value specified for the WASINST parameter.

The following applies when the SRCAPPSVR parameter is set to \*WAS50EXP:

- When this value is set to \*DEFAULT and the value specified for the **Application server name (APPSVR)** parameter is set to \*DEFAULT, this value will be set to 'default'.
- When this value is set to \*DEFAULT and the value specified for the **Application server name (APPSVR)** parameter is set to something other than \*DEFAULT, this value will be set to the value specified in the WASINST parameter.

*name* Specify the name of the application server within the WebSphere instance and node that the new configuration will be based on.

Top

---

## Share user data (SHRUSRDTA)

When configuring based on an existing iSeries Access for Web configuration, this parameter specifies whether user-generated data will be shared with the configuration specified for the **Source web server type (SRCSVRTYPE)** and **Source web server instance (SRCSVRINST)** parameters.

A parameter value is required when a value other than \*NONE is specified for the SRCSVRTYPE parameter.

**\*NO** The new configuration will start with a copy of the existing configuration's user-generated data.

**\*YES** The new configuration will share the user-generated data with the existing configuration.

Top

---

## Examples

### Example 1: Configuring WebSphere Advanced Edition for iSeries V4.0

```
CFGACCWEB2 APPSVRTYPE(*WAS40ADV) PORT(5098)
           WASINST(*DEFAULT)
```

This command will configure iSeries Access for Web for the default instance of WebSphere Advanced Edition for iSeries V4.0. The iSeries Access for Web web container that is configured will use an HTTP transport port value of 5098.

### Example 2: Configuring WebSphere Advanced Single Server Edition for iSeries V4.0

```
CFGACCWEB2 APPSVRTYPE(*WAS40SNG) WASINST(DEPTABC)
```

This command will configure iSeries Access for Web for a user created WebSphere instance named DEPTABC within WebSphere Advanced Single Server Edition for iSeries V4.0.

### Example 3: Configuring WebSphere Application Server V5.0 for iSeries

```
CFGACCWEB2 APPSVRTYPE(*WAS50) WASINST(DEPTXYZ) NODENAME(*DEFAULT)
           APPSVR(*DEFAULT)
```

This command will configure iSeries Access for Web for a user created WebSphere instance named DEPTXYZ within WebSphere Application Server for iSeries V5.0.

### Example 4: Configuring WebSphere Application Server V5.0 - Express for iSeries

```
CFGACCWEB2 APPSVRTYPE(*WAS50EXP) WASINST(MYINST)
           NODENAME(*DEFAULT) APPSVR(*DEFAULT)
           SRCSVRTYPE(*WAS40ADV) SRCSVRINST(*DEFAULT)
           SHRUSRDTA(*NO)
```

This command will configure iSeries Access for Web for the MYINST instance of WebSphere Application Server V5.0 - Express for iSeries. This example also shows that this new configuration will be based on a configuration that was performed in a previous example. User-generated data will be copied from the source configuration to this new configuration.

### Example 5: Configuring WebSphere Portal

```
CFGACCWEB2 APPSVRTYPE(*WP41) WPUSRID(wpsadmin) WPPWD(wpspassword)
           WPURL('myserver.mydomain.com/wps/config')
```

This command will configure iSeries Access for Web for WebSphere Portal 4.1. This example inputs the WebSphere Portal administrator user ID and password, and the URL to the portal configuration servlet.

### Example 6: Configuring ASF Tomcat

```
CFGACCWEB2 APPSVRTYPE(*ASFTOMCAT) TCSVRNAME(TOMCAT)
           TCHOMEDIR('/ASFTomcat/tomcat')
           TCUSRPRF(QTMHHTTP)
           SRCSVRTYPE(*WAS40SNG) SRCSVRINST(DEPTABC)
           SHRUSRDTA(*YES)
```

This command will configure iSeries Access for Web for an Apache Software Foundation (ASF) Tomcat server named TOMCAT. This example also shows that this configuration will be based on a configuration that was performed in a previous example. User-generated data will be shared between the source configuration and this new configuration.

Top



---

## Error messages

### \*ESCAPE Messages

#### **IAW0001**

Configure iSeries Access for Web command failed.

#### **IAW0009**

The PORT parameter is required.

#### **IAW000A**

The SHRUSRDTA parameter is required.

#### **IAW000B**

Value specified for parameter APPSVRTYPE is not valid.

#### **IAW000C**

Value specified for parameter SRCSVRTYPE is not valid.

#### **IAW000D**

The TCSVRNAME and TCHOMEDIR and TCUSRPRF parameters are required.

#### **IAW0011**

The WPUSRID, WPPWD, and WPURL parameters are required.

[Top](#)



---

## End Access for Web (ENDACCWEB2)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The End iSeries Access for Web (ENDACCWEB2) command is used to end, or stop, the running iSeries Access for Web configuration within the web application server IBM WebSphere Application Server.

This command will end the running configuration that was defined using the Configure Access for Web (CFGACCWEB2) command.

When the command runs, a Java Shell Display session will be started. Status information will be displayed indicating what the command is processing. As the command runs, detailed status information and error information will also be logged to stream file */QIBM/UserData/Access/Web2/logs/cmds.log*.

The iSeries Access for Web configuration can also be ended (stopped) using the web application server's administration function.

### Restrictions:

- You must have all object (\*ALLOBJ) special authority to run this command.
- iSeries Access for Web must be configured using the CFGACCWEB2 command before running this command.
- This command is only available for the following web application servers:
  - WebSphere Application Server Advanced Edition for iSeries V4.0
  - WebSphere Application Server V5.0 for iSeries
  - WebSphere Application Server V5.0 - Express for iSeries
- WebSphere Advanced Edition for iSeries V4.0 specific restrictions:
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
- WebSphere Application Server V5.0 for iSeries specific restrictions:
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - The application server configured within the WebSphere instance and node must be running before executing this command.
- WebSphere Application Server V5.0 - Express for iSeries specific restrictions:
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - The application server configured within the WebSphere instance and node must be running before executing this command.
- The administration interface for the following web application servers should be used to end the configuration:
  - WebSphere Advanced Single Server Edition for iSeries V4.0
  - WebSphere Portal
  - Apache Software Foundation (ASF) Tomcat

---

## Parameters

Keyword	Description	Choices	Notes
APPSVRTYPE	Web application server type	Character value, *WAS40ADV, *WAS50, *WAS50EXP	Required, Positional 1
WASINST	Web server instance name	Character value, <u>*DEFAULT</u>	Optional
APPSVR	Application server name	Character value, <u>*DEFAULT</u>	Optional

---

### Web application server type (APPSVRTYPE)

Specifies a web application server that contains a iSeries Access for Web configuration to be ended.

This is a required parameter.

**\*WAS40ADV**

WebSphere Application Server Advanced Edition for iSeries V4.0

**\*WAS50**

WebSphere Application Server V5.0 for iSeries

**\*WAS50EXP**

WebSphere Application Server V5.0 - Express for iSeries

---

### Web server instance name (WASINST)

Specifies an IBM WebSphere Application Server instance that contains an iSeries Access for Web configuration to end.

**\*DEFAULT**

When \*DEFAULT is specified, iSeries Access for Web will be ended within the instance called 'default'.

**name** Specify the name of the WebSphere instance that contains an iSeries Access for Web configuration to end. This is the same instance name that was used when the Configure Access for Web (CFGACCWEB2) command was run.

---

### Application server name (APPSVR)

Specifies the existing application server to which iSeries Access for Web has been configured and is to be ended.

A WebSphere instance contains a node and that node can contain one or more application servers. The application server provides the environment in which deployed web applications execute.

This value is only applicable when the **Web application server type (APPSVRTYPE)** parameter is set to configure one of the following web application servers:

- WebSphere Application Server V5.0 for iSeries (\*WAS50)
- WebSphere Application Server V5.0 - Express for iSeries (\*WAS50EXP)

#### \*DEFAULT

The following applies when the APPSVRTYPE parameter is set to \*WAS50:

- When the **Web server instance name (WASINST)** parameter is set to \*DEFAULT, this value will be set to 'server1'
- When the WASINST parameter is set to something other than \*DEFAULT, this value will be set to the value specified for the WASINST parameter.

The following applies when the APPSVRTYPE parameter is set to \*WAS50EXP:

- When this value is set to \*DEFAULT and the value specified for the WASINST parameter is set to \*DEFAULT, this value will be set to 'default'.
- When this value is set to \*DEFAULT and the value specified for the WASINST parameter is set to something other than \*DEFAULT, this value will be set to the value specified in the WASINST parameter.

*name* Specify the name of the application server within the WebSphere instance and node that iSeries Access for Web has been configured that is to be ended.

Top

---

## Examples

### Example 1: Ending iSeries Access for Web in the WebSphere Advanced Edition for iSeries V4.0

```
ENDACCWEB2 APPSVRTYPE(*WAS40ADV) WASINST(*DEFAULT)
```

This command will end the running iSeries Access for Web configuration within WebSphere Advanced Edition for iSeries V4.0. In this example, the configuration within the default instance will be ended.

### Example 2: Ending iSeries Access for Web in a WebSphere Application Server V5.0 for iSeries

```
ENDACCWEB2 APPSVRTYPE(*WAS50) WASINST(DEPTXYZ) APPSVR(*DEFAULT)
```

This command will end the iSeries Access for Web configuration within WebSphere Application Server V5.0 for iSeries. In this example, the configuration within the user created instance DEPTXYZ will be ended.

### Example 3: Ending iSeries Access for Web in a WebSphere Application Server V5.0 - Express for iSeries

```
ENDACCWEB2 APPSVRTYPE(*WAS50EXP) WASINST(MYINST) APPSVR(*DEFAULT)
```

This command will end the iSeries Access for Web configuration within WebSphere Application Server V5.0 - Express for iSeries. In this example, the configuration within the user created instance MYINST will be ended.

Top

---

## Error messages

### \*ESCAPE Messages

#### IAW0003

End iSeries Access for Web command failed.

**IAW000B**

Value specified for parameter APPSVRTYPE is not valid.

[Top](#)

---

## Remove Access for Web (RMVACCWEB2)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Remove iSeries Access for Web (RMVACCWEB2) command is used to remove the iSeries Access for Web configuration from the web application servers:

- IBM WebSphere Application Server Advanced Edition V4.0
- IBM WebSphere Application Server Advanced Single Server Edition V4.0
- IBM WebSphere Application Server V5.0 for iSeries
- IBM WebSphere Application Server V5.0 - Express for iSeries
- IBM WebSphere Portal 4.1
- Apache Software Foundation (ASF) Tomcat

This command will remove the configuration that was defined using the Configure Access for Web (CFGACCWEB2) command.

This command will not delete iSeries Access for Web from the server. This command will only remove the iSeries Access for Web configuration from the specified web application server.

This command will not delete user data that was generated while using iSeries Access for Web. User data was written to the following locations based on the value specified for the **Web application server type (APPSVRTYPE)** parameter when the configuration was defined with the CFGACCWEB2 command:

- \*WAS40ADV - /QIBM/UserData/Access/Web2/was40adv/<instance\_name>
- \*WAS40SNG - /QIBM/UserData/Access/Web2/was40sng/<instance\_name>
- \*WAS50 - /QIBM/UserData/Access/Web2/was50base/<instance\_name>/<application\_server\_name>
- \*WAS50EXP -  
/QIBM/UserData/Access/Web2/was50exp/<instance\_name>/<application\_server\_name>
- \*ASFTOMCAT - /QIBM/UserData/Access/Web2/asftomcat/<server\_name>

When the command runs, a Java Shell Display session will be started. Status information will be displayed indicating what the command is processing. As the command runs, detailed status and error information will also be logged to stream file */QIBM/UserData/Access/Web2/logs/cmds.log*.

The iSeries Access for Web configuration can also be removed using the web application server's administration function. This is not recommended! The RMVACCWEB2 command will clean up internal configuration information that the web application server's administration function will not.

### Restrictions:

- You must have all object (\*ALLOBJ) special authority to run this command.
- iSeries Access for Web must be configured using the CFGACCWEB2 command before running this command.
- WebSphere Advanced Edition V4.0 specific restrictions:
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
- WebSphere Advanced Single Server Edition V4.0 specific restrictions:

- After the RMVACCWEB2 command completes, WebSphere Advanced Single Server Edition V4.0 must be ended and restarted. This will remove any iSeries Access for Web configuration information that may be loaded in memory.
- WebSphere Application Server V5.0 specific restrictions:
  - The WebSphere Application Server application server, or subsystem, must be ended and restarted after running this command.
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - The application server configured within the WebSphere instance and node must be running before executing this command.
- WebSphere Application Server V5.0 - Express for iSeries specific restrictions:
  - The WebSphere Application Server application server, or the subsystem, must be ended and restarted after running this command.
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - The application server configured within the WebSphere instance and node must be running before executing this command.
- WebSphere Portal 4.1 specific restrictions:
  - WebSphere Portal 4.1 must be running before running this command. This command will call the WebSphere Portal configuration servlet to perform configuration changes to WebSphere Portal for iSeries Access for Web.
- ASF Tomcat specific restrictions:
  - After the RMVACCWEB2 command completes, the ASF Tomcat server must be ended and restarted. This will remove any iSeries Access for Web configuration information that may be loaded in memory. Use the ASF Tomcat management functions available in the web-based IBM HTTP Server for iSeries function to end the ASF Tomcat server.

Top

## Parameters

Keyword	Description	Choices	Notes
APPSVRTYPE	Web application server type	Character value, *WAS40ADV, *WAS40SNG, *WAS50, *WAS50EXP, *ASFTOMCAT	Required, Positional 1
WASINST	Web server instance name	Character value, <u>*DEFAULT</u>	Optional
APPSVR	Application server name	Character value, <u>*DEFAULT</u>	Optional
TCSVRNAME	Tomcat server name	Character value	Optional
WPUSRID	WebSphere Portal user ID	Character value	Optional
WPPWD	WebSphere Portal password	Character value	Optional
WPURL	WebSphere Portal config URL	Character value	Optional

Top



---

## Web application server type (APPSVRTYPE)

Specifies a web application server that contains an iSeries Access for Web configuration to be removed.

This is a required parameter.

### \*WAS40ADV

WebSphere Application Server Advanced Edition for iSeries V4.0

### \*WAS40SNG

WebSphere Application Server Advanced Single Server Edition for iSeries V4.0

### \*WAS50

WebSphere Application Server V5.0 for iSeries

### \*WAS50EXP

WebSphere Application Server V5.0 - Express for iSeries

### \*WP41

WebSphere Portal 4.1

### \*ASFTOMCAT

Apache Software Foundation (ASF) Tomcat

Top

---

## Web server instance name (WASINST)

Specifies an IBM WebSphere Application Server instance that contains an iSeries Access for Web configuration to remove.

This is only applicable when removing a configuration for the WebSphere Application Server or WebSphere Portal.

When the **Web application server type (APPSVRTYPE)** parameter is set to \*WP41, this parameter is the WebSphere instance that WebSphere Portal has been configured to run within.

### \*DEFAULT

When \*DEFAULT is specified, iSeries Access for Web will be removed from the instance called 'default'.

*name* Specify the name of the WebSphere instance that contains an iSeries Access for Web configuration to remove. This is the same server (instance) name that was used when the Configure Access for Web (CFGACCWEB2) command was run.

Top

---

## Application server name (APPSVR)

Specifies the existing application server to which iSeries Access for Web has been configured and is to be removed.

A WebSphere instance contains a node and that node can contain one or more application servers. The application server provides the environment in which deployed web applications execute.

This value is only applicable when the **Web application server type (APPSVRTYPE)** parameter is set to configure one of the following web application servers:

- WebSphere Application Server V5.0 for iSeries (\*WAS50)

- WebSphere Application Server V5.0 - Express for iSeries (\*WAS50EXP)

#### **\*DEFAULT**

The following applies when the APPSVRTYPE parameter is set to \*WAS50:

- When the **Web server instance name (WASINST)** parameter is set to \*DEFAULT, this value will be set to 'server1'
- When the WASINST parameter is set to something other than \*DEFAULT, this value will be set to the value specified for the WASINST parameter.

The following applies when the APPSVRTYPE parameter is set to \*WAS50EXP:

- When this value is set to \*DEFAULT and the value specified for the WASINST parameter is set to \*DEFAULT, this value will be set to 'default'.
- When this value is set to \*DEFAULT and the value specified for the WASINST parameter is set to something other than \*DEFAULT, this value will be set to the value specified in the WASINST parameter.

*name* Specify the name of the application server within the WebSphere instance and node that iSeries Access for Web has been configured that is to be removed.

Top

---

## **Tomcat server name (TCSVRNAME)**

This value specifies the name of an Apache Software Foundation (ASF) Tomcat server that contains an iSeries Access for Web configuration to remove.

A parameter value is required when \*ASFTOMCAT is specified for the **Web application server type (APPSVRTYPE)** parameter.

*name* Specify the name of an existing ASF Tomcat server.

Top

---

## **WebSphere Portal user ID (WPUSRID)**

Specifies the IBM WebSphere Portal administrative user ID that will be used to remove the iSeries Access for Web configuration in WebSphere Portal.

Changes to the WebSphere Portal configuration require a user ID be specified to make the changes. This is the same administrator level user ID that would be used to login to the WebSphere Portal user interface to perform administrator level functions.

The user ID and password are sent to the server unencrypted using an HTTP connection. If the connection could be compromised, this command should only be run within a protected intranet environment.

A parameter value is required when \*WP41 is specified for the **Web application server type (APPSVRTYPE)** parameter.

*character-value*

Specify the administrative user ID.

Top

---

## WebSphere Portal password (WPPWD)

Specifies the password for the IBM WebSphere Portal administrative user ID specified for the **WebSphere Portal user ID (WPUSRID)** parameter.

The user ID and password are sent to the server unencrypted using an HTTP connection. If the connection could be compromised, this command should only be run within a protected intranet environment.

A parameter value is required when \*WP41 is specified for the **Web application server type (APPSVRTYPE)** parameter.

### *character-value*

Specify the password for the IBM WebSphere Portal administrative user.

Top

---

## WebSphere Portal config URL (WPURL)

Specifies the universal resource locator (URL) to access the WebSphere Portal configuration servlet. This servlet will remove the iSeries Access for Web configuration information in WebSphere Portal.

This URL is comprised of the following elements:

- The portal host name.
- The base universal resource identifier (URI) for the portal, as specified during WebSphere Portal installation (default value was '/wps').
- The servlet extension '/config'.

An example for this value would be 'server\_name.your\_company.com/wps/config'.

A parameter value is required when \*WP41 is specified for the **Web application server type (APPSVRTYPE)** parameter.

### *character-value*

Specify the URL to access the WebSphere Portal configuration servlet.

Top

---

## Examples

### Example 1: Removing the Configuration from WebSphere Advanced Edition for iSeries V4.0

```
RMVACCWEB2 APPSVRTYPE(*WAS40ADV) WASINST(*DEFAULT)
```

This command will remove the iSeries Access for Web configuration from the default instance of WebSphere Advanced Edition for iSeries V4.0.

### Example 2: Removing the Configuration from WebSphere Advanced Single Server Edition for iSeries V4.0

```
RMVACCWEB2 APPSVRTYPE(*WAS40SNG) WASINST(DEPTABC)
```

This command will remove the iSeries Access for Web configuration from a user created WebSphere instance named DEPTABC within WebSphere Advanced Single Server Edition for iSeries V4.0.

### Example 3: Removing the Configuration from WebSphere Application Server V5.0 for iSeries

```
RMVACCWEB2 APPSVRTYPE(*WAS50) WASINST(DEPTXYZ) APPSVR(*DEFAULT)
```

This command will remove the iSeries Access for Web configuration from a user created WebSphere instance named DEPTXYZ within WebSphere Application Server for iSeries V5.0.

**Example 4: Removing the Configuration from WebSphere Application Server V5.0 - Express for iSeries**

```
RMVACCWEB2 APPSVRTYPE(*WAS50EXP) WASINST(MYINST) APPSVR(*DEFAULT)
```

This command will remove the iSeries Access for Web configuration from the instance named MYINST in the WebSphere Application Server V5.0 - Express for iSeries configuration.

**Example 5: Removing the Configuration from WebSphere Portal**

```
RMVACCWEB2 APPSVRTYPE(*WP41) WPUSRID(wpsadmin) WPPWD(wpspassword)
           WPURL('myserver.mydomain.com/wps/config')
```

This command will remove the iSeries Access for Web configuration from WebSphere Portal 4.1. This example inputs the WebSphere Portal administrator user ID and password, and the URL to the portal configuration servlet.

**Example 6: Removing the Configuration from ASF Tomcat**

```
CFGACCWEB2 APPSVRTYPE(*ASFATOMCAT) TCSVRNAME(TOMCAT)
```

This command will remove the iSeries Access for Web configuration from the Apache Software Foundation (ASF) Tomcat server named TOMCAT.

Top

---

## Error messages

### \*ESCAPE Messages

**IAW0004**

Remove iSeries Access for Web command failed.

**IAW000B**

Value specified for parameter APPSVRTYPE is not valid.

**IAW000E**

The TCSVRNAME parameter is required.

**IAW0011**

The WPUSRID, WPPWD, and WPURL parameters are required.

Top

---

## Start Access for Web (STRACCWEB2)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Start iSeries Access for Web (STRACCWEB2) command is used to start the iSeries Access for Web configuration within the web application server IBM WebSphere Application Server.

This command will start a configuration that was created using the Configure Access for Web (CFGACCWEB2) command.

iSeries Access for Web must be started before it's functions can be accessed.

When the command runs, a Java Shell Display session will be started. Status information will be displayed indicating what the command is processing. As the command runs, detailed status information and error information will also be logged to stream file `/QIBM/UserData/Access/Web2/logs/cmds.log`.

iSeries Access for Web can also be started using the web application server's administration function.

### Restrictions:

- You must have all object (\*ALLOBJ) special authority to run this command.
- iSeries Access for Web must be configured using the CFGACCWEB2 command before running this command.
- This command is only available for the following web application servers:
  - WebSphere Application Server Advanced Edition for iSeries V4.0
  - WebSphere Application Server V5.0 for iSeries
  - WebSphere Application Server V5.0 - Express for iSeries
- WebSphere Advanced Edition for iSeries V4.0 specific restrictions:
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
- WebSphere Application Server V5.0 for iSeries specific restrictions:
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - The application server configured within the WebSphere instance and node must be running before executing this command.
- WebSphere Application Server V5.0 - Express for iSeries specific restrictions:
  - The WebSphere Application Server subsystem must be running and in a ready state before running this command. Refer to the WebSphere documentation for information on starting the WebSphere subsystem and determining when it reaches a ready state.
  - The application server configured within the WebSphere instance and node must be running before executing this command.
- The administration interface for the following web application servers should be used to start the configuration:
  - WebSphere Advanced Single Server Edition for iSeries V4.0
  - WebSphere Portal
  - Apache Software Foundation (ASF) Tomcat

---

## Parameters

Keyword	Description	Choices	Notes
APPSVRTYPE	Web application server type	Character value, *WAS40ADV, *WAS50, *WAS50EXP	Required, Positional 1
WASINST	Web server instance name	Character value, <u>*DEFAULT</u>	Optional
APPSVR	Application server name	Character value, <u>*DEFAULT</u>	Optional

---

### Web application server type (APPSVRTYPE)

Specifies a web application server that contains a iSeries Access for Web configuration to be started.

This is a required parameter.

#### **\*WAS40ADV**

WebSphere Application Server Advanced Edition for iSeries V4.0

#### **\*WAS50**

WebSphere Application Server V5.0 for iSeries

#### **\*WAS50EXP**

WebSphere Application Server V5.0 - Express for iSeries

---

### Web server instance name (WASINST)

Specifies an IBM WebSphere Application Server instance that contains an iSeries Access for Web configuration to start.

#### **\*DEFAULT**

When \*DEFAULT is specified, iSeries Access for Web will be started within the instance called 'default'.

**name** Specify the name of the WebSphere instance that contains an iSeries Access for Web configuration to start. This is the same instance name that was used when the Configure Access for Web (CFGACCWEB2) command was run.

---

### Application server name (APPSVR)

Specifies the existing application server to which iSeries Access for Web has been configured and is to be started.

A WebSphere instance contains a node and that node can contain one or more application servers. The application server provides the environment in which deployed web applications execute.

This value is only applicable when the **Web application server type (APPSVRTYPE)** parameter is set to configure one of the following web application servers:

- WebSphere Application Server V5.0 for iSeries (\*WAS50)
- WebSphere Application Server V5.0 - Express for iSeries (\*WAS50EXP)

#### \*DEFAULT

The following applies when the APPSVRTYPE parameter is set to \*WAS50:

- When the **Web server instance name (WASINST)** parameter is set to \*DEFAULT, this value will be set to 'server1'
- When the WASINST parameter is set to something other than \*DEFAULT, this value will be set to the value specified for the WASINST parameter.

The following applies when the APPSVRTYPE parameter is set to \*WAS50EXP:

- When this value is set to \*DEFAULT and the value specified for the WASINST parameter is set to \*DEFAULT, this value will be set to 'default'.
- When this value is set to \*DEFAULT and the value specified for the WASINST parameter is set to something other than \*DEFAULT, this value will be set to the value specified in the WASINST parameter.

*name* Specify the name of the application server within the WebSphere instance and node that iSeries Access for Web has been configured that is to be started.

Top

---

## Examples

### Example 1: Starting iSeries Access for Web in the WebSphere Advanced Edition for iSeries V4.0

```
STRACCWEB2 APPSVRTYPE(*WAS40ADV) WASINST(*DEFAULT)
```

This command will start the iSeries Access for Web configuration within WebSphere Advanced Edition for iSeries V4.0. In this example, the configuration within the default instance will be started.

### Example 2: Starting iSeries Access for Web in a WebSphere Application Server V5.0 for iSeries

```
STRACCWEB2 APPSVRTYPE(*WAS50) WASINST(DEPTXYZ) APPSVR(*DEFAULT)
```

This command will start the iSeries Access for Web configuration within WebSphere Application Server V5.0 for iSeries. In this example, the configuration within the user created instance DEPTXYZ will be started.

### Example 3: Starting iSeries Access for Web in a WebSphere Application Server V5.0 - Express for iSeries

```
STRACCWEB2 APPSVRTYPE(*WAS50EXP) WASINST(MYINST) APPSVR(*DEFAULT)
```

This command will start the iSeries Access for Web configuration within WebSphere Application Server V5.0 - Express for iSeries. In this example, the configuration within the user created instance MYINST will be started.

Top

---

## Error messages

### \*ESCAPE Messages

#### IAW0002

Start iSeries Access for Web command failed.

**IAW000B**

Value specified for parameter APPSVRTYPE is not valid.

[Top](#)



---

## Appendix. Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing  
IBM Corporation  
500 Columbus Avenue  
Thornwood, NY8809  
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation  
Licensing  
2-31 Roppongi 3-chome, Minato-ku  
Tokyo 106, Japan

**The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:** INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation

Software Interoperability Coordinator, Department 49XA  
3605 Highway 52 N  
Rochester, MN 55901  
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement, or any equivalent agreement between us.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

#### COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. You may copy, modify, and distribute these sample programs in any form without payment to IBM for the purposes of developing, using, marketing, or distributing application programs conforming to IBM's application programming interfaces.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

---

## Trademarks

The following terms are trademarks of International Business Machines Corporation in the United States, other countries, or both:

Advanced Function Printing  
AFP  
AS/400  
CICS  
COBOL/400  
C/400  
DataPropagator  
DB2  
IBM  
Infoprint  
InfoWindow  
iSeries  
LPDA  
OfficeVision

OS/400  
Print Services Facility  
RPG/400  
SystemView  
System/36  
TCS  
WebSphere

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, and service names may be trademarks or service marks of others.

---

## Terms and conditions for downloading and printing publications

Permissions for the use of the publications you have selected for download are granted subject to the following terms and conditions and your indication of acceptance thereof.

**Personal Use:** You may reproduce these Publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative works of these Publications, or any portion thereof, without the express consent of IBM.

**Commercial Use:** You may reproduce, distribute and display these Publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these Publications, or reproduce, distribute or display these Publications or any portion thereof outside your enterprise, without the express consent of IBM.

Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the Publications or any information, data, software or other intellectual property contained therein.

IBM reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the Publications is detrimental to its interest or, as determined by IBM, the above instructions are not being properly followed.

You may not download, export or re-export this information except in full compliance with all applicable laws and regulations, including all United States export laws and regulations. IBM MAKES NO GUARANTEE ABOUT THE CONTENT OF THESE PUBLICATIONS. THE PUBLICATIONS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE

All material copyrighted by IBM Corporation.

By downloading or printing a publication from this site, you have indicated your agreement with these terms and conditions.

---

## Code disclaimer information

This document contains programming examples.

IBM grants you a nonexclusive copyright license to use all programming code examples from which you can generate similar function tailored to your own specific needs.

All sample code is provided by IBM for illustrative purposes only. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

All programs contained herein are provided to you "AS IS" without any warranties of any kind. The implied warranties of non-infringement, merchantability and fitness for a particular purpose are expressly disclaimed.





Printed in USA