



IBM System i™

Session:

Access DB2 for i5/OS with iSeries Access

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i want stress-free IT.
i want control.
i want an **i**.

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Abstract

- **Did you know that iSeries Access provides many options for working with information in your System i database (DB2 for i5/OS)?**
- **Learn how easy it is to run database requests using the programs and GUIs in Access for Web, iSeries Access for Windows, and iSeries Access for Linux. In this session, you will learn how to access the System i database through:**
 - **Desktop applications that utilize the .NET, ODBC, and OLE DB drivers in iSeries Access**
 - **With no knowledge of SQL or its syntax, you can find, update, add, insert, and delete information and records in a System i database.**
 - **Use SQL Wizards to build SQL statements and create database tables**
 - **Upload PC data to iSeries database through easy-to-use GUIs**
 - **Run predefined requests to upload or download data**
 - **How to create dynamic queries for other end users to run**
 - **Transform Query Manager and Query/400 SQL statements into browser-based statements so they can run without requiring 5250 OLTP CPW capability.**

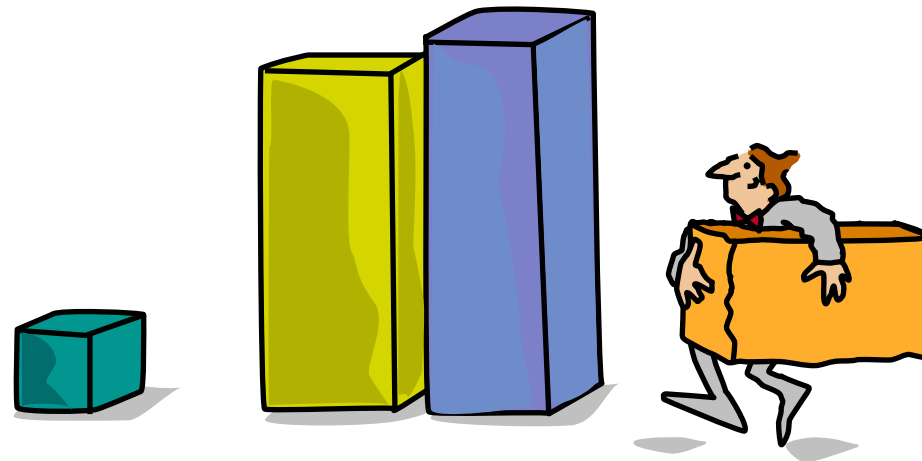
Requirements?

- **Would you like to see some other features in our iSeries Access Family?**
- **Please submit requests for enhancements via the FITS system.**
- **Go to the iSeries Access home page:**
- **<http://www.ibm.com/eserver/series/access/>**
- **And click on link “[Request for Design Change](#)”**

This really helps development get new functions into the planning process



Packaging & Ordering



iSeries Access Family Packaging

V5R4 5722-XW1 iSeries Access Family	V5R3 5722-XW1 iSeries Access Family	V5R2 5722-XW1 iSeries Access Family
<ul style="list-style-type: none"> • iSeries Access for Windows, 5722-XE1, V5R4 	<ul style="list-style-type: none"> • iSeries Access for Windows, 5722-XE1, V5R3 	<ul style="list-style-type: none"> • iSeries Access for Windows, 5722-XE1, V5R2
<ul style="list-style-type: none"> • iSeries Access for Web, 5722-XH2, V5R4 	<ul style="list-style-type: none"> • iSeries Access for Web, 5722-XH2, V5R3 	<ul style="list-style-type: none"> • iSeries Access for Web, 5722-XH2, V5R2
<ul style="list-style-type: none"> • iSeries Access for Linux, 5722-XL1 	<ul style="list-style-type: none"> • iSeries Access for Linux, 5722-XL1, V1.10 	<ul style="list-style-type: none"> • iSeries Access for Linux, 5722-XL1, V1.0
<ul style="list-style-type: none"> • iSeries Access for Wireless, 5722-XP1, V5R4 	<ul style="list-style-type: none"> • iSeries Access for Wireless, 5722-XP1, V5R3 	<ul style="list-style-type: none"> • iSeries Access for Wireless, 5722-XP1, V5R2
	<ul style="list-style-type: none"> • HATS Limited Edition V5.0, 5724-F97-01 	<ul style="list-style-type: none"> • HATS Limited Edition V4.0, 5724-D34-01
		<ul style="list-style-type: none"> • WebSphere Host Publisher, 5724-B81, V4.0 and V4.01
	<p>V5R3 customers not wanting to upgrade to i5/OS V5R4 but want the new V5R4 iSeries Access Family clients can order no-charge Feature No. 2648 of Product No 5722-XW1.</p>	<p>Formerly: V5R2 customers not wanting to upgrade to i5/OS V5R3 but want the new V5R3 iSeries Access Family clients can order no-charge Feature No. 2647 of Product No 5722-XW1.</p>

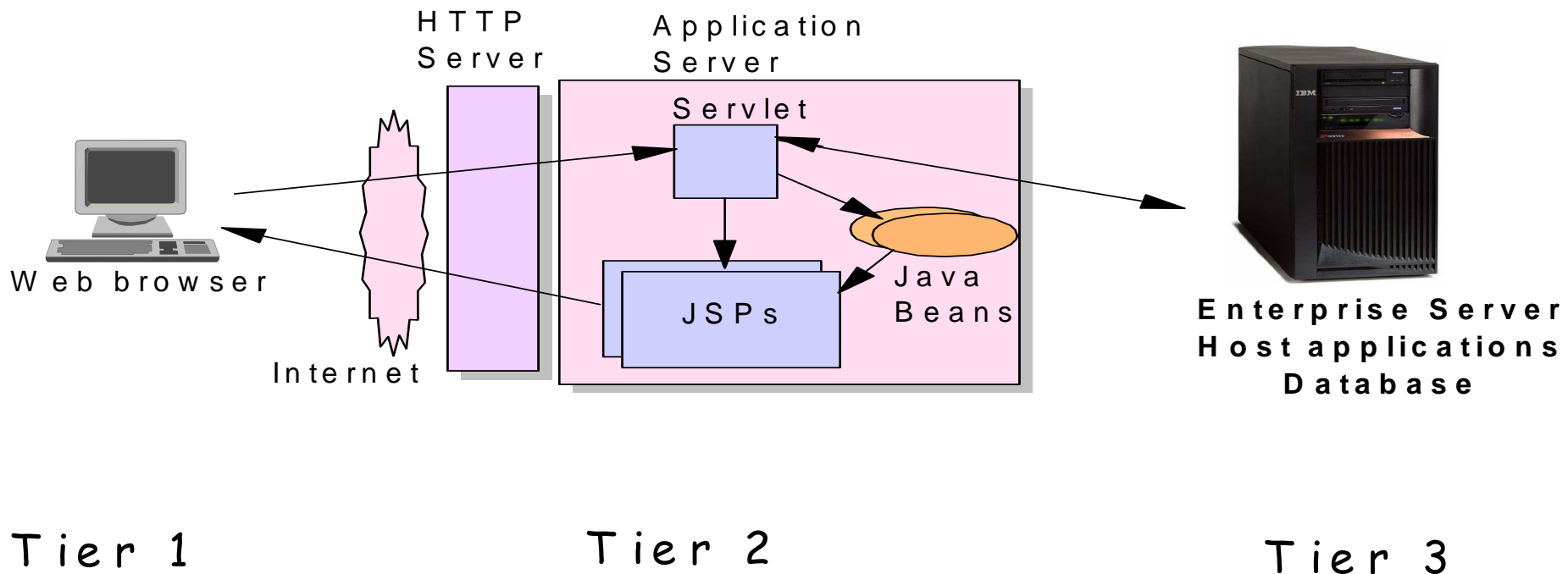
Desktop Requirements



<p>iSeries Access for Web is installed and runs on System i. It requires a browser to be running on end user desktop</p>	<p>iSeries Access for Windows must be installed and running on one of the following operating systems</p>	<p>iSeries Access for Linux must be installed and running on one of the following operating systems</p>
<ul style="list-style-type: none"> • Internet Explorer 6.0 with Service Pack 1 (Windows) • Netscape 7.0 (Windows® and Linux) • Netscape 4.7 (AIX®) • Opera 7.54 (Windows® and Linux) • Mozilla 1.7 (Windows, Linux, and AIX) • Mozilla Firefox 1.0.2 (Windows and Linux) 	<ul style="list-style-type: none"> • Microsoft Windows XP Professional • Microsoft Windows XP Tablet • Microsoft Windows 2000 • Microsoft Windows 2003 Server • Microsoft Terminal Server Edition (MTS) on any of above O/Ss. It supports Citrix, thus can be used from Thin Clients • Microsoft Windows Vista (12/22/06) 	<ul style="list-style-type: none"> • Linux on Intel processor • Linux on Power PC • System i Logical Partition • SuSE SLES 9 (required for 64-bit version) <p>3-tier environments</p> <ul style="list-style-type: none"> • Virtual Network Computing (VNC) • Linux Terminal Server Project (LTSP)

Server Requirements

iSeries Access for Web requires HTTP and a web application server to be running on System i



iSeries Access for Windows and iSeries Access for Linux have no special requirements for System i

Security and Administrative differences between the products



Security – Access to iSeries Database



All database requests in iSeries Access for Windows, iSeries Access for Web, and iSeries Access for Linux flow through the iSeries Access Database Server

All objects on the server, including SQL objects, are **managed by the system security function**

- Most IBM SQL operations go through the iSeries Database DB Host Server and use the QIBM_QZDA server exit point.
- This includes Data Transfer, ODBC, .NET, parts of OLE DB, and some functions of the Toolbox (JDBC including Access for Web).
- See:
<http://publib.boulder.ibm.com/series/v5r2/ic2924/index.htm?info/sqlp/rbafymst324.htm>

iSeries Access Database Server

- I5/OS Object Level Security
- Exit Programs



Exit Programs

- Exit programs written for the QIBM_QZDA NDB, ROI, and SQL exit points may help to **restrict certain users from accessing** specific files.
- Configured with WRKREGINF on the iSeries
- Given the SQL statement sent from the client application (Data Transfer). Statements may be rejected by the user exit program
- May be written in a variety of host languages

Control Use of Functions

iSeries Access for Windows

- Can restrict user access to Data Transfer functions through:
 - Application Administration (iSeries Navigator), and/or
 - Microsoft Policies using Microsoft Policy Editor and iSeries Access for Windows Policy Template (CWBADGEN)

iSeries Access for Web

- Can restrict user access to Database functions through:
 - Policy Customization

iSeries Access for Linux

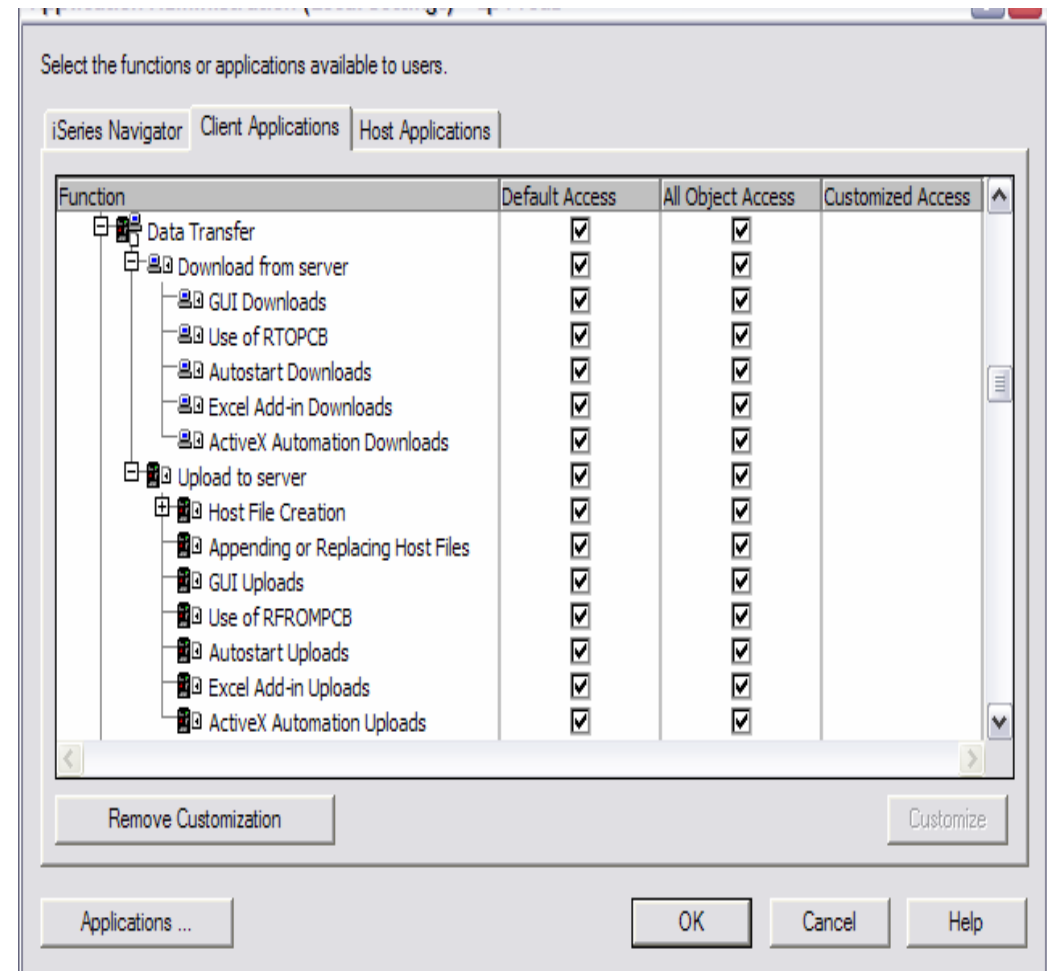
- No additional controls



Application Administration

iSeries Access for Windows

- **Control access to Data Transfer functions by i5/OS User Profiles (specific users, groups of users, all users...)**
- **Application Administration is accessed via iSeries Navigator.**
 - **Click on System i name, then right click.**
 - **Pulldown has Application Administration.**
 - **Can also access in User Profiles via iSeries Navigator**



Microsoft System Policies (old way)

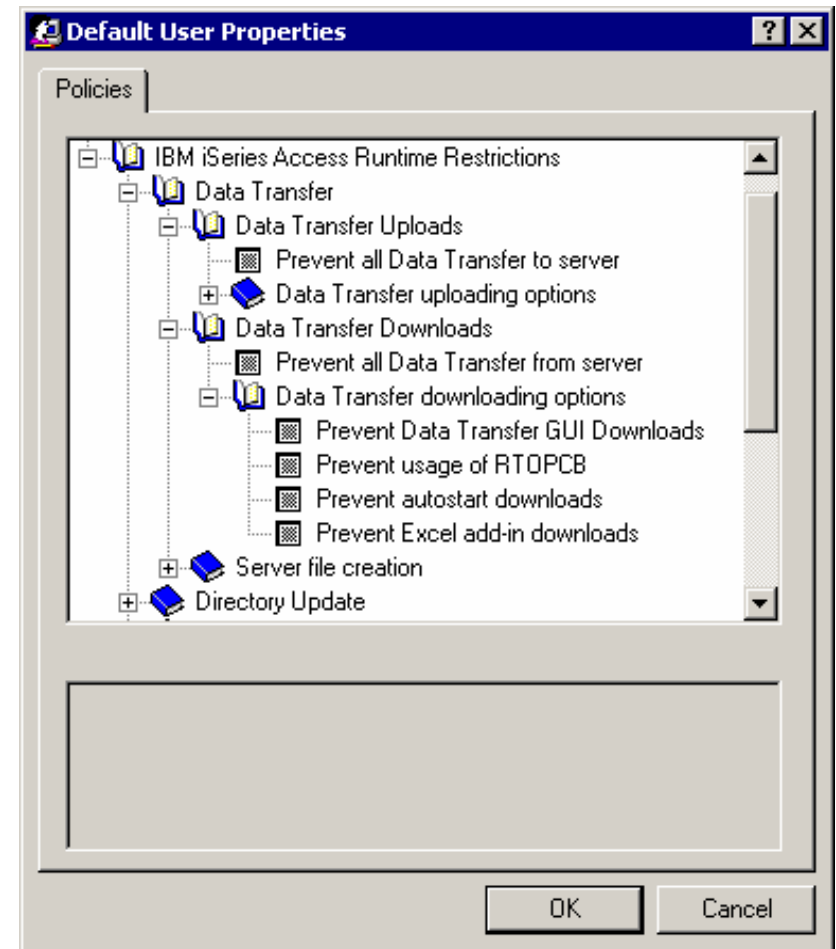


POLEDIT.EXE

- **Data Transfer From iSeries - Limiting downloads**
 - Prevent usage of Data Transfer From iSeries
 - Prevent usage of Data Transfer GUI
 - Prevent usage of RTOPCB command
 - Prevent autostart uploads
 - Prevent usage of Excel-Add In

- **Limiting users to only autostart downloads will help to prevent them from modifying transfer requests and keep them from downloading any file they have read access to on the System i**

Controlling Access via Policies



iSeries Access for Windows

Policies

iSeries Access for Web

- **Control Access to Database functions by restricting access to iSeries Access for Web functions.**
- **Restrict by specific user, groups of users, all users**
- **Requires SECADM authority to use**
 - **a non-SECADM user can be granted the rights to administer iSeries Access for Web**

iSeries Access for Web

Policies

Profile: CMINER

Action	Category	Description	Access
	5250	5250 user interface custom settings.	Allowed
	Command	Run batch command custom settings.	Allowed
	Customize	Preferences and policy administration custom settings.	Allowed
	Database	Database tables, requests, and run SQL custom settings.	Allowed
	Database connections	Create and edit database connection definitions.	Allowed
	Download	Download packages custom settings.	Allowed
	Files	Integrated file system and file share custom settings.	Allowed
	General	Page layout, language and character set custom settings.	Allowed
	Jobs	Work with jobs custom settings.	Allowed
	Mail	Send mail custom settings.	Allowed
	Messages	Display messages, send messages, and message queue custom settings.	Allowed
	My Folder	My Folder custom settings.	Allowed
	Print	Printer output, printers, printer shares and output queue custom settings.	Allowed
	Sametime	Lotus Sametime custom settings.	Allowed
	Other	Change password and other miscellaneous custom settings.	Allowed

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource

All the Policies that can be set for 'Database' functions

Edit Policies - Database

Profile: CMINER

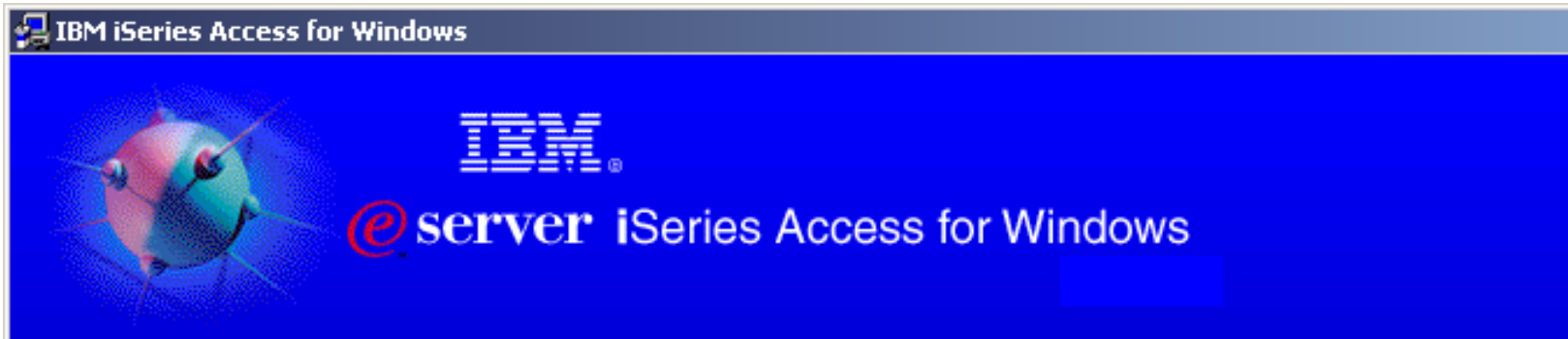
Policy	Derived From ?	Action ?	Setting
Database access	Shipped default	Use current setting	Allow
Database tab	Shipped default	Use current setting	Show
Tables	Shipped default	Use current setting	Allow
Maximum table rows	Shipped default	Use current setting	500
Table filter	Shipped default	Use current setting	*USRLIBL
Table filter is user preference	Shipped default	Use current setting	Allow
Insert records into table	Shipped default	Use current setting	Allow
Insert record columns	Shipped default	Use current setting	Columns...
Update records in table	Shipped default	Use current setting	Allow
Update record columns	Shipped default	Use current setting	Columns...
Quick view table records	Shipped default	Use current setting	Allow
Maximum quick view rows	Shipped default	Use current setting	1000
Order records by relative record number	Shipped default	Use current setting	No
Find records in table	Shipped default	Use current setting	Allow

Requests	Shipped default	Use current setting	Allow
Run request	Shipped default	Use current setting	Allow
Copy request	Shipped default	Use current setting	Allow
Delete request	Shipped default	Use current setting	Allow
Rename request	Shipped default	Use current setting	Allow
Edit request	Shipped default	Use current setting	Allow
Save request	Shipped default	Use current setting	Allow
List request shortcuts	Shipped default	Use current setting	Allow
Create request shortcut	Shipped default	Use current setting	Allow
Copy request shortcut	Shipped default	Use current setting	Allow
Delete request shortcut	Shipped default	Use current setting	Allow
Rename request shortcut	Shipped default	Use current setting	Allow
Request list columns	Shipped default	Use current setting	Columns...
Run SQL requests	Shipped default	Use current setting	Allow
Run statements other than query	Shipped default	Use current setting	Allow
Copy data to table	Shipped default	Use current setting	Allow
Create new tables	Shipped default	Use current setting	Allow
Append data to tables	Shipped default	Use current setting	Allow
Replace data in tables	Shipped default	Use current setting	Allow
Import request	Shipped default	Use current setting	Allow

shortcut	Shipped default	Use current setting	Allow
Rename request shortcut	Shipped default	Use current setting	Allow
Request list columns	Shipped default	Use current setting	Columns...
Run SQL requests	Shipped default	Use current setting	Allow
Run statements other than query	Shipped default	Use current setting	Allow
Copy data to table	Shipped default	Use current setting	Allow
Create new tables	Shipped default	Use current setting	Allow
Append data to tables	Shipped default	Use current setting	Allow
Replace data in tables	Shipped default	Use current setting	Allow
Import request	Shipped default	Use current setting	Allow
Import query	Shipped default	Use current setting	Allow
Extract server object data	Shipped default	Use current setting	Allow
Default connection	Shipped default	Use current setting	IBM Toolbox for Java - X1519P4.RCHLAND.IBM.COM
Default connection is user preference	Shipped default	Use current setting	Allow
Add IBM Toolbox for Java to connection list	Shipped default	Use current setting	Allow

Save Cancel Apply

[Policies help](#)
View help for editing policies.



iSeries Access for Windows 5722-XE1 V5R4

iSeries Access for Windows

innovative...
integrated...
impressive...
...iSeries

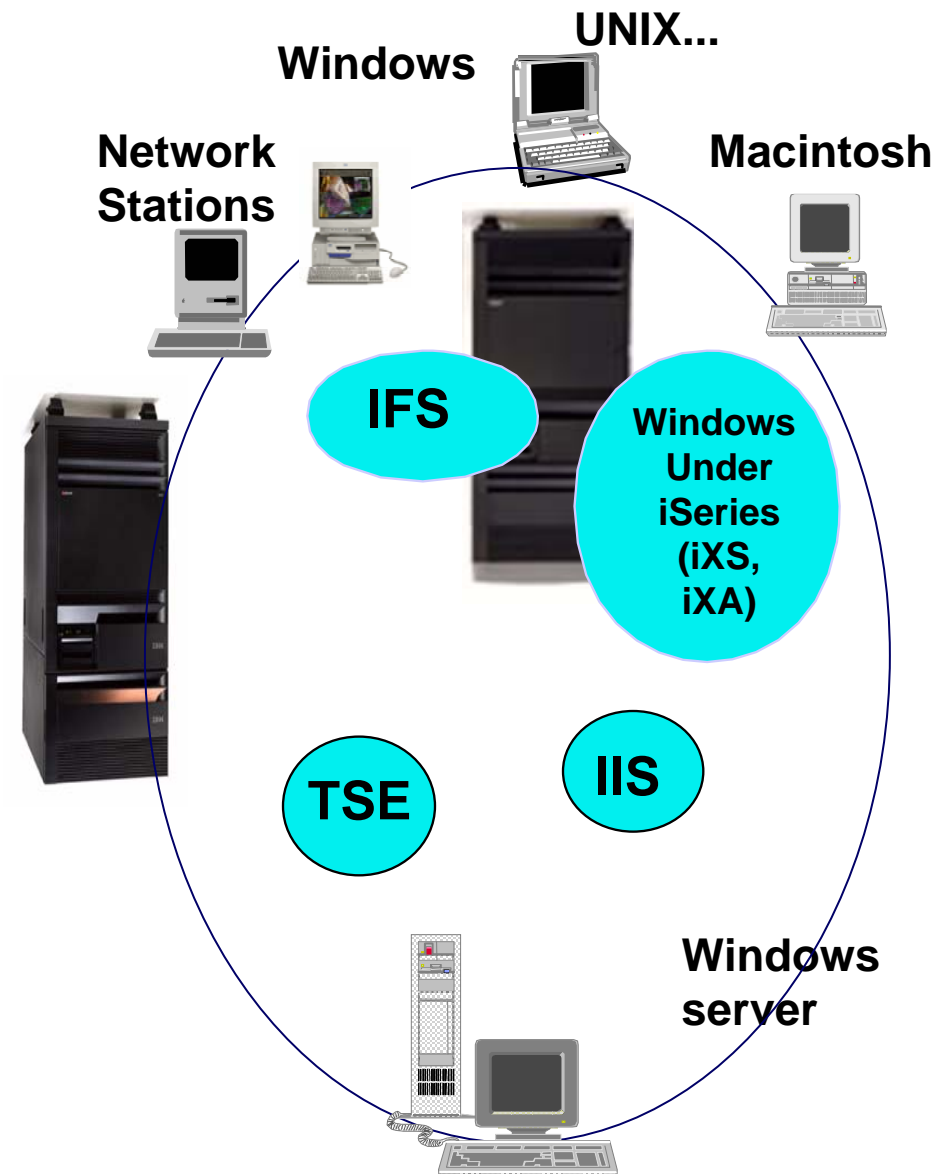
iSeries Access for Windows... the strategic choice for interacting with and managing your iSeries servers.

www.ibm.com/eserver/series/access

www.ibm.com/eserver/series/access/windows

Supports Microsoft operating environments...

- **Microsoft Transaction Services (MTS)**
 - example, an Auction House application where may need to back out transactions (ie, 2-phase commit)
- **Terminal Server Edition (TSE)**
 - iSeries Access runs on a Windows server, and enables multiple simultaneous users (such as Network Stations, DOS, Unix, or Macintosh) work with System i resources
- **Internet Information Services (IIS)**
 - Provides a Web application infrastructure for Windows Servers. iSeries Access runs on server, and fulfills requests for System i data (ie, ODBC, OLE DB, etc)



iSeries Access for Windows - Middleware

Middleware	Where it fits	Value to System i
<ul style="list-style-type: none"> System i ODBC driver 	<ul style="list-style-type: none"> Industry-standard Windows database access method. Supports Microsoft V3.0 specification. 	<ul style="list-style-type: none"> Access to DB2 for i5/OS
<ul style="list-style-type: none"> System i OLE DB provider (driver) Visual Basic Wizards 	<ul style="list-style-type: none"> Microsoft's universal data access standard interface for Windows applications working with relational and non-relational data. Supports OLE DB 2.5 Can use ADO 2.2 and 2.5 Can use VB 6.0 	<ul style="list-style-type: none"> Access to DB2 for i5/OS Can use i5/OS Data queues, Remote Commands, Stored Procedures, Distributed Program Calls... VB Wizards can be used with System i OLE DB provider
<ul style="list-style-type: none"> .NET Data provider called IBM.Data.DB2.iSeries 	<ul style="list-style-type: none"> Microsoft .NET Framework is a platform for building, deploying, and running Web Services and applications 	<ul style="list-style-type: none"> Enables applications using Microsoft's .NET framework to access DB2 for i5/OS databases
<ul style="list-style-type: none"> Data Queues Remote Commands Stored Procedures Distributed Program Calls SQL APIs Data Transfer APIs 	<ul style="list-style-type: none"> Active X Automation Controls & Objects i5/OS programming interfaces 	<ul style="list-style-type: none"> Works with i5/OS Data queues, Remote Commands, Stored Procedures, Distributed Program Calls... Access to DB2 for i5/OS
<ul style="list-style-type: none"> PC5250 enablers 	<ul style="list-style-type: none"> Includes ActiveX controls Industry-standard EHLLAPI, WinHLLAPI, DDE for code conversion. 	<ul style="list-style-type: none"> For 5250 applications ENPTUI for enhanced 5250 datastream functions

System i ODBC Driver



ODBC

Most popular database access method from a Windows application

Runs on 32-bit and 64-bit Windows O/S



Compliant with Microsoft ODBC Version 3 specification

- PC applications can now take advantage of new functions included in the 3.5 Specification.

ODBC Enhancements – V5R4, V5R3, V5R2

V5R4 Enhancements	V5R3 Enhancements	V5R2 Enhancements
<p>Requires i5/OS V5R4</p> <ul style="list-style-type: none"> • 128-byte column names • Maximum SQL statement lengths of 2,097,152 bytes or 1,048,576 characters • Support for IBM Enterprise Workload Manager (eWLM) correlator • Support for lock sharing between loosely coupled transactions <p>OS/400 V5R2 or later</p> <ul style="list-style-type: none"> • Improved support for delimited names 	<ul style="list-style-type: none"> • Supports BINARY / VARBINARY data types • Supports UTF-8 / UTF-16 data • Supports increased precision of decimal numbers • Enhanced MTS support • ANSI / ISO (American National Standards Institute / International Standards Organization) Core Level SQL standard of 1999 	<ul style="list-style-type: none"> • 64K SQL Statements • Additional descriptor information • MTS Support (actually shipped in V5R1)

System i OLE DB Provider



OLE DB

Microsoft-recommended
Access for 32-bit Windows
applications

Runs on 32-bit
and 64-bit
Windows O/S



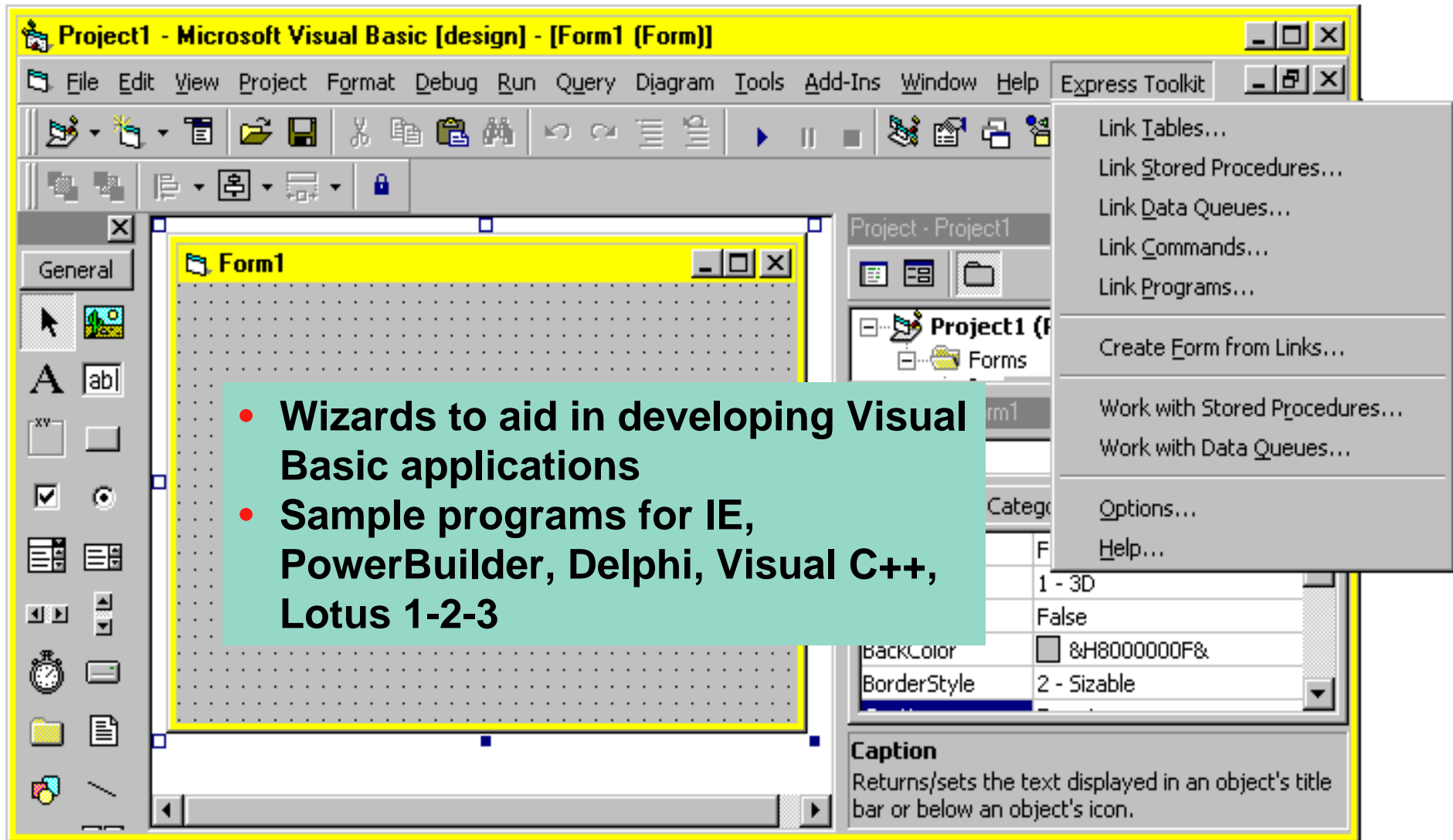
- Record level access
- Data Queues
- Stored Procedures
- SQL
- Remote Commands
- ODBC



plus add-ins for Visual Basic

OLE DB Provider supports OLE DB 2.5

Visual Basic Programming Aides



The screenshot displays the Microsoft Visual Basic IDE interface. The main window is titled "Project1 - Microsoft Visual Basic [design] - [Form1 (Form)]". The menu bar includes File, Edit, View, Project, Format, Debug, Run, Query, Diagram, Tools, Add-Ins, Window, and Help. The Express Toolkit menu is open, showing options such as Link Tables..., Link Stored Procedures..., Link Data Queues..., Link Commands..., Link Programs..., Create Form from Links..., Work with Stored Procedures..., Work with Data Queues..., Options..., and Help... The Properties window on the right shows the Caption property for the selected object, with a description: "Returns/sets the text displayed in an object's title bar or below an object's icon." A text box is overlaid on the design surface, containing the following text:

- Wizards to aid in developing Visual Basic applications
- Sample programs for IE, PowerBuilder, Delphi, Visual C++, Lotus 1-2-3

OLE DB Enhancements – V5R4, V5R3, V5R2

V5R4 Enhancements	V5R3 Enhancements	V5R2 Enhancements
<p>Requires i5/OS V5R4</p> <ul style="list-style-type: none"> • 128 byte column names • Maximum SQL statement lengths of 2,097,152 bytes or 1,048,576 characters • Support for IBM Enterprise Workload Manager (eWLM) correlator <p>OS/400 V5R2 or later</p> <ul style="list-style-type: none"> • System naming and library list • Improved support for delimited names 	<ul style="list-style-type: none"> • New SQL-only provider (IBMDASQL) <ul style="list-style-type: none"> – SQL commitment control using IBMDASQL – MTS support using IBMDASQL • SQL <ul style="list-style-type: none"> – Custom blocking in SQL – SQL data compression – SQL package support • New Record-Level Access-only provider (IBMDARLA) <ul style="list-style-type: none"> – Record-level access support for forward-only cursors and blocked reads using IBMDARLA • Supports updatable cursors for the SQL dialect • Database BINARY and VARBINARY data types • Database larger decimal precision support • Unicode support <ul style="list-style-type: none"> – UTF-8 & UTF-16 support 	<ul style="list-style-type: none"> • Custom properties added <ul style="list-style-type: none"> – Force Translate (translate CCSID 65535 data) – Default Collection – Catalog Library List – Convert Date Time To Char • Supports updatable cursors for the SQL dialect • Supports ROW-ID • 64K SQL Statements • Additional descriptor information • Is thread safe • OLE DB provider work with Windows products, such as: <ul style="list-style-type: none"> – Visual Basic 6.0 OLE DB controls and wizards – ADO 2.5 – ships with Microsoft Windows 2000 – ADO 2.1 - ships with Microsoft IE 5.0 and Office/2000 products – An OLE DB interface is provided to support ADO recordset Seek (ADO 2.x)

System i .NET Provider



.NET

The next big wave in Microsoft technology

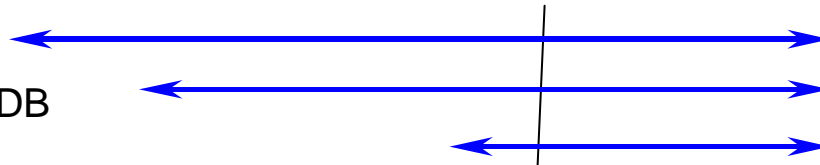
Runs on 32-bit and 64-bit Windows O/S



Microsoft's Technology Roadmap

Today

- ODBC
- ADO/OLEDB
- ADO.NET



The .NET provider is named IBM.Data.DB2.iSeries. It allows applications using Microsoft's .NET framework to access DB2 for i5/OS databases. For complete documentation of the .NET Data Provider, see IBM DB2 UDB for iSeries .NET Provider Technical Reference.

.NET Enhancements – V5R4, V5R3

V5R4 Enhancements	V5R3 Enhancements
<ul style="list-style-type: none"> • System naming and library list • Support for LOB data types • Support for multiple active result sets per connection • Customizable String processing for Char for Bit Data, Date, Time, Timestamp, Decimal, and Numeric data types • Support for IntelliSense • Additional sample programs • Improved support for delimited names <p>Requires i5/OS V5R4</p> <ul style="list-style-type: none"> • 128 byte column names • Maximum SQL statement lengths of 2,097,152 bytes or 1,048,576 characters • Support for IBM Enterprise Workload Manager (eWLM) correlator 	<ul style="list-style-type: none"> • SQL (INSERT,UPDATE, DELETE) • Commitment Control • Connection Pooling • SQL naming • Unicode • Tracing • Threads • IASPs (multiple databases) • Stored Procedure Support • I5/OS-specific Properties • User-Defined Types <p>Supported later via SP SI15176</p> <ul style="list-style-type: none"> • System Naming (/) • Library List • Large Objects (LOBs)

Redbook on .NET Data Provider

www.ibm.com/eserver/iseries/access/windows

iSeries Access for Windows - .NET Data Provider - Microsoft Internet Explorer

Address <http://www-03.ibm.com/servers/eserver/iseries/access/dotnet/>

Links [IBM Internal Help Homepage](#) [IBM Standard Software Installer](#) [Search the Web with Lycos](#) [Free AOL with Spam Blocker](#)

iSeries Access Home

- Announcements
- Order/Upgrade
- Products/Functions
- Downloads
- Service Packs (Fixes)
- Service Dates
- Information APARs (Support Statements)
- FAQs
- Windows(R) Operating Systems (2000/Me/XP/etc)
- Technical Support
- Articles
- IBM Library
- Toolkit
- iSeries Information Center

iSeries Access

.NET Data Provider

What is the .NET Data Provider?

The IBM DB2 UDB for iSeries .NET data provider (named IBM.Data.DB2.iSeries) allows Windows applications to use the Microsoft .NET Framework to access DB2 UDB for iSeries databases.

Refer to the following resources for details:

- **New Redbook!** [Integrating DB2 Universal Database for iSeries with Microsoft ADO .NET](#)
- *IBM DB2 UDB for iSeries .NET Provider Technical Reference*
This technical reference is part of the Programmer's Toolkit, an optionally installed component of the iSeries Access for Windows product. Be sure that you have the Programmer's Toolkit component installed on your PC, then find a link to the *IBM DB2 UDB for iSeries .NET Provider Technical Reference* here:

iSeries Access for Windows > Programmer's Toolkit > Database > .NET Framework Classes

What's new?

Did you know that several enhancements have been added to the .NET Data Provider in recent months? Because they were added after the V5R3 documentation was complete, they are described in the service pack readme file and in a specific APAR:

- Support for Large Object (LOB) data types: iDB2Blob, iDB2Clob, and iDB2DbClob and a new ConnectionString property called MaximumInlineLobSize that allows you to customize the use of your LOB data.
- Support for setting the SQL Library List via the LibraryList ConnectionString property.
- Support for using System naming via the Naming ConnectionString property.

Read about these enhancements in [APAR SE16951](#) (first included in iSeries Access for Windows service pack SI15176).

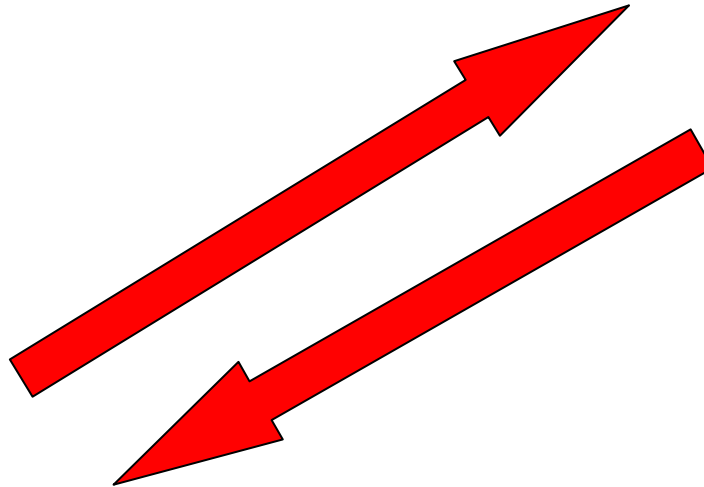
- Support for a new ConnectionString property called CheckConnectionOnOpen which

Related links

- iSeries Navigator
- Operations Console
- iSeries Access for Linux
- Additional Links
- Feedback
- How to buy

Data Transfer

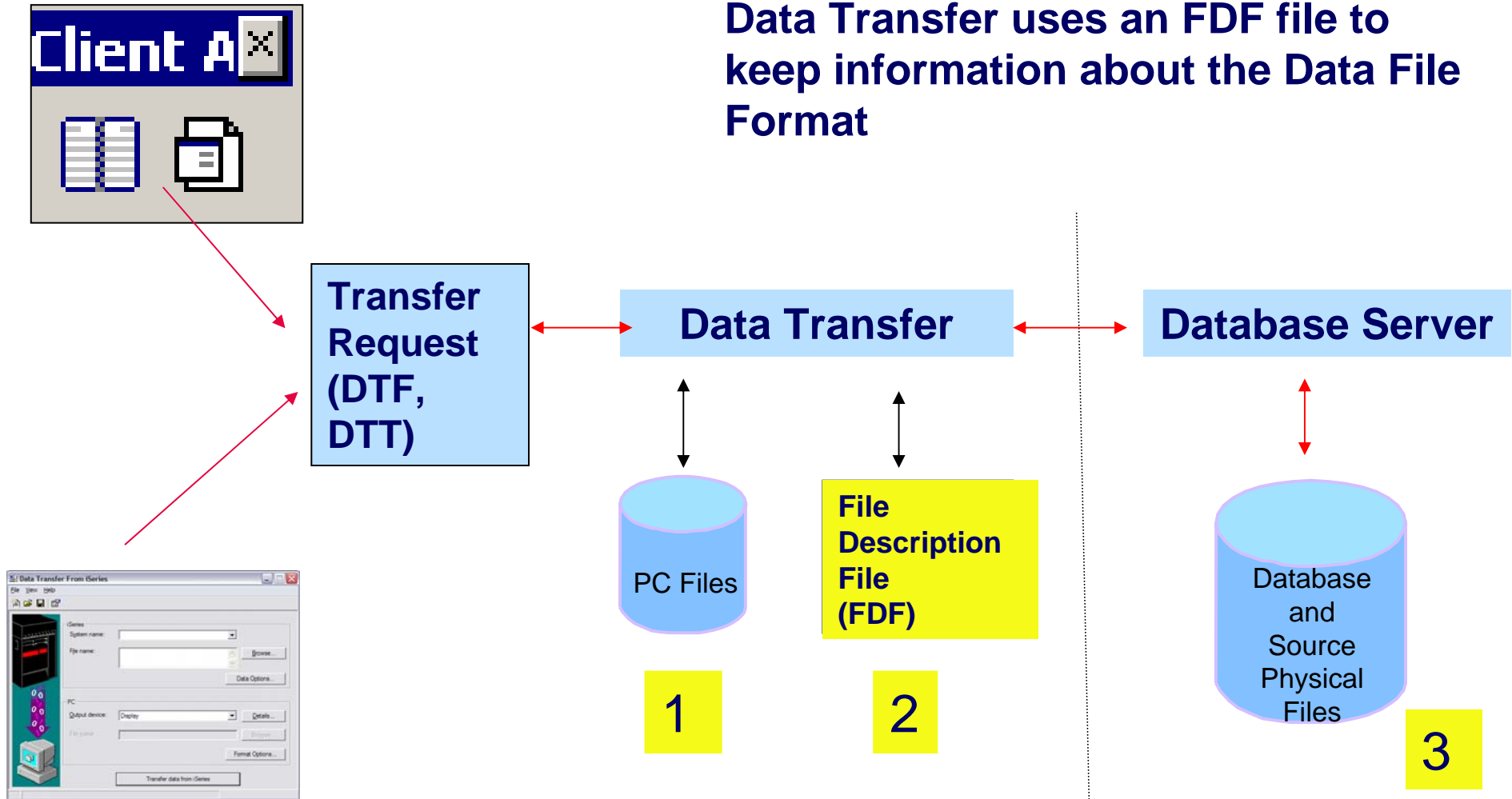
- Copy Data to i5/OS database
- Copy Data from i5/OS database



Data Transfer Structure

iSeries Access for Windows

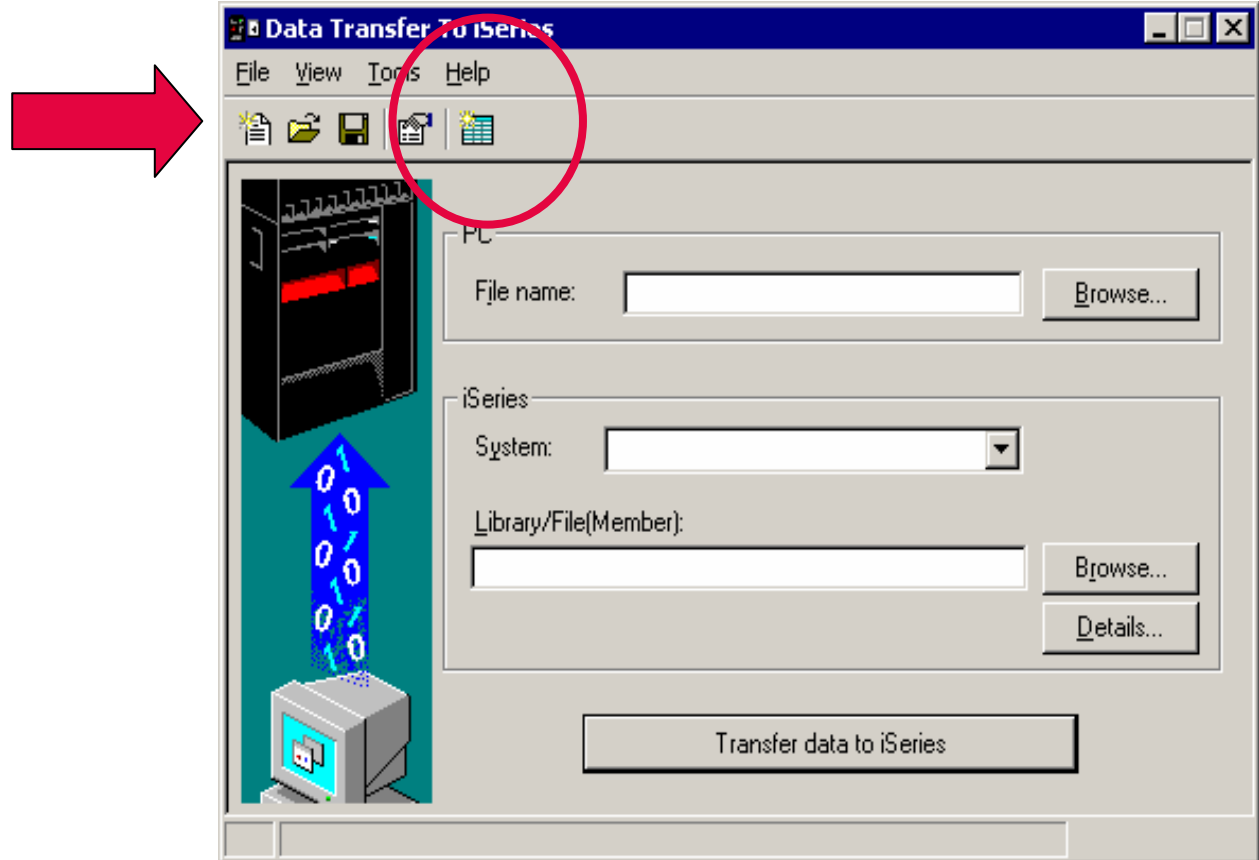
Data Transfer uses an FDF file to keep information about the Data File Format



Create DB2 for i5/OS Database File - Wizard

iSeries Access for Windows

- You start the 'Create iSeries Database File' wizard by selecting it from the Tools menu or by clicking on its icon in the toolbar
 - Plan ahead by increasing lengths if necessary.
 - Do not include character and numeric data in the same column.



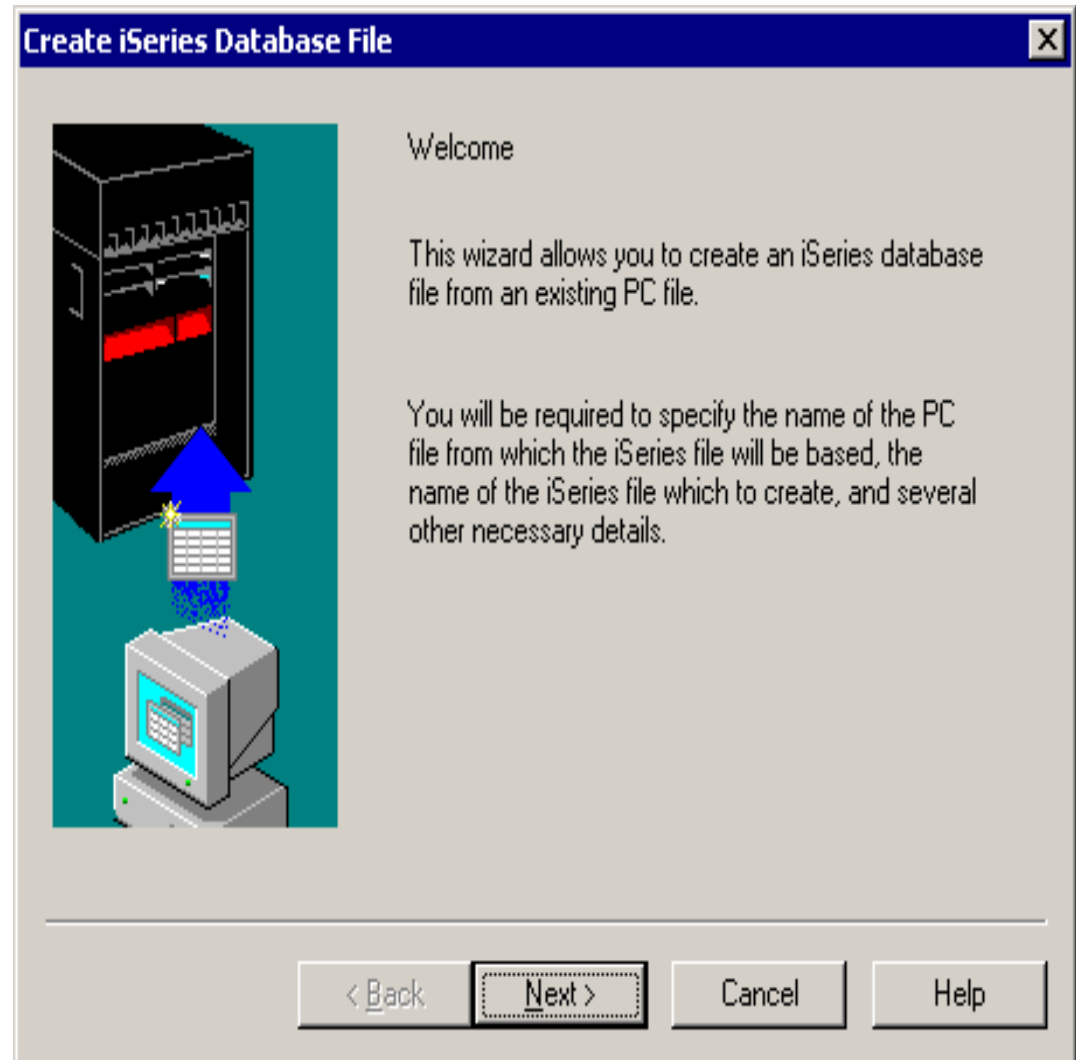
'Create iSeries Database File' Wizard

iSeries Access for Windows

The wizard creates:

- A File Description File (FDF)
- A Database file on the server

The wizard does not do the actual data transfer to System i



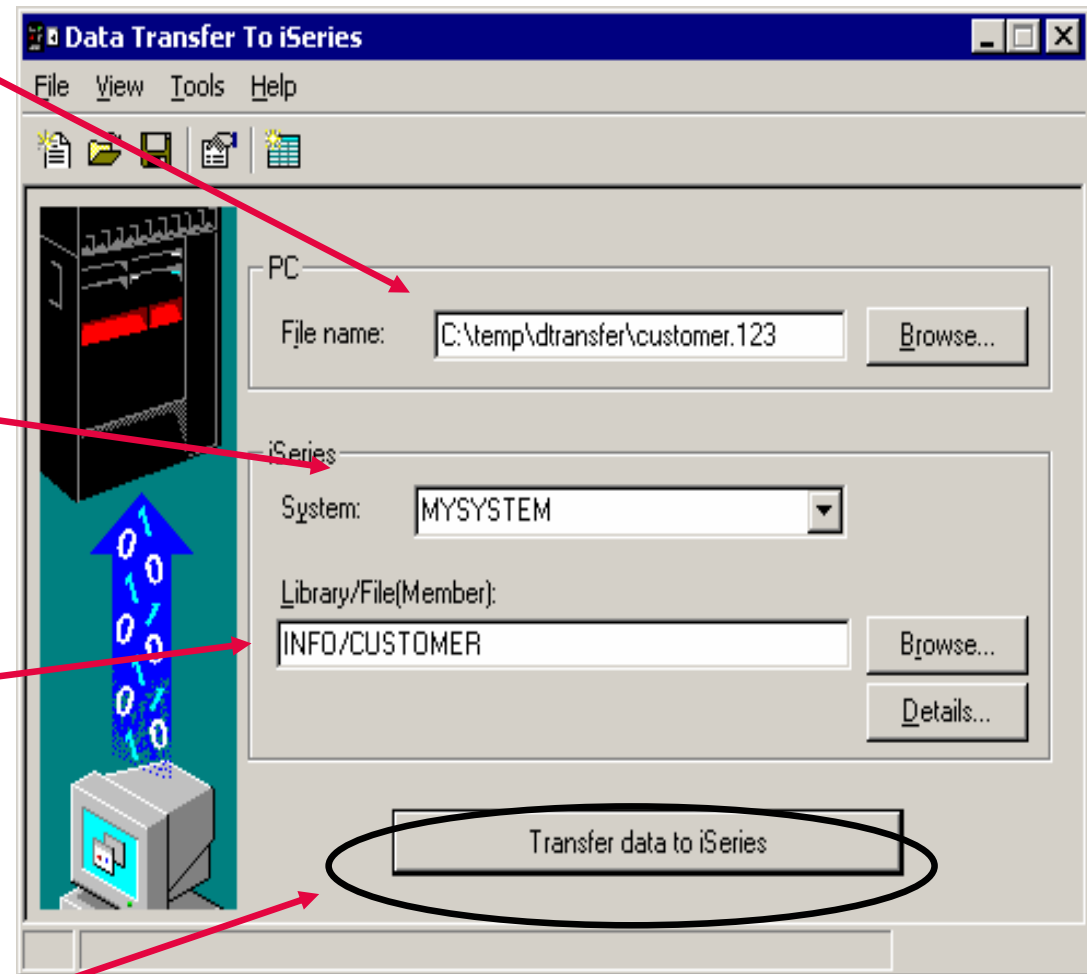
Create Data Transfer Upload Using GUI

The PC file name

The System i where the file was created

The Library/File name of our new file

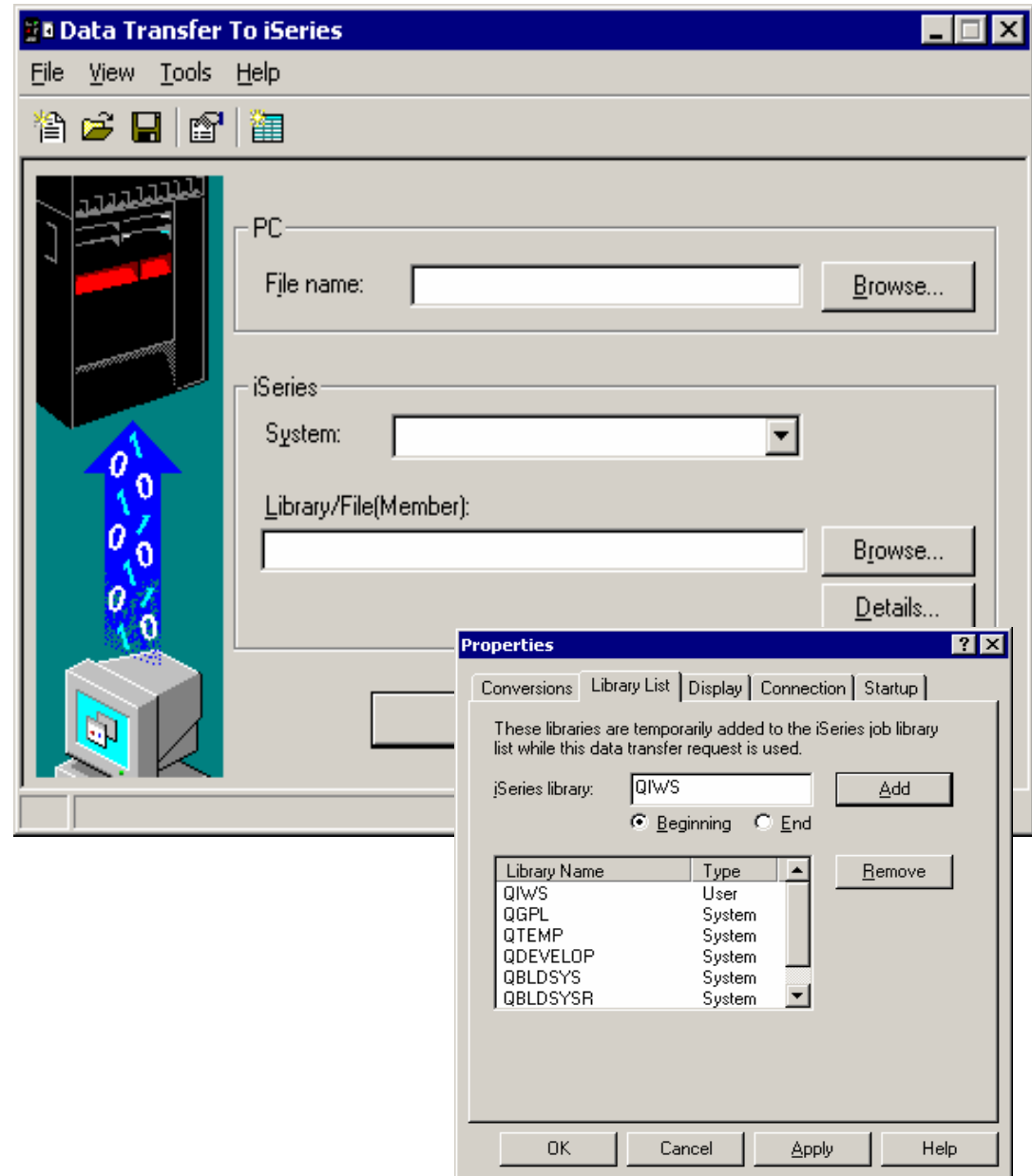
Click to transfer data to your new file



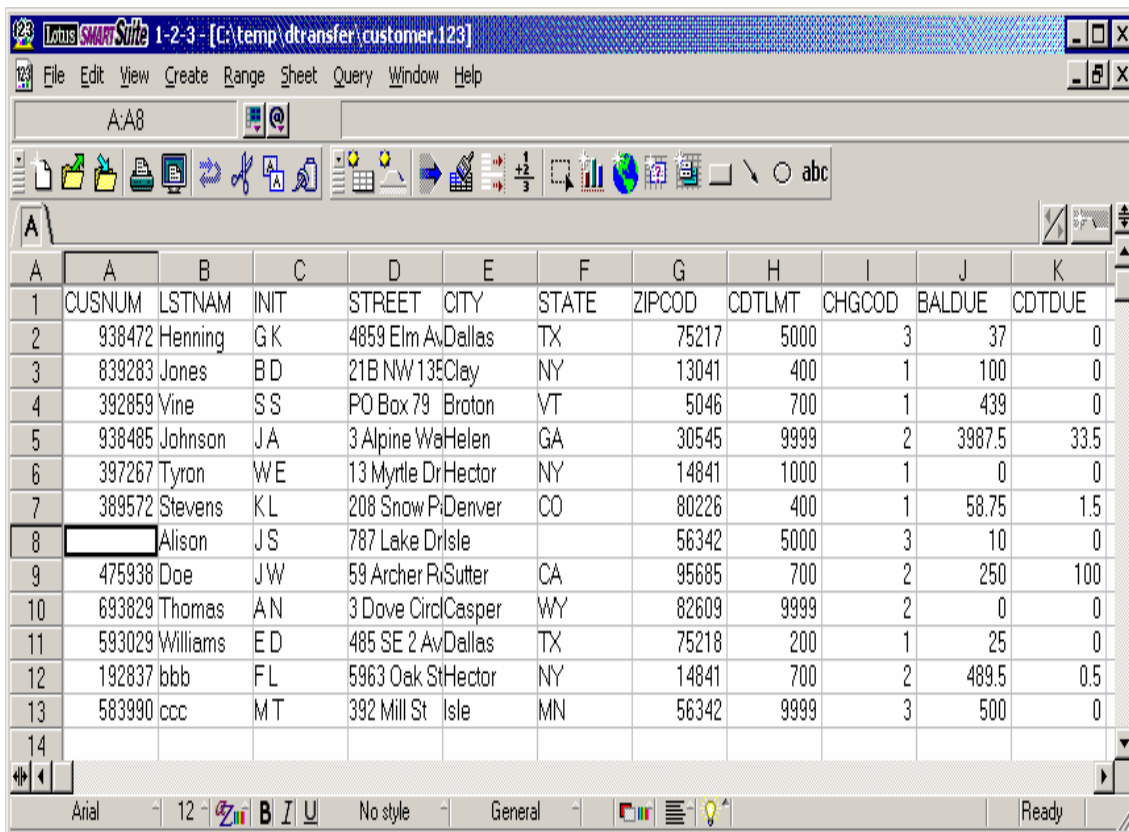
Transfer Data to DB2 for i5/OS

Step through the wizard's GUI panels and:

- Set up the library list
- Select the PC file that contains your data
- Select the PC file type
- Select the File Description File (FDF)
- Change Data Format Options (best to skip this panel)
- Scan PC File
- View results of the Scan PC File function
- View Field Details panel
- Select the System i Name



Creating a Basic Data Transfer



Lotus SmartSuite 1-2-3 - [C:\temp\dtransfer\customer.123]

File Edit View Create Range Sheet Query Window Help

A:A8

A	B	C	D	E	F	G	H	I	J	K	
1	CUSNUM	LSTNAM	INIT	STREET	CITY	STATE	ZIPCOD	CDTLMT	CHGCOD	BALDUE	CDTDUE
2	938472	Henning	GK	4859 Elm Av	Dallas	TX	75217	5000	3	37	0
3	839283	Jones	BD	21B NW 13E	Clay	NY	13041	400	1	100	0
4	392859	Vine	SS	PO Box 79	Broton	VT	5046	700	1	439	0
5	938485	Johnson	JA	3 Alpine Wa	Helen	GA	30545	9999	2	3987.5	33.5
6	397267	Tyron	WE	13 Myrtle Dr	Hector	NY	14841	1000	1	0	0
7	389572	Stevens	KL	208 Snow P	Denver	CO	80226	400	1	58.75	1.5
8		Alison	JS	787 Lake Dr	Isle		56342	5000	3	10	0
9	475938	Doe	JW	59 Archer R	Sutter	CA	95685	700	2	250	100
10	693829	Thomas	AN	3 Dove Cird	Casper	WY	82609	9999	2	0	0
11	593029	Williams	ED	485 SE 2 Av	Dallas	TX	75218	200	1	25	0
12	192837	bbb	FL	5963 Oak St	Hector	NY	14841	700	2	489.5	0.5
13	583990	ccc	MT	392 Mill St	Isle	MN	56342	9999	3	500	0
14											

Arial 12 No style General Ready



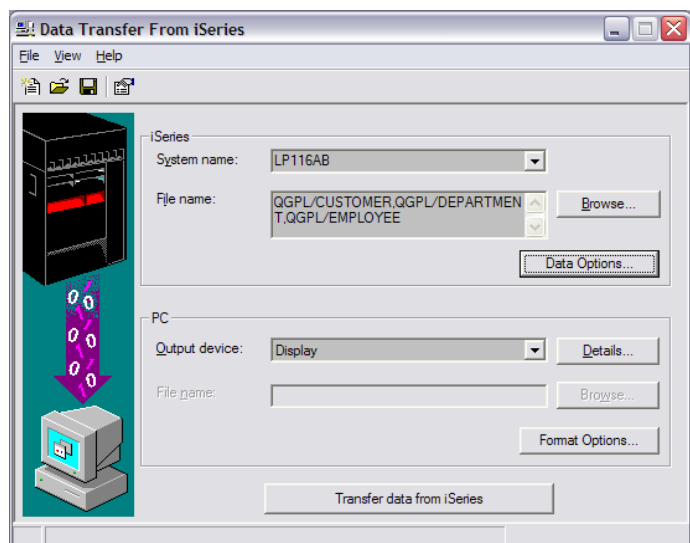
*Uploading a file
to System i*

Library: INFO

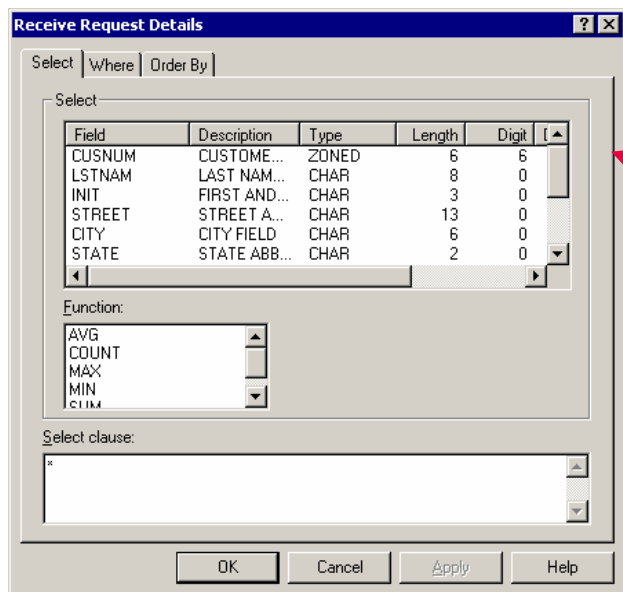
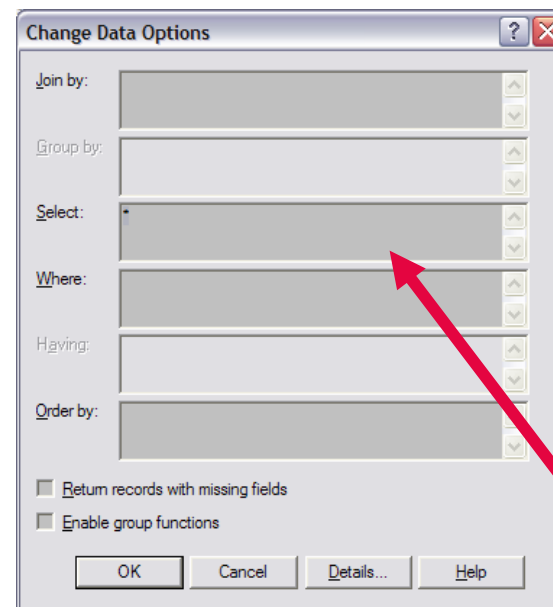
Table: CUSTOMER

Data Transfer from DB2 for i5/OS

GUI for building SQL Queries



- Click the **Data Options** button to start the **Data Transfer Query Builder**.



- The **Query Builder**
 - Lets you generate SQL queries without knowing SQL
 - Can do Joins, Groups, and Conditional Grouping
 - Builds **SELECT** statements

The **Native SQL** interface allows you to type in a free form **SELECT** statement.

- A list of files and columns in those files are provided to help you build your statement

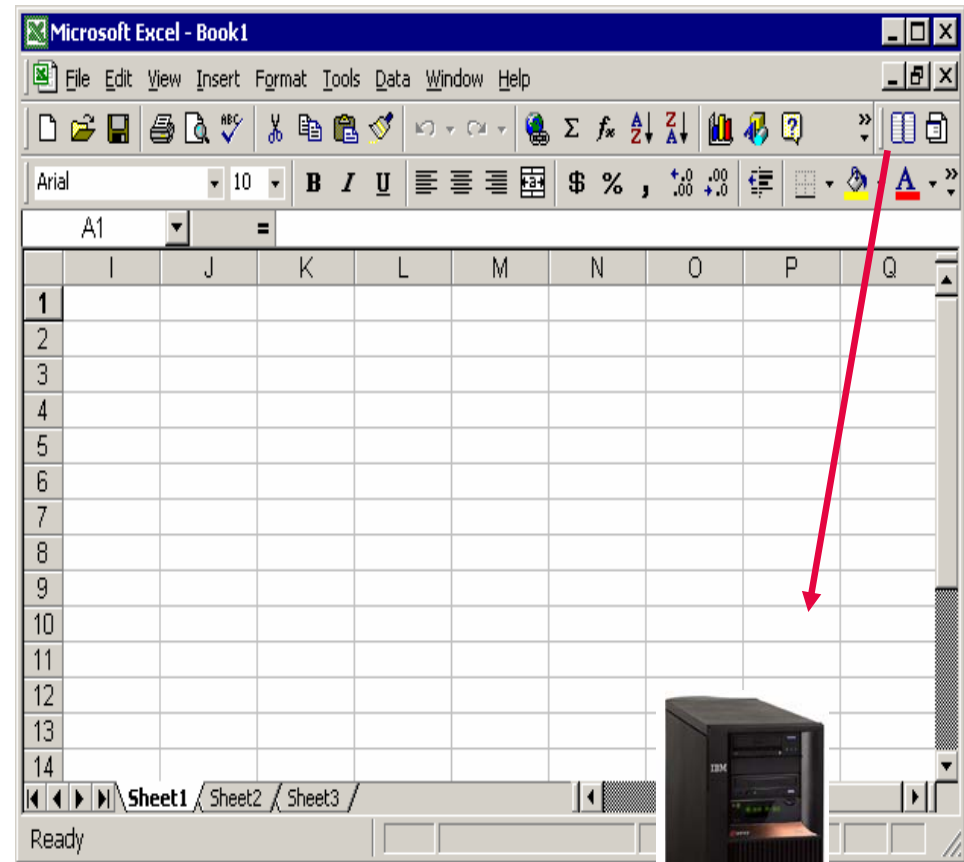
Microsoft Excel Add-in Support

Add-ins are provided for both 'Downloading' and 'Uploading' data to/from Microsoft Excel spreadsheets and the DB2 for i5/OS database

Works with:

- Microsoft Excel 97
- Excel 2000
- Excel XP

Use these add-ins by clicking on the Data Transfer upload or download buttons on the Excel toolbar



Viewing the results in Excel

The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Book1". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, and Help. The toolbar contains various icons for file operations, editing, and formatting. The font is set to Arial, size 10. The active cell is A1, which contains the equals sign (=). The data table is displayed in the following format:

	A	B	C	D	E	F	G	H	I	J	K
1	CUSNUM	LSTNAM	INIT	STREET	CITY	STATE	ZIPCOD	CDTLMT	CHGCOD	BALDUE	CTDUE
2	938472	Henning	G K	4859 Elm	Dallas	TX	75217	5000	3	37	0
3	839283	Jones	B D	21B NW 1	Clay	NY	13041	400	1	100	0
4	392859	Vine	S S	PO Box 79	Broton	VT	5046	700	1	439	0
5	938485	Johnson	J A	3 Alpine W	Helen	GA	30545	9999	2	3987.5	33.5
6	397267	Tyron	W E	13 Myrtle	Hector	NY	14841	1000	1	0	0
7	389572	Stevens	K L	208 Snow	Denver	CO	80226	400	1	58.75	1.5
8	846283	Alison	J S	787 Lake	Isle	MN	56342	5000	3	10	0
9	475938	Doe	J W	59 Archer	Sutter	CA	95685	700	2	250	100
10	693829	Thomas	A N	3 Dove Cir	Casper	WY	82609	9999	2	0	0
11	593029	Williams	E D	485 SE 2	Dallas	TX	75218	200	1	25	0
12	192837	Lee	F L	5963 Oak	Hector	NY	14841	700	2	489.5	0.5
13	583990	Abraham	M T	392 Mill St	Isle	MN	56342	9999	3	500	0
14											

The status bar at the bottom shows "Ready" and the active sheet is "Sheet1".

Batch Transfer Command Interface

RTOPCB

- Does batch data transfers from System i to PC

RFROMPCB

- Does batch data transfers from PC to System i

RXFERPCB

- Does batch data transfers from System i to PC
- Does batch data transfers from PC to System i

RTOPCB Example

Data Transfer from DB2 for i5/OS: Batch transfer command interface

RTOPCB [/S] [[/I] [filename [/C] [...]] | [[I] /F list file]]

- /S Show transfer statistics.
- filename An iSeries to PC transfer request (.TTO or .DTF), Rumba (.RTO), or Windows 3.1 (.DT) file transfer request.
- /C Process next file independent of previous file.
- /I Ignore warnings.
- /F Process files within list file (one filename per line).
- list file A file containing a list of transfer files to process.

Examples:

```
RTOPCB c:\temp\test.tto
```

```
RTOPCB /S c:\temp\test.tto /C c:\temp\trans.dtf
```

```
RTOPCB /S /F c:\temp\transfer.dtf
```

RFROMPCB Example

Data Transfer to DB2 for i5/OS: Batch transfer command interface

RFROMPCB [/S] [[/I] [filename [/C] [...]] | [/I] [/F list file]]

/S	Show transfer statistics.
filename	A PC to iSeries file transfer request (.TFR or .DTT), Rumba (.RTO), or Windows 3.1 (.DT) file transfer request.
/C	Process next file independent of previous file.
/F	Process files within list file (one filename per line).
list file	A file containing a list of transfer files to process.

Examples:

```
RFROMPCB c:\temp\test.tfr
```

```
RFROMPCB /S c:\temp\test.tfr /C c:\temp\trans.dtt
```

```
RFROMPCB /S /F c:\temp\transfer.dtt
```

RXFERPCB Example

Data Transfer between PC and DB2 for i5/OS: Batch transfer command interface

RXFERPCB request userID password

request - Fully qualified file name of any iSeries Access upload or download request of type .DTF, .DTT, .TTO, or .TFR.

userID - A valid i5/OS user profile for the system specified in the request.

password - A valid password for the specified user profile.

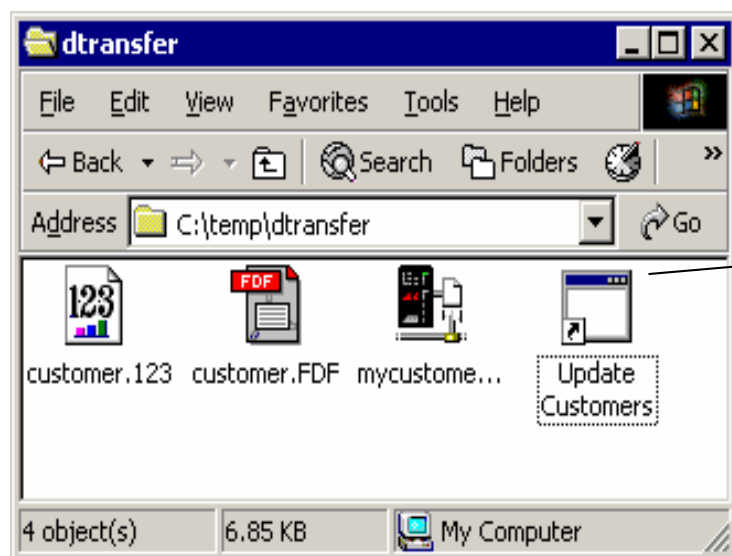
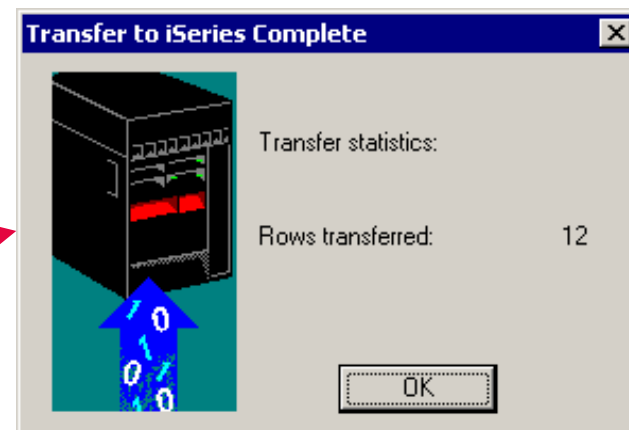
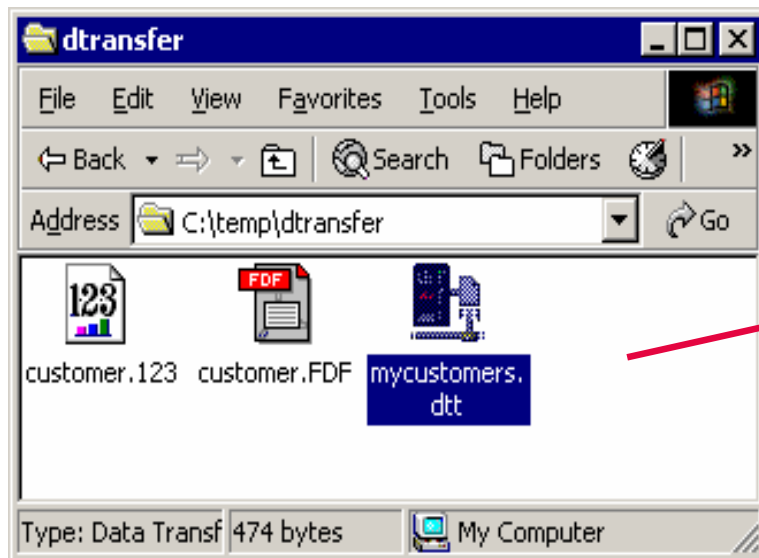
Examples:

```
RXFERPCB c:\temp\upload.dtf myuserid mypassword
```

```
RXFERPCB c:\temp\download.dtt myuserid mypassword
```

Run Data Transfer by Clicking an Icon

Double-click on an icon



Data can be uploaded with no prompt to user

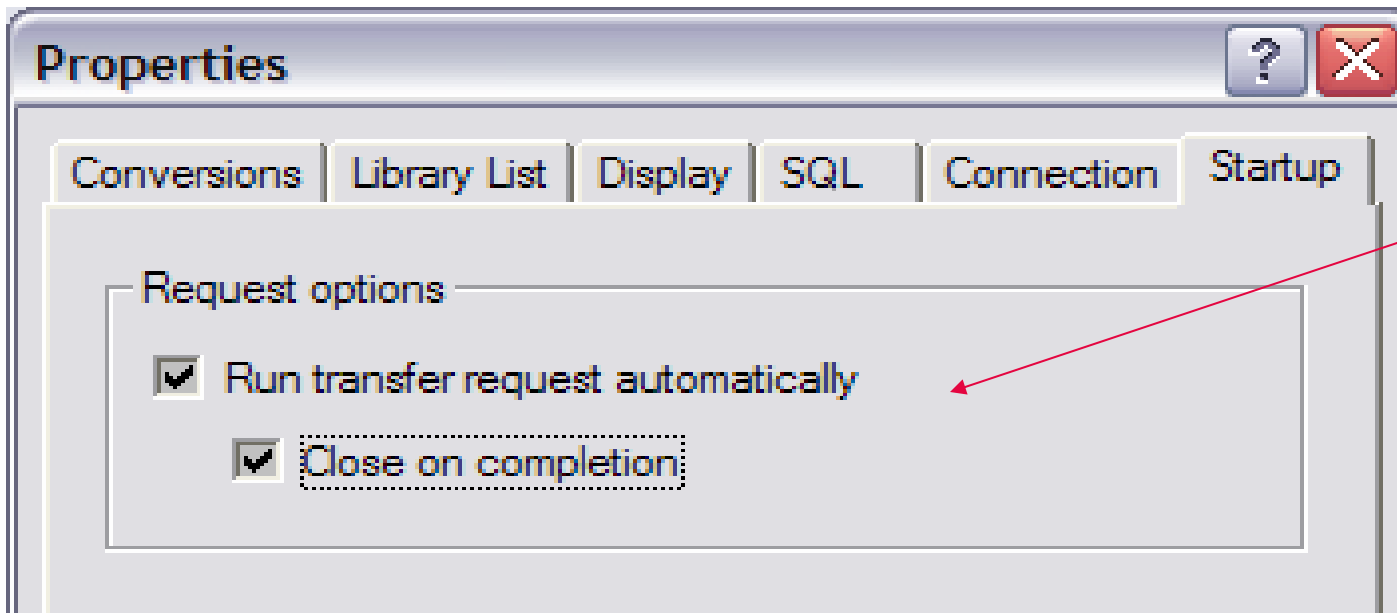
Auto-run/auto-close support

Use the Properties panel to set up Auto-Run and Auto-Close.

- You get to it by getting into the Data Transfer program, then selecting File --> Properties

The options:

- Allow transfer requests to run automatically when opened
- Allow transfer requests to close after the transfer has completed

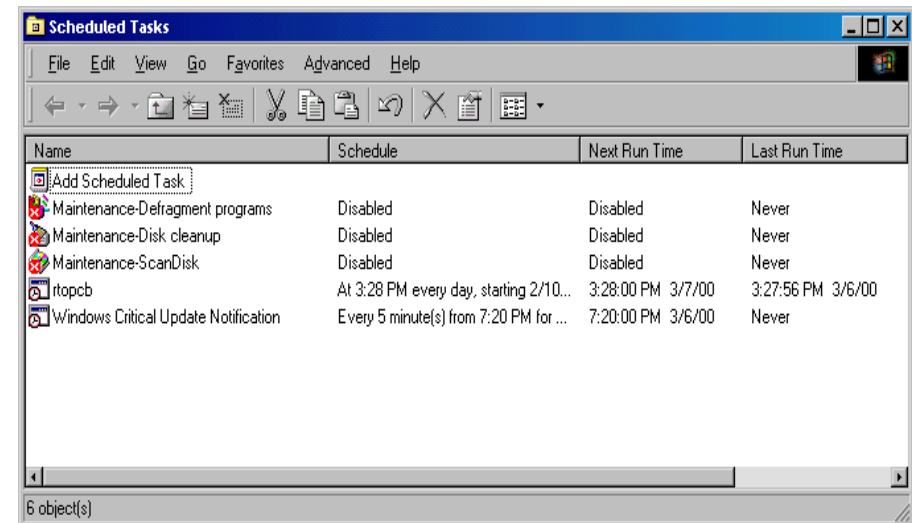
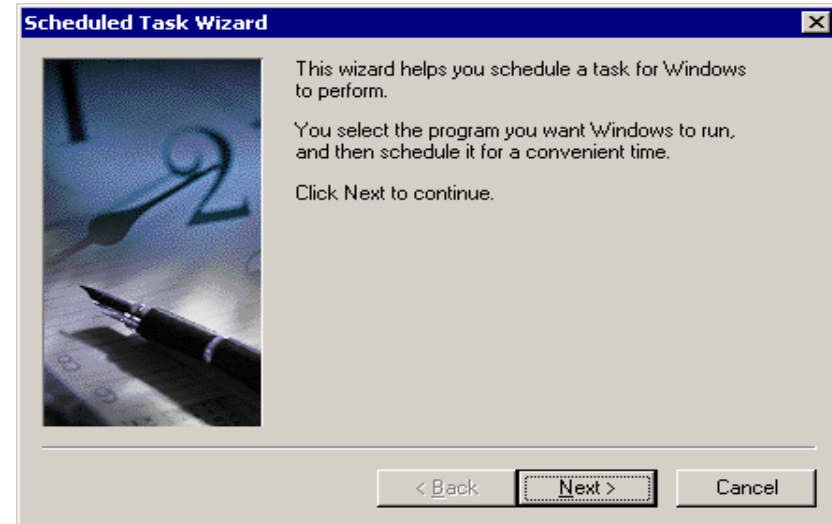


If you select both options, then it will run without user intervention

Scheduling a Data Transfer Request

- Use Access for Windows Batch Commands to create the appropriate Data Transfer request
- Using Microsoft Windows Scheduler, you could schedule iSeries Access for Windows Batch Transfers to run without user intervention

RTOPCB can now be scheduled to run at a given date and time



Data Transfer ActiveX Automation Objects



What are Active X Automation Objects?

- ActiveX Automations are re-usable objects that reside on your Windows PC.
- Many times they can be used to run an application by "remote" with a program or script.
- They work similarly to Object Linking and Embedding (OLE), used for things like inserting an Excel spreadsheet into a WordPad document. Not just cutting and paste, actually "linking" the spreadsheet into the document.
- ActiveX objects work much like this, except in the programming world.

What can they do for me?

- ActiveX automations can be used to quickly and easily perform many tasks with little or no user intervention.
- For example, a program may use the Automations for Microsoft Excel to perform various data calculations without ever bringing up the Excel interface.
- ActiveX automations can be used to create new custom interfaces over applications that have ActiveX automations.
- A few examples are Microsoft Office products, Internet Explorer, the PC5250 emulator, and various iSeries Access for Windows functions.

Data Transfer ActiveX Automation Objects

ActiveX automations are supported by many programming languages including:

- Visual Basic
- Visual Basic for Applications (used by Microsoft Office)
- Visual Basic Script (used in web pages and the PC5250 emulator)
- C++
- Java
- Lotus Script
- Many other applications and development environments

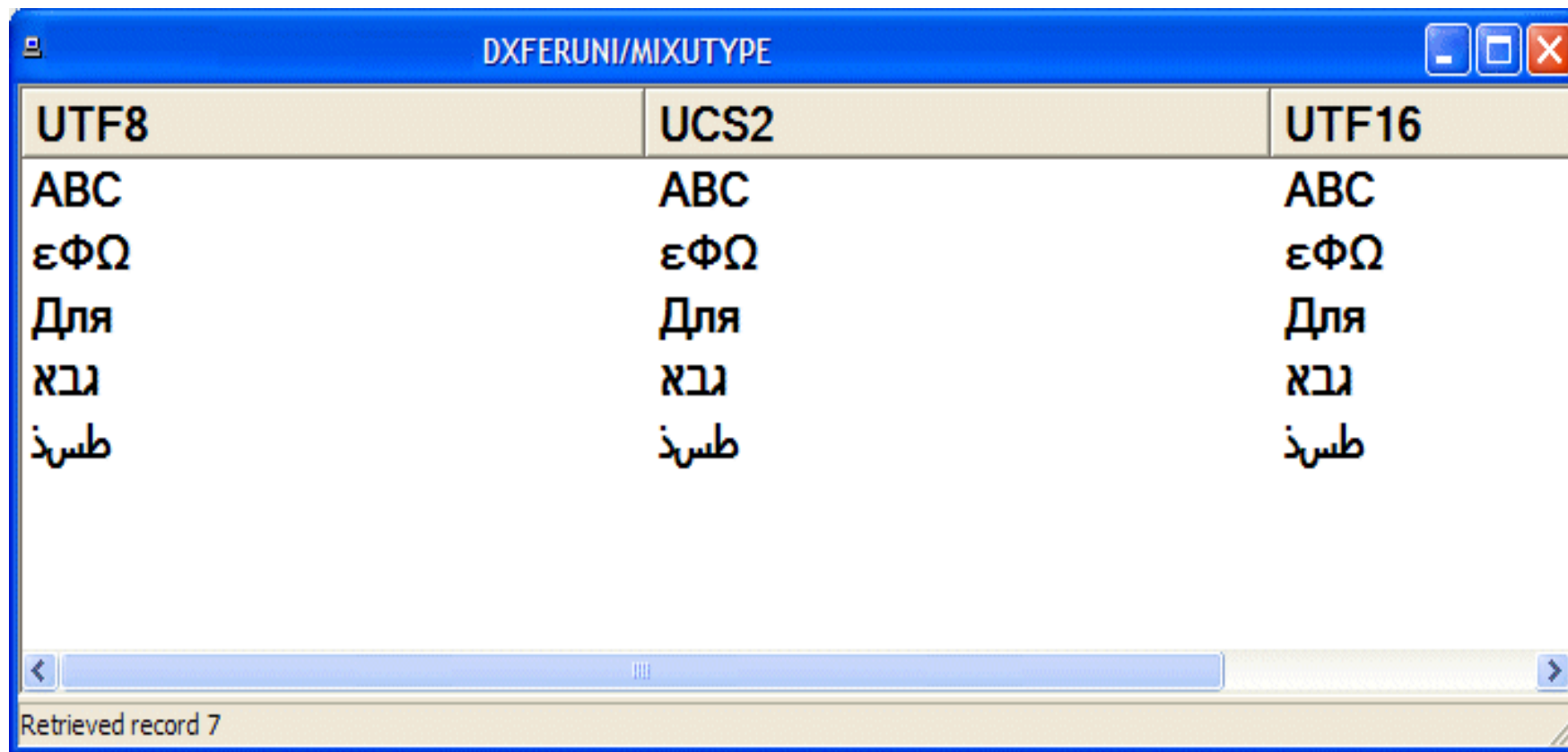
You must write program code to use these objects. Or allow some development tool to write the code for you.

You can find information on the iSeries Access for Windows ActiveX automation objects in the iSeries Access for Windows Toolkit under the ActiveX section of the Database portion of the Toolkit documentation.

Data Transfer Enhancements – V5R4, V5R3, V5R2

V5R4 Enhancements	V5R3 Enhancements	V5R2 Enhancements
<ul style="list-style-type: none"> • Support MS Excel XML Spreadsheet format • Support 128-byte column names • Support PC selection of an independent auxiliary storage pool (IASP) • Support creating and overwriting empty query result sets • Improved support for delimited names (requires V5R4 SP1) 	<ul style="list-style-type: none"> • Unicode enablement / New Unicode text file type <ul style="list-style-type: none"> – Support UTF-8 and UTF-16 data in DB2 database tables • Support larger decimal precision • Support BINARY and VARBINARY SQL data types • Support most recently used request list and last directory in Excel Add-in • Date/Time fields recognized by Data Transfer and now stored on DB2 for iSeries as 'date or time' field. • Option to convert numeric to character when transferring to iSeries DB • Support data compression for faster transfers 	<ul style="list-style-type: none"> • Support for uploading more than 256 columns of data to a database file • Add-ins for Excel to upload data directly from spreadsheet • Support Excel V7 (BIFF7) and V8 (BIFF8) file formats. (Excel 97 and 2000 use V8 file formats) • Support Lotus 123 V9 file format (with 65,536 rows) • Support numeric cells within formula (Excel, Lotus 123) • Support new i5/OS database functions

Example of Unicode Enablement – UTF8 and UTF16



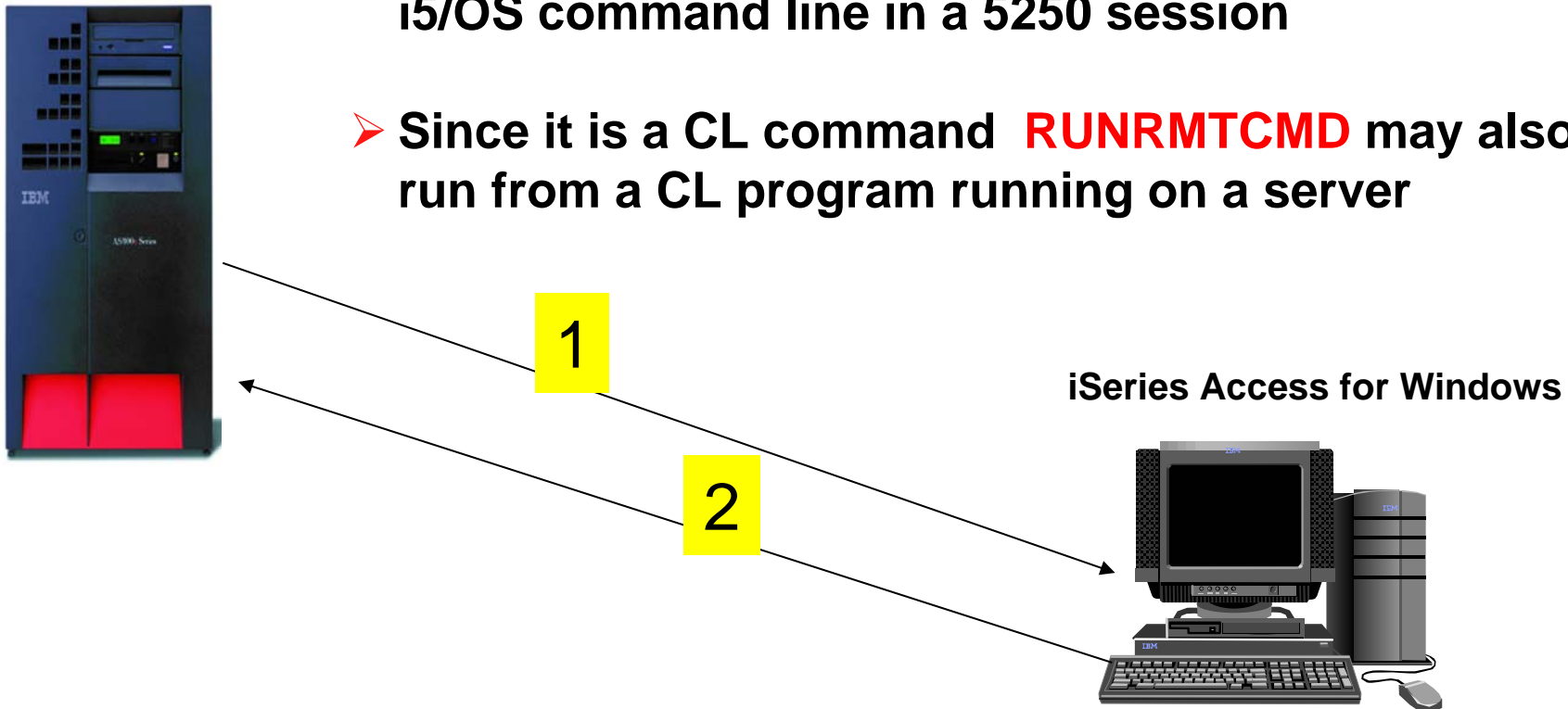
The screenshot shows a window titled "DXFERUNI/MIXUTYPE" with a table of Unicode characters. The table has three columns: UTF8, UCS2, and UTF16. The rows show the characters "ABC", "εΦΩ", "Для", "אבג", and "طسذ" in each of the three encodings. The characters are displayed correctly in all three encodings, demonstrating Unicode enablement.

UTF8	UCS2	UTF16
ABC	ABC	ABC
εΦΩ	εΦΩ	εΦΩ
Для	Для	Для
אבג	אבג	אבג
طسذ	طسذ	طسذ

Retrieved record 7

Incoming Remote Command (IRC)

- **RUNRMTCMD** is used to run a PC command from the i5/OS command line in a 5250 session
- Since it is a CL command **RUNRMTCMD** may also be run from a CL program running on a server



CWBRXD is the name of the program that provides and controls the Incoming Remote Command (IRC) function

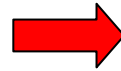
- RXD in the name stands for Remote eXecution Daemon
- The terms CWBRXD and IRC are used interchangeably

V5R4	V5R3
<p>The remote program interfaces (CWBRC.H) that run on the PC have been changed to allow a more complete list of job messages to be returned.</p>	<p>A new option: /loadprof</p> <p>Allows commands to have access to the user-specific registry and environment variable settings while they are running</p> <ul style="list-style-type: none"> – Some commands require setting this option in order to work properly – This option can be saved on the Incoming Remote Command tab of iSeries Access for Windows Properties, where it is called Load user profile when command run in user context <p>For further information regarding this new option, refer to the CWBRXD and Incoming Remote Command topic in the User's Guide (use this path: Start > Programs > IBM iSeries Access for Windows > User's Guide)</p>

- The Incoming Remote Command function runs a command on the Windows PC and then routes any text output that is generated by the command back to the requesting system.
- Commands are sent to the Windows PC in the format of commands that are typed on a Windows command prompt
- The output that would normally appear in that command prompt is sent back to the requesting system
- If the command produces no output, a no output message is sent instead.
- When a command is sent from a remote system, a message is logged in the iSeries Access for Windows history log. The message information that is logged identifies the system and user ID that sent the remote command, the text of the command that was sent, and whether or not the command could run. If no user ID is specified with the command, no user ID is logged.

iSeries Access - Programmer's Toolkit

- Installable option of Access for Windows
- Included in the icon group for Access for Windows
- Contains sample programs, and documentation
- Also contains links to header files and Windows Help files installed on your PC
- Has Internet links to more sample programs, documentation, and other helpful information



Programmer's Toolkit

Contents | Toolkit web page

- Overview
- iSeries Operations
- Client Information
- Communications and Security
- Data Area
- Database
 - [.NET Framework Classes](#)
 - ActiveX**
 - [ADO/OLE DB](#)
 - [C/C++ APIs](#)
 - [Java](#)
 - [JDBC](#)
 - [ODBC](#)
- Data Manipulation
- Data Queues
- Directory
- Directory Update
- Emulation
- Error Handling
- FTP
- Integrated File System
- Program Call
- Remote Command
- Servlet and HTML
- User Space

Database | [overview](#)

ActiveX

Database Transfer Automation Objects

iSeries Access for Windows provides a set of ActiveX automation objects for transferring database data to and from the server. These objects provide both a high-level and a low-level interface. The high-level interface is the easiest to use and it defaults many behaviors. The low-level interface provides programmatic control over most functions supported by the Data Transfer GUI application. These objects can be used from Visual Basic and other languages which support ActiveX automation. For languages other than C/C++, this interface is often easier to use than the C API.

For complete documentation of these objects, including their properties and methods, see:

[iSeries Access for Windows ActiveX Automation Objects - data transfer](#)

Visual Basic Script include file

[cwbxvbs.inc](#)

C/C++ interface definition

[cwbx.h](#)
[cwbx_i.c](#)

Sample applications

[iSeries Access for Windows samples - database](#)

Database Automation Objects

iSeries Access for Windows provides ActiveX automation objects for SQL access to the iSeries database. These objects are implemented as wrappers around the C/C++ APIs and they provide most of the same level of functionality as the C interface. These objects can be used from Visual Basic and other languages which support ActiveX automation. For high-level languages such as Visual Basic, this interface is often easier to use than the C API. The automation objects provide a higher level interface than the C API, so it may also be easier to program for C/C++ programmers as well. However, the automation interface would not perform as well as the C interface.

iSeries Access for Linux

9,000+ downloads to-date

Native Linux solution

- Runs on both Intel and Power PC or in System i logical partition (LPAR)
- 32-bit version
 - i386 and PowerPC
- 64-bit version
 - x86-64 and PowerPC
- Works with V5R1 and later



www.ibm.com/eserver/series/access/linux

Two different versions available

32-bit –

V1.14 - available May 11, 2006

- **5250 emulation**
 - Kerberos and Single Sign-On (SSO).
 - Works with Linux Terminal Server Project (LTSP)
 - Work with Virtual Network Computing (VNC) via -STAND_ALONE command line option.
- **ODBC driver (32-bit)**
- **Extended Dynamic Remote SQL (EDRS)**
- **New support for:**
 - DBCS conversion updates
 - New DBCS ibm5250 command line option (-USE-CP5035)

64-bit –

V5R4 available July 7, 2006

- **Requires the iSeries Access for Linux 32-bit product to be installed first.**
- **ODBC driver (64-bit)**
- **Extended Dynamic Remote SQL (EDRS) driver**

Both versions include a new toolkit with header files for building custom applications.

Redbook 'Linux on i5 Implementation'

This IBM Redbook helps companies plan, configure, and install Linux on i5

- It discusses the migration issues of Linux from previous System i to i5.
- It covers various helpful topics of administrations, operations, and tips and techniques.
- **It also covers iSeries Access for Linux (topics ODBC driver and 5250 emulation features, and iSeries Access for Web Download function).**

Table of Contents

- Chapter 1. Introduction to Linux on i5
- Chapter 2. Linux partition planning guide
- Chapter 3. System configuration
- Chapter 4. Linux installation
- Chapter 5. Administration and operations
- Chapter 6. Migrating your Linux partition to IBM i5
- **Chapter 7. iSeries Access for Linux**

New guide for shops looking to plan, configure, and install Linux on i5.

To obtain this Redbook, visit

<http://www.redbooks.ibm.com/abstracts/sg246388.html>.

iSeries Access for Web – V5R4

iSeries Access for Web User: cminer System: [redacted] IBM

My Home Page

- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
- Files
- Command
- Download
- Customize
- Other

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

Welcome to iSeries Access for Web

Getting Started

My Information	My View	Related Products
<ul style="list-style-type: none"> My Folder Printer output Display messages Start a 5250 session Database requests Browse files Preferences 	<ul style="list-style-type: none"> See Customizing iSeries Access for Web to find out how to customize the behavior and look of iSeries Access for Web. Also, find out how to create your own home page! 	<ul style="list-style-type: none"> WebSphere Application Server for iSeries WebSphere Development Studio Client for iSeries WebSphere Development Studio for iSeries

What is iSeries Access for Web

A new generation of software that enables you to access your iSeries server information and resources through a web browser!

Browser Access to iSeries Server Information

The Internet movement has taken over, and businesses are quickly moving to embrace new technologies through e-business. Since most desktop operating systems come with web browsers, users want an easy way to work with their business-critical i5/OS information and resources through the simple browser user interface that has been designed to be Internet-friendly. Users also are looking for hassle-free access through firewalls. They want access from a variety of platforms, and want no special client code that has to be installed and maintained on their desktop.

Easy Administration

i5/OS administrators are looking for ways to streamline management of user access to information in the enterprise through centrally controlled administration built around i5/OS user profiles. Additionally, administrators want to customize a user's view of the iSeries server, so those not

Rochester information

- City information
- Movies
- Mayo Clinic

Rochester weather

82 F

- SkyCam

Rochester news

- Post-Bulletin online
- KTTC

Telephone directory

- Find a person
- Find a business

Done

Functions you can perform with iSeries Access for Web 5722-XH2, V5R4

Print

- Printer output
- PDF Printer output
- Printers
- PDF Printers
- Internet Printers
- Internet Printer Shares
- Printer shares
- Output Queues

5250

- Active Sessions
- Start 5250 Session
- Configured Sessions
- **Bypass Sign-on**

Files

- Browse Files
- File Shares

Messages

- Display Messages
- Send Messages
- Sametime
- Operator Messages
- Message Queue

Database

- Tables
- My Request
- Run SQL
 - **Open Office Formats**
- Copy Data to Table
- Import Requests
 - iSeries Access for Windows
 - **Query Manager**
 - **Query/400**
- Extract Server Data

Download

My Personal Folder

Jobs

- User Jobs
- Server Jobs

Customize

- Preferences
- Policies
- Settings

Commands

- Run commands
- My commands
- Search

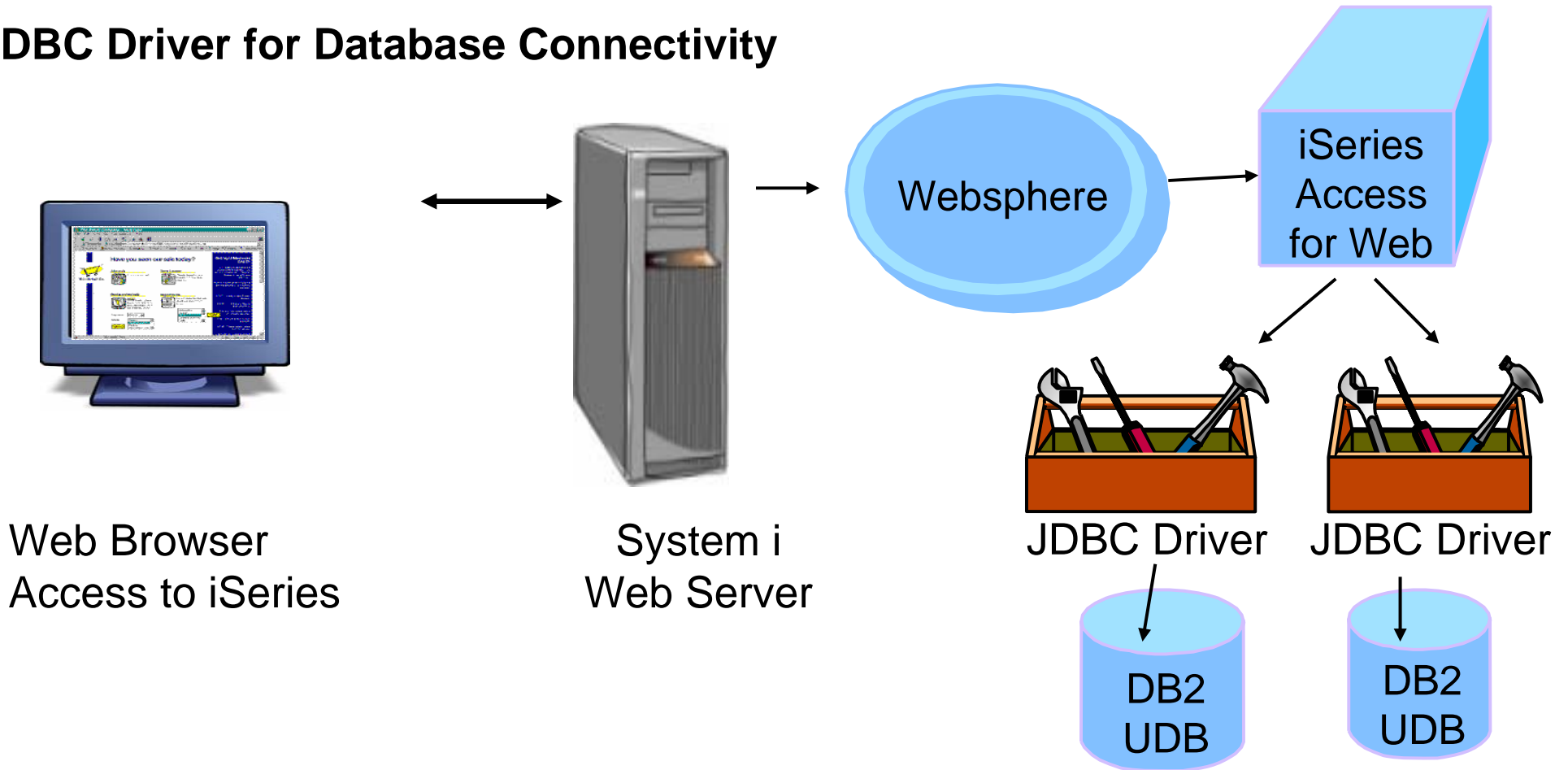
Other

- Bookmarks
- Change Password
- Connection Pool
- Status
- Trace

Database Overview

iSeries Access for Web

iSeries Access for Web uses the IBM Toolbox for Java JDBC Driver for Database Connectivity



iSeries Access for Web – Database Functions

Access database tables on your iSeries server with iSeries Access for Web.

Tables

- View a list of database tables on your iSeries server.
- Perform actions on these tables without having knowledge of SQL and its syntax.
- View the contents of a table in a paged list, using the Quick view action.
- Add and update records in a table using the Insert and Update actions.
- Create your own customized SQL request for a table using the Run SQL action.
- Create your own customized copy data request for a table using the Copy data to table action.

My requests

- View a list of previously saved requests.
- Run or Edit requests from this list.
- Manage lists using the Copy, Delete, and Rename actions
- Create and manage shortcuts to requests

Run SQL

- Run SQL statements dynamically.
- View output as a paged list or in a popular file format, like Microsoft Excel or Lotus 1-2-3. (Output format depends on how you have your browser configured and whether the browser can locate a plug-in for the output type you choose.)
- Customize how data is returned by setting options specific to the output type.
- Build SELECT statements using an SQL Wizard.
- Save requests for repeated use.

Copy data to table

- Copy existing data files from your PC to a database table on your iSeries server.
- These data files can be in many popular file formats, including Microsoft Excel and Lotus 1-2-3.
- Replace the contents of a table or add data to an existing table.
- Create a new database table based on the contents of a workstation file.
- Save requests for repeated use.

Import request

- Import Client Access Data Transfer upload and download requests into iSeries Access for Web copy data and SQL requests.
- Imported requests are automatically converted to iSeries Access for Web format.
- Run and edit converted requests on your iSeries server just like other copy data and SQL requests.

Import query

- Import queries generated by Query for iSeries and DB2 UDB for iSeries Query Manager.
- Imported queries can be saved into iSeries Access for Web database requests.
- Run and edit converted queries on your iSeries server just like iSeries Access for Web SQL requests.

Extract server data

- Extract server object information into a database table.

My Requests

Administrator creates queries or upload requests for end users to run.

- Selected Users are then given access to run these selected data requests
- They're only given access to run those necessary to perform their job



iSeries Access for Web

My Home Page
Print
5250
Database
• My requests
Files
Download

My Requests

« « [1] » » 🔍

Request	Description	Action	Shortcut	Created By	Access
Shortcut to Boats For Sale	View all available boats		Yes	CMINER	groupa
Shortcut to Find Boat To Buy	Select type and price limits		Yes	CMINER	*PUBLIC
Shortcut to My Customers Mailing	Mail Customer List		Yes	CMINER	groupa
Shortcut to My Customers Mailing	Mail Customer List		Yes	cminer	cminer1
Shortcut to Put My Customer List in Folder	Store Customer List		Yes	CMINER	groupa
Shortcut to request sql			Yes	secyesi	*PUBLIC
Shortcut to request upload			Yes	secyesi	*PUBLIC

« « [1] » » 🔍

Related Links:
• iSeries Access for Web
• iSeries Access
• iSeries Navigator
• iSeries Information Center
• iSeries Resource Library

These are called Shortcuts

Static Requests

Run a pre-built query or upload

- Example is a Query that is set up to display up to 500 entries

This query could be set up to:

- Be viewed in the browser
- Converted to a spreadsheet format, HTML, plain text....
- Converted to .PDF
- Saved in IFS or Personal Folder

iSeries Access for Web

User: CMINER System: LP120AB.RCHLAND.IBM.COM

My Home Page

My Folder

Print

Messages

Jobs

5250

Database

- Tables
- My requests
- Run SQL
- Copy data to table
- Import request
- Import query
- Extract server data

Files

Command

Download

Customize

Other

Related Links:

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- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

SQL Output

« « « [1] » » »

BCOST	BYEAR	BTYPE	BNAME	BFEET	BNT01
2975000	1996	P	Monterey Marine Custom	80	-Located in Stuart, FL
1588000	2005	P	Fairline Squadron	58	Motor yacht with flybridge, 3 staterooms, diesel
1000000	1979	C	Poole Boat Co Aluminum	80	-Located in S. Diego, CA
750000	1995	P	Spandau Houseboat	720	8 cabins, 12 berths, 4 toilets, Volvo MD 2040 engine
450000	1990	S	Merlin's Magic	54	-Designed by Dutch naval architect Ernst Van Derlaan.
450000	2000	A	Seacamper 795 Houseboat	72	2 cabins, 4 berths, 1 toilet, wheel-rudder steering, diesel fuel
269500	1989	S	Seafinn 411 Motorsailer Ketch	41	-Silver anodised spars by Selden of Sweden. Main and
249000	1944	T	Miki Miki Original Tug	126	-Located in Seattle, WA.
185000	2000	P	Baveria 50 Yacht	50	5 cabins, 3 showers, Volvo TMD22 78PS engine
179500	1993	S	Fontaine Pajot Antigua	37	-Fiberglass hull and deck with a vacuum bagged core.
179000	1989	S	Nauticat 40	40	-All hand laminated fiberglass construct layers of mat
159900	1981	S	Shannon 50 ketch	50	-Walter Shulz design ketch built by Shannon Boat Co. Inc.
149000	1985	S	Brandlmayr 48	48	-An 8" aluminum extrusion, oval mast and 3/8" galvanized
80000	1974	S	Garden Design Porpoise Ketch	51	-The hull is carvel planked teak.
69950	1994	S	Corsair 27	27	-Fauinned for cruising and racing

Dynamic Query

Example has 2 conditions the end user can set:

1. Type of boat (Power, Sailing, etc)
2. Price limits (lower / upper)

Query brings back only database entries meeting conditions

BCOST	BYEAR	BTYPE	BNAME	BFEET	BNT01
23900	1978	P	Carver Santa Cruz	28	-Constructed of fiberglass.
55000	1985	P	Monk Flybridge/Sedan	34	-Double planked cedar on oak frames.
185000	2000	P	Baveria 50 Yacht	50	5 cabins, 3 showers, Volvo TMD22 78PS engine

How to work with the database features



When using 'Database' functions

You can connect to other multiple different systems and databases with iSeries Access for Web

- Simply add other database connections to your list
 - Easiest way to do this is to copy the default one, then modify it and save it.
 - It will then appear as an option in the Connection pulldown
- The default IBM Toolbox for Java is for DB2 for i5/OS, but you could use other driver managers to connect to other systems

Database – use WAS data sources (new in V5R4)

Servlet version

WAS data sources are pooled and managed by WAS and should scale better than our original database connections

Two types of connection definitions are supported:

- **Driver manager connections require a driver class and a JDBC URL**
 - **Specify the JDBC driver class name to use for this database connection, ie, the IBM Toolbox for Java JDBC Driver**
- **Data source connections require a data source name.**
 - **Specify the JNDI name of the data source to use for this connection. Must have a component-managed authentication alias set if it is used in a single sign-on environment.**

iSeries Access for Web User: CMINER System: LP126AB.RCHLAND.IBM.COM

Edit Policies - Database Connections

Profile: CMINER

Default connection: IBM Toolbox for Java - LP126AB.RCHLAND.IBM.COM
Default derived from: Shipped default

Action	Connection	Derived From
	Connection: IBM Toolbox for Java - LP126AB.RCHLAND.IBM.COM Driver class: com.ibm.as400.access.AS400JDBCdriver JDBC URL: jdbc:as400://LP126AB.RCHLAND.IBM.COM;prompt=false;	Shipped default

[Add database connection](#)
 Create a new database connection.

[Set default connection](#)
 Set the default connection policy for this profile.

[Category list](#)
 Return to the policies category list.

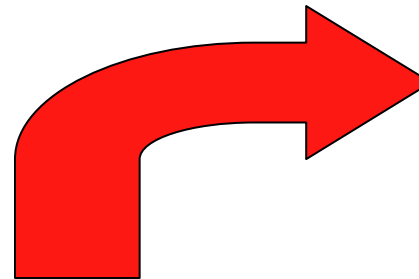
[Policies help](#)
 View help for working with database connections.

IBM | iSeries | Service 5.4.0.05-19



Data Source connections enable many different applications running under WebSphere to use the same data source connection

Upload PC data to DB2 for i5/OS



Copying Data to DB2 for i5/OS

Copy data to table function allows you to copy PC data into a DB2 for i5/OS table

Specify:

- File name
- File type
- File settings
- Table name
- Replace or append records to table
- Connection

Copy Data to Table

File to Copy ?

File: Browse...

File type: Comma Separated Value (.csv) Settings

Table to Receive Data ?

Table:

Action: Replace data if table exists

Connection ?

Connection: IBM Toolbox for Java - LP126AB.RCHLAND.IBM.COM

Copy Data to Table Save Request...

File to Copy Details

- Specify or browse for the name of the file to copy to a database table. The full path should be used to insure the correct file is copied to the table.
- Prior to copying a file to a database table the correct file type must be specified. You must also choose the proper character set of the data in the file and for most file types, whether the first row of data contains column headings. These settings are accessed via the Settings button.
- The following file types are supported:
 - **Comma Separated Value**
Text format where fields are separated by commas.
 - **Data Interchange Format**

Creating a new table

Copy data to table will create a new table if one does not exist

Choose to view or change the table definition

or

To simply create the table using the default definition determined by iSeries Access for Web

iSeries Access for Web User: CMINER System: LP126AB.RCHLAND.IBM.COM

Copy Data to Table

Table BOATS.DATA does not exist.

Create options

View or change column definitions before creating table

Create table using the source file's column definitions

OK Cancel

Create Options Details

- View or change column definitions before creating table**
 - This is the recommended option. You can verify or make modifications to the table's column definitions before creating the table.
 - If the file to copy does not contain column headings, the default column headings (F1, F2, F3, ... Fn, where n is the number of columns in the file to copy) can be changed to something more descriptive.
 - You can choose more appropriate data types for fields. For example, using VARCHAR instead of CHAR or FLOAT instead of NUMERIC.
 - CHAR and NUMERIC columns can also be lengthened to support larger data.
- Create table using the source file's column definitions**
 - A default table is created and the file data is copied into it.
 - If the file does not contain column headings, default column headings (F1, F2, F3, ... Fn, where n is the number of columns in the file to copy) are used.
 - The table is created with minimum column lengths to contain the file data.
 - Default data types are used for table columns.

Creating a new table

Verify Column Definitions for A New Table

From this panel you may add a description, change data types, column length, and scale

Click Create Table to create the new table and copy your data to the new table

iSeries Access for Web User: CMINER System: LP126AB.RCHLAND.IBM.COM

Table Column Definitions

Verifying column definitions before creating the table is recommended. You can change any of the column definition attributes before clicking Create Table.

Column	Description	Type	Length	Scale	Sample Data
BTYPE		CHAR	1	0	P
BNAME		CHAR	29	0	Baveria 50 Yacht
BFEET		FLOAT	0	0	50.0
BYEAR		FLOAT	0	0	2000.0
BCOST		FLOAT	0	0	185000.0
BNT01		CHAR	71	0	5 cabins, 3 showers, Volvo TMD22 78PS engine
BNT02		CHAR	66	0	
BNT03		CHAR	68	0	
BNT04		CHAR	64	0	
BNT05		CHAR	69	0	
BNT06		CHAR	72	0	
BNT07		CHAR	72	0	
BNT08		CHAR	70	0	
BNT09		CHAR	70	0	
BNT10		CHAR	63	0	

My Home Page

- My Folder
- Print
- Messages
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 - My requests
 - Run SQL
 - Copy data to table
 - Import request
 - Import query
 - Extract server data
- Files
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- Download
- Customize
- Other

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

Query DB2 for i5/OS



Run SQL

The Run SQL function allows you to type in a free-form SQL Statement

- If you do not know SQL, then use the SQL Wizard to help you generate an SQL SELECT statement
- Select from a variety of output formats, including:
 - Preview
 - PDF
 - .XLS (Excel)
 - XML
 - HTML
 - ...

or Web User: CMINER System: LP126AB.RCHLAND.

Run SQL

SQL Statement ?

```
SELECT
*
FROM
BOATS.BOATS
```

[SQL Wizard](#)

SQL Output ?

Type: [Settings](#)

Destination: [Settings](#)

Format ?

Date:

Time:

Connection ?

Connection:

[Run SQL](#) [Save Request...](#)

SQL Statement Details

- The SQL statement can be any statement supported by the underlying JDBC.

The SQL Wizard

The SQL Wizard helps you generate a single table **SELECT** statement

iSeries Access for Web User: CMINER System: LP120AD

SQL Wizard

```
SELECT
*
FROM
BOATS.BOATS
```

Welcome

This wizard steps you through creating an SQL select statement.

Next Finish Cancel

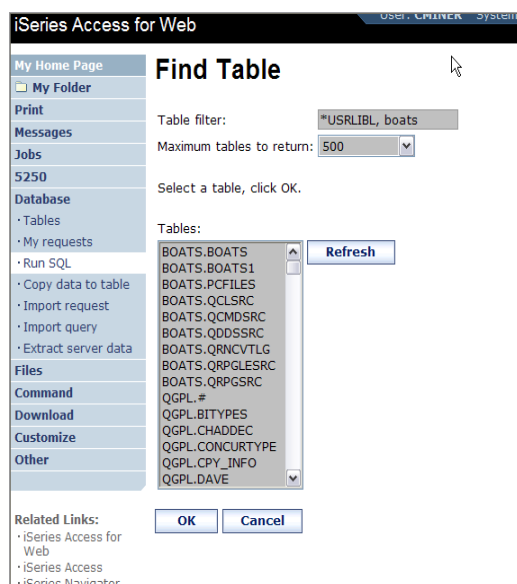
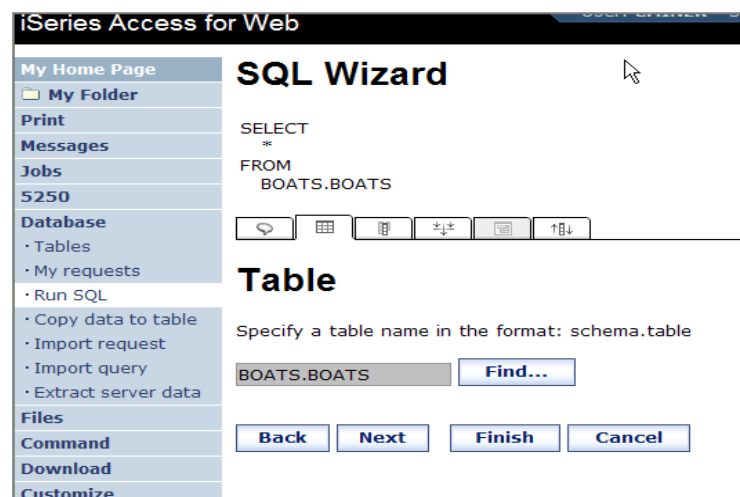
Identify the DB2 for i5/OS database table

Step 1:

Choose a table

Type in a **table filter** to help narrow your search. Many schemas (libraries) may be specified by putting them in a comma separated list

Select a table and click OK to use it to generate the SELECT statement



3



Select your Output Columns

Step 2:

Choose columns

- Check the boxes next to the columns to include them in the statement
 - If you check none, you get all columns
- Click the column order button to change the order output
 - Changed Price from 50 to 05 so it would be first

SQL Wizard

SELECT *
FROM "BOATS"."BOATS"

Columns

Select which columns to include. If no columns are selected, all columns are included.

Column	Description	Heading
<input checked="" type="checkbox"/> BTYPE	P=Powered S=Sailing	Column name
<input checked="" type="checkbox"/> BNAME	boat name	Column name
<input checked="" type="checkbox"/> BFEET	Length in feet	Column name
<input checked="" type="checkbox"/> BYEAR	Year built	Column name
<input checked="" type="checkbox"/> BCOST	Price in US\$	Column name
<input type="checkbox"/> BNT01	Note 1	Column name
<input type="checkbox"/> BNT02	Note 2	Column name
<input type="checkbox"/> BNT03	Note 3	Column name
<input type="checkbox"/> BNT04	Note 4	Column name
<input type="checkbox"/> BNT05	Note 5	Column name
<input type="checkbox"/> BNT06	Note 6	Column name
<input type="checkbox"/> BNT07	Note 7	Column name
<input type="checkbox"/> BNT08	Note 8	Column name

Column Order

To change the order in which columns are included, change the order values. Columns with smaller order values will be included before columns with larger order values.

Order	Column	Description
10	BTYPE	P=Powered S=Sailing
20	BNAME	boat name
30	BFEET	Length in feet
40	BYEAR	Year built
05	BCOST	Price in US\$

OK Cancel

Specify Conditions

Step 3:

Adding conditions

- Conditions allow you to select records that meet certain criteria.
- Click Add New Condition to specify a condition.
- Select the column to use in the condition and click Next

SQL Wizard

```
SELECT
  "BCOST", "BTYPE", "BNAME", "BFEET", "BYEAR"
FROM
  "BOATS"."BOATS"
```

Condition

To add a condition, click Add New Condition. To continue, click Next.

Add New Condition

Back **Next** **Finish** **Cancel**

Condition Column

Select a column.

Column	Type	Description
<input type="radio"/> BTYPE	CHAR(1)	P=Powered S=Sailing
<input type="radio"/> BNAME	CHAR(30)	boat name
<input type="radio"/> BFEET	NUMERIC(3)	Length in feet
<input type="radio"/> BYEAR	NUMERIC(4)	Year built
<input checked="" type="radio"/> BCOST	NUMERIC(9)	Price in US\$
<input type="radio"/> BNT01	CHAR(72)	Note 1
<input type="radio"/> BNT02	CHAR(72)	Note 2
<input type="radio"/> BNT03	CHAR(72)	Note 3

Choose the operator type

- The SQL wizard allows you to choose the operator to use in the condition
- The condition shows up both in the SQL and in a condition list. You may edit or delete the condition.
- You may also add additional conditions.

iSeries Access for Web User: CMINER Sys

Condition Operator

Column: BCOST NUMERIC(9) Price in US\$

Column > [Operator]

Select an operator.

Exactly equal to Between

Not equal to Not between

Greater than Null

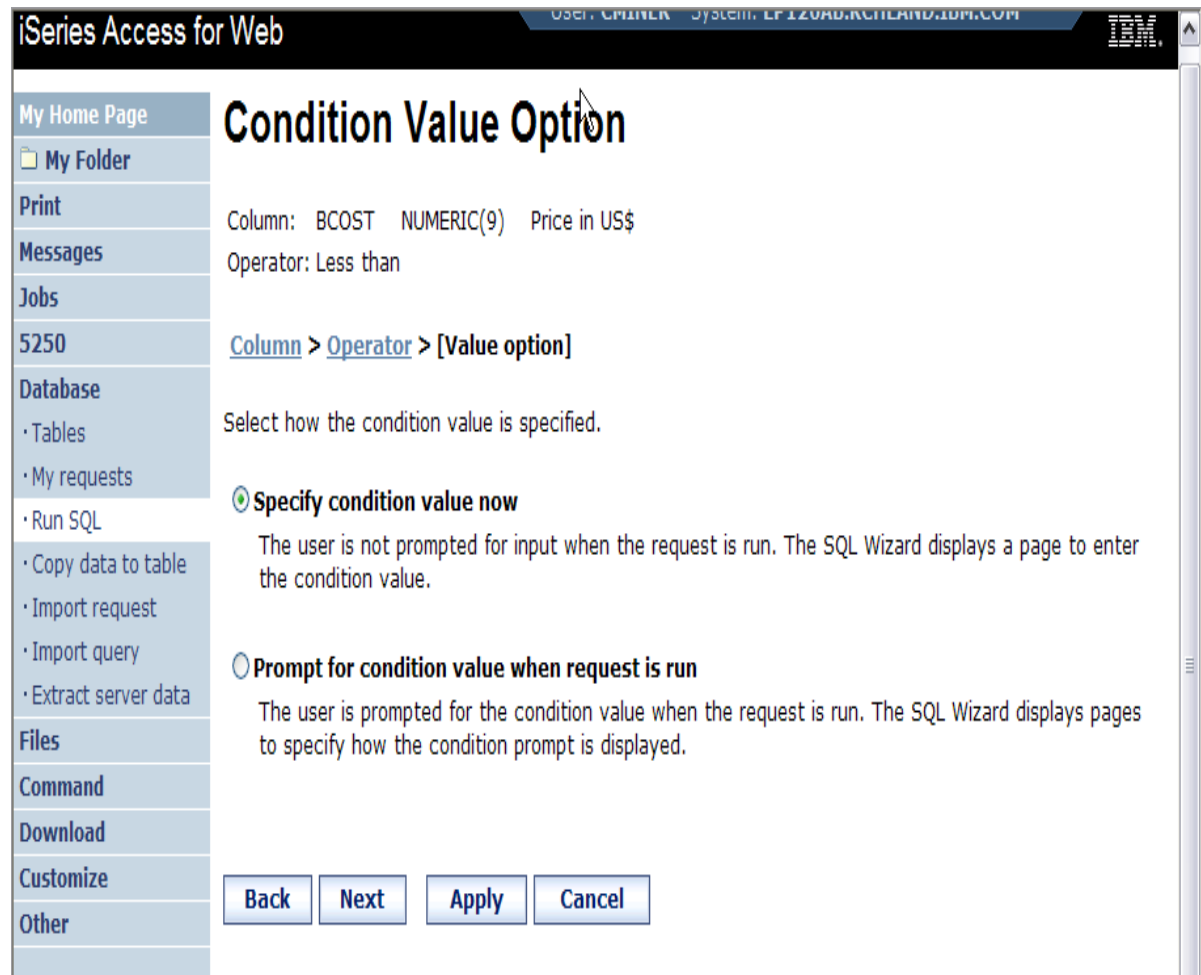
Greater than or equal to Not null

Less than

Less than or equal to

Choose static versus dynamic

- The SQL wizard allows you to choose if the condition value is specified in the request, or is prompted for when the request is run.
- Static or Dynamic



Specifying a Static Value

The SQL wizard allows you to specify the value for the condition.

The value can be:

- A value,
- Constant or
- Other specific function

iSeries Access for Web User: CMINER System: LP120AB.RCHLAND.IBM.CO

Condition Value

Column: BCOST NUMERIC(9) Price in US\$
 Operator: Less than
 Value option: Specify now

[Column](#) > [Operator](#) > [Value option](#) > [Value]

Specify a condition value. The value can be a constant, an SQL register, or a function.

Less than

Value is a constant

Can find values in table

iSeries Access for Web User: CMINER System: LP120AB.RCHLAND.IBM.CO

Find Value

Search for values that match the following search criteria. If no value is specified, all column values are returned.

Greater than or equal to
 Less than or equal to

Maximum values to return: 25

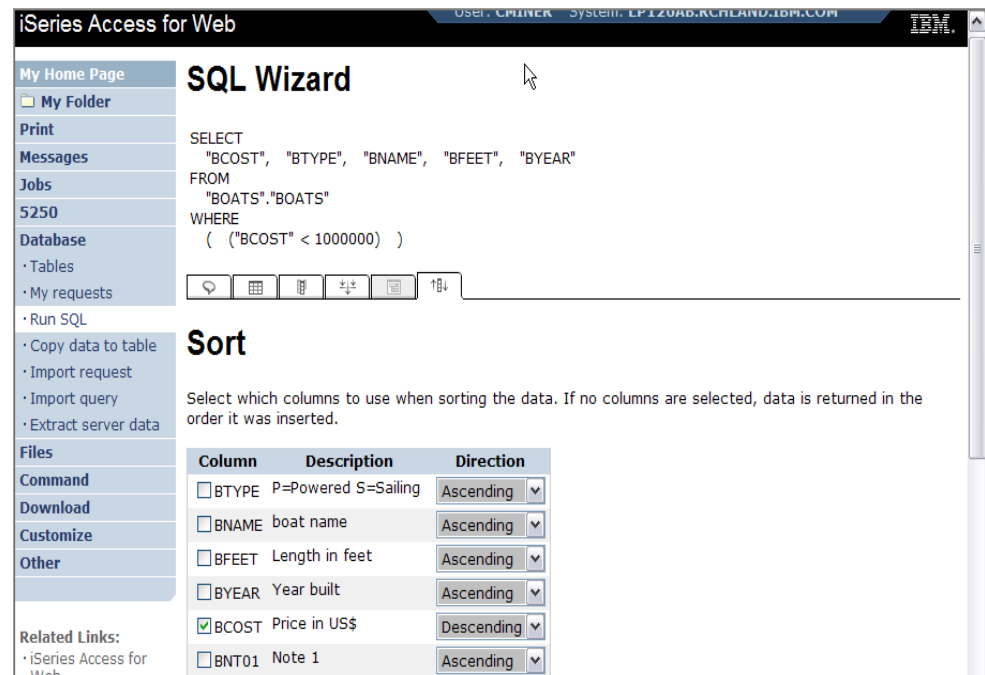
Select a value, click OK

Available values:

191
13000
19900
22900
27500
55000
57900
63000
69000
69950
80000
149000
159000
179000
179500

The statement is complete!

- The statement is now complete.
- Click the Finish button (not shown) on the bottom of the SQL Wizard page to return to Run SQL
- The SELECT statement you generated is available for use in Run SQL



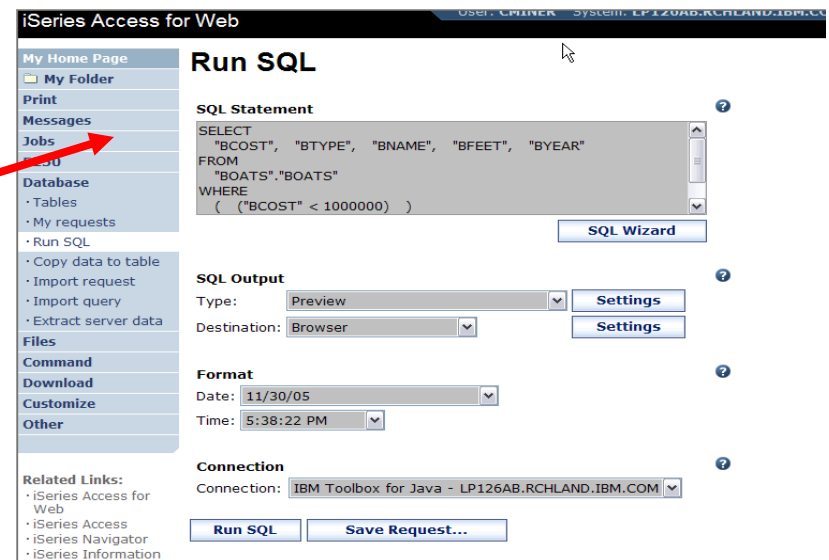
SQL Wizard

```
SELECT
  "BCOST", "BTYPE", "BNAME", "BFEET", "BYEAR"
FROM
  "BOATS"."BOATS"
WHERE
  ( ("BCOST" < 1000000) )
```

Sort

Select which columns to use when sorting the data. If no columns are selected, data is returned in the order it was inserted.

Column	Description	Direction
<input type="checkbox"/> BTYPE	P=Powered S=Sailing	Ascending
<input type="checkbox"/> BNAME	boat name	Ascending
<input type="checkbox"/> BFEET	Length in feet	Ascending
<input type="checkbox"/> BYEAR	Year built	Ascending
<input checked="" type="checkbox"/> BCOST	Price in US\$	Descending
<input type="checkbox"/> BNT01	Note 1	Ascending



Run SQL

SQL Statement

```
SELECT
  "BCOST", "BTYPE", "BNAME", "BFEET", "BYEAR"
FROM
  "BOATS"."BOATS"
WHERE
  ( ("BCOST" < 1000000) )
```

SQL Output

Type: **Settings**

Destination: **Settings**

Format

Date:

Time:

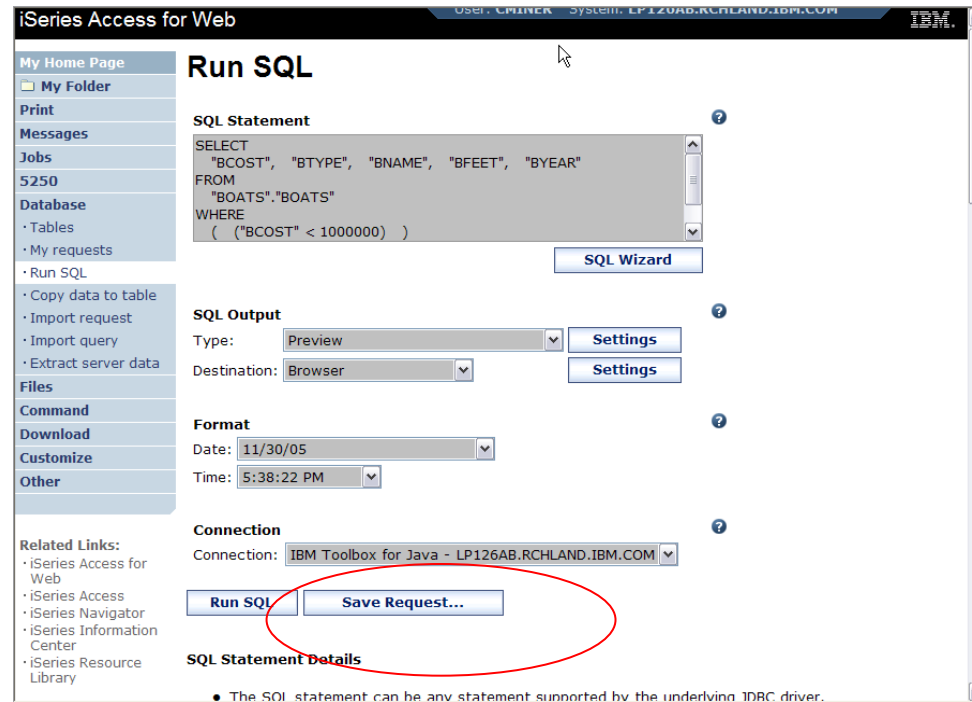
Connection

Connection:

Run SQL **Save Request...**

Save the SQL Request

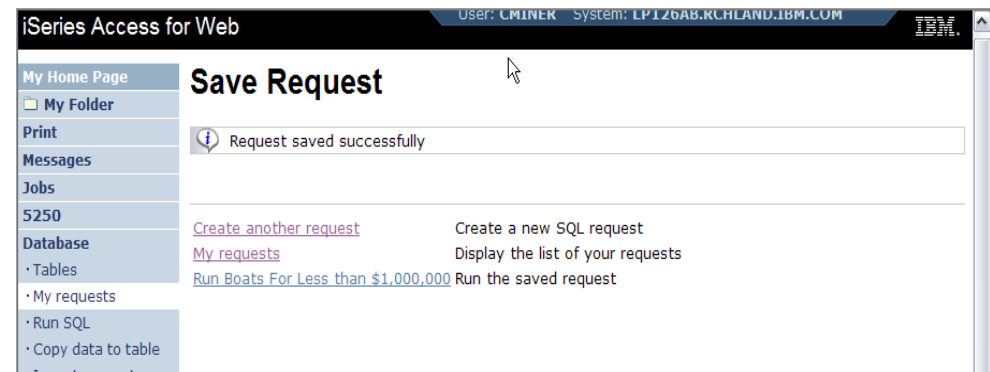
After creating a statement, by hand or with the Wizard you also have the option to store the statement for later use



Can Run it now

Or

Run it later from “My Requests”



Dynamic Query – condition value

Select to prompt for values when the request is run

The screenshot shows the 'iSeries Access for Web' interface. The title bar indicates the user is 'CPIBER' and the system is 'LP120AD.RCHERAND.IBM.COM'. The main window is titled 'Condition Value Option'. On the left is a navigation menu with categories: My Home Page, My Folder, Print, Messages, Jobs, 5250, Database (with sub-items: Tables, My requests, Run SQL, Copy data to table, Import request, Import query, Extract server data), Files, Command, Download, Customize, and Other. The main content area shows the following details:

- Column: BCOST NUMERIC(9) Price in US\$
- Operator: Less than or equal to
- Navigation: [Column](#) > [Operator](#) > [Value option]
- Instruction: Select how the condition value is specified.
- Option 1: **Specify condition value now**
The user is not prompted for input when the request is run. The SQL Wizard displays a page to enter the condition value.
- Option 2: **Prompt for condition value when request is run**
The user is prompted for the condition value when the request is run. The SQL Wizard displays pages to specify how the condition prompt is displayed.

At the bottom, there are four buttons: Back, Next, Apply, and Cancel.

Chose Operator and Prompt Type

- Choose a comparison operator just like we did in the static query example
- Select how the user will be prompted for the values

Chose Operator and Prompt Type

- **Setting Initial Value that Boats can cost equal to or less than \$3,000,000**
- **Adding Text to explain to user what to enter in this column**
- **User can then change value**

1

iSeries Access for Web

My Home Page
My Folder
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Jobs
5250
Database
• Tables
• My requests
• Run SQL
• Copy data to table
• Import request
• Import query
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Files
Command
Download
Customize
Other

Condition Prompt - Initial Value

Column: BCOST NUMERIC(9) Price in US\$
Operator: Less than or equal to
Value option: Prompt when request is run
Prompt option: Enter value

[Column](#) > [Operator](#) > [Value option](#) > [Prompt](#) > [Option](#) > [\[Initial value\]](#)

Specify the initial value. If no value is specified, the field is displayed without an initial value.

3000000

2

iSeries Access for Web

My Home Page
My Folder
Print
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Jobs
5250
Database
• Tables
• My requests
• Run SQL
• Copy data to table
• Import request
• Import query
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Files
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Download
Customize
Other

Condition Prompt - Layout Settings

Column: BCOST NUMERIC(9) Price in US\$
Operator: Less than or equal to
Value option: Prompt when request is run
Prompt option: Enter value
Layout option: Text only

[Column](#) > [Operator](#) > [Value option](#) > [Prompt](#) > [Option](#) > [Initial value](#) > [Layout option](#) > [\[Layout settings\]](#)

Specify the prompt text. Line breaks are preserved if the 'Text contains HTML tags' option is not selected.

Boat Cost Upper Limit

Text contains HTML tags

Can Include Multiple Conditions on Dynamic SQL Requests

- Let's add another condition to this Dynamic SQL Request

SQL Wizard

```
SELECT
  "BCOST", "BTYPE", "BNAME", "BFEET", "BYEAR"
FROM
  BOATS.BOATS
WHERE
  ( ("BCOST" <= ?) )
```

Action	Condition	Prompt Label	Prompt Text	Prompt Option
	("BCOST" <= ?)	Boat Cost Upper Limit	Enter value	

To add a condition, click Add New Condition. To continue, click Next.

[Add New Condition](#)

[Back](#) [Next](#) [Finish](#) [Cancel](#)

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

Setting up Additional Operator and Prompt Type

- For 'Type of Boat', we will select from list of Types in our Database File

The screenshot shows the 'Condition Prompt - Option' configuration page in iSeries Access for Web. The left sidebar contains a navigation menu with options like 'My Home Page', 'My Folder', 'Print', 'Messages', 'Jobs', '5250', 'Database', 'Files', 'Command', 'Download', 'Customize', and 'Other'. The main content area displays the following configuration:

- Column: BTYPE CHAR(1) P=Powered S=Sailing
- Operator: Exactly equal to
- Value option: Prompt when request is run
- Navigation: [Column](#) > [Operator](#) > [Value option](#) > [Prompt](#) > [\[Option\]](#)
- Instruction: Select how the condition value is specified.
- Options:
 - Enter value: The user enters the value in a field. The SQL Wizard displays a page to specify the initial value for this field.
 - Select from list of predefined values: The user selects the value from a list. The SQL Wizard displays a page to specify the values shown in the list.
 - Select from list of existing column values: The user selects the value from a list. The list contains the unique column values in the table when the request is run. The SQL Wizard displays a page to select the maximum number of values shown in the list. If this value is exceeded, the list is replaced with a field for the user to enter the value.
- Buttons: Back, Next, Apply, Cancel

- Two (2) types of boats in the database file

The screenshot shows the 'Condition Prompt - Layout Settings' configuration page in iSeries Access for Web. The left sidebar is identical to the previous screenshot. The main content area displays the following configuration:

- Column: BTYPE CHAR(1) P=Powered S=Sailing
- Operator: Exactly equal to
- Value option: Prompt when request is run
- Prompt option: Select from existing values
- Layout option: Label only
- Navigation: [Column](#) > [Operator](#) > [Value option](#) > [Prompt](#) > [Option](#) > [Maximum list size](#) > [Initial value](#) > [Layout option](#) > [\[Layout settings\]](#)
- Instruction: Specify the prompt label.
- Text input: P=Powered S=Sailing exactly equal to:
- Buttons: Back, Finish Edit, Apply, Cancel

Set Display Order and See Conditions Set

- Will display information based on 'Boat Cost' in descending order

- Shows how SQL has been written based on 2 Conditions

SQL Wizard

```
SELECT
  "BCOST", "BTYP", "BNAME", "BFEET", "BYEAR"
FROM
  BOATS.BOATS
WHERE
  ( ("BCOST" <= ?) AND
    ("BTYP" = ?) )
```

Sort

Select which columns to use when sorting the data. If no columns are selected, data is returned in the order it was inserted.

Column	Description	Direction
<input type="checkbox"/> BTYP	P=Powered S=Sailing	Ascending
<input type="checkbox"/> BNAME	boat name	Ascending
<input type="checkbox"/> BFEET	Length in feet	Ascending
<input type="checkbox"/> BYEAR	Year built	Ascending
<input checked="" type="checkbox"/> BCOST	Price in US\$	Descending
<input type="checkbox"/> BNT01	Note 1	Ascending
<input type="checkbox"/> BNT02	Note 2	Ascending
<input type="checkbox"/> BNT03	Note 3	Ascending
<input type="checkbox"/> BNT04	Note 4	Ascending

SQL Wizard

```
SELECT
  "BCOST", "BYEAR", "BTYP", "BNAME", "BFEET"
FROM
  BOATS.BOATS
WHERE
  ( ("BCOST" <= ?) AND
    ("BTYP" = ?) )
ORDER BY
  "BCOST" DESC
```

Condition

Action	Condition	Prompt Label	Prompt Text	Prompt Option
<input checked="" type="checkbox"/>	("BCOST" <= ?)	Price in US\$ less than or equ...	Enter value	
<input checked="" type="checkbox"/>	AND ("BTYP" = ?)	P=Powered S=Sailing T=Tug	Select from existing values	

To add a condition, click Add New Condition. To continue, click Next.

[Add New Condition](#)

[Back](#) [Next](#) [Finish](#) [Cancel](#)

User Runs Dynamic Query built with 2 Conditions

User selects

- Maximum cost of boat
- Type of Boat

iSeries Access for Web

My Home Page

My Folder

Print

Messages

Jobs

5250

Database

- Tables
- My requests
- Run SQL
- Copy data to table
- Import request

Run SQL

Boat Cost Upper Limit

1000000

P=Powered S=Sailing exactly equal to: P S

OK Cancel

The SQL Output was set up to show in Descending Order by Boat Cost

iSeries Access for Web

My Home Page

My Folder

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Messages

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5250

Database

- Tables
- My requests
- Run SQL
- Copy data to table
- Import request
- Import query
- Extract server data

Files

Command

Download

Customize

Other

SQL Output

« « « [1] » » »

BCOST	BTYPE	BNAME	BFEET	BYEAR
450000	S	Merlin's Magic	54	1990
269500	S	Seafinn 411 Motorsailer Ketch	41	1989
179500	S	Fontaine Pajot Antigua	37	1993
179000	S	Nauticat 40	40	1989
159900	S	Shannon 50 ketch	50	1981
149000	S	Brandlmayr 48	48	1985
80000	S	Garden Design Porpoise Ketch	51	1974
69950	S	Corsair 27	27	1994
69000	S	Morgan 382 Race/Cruise Sloop	38	1978
63000	S	Mariner Ketch	40	1979
57900	S	Hunter 33.5	33	1990
27500	S	Bill Garden Schooner	36	1953

« « « [1] » » »

Dynamic query – wizard warning

- **Dynamic queries generated by the wizard can only be modified using the wizard**
- **If you wish to create your own you will need to manually add parameter markers directly into the SQL statements**

iSeries Access for Web User: CMINER System: LP120AB.RCHLAND.IBM.COM

My Home Page SQL Wizard completed successfully.

My Folder

Print

Messages

Jobs

5250

Database

• Tables

• My requests

• Run SQL

• Copy data to table

Continue

Note: Use the SQL wizard to make additional updates to the SQL statement. If updates are made using the wizard, the SQL wizard can no longer be used with the updated statement. Also, all prompt information and the request might not run successfully.

iSeries Access for Web IBM

My Home Page

My Folder

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5250

Database

• Tables

• My requests

• Run SQL

• Copy data to table

• Import request

• Import query

• Extract server data

Files

Command

Download

Customize

Other

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center

Edit SQL Request

SQL Statement

```
SELECT
  "BCOST", "BYEAR", "BTYPE", "BNAME", "BFEET"
FROM
  BOATS.BOATS
WHERE
  ( ("BCOST" <= ?) AND
```

SQL Wizard

SQL Output

Type: Preview Settings

Destination: Browser Settings

Format

Date: 12/5/05

Time: 5:55:04 PM

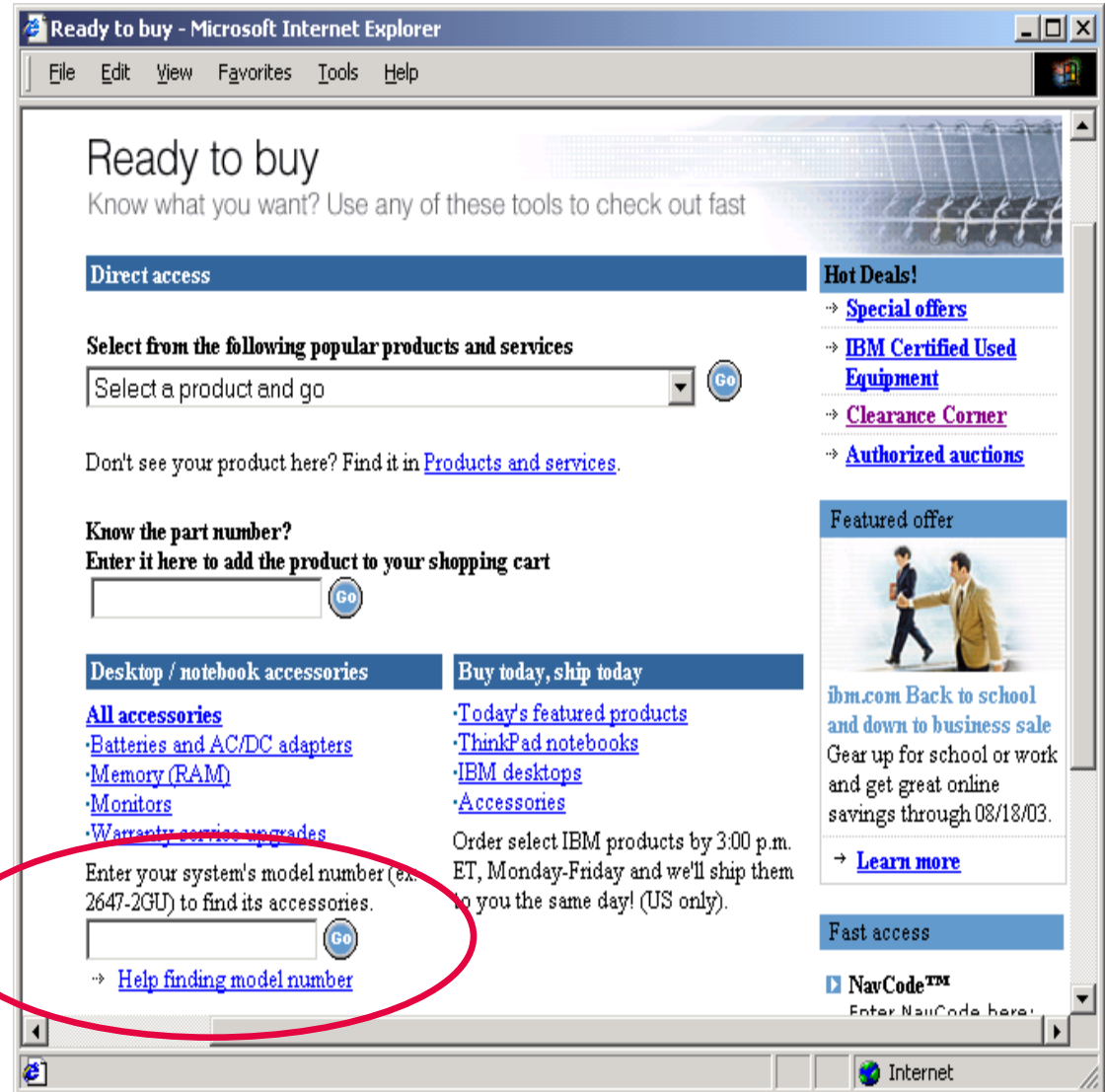
Connection

Connection: IBM Toolbox for Java - LP126AB.RCHLAND.IBM.COM

Run SQL Save Request...

Dynamic Query – Form Example

- Want to use different button style
- Want button next to prompt control, not underneath it
- Form element:
 - `<FORM name=accessories action="http://server/webaccess/iWADbExec" method="get">`
- Hidden element:
 - `<input type="hidden" name="request" value="req" />`
- Entry field:
 - `<input type="text"`
 - `name="iwaparm_1" value="" />`



Great way to add Database requests to your existing web pages



SQL Output Destinations



SQL Output Destinations

Choosing a destination

Choose from 4 different output destinations:

- Browser
- Email
- Personal folder

V5R4 Integrated File System

iSeries Access for Web

Run SQL

SQL Statement

SQL Wizard

SQL Output

Type: Preview

Destination: Browser

Format

Date: 12/9/2007

Time: 4:23:09 PM

Connection

Connection: IBM Toolbox for Java - LP126AB.RCHLAND.IBM.COM

My Home Page

My Folder

Print

Messages

Jobs

5250

Database

- Tables
- My requests
- Run SQL
- Copy data to table
- Import request
- Import query
- Extract server data

Files

Command

Download

Customize

Other

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator

Run SQL – Output Browser

The SQL statement is built indicating that Output Type is Microsoft Excel.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	BALDUE	LSTNAM	INIT	STREET	CITY	STATE	ZIPCOD	CUSNUM	CDTLMT	CHGCOD	CDTDUE			
2	3987	5 Johnson	J A	3 Alpine Vi	Helen	GA	30545	938485	9999	2	33.5			
3	500	Abraham	M T	392 Mill St	Isle	MN	56342	583990	9999	3	0			
4	489	5 Lee	F L	5963 Oak	Hector	NY	14841	192837	700	2	0.5			
5	439	Vine	S S	PO Box 75	Broton	VT	5046	392859	700	1	0			
6	250	Doe	J W	59 Archer	Sutter	CA	95685	475938	700	2	100			
7	100	Jones	B D	21B NW 1	Clay	NY	13041	839283	400	1	0			
8	58	75 Stevens	K L	208 Snow	Denver	CO	80226	389572	400	1	1.5			
9	37	Henning	G K	4859 Elm	Dallas	TX	75217	938472	5000	3	0			
10	25	Williams	E D	485 SE 2	Dallas	TX	75218	593029	200	1	0			
11	10	Alison	J S	787 Lake	Isle	MN	56342	846283	5000	3	0			
12														
13														

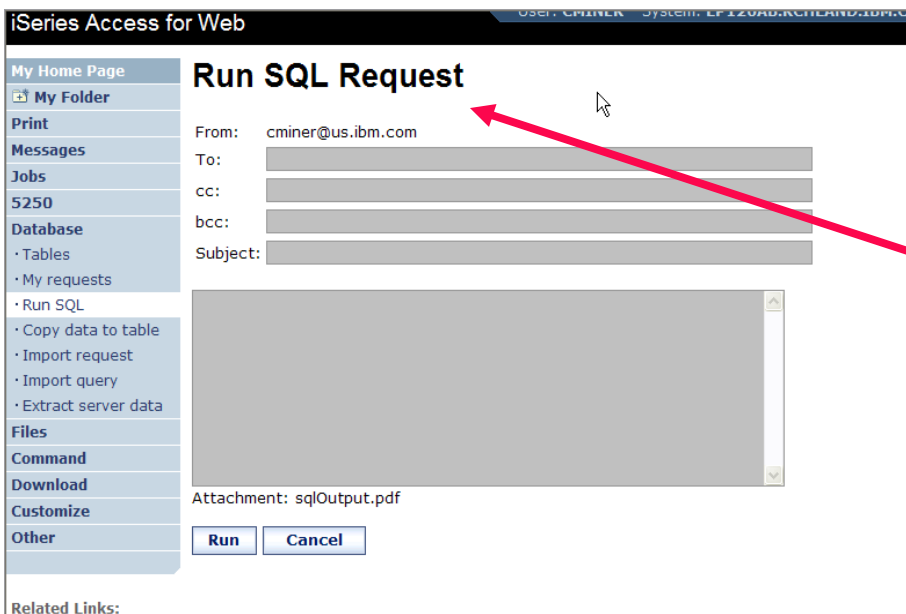
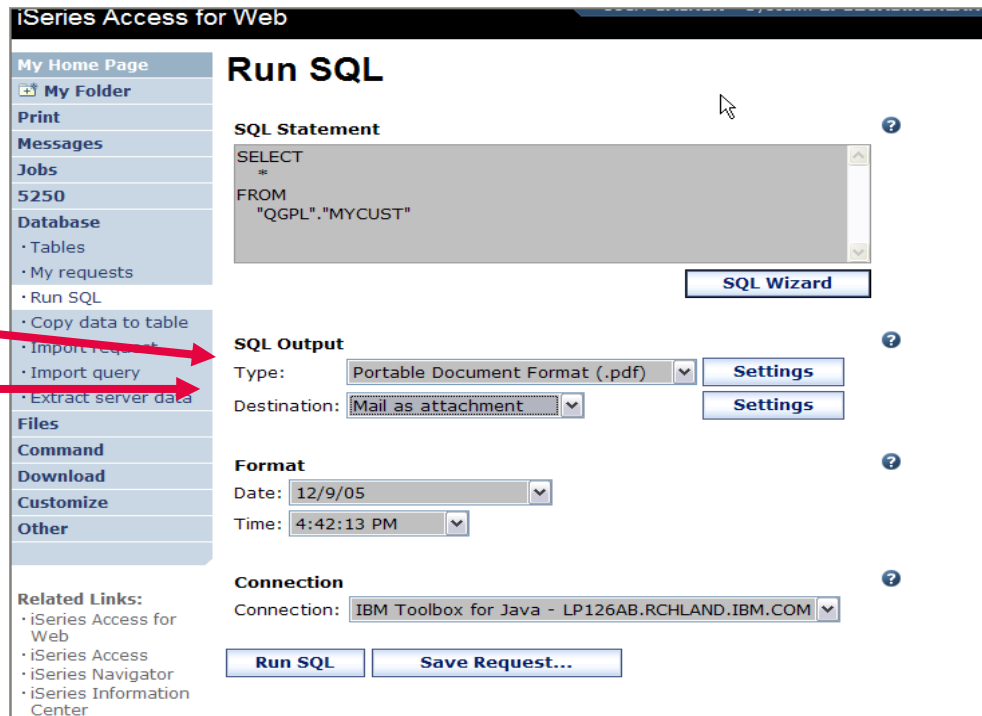
Browser sees the .xls format type and automatically starts Excel on the desktop, and puts results in a spreadsheet

Run SQL – Destination EMAIL

The SQL statement is built indicating that:

➤ Output Type is PDF

➤ Destination is EMAIL



Access for Web converts SQL output to .PDF and attaches it to an email.

Note: my email address has been filled in for me

Run SQL – My Personal Folder

The SQL statement is built indicating that:

- Output Type is HTML
- Destination is My Folder

My Folder

Item	Status	From	Date/Time	Size	Action
<input type="checkbox"/> Status [SQL output in HTML]	Unopened	CMINER	12/9/05 4:52 PM	202	[Icons]
<input checked="" type="checkbox"/> SQL output in HTML	Unopened	CMINER	12/9/05 4:52 PM	816	[Icons]
<input type="checkbox"/> Status [SQL output in XLS]	Unopened	CMINER	12/5/05 4:35 PM	297	[Icons]
<input type="checkbox"/> SQL output in XLS	Opened	CMINER	12/5/05 4:35 PM	3956	[Icons]

Delete Selected Items

Run SQL

SQL Statement: SELECT FROM "QGPL".*MYCUST*

SQL Output Type: Hypertext Markup Language (.html)

Destination: Personal folder

Format Date: 12/9/05

Format Time: 4:42:13 PM

Connection: IBM Toolbox for Java - LP126A8.RCHLAND.IBM.COM

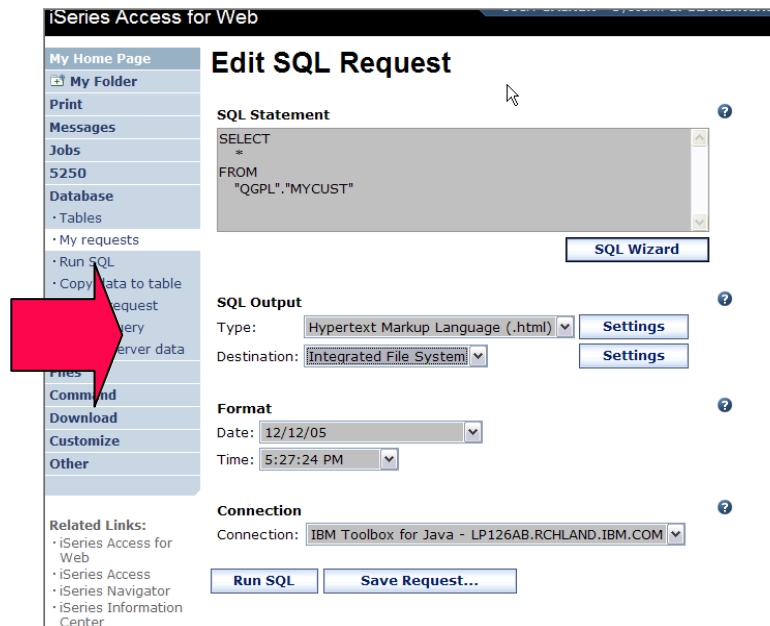
Run SQL Save Request...

- Click on My Folder link
- Select the SQL Output
- Shown to me in HTML

Run SQL – Integrated File System

The SQL statement is built indicating that:

1. Output Type is HTML
2. Destination is Integrated File System
3. Next screen select 'CMINER' directory



4. Click on 'Files' tab
5. Open CMINER directory
6. Click on File Name
7. Results shown in HTML

MYLSTNAM	MYCITY	MYSTATE
Henning	Dallas	TX
Jones	Clay	NY
Vine	Broton	VT
Tyron	Hector	NY
Stevens	Denver	CO
Alison	Isle	MN
Doe	Sutler	CA
Thomas	Casper	WY
Williams	Dallas	TX
Lee	Hector	NY
Abrham	Isle	MN

Destination Settings

You can specify the folder and mail settings before the request is run

Or you can wait until the request is run

Personal Folder Settings

Item description:

Folder owner: CMINER

Always prompt for folder settings when request is run

A red arrow points to the checkbox.

Mail as Attachment Settings

From: cminer@us.ibm.com

To:

cc:

bcc:

Subject:

Attachment: sqlOutput.pdf

Always prompt for mail settings when request is run

A red arrow points to the checkbox.

Integrated File System Settings

File:

Replace if exists

Always prompt for file settings when request is run

A red arrow points to the checkbox.

Shortcuts

Give users access to upload/download requests you have created



Shortcuts

Policies work on i5/OS User Profiles – Users and Groups

*SECADM special authority or an iSeries Access for Web user given administrator privileges by
 *SECADM can work with
 “Policies”.

Decide who can:

- Create and modify requests
- Run only previously defined shortcuts
- Who gets access to shortcuts

If the Predefined Request changes, the Shortcut is automatically changed for users too

The screenshot shows the 'My Requests' page in the iSeries Access for Web interface. A yellow callout bubble with the text 'Shortcut indicator' points to the 'Shortcut' column in the table below.

Request	Description	Action	Shortcut	Created By	Access
Boats By Price	Boats for sale by price	[Icons]	No	CMINER	CMINER
Boats by Price in Excel	Boats for sale by price	[Icons]	No	CMINER	CMINER
Boats For Sale	View all available boats	[Icons]	No	CMINER	CMINER
Find Boat To Buy	Select type and price limits	[Icons]	No	CMINER	CMINER
Shortcut to Find Boat To Buy	Select type and price limits	[Icons]	Yes	CMINER	*PUBLIC
Shortcut to request sql		[Icons]	Yes	secyesi	*PUBLIC
Shortcut to request upload		[Icons]	Yes	secyesi	*PUBLIC

Below the table, there are links for 'Run SQL', 'Copy data to table', and 'Shortcuts to requests you created'.

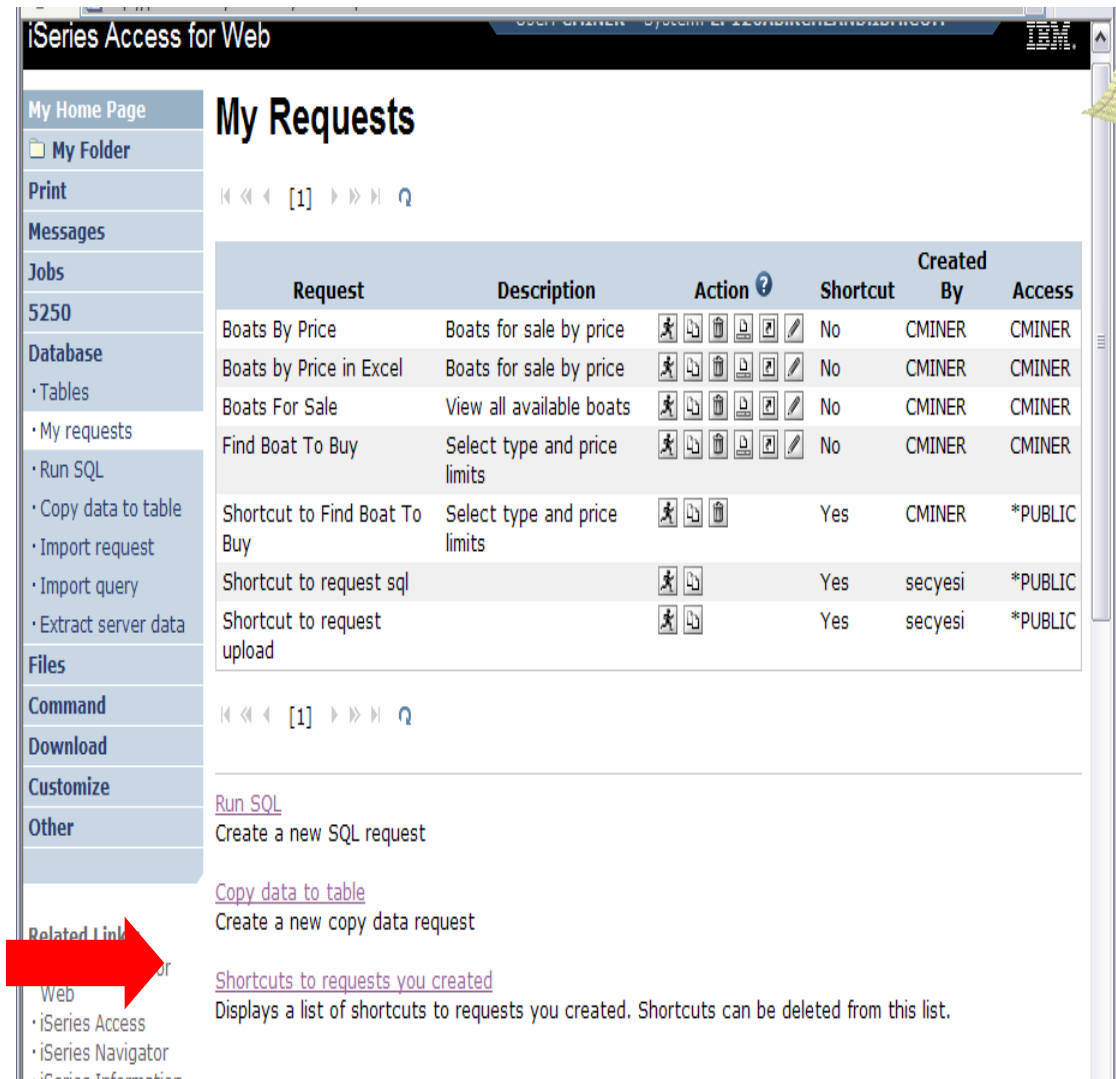
Shortcuts – working with, managing

Under “Action” column, you can:



















- Create shortcuts
- Edit your shortcuts

At bottom of screen, you can:

- Delete shortcuts to existing users or groups



The screenshot shows the 'iSeries Access for Web' interface. The main content area is titled 'My Requests' and displays a table of requests. The table has columns for Request, Description, Action, Shortcut, Created By, and Access. The 'Action' column contains icons for creating, editing, and deleting shortcuts. A red arrow points to the 'Related Link' section at the bottom, which includes a link to 'Shortcuts to requests you created'.

Request	Description	Action ?	Shortcut	Created By	Access
Boats By Price	Boats for sale by price	  	No	CMINER	CMINER
Boats by Price in Excel	Boats for sale by price	  	No	CMINER	CMINER
Boats For Sale	View all available boats	  	No	CMINER	CMINER
Find Boat To Buy	Select type and price limits	  	No	CMINER	CMINER
Shortcut to Find Boat To Buy	Select type and price limits	 	Yes	CMINER	*PUBLIC
Shortcut to request sql		 	Yes	secyesi	*PUBLIC
Shortcut to request upload		 	Yes	secyesi	*PUBLIC


Related Link

- [Shortcuts to requests you created](#)
Displays a list of shortcuts to requests you created. Shortcuts can be deleted from this list.

Import Requests and Import Queries

iSeries Access for

My Home Page

 My Folder

Print

Messages

Jobs

5250

Database

- Tables
- My requests
- Run SQL
- Copy data to table
- **Import request**
- Import query
- ~~Extract server data~~

Files

Command

Download

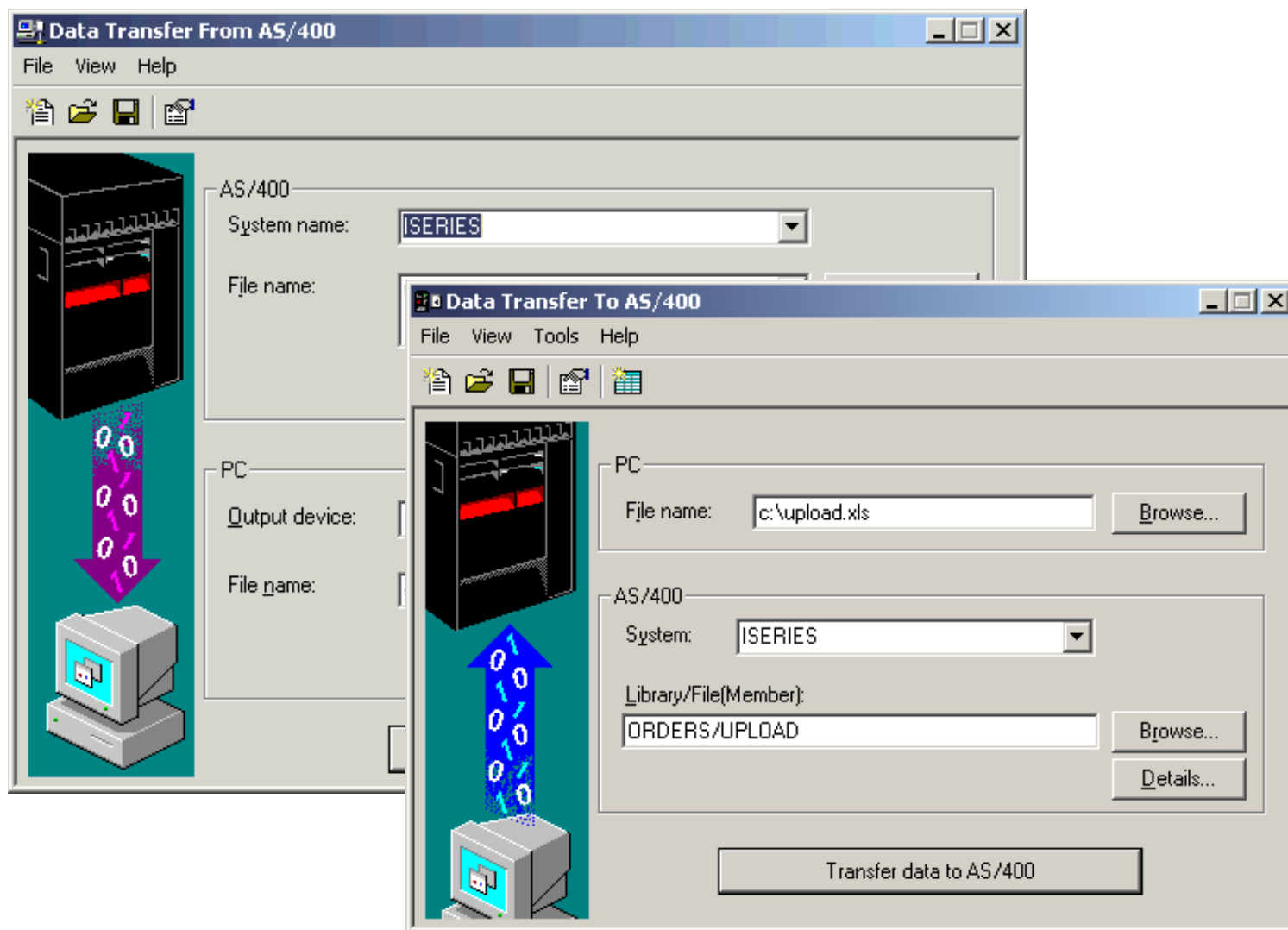
Customize

Other



Importing Client Access Data Transfer Requests

Import your existing iSeries Access for Windows and Client Access Data Transfer requests into iSeries Access for Web!



Import Function

- Don't lose your investment in already built Data Transfer requests
- **Import** them into iSeries Access for Web
- The imported transfer request may be run or saved as an iSeries Access for Web request
- Then users can run them from their browsers!

iSeries Access for Web User: CMINER System: LP126AB.RCHLAND.IBM.COM

Import Client Access Data Transfer Request

Specify the Client Access Data Transfer request you want to import. The request will be converted to an iSeries Access for Web request.

Note: The converted iSeries Access for Web request could work differently than the Client Access request. Verifying the converted request is strongly recommended.

Request to Import

Client Access request: Browse...

Character set:

Import Request

Import Details

- The supported transfer request files are as follows:
 - IBM Client Access Express Data Transfer From AS/400 .DTF files
 - IBM Client Access for Windows 95/NT Data Transfer From AS/400 .TTO files
 - IBM Client Access Express Data Transfer To AS/400 .DTT files
 - IBM Client Access for Windows 95/NT Data Transfer To AS/400 .TFR files
- Data Transfer From AS/400 request files are converted to settings that can be used by Run SQL.
- Data Transfer To AS/400 request files are converted to settings that can be used by Copy data to table.
- Choosing an incorrect character set may result in an incorrectly imported request file.

Navigation Menu:

- My Home Page
- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
 - Tables
 - My requests
 - Run SQL
 - Copy data to table
 - Import request
 - Import query
 - Extract server data
- Files
- Command
- Download
- Customize
- Other

Related Links:

- iSeries Access for Web
- iSeries Access

Import Query Requests

- Bring your existing queries to a browser environment
- Use the **Import Query** tool to bring them into iSeries Access for Web
 - IBM Query for iSeries (5722-QU1)
 - DB2 Query Manager (5722-XT1)

iSeries Access for Web User: CMINER System: LP126AB.RCHLAND.IBM.COM

Import Query

Specify the query file you want to import. The query contained in the query file will be converted to an iSeries Access for Web database request.

Note: The converted iSeries Access for Web database request could work differently than the original query file. Verifying the converted request is strongly recommended.

Query to Import

Query file:

Query type: DB2 UDB for iSeries Query Manager (*QMQR)

Query file CCSID: Query for iSeries (*QRYDFN)
DB2 UDB for iSeries Query Manager (*QMQR)

Import Details

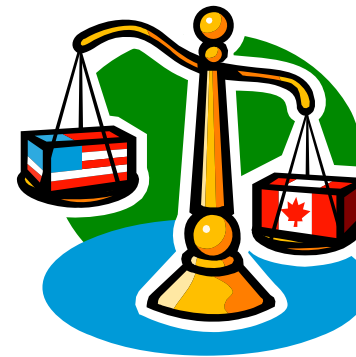
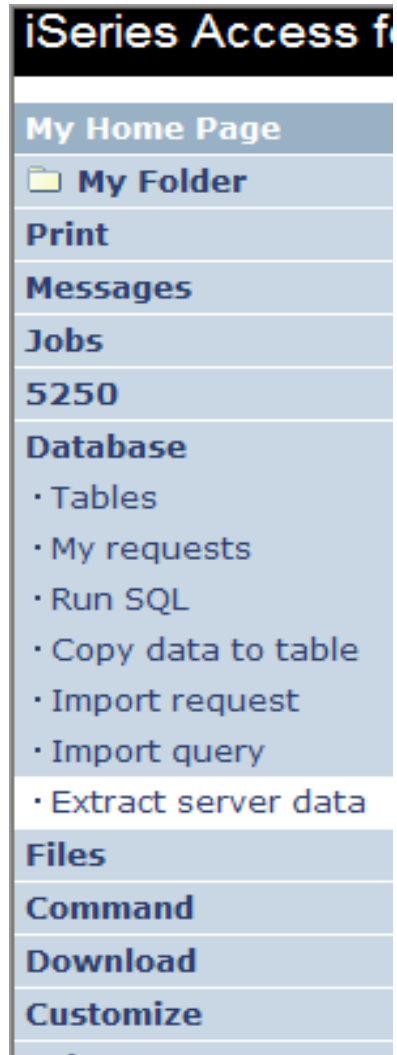
Query files of types *QMQR and *QRYDFN are supported. These query files are created by Query for iSeries and DB2 UDB for iSeries Query Manager. Queries of type form, queries of type procedure, and prompted queries, are not supported. Queries containing program variables or replacement variables are also not supported.

Related Links:

- iSeries Access for Web
- iSeries Access

****QMQR and *QRYDFN
are the query file types supported***

Extract Server Data



Extract Server Data

- Extract i5/OS object information into a database table or tables.
- Then use Tables or Run SQL functions to retrieve relevant data.

The screenshot displays the 'iSeries Access for Web' interface. The main heading is 'Extract Server Object Data'. On the left, there is a navigation menu with options: My Home Page, My Folder, Print, Messages, Jobs, 5250, Database (with sub-options: Tables, My requests, Run SQL, Copy data to table, Import request, Import query, Extract server data), Files, Command, Download, and Customize. The main form area contains the following fields and controls:

- Object Data to Extract**: A dropdown menu with 'User profiles' selected.
- Table to Receive Data**: A text input field for the table name, with a checkbox labeled 'Replace table if table exists' below it.
- Extract Results**: A dropdown menu with 'Browser' selected.
- Connection**: A dropdown menu with 'IBM Toolbox for Java - LP126AB.RCHLAND.IBM.COM' selected.

At the bottom of the form is a large blue button labeled 'Extract Data'. The interface also includes a top status bar with user and system information, and a vertical scrollbar on the right side.

Extract Server Data

Extract Server Data can be used to retrieve information about objects on the iSeries server, and then store the results in a database table

- **General object information can be retrieved for any iSeries object type.**
- **Object specific information can also be retrieved for the following object types:**
 - Directory entries
 - Messages
 - Software fixes
 - Software products
 - System pool
 - User profiles



- **You could easily build a query:**
 - **To find out what users have used more than 100 MB of storage in the IFS**
 - **Or you might want to know what users have had more than 2 invalid sign-on attempts in the past three months.**
- **This very powerful capability lets you look at your iSeries information in any manner that is of importance to you.**

GUI to work directly with DB2 for i5/OS Table data



Tables – work with iSeries database information

Series Access for Web

My Home Page

My Folder

Print

Messages

Jobs

5250

Database

Tables

My requests

Run SQL

Copy data to table

Import request

Import query

Extract server data

Tables

Connection: IBM Toolbox for Java - LP126AB.RCHLAND.IBM.COM

Table filter: *USRLIBL, boats

« « [1] 2 3 4 5 6 7 8 9 » » »

Table	Description	Action ?
BOATS.BOATS	Available BOATS	
BOATS.BOATS1	Available boats by length	
BOATS.PCFILES	PC files needed by BOATS WSG Demo	
BOATS.QCLSRC		
BOATS.QCMDSRC		
BOATS.QDDSSRC		
BOATS.ORNCVTI.G		

Action ?

- **Insert**
- **Update**
- **Quick View**
- **Find**
- **Run SQL**
- **Copy Data To Table**

Working with Tables

iSeries Access for Web B.RCHLAND.IBM.COM

My Home Page

- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
 - Tables
 - My requests
 - Run SQL
 - Copy data to table
 - Import request
 - Import query
 - Extract server data
- Files
- Command
- Download
- Customize
- Other

Related Links:

- iSeries Access for Web
- iSeries Access
- iSeries Navigator
- iSeries Information Center
- iSeries Resource Library

Tables

Connection: IBM Toolbox for Java - LP126AB.RCHLAND.IBM.COM
 Table filter: *USRLIBL, boats

« « [1] 2 3 4 5 6 7 8 9 » » » » ↻

Table	Description	Action ?
BOATS.BOATS	Available BOATS	
BOATS.BOATS1	Available boats by length	
BOATS.PCFILES	PC files needed by BOATS WSG Demo	
BOATS.QCLSRC		
BOATS.QCMDSRC		
BOATS.QDDSSRC		
BOATS.QRNCVTLG		
BOATS.QRPGLESRC		
BOATS.QRPGSRC		
QGPL.#	\$	
QGPL.BITYPES		
QGPL.CHADDEC		
QGPL.CONCURTYPE		
QGPL.CPY_INFO		
QGPL.DAVE		
QGPL.DECSEP		
QGPL.DIVZERO		
QGPL.DIVZERO2		
QGPL.DSD		
QGPL.DSPSFWRSC	Output file for DSPSFWRSC	

Connection & Table Filter

Table Actions

Table Filter

Used to control the tables displayed in the Tables list

Comma-separated list of

- schemas
- schema filters
- tables
- table filters

The % character is used as a wild card character.

The screenshot shows the 'Edit Policies - Database' interface in iSeries Access for Web. The interface is for profile 'CMINER'. It displays a table of policies with the following columns: Policy, Derived From, Action, and Setting. The 'Table filter' policy is highlighted with a red oval, showing a 'Setting' of '*USRLIBL, boats'. Another red oval highlights the 'Tables' policy row, which has a 'Setting' of 'Allow'.

Policy	Derived From	Action	Setting
Database access	Shipped default	Use current setting	Allow
Database tab	Shipped default	Use current setting	Show
Tables	Shipped default	Use current setting	Allow
Maximum table rows	Shipped default	Use current setting	500
Table filter	Profile setting	Use current setting	*USRLIBL, boats
Table filter is user preference	Shipped default	Use current setting	Allow
Insert records into table	Shipped default	Use current setting	Allow
Insert record columns	Shipped default	Use current setting	Columns...
Update records in table	Shipped default	Use current setting	Allow
Update record columns	Shipped default	Use current setting	Columns...
Quick view table records	Shipped default	Use current setting	Allow

*USRLIBL is a special value to identify all tables in the user portion of the library list.

Tables → Find Record

- If you don't want users 'updating', 'inserting' or 'deleting' records,
- then let them use only the **Find** function

iSeries Access for Web

My Home Page
My Folder
Print
Messages
Jobs
5250
Database
• Tables
• My requests
• Run SQL
• Copy data to table
• Import request
• Import query
• Extract server data
Files
Command

Find Record

⏪ ⏩ [1] 🔍

Action	BTYPE	BNAME	BFEET	BYEAR	BCOST	BNT01	BNT02	BNT03	BNT04	BNT05
View	C	Poole Boat Co Aluminum	80	1979	1000000	- Located in S. Diego, CA	-Twin Detroit diesels.	-Commercial combination dinner cruise	and long range fishing boat, sleeps 33.	- Owned would like to trade DELU
View	P	Monterey Marine Custom	80	1996	2975000	- Located in Stuart, FL	-Monthly payment.	-Fuel: Approximately 2000 gallons	-Water: Approximately 300 gallons	- Tank 4

⏪ ⏩ [1] 🔍

Tables → Update Function

1

iSeries Access for Web

Select Records to Update

Specify column values, to select which records you want to update. ?

Column	Type	Value	Description
BTYPE	CHAR(1)	<input type="text"/>	P=Powered S=Sailing
BNAME	CHAR(70)	<input type="text"/>	boat name
BFEET	NUMERIC(3,0)	<input type="text" value="80"/>	Length in feet
BYEAR	NUMERIC(4,0)	<input type="text"/>	Year built
BCOST	NUMERIC(9,0)	<input type="text"/>	Price in US\$
BNT01	CHAR(72)	<input type="text"/>	Note 1
BNT02	CHAR(72)	<input type="text"/>	Note 2

**Wildcards
may be used
in the
selection**

2

iSeries Access for Web

Records to Update

« « [1] » » ?

Action	BTYPE	BNAME	BFEET	BYEAR	BCOST	BNT01	BNT02	BNT03	BNT04	BNT05
Update	C	Poole Boat Co	80	1979	1000000	-	-Twin Detroit diesels.	-Commercial combination dinner cruise	and long range fishing boat, sleeps 33.	-
Delete		Aluminum				Located in S. Diego, CA				Owner would like to trade DELUXE
Update	P	Monterey Marine Custom	80	1996	2975000	-	-Monthly payment. Located in Stuart, FL	-Fuel: Approximately 2000 gallons	-Water: Approximately 300 gallons	-Tank 4

3

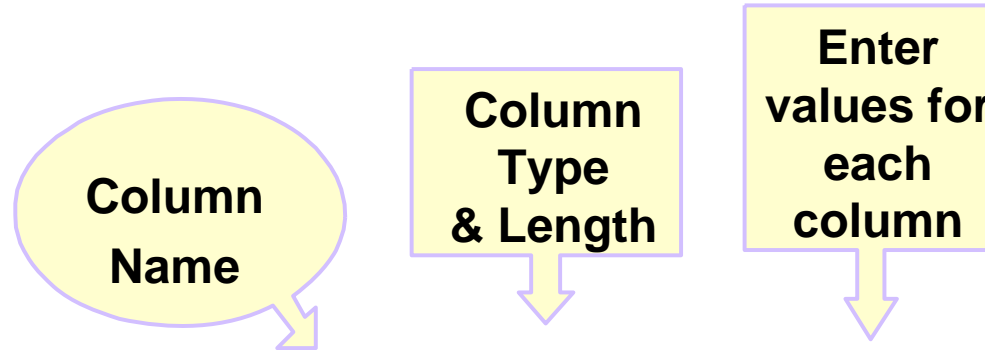
iSeries Access for Web

Update Record

To update the record, change column values and click Update Record. ?

Column	Type	Value	Description
BTYPE	CHAR(1)	<input type="text" value="C"/>	P=Powered S=Sailing
BNAME	CHAR(30)	<input type="text" value="Poole Boat Co Aluminum"/>	boat name
BFEET	NUMERIC(3,0)	<input type="text" value="80"/>	Length in feet
BYEAR	NUMERIC(4,0)	<input type="text" value="1979"/>	Year built
BCOST	NUMERIC(9,0)	<input type="text" value="1000000"/>	Price in US\$
BNT01	CHAR(72)	<input type="text" value="-Located in S. Diego, CA"/>	Note 1
BNT02	CHAR(72)	<input type="text" value="-Twin Detroit diesels."/>	Note 2
BNT03	CHAR(72)	<input type="text" value="-Commercial combination dinner c"/>	Note 3
BNT04	CHAR(72)	<input type="text" value="and long range fishing boat, sleep"/>	Note 4
BNT05	CHAR(72)	<input type="text" value="-Owner would like to trade DELUX"/>	Note 5
BNT06	CHAR(72)	<input type="text" value="up for a larger yacht."/>	Note 6
BNT07	CHAR(72)	<input type="text"/>	Note 7
BNT08	CHAR(72)	<input type="text" value="-Shelter Island Yacht Sales"/>	Note 8

Inserting New Records into A Table



iSeries Access for Web User: CMINER System: LP12OAB.RCHLAND.IBM.COM

My Home Page

- My Folder
- Print
- Messages
- Jobs
- 5250
- Database
 - Tables
 - My requests
 - Run SQL
 - Copy data to table
 - Import request
 - Import query
 - Extract server data
- Files
- Command
- Download
- Customize
- Other

Insert Record

To insert a record, specify column values and click Insert Record. [?](#)

Column	Type	Value	Description
BTYPE	CHAR(1)	<input type="text"/>	P=Powered S=Sailing
BNAME	CHAR(30)	<input type="text"/>	boat name
BFEET	NUMERIC(3,0)	<input type="text" value="0"/>	Length in feet
BYEAR	NUMERIC(4,0)	<input type="text" value="0"/>	Year built
BCOST	NUMERIC(9,0)	<input type="text" value="0"/>	Price in US\$
BNT01	CHAR(72)	<input type="text"/>	Note 1
BNT02	CHAR(72)	<input type="text"/>	Note 2
BNT03	CHAR(72)	<input type="text"/>	Note 3
BNT04	CHAR(72)	<input type="text"/>	Note 4
BNT05	CHAR(72)	<input type="text"/>	Note 5
-----	-----	-----	-----

Appendix A: Comparisons: Similarities / Differences

- **iSeries Access for Windows**
- **iSeries Access for Web**



Comparison of Database Capabilities

Feature / Function	iSeries Access for Windows	iSeries Access for Web	iSeries Access for Linux
ODBC driver	Yes	No	Yes
OLE DB provider	Yes	No	No
.NET provider	Yes	No	No
From an iSeries, start programs/commands on PC			
– Incoming Remote Command	Yes	No	No
GUI to find, add, update, delete selected records in an iSeries database Table	No	Yes	No
GUI to convert query results to .PDF format	No	Yes	No
GUI to e-mail query results in one step	No	Yes	No
Wizard to import Query/400 SQL requests	No	Yes	No
Wizard to import Query Manager SQL requests	No	Yes	No
Wizard to import iSeries Access for Windows Data Transfer requests	No	Yes	No
Programming Support			
– ActiveX automation Objects	Yes	No	No
– Limited support using java.net.URL and the documented URL Interfaces	No	Yes	No

Comparison of Data Transfer and Access for Web Database

Feature / Function	iSeries Access for Windows	iSeries Access for Web
<ul style="list-style-type: none"> • All SQL Statements Supported • Wizards to build SELECT statements and convert to PC format • Can build SELECT statements with group, having, and join support • Can create dynamic queries (prompted for input at time of running) • Access to members other than the default member 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p>	<p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>No</p>
<ul style="list-style-type: none"> • Wizards to upload PC data to iSeries DB2 • Support for Source Physical Files 	<p>Yes</p> <p>Yes (sequence and data generated on uploads is not returned by default)</p>	<p>Yes</p> <p>No (treated the same as other Table Values)</p>
<ul style="list-style-type: none"> • Upload data directly from Excel • Excel dates/times handled as dates/times 	<p>Yes</p> <p>Yes</p>	<p>No</p> <p>No, handled as character strings</p>
<ul style="list-style-type: none"> • Can run predefined saved requests • Schedule requests to run silently • Can Share requests amongst users • Can run multiple requests simultaneously (batch) • Asynchronous Processing (ie, control returned before request completes) 	<p>Yes</p> <p>Yes</p> <p>No, put on shared drive</p> <p>Yes (RTOPCB, RFROMPCB)</p> <p>No</p>	<p>Yes</p> <p>No</p> <p>Yes, via Shortcuts</p> <p>No</p> <p>Yes (except for Browser option)</p>

Request Types

iSeries Access for Web	iSeries Access for Windows
<p>Database Requests From iSeries</p> <ol style="list-style-type: none"> 1. Requests are saved by User name, extension types are not displayed 2. An “Import” Facility (*) can be used to convert iSeries Access for Windows Data Transfer requests to iSeries Access for Web requests 	<p>Data Transfer From iSeries</p> <ol style="list-style-type: none"> 1. .DTF - New request type used by iSeries Access for Windows 2. .TTO - Request type used in 5763-XD1 and DOS Extended clients 3. .DT - Request type used in Windows 3.1 client 4. .RTO - Rumba transfer request file
<p>Database Requests To iSeries</p> <ol style="list-style-type: none"> 1. Requests are saved by User name, extension types are not displayed 2. An “Import” Facility (*) can be used to convert iSeries Access for Windows Data Transfer requests to iSeries Access for Web requests 	<p>Data Transfer To iSeries</p> <ol style="list-style-type: none"> 1. .DTT - New request type used in iSeries Access for Windows 2. .TFR - Request type used in 5763-XD1 and DOS Extended clients 3. .DT - Request type used in Windows 3.1 client 4. .RTO - Rumba transfer request file

(*) RTO files are not supported by Import Facility in iSeries Access for Web

Supported File Formats

Supported file formats	iSeries Access for Web Database (servlets)	iSeries Access for Windows Data Transfer
• Comma Separated Variable	Yes	Yes
• Data Interchange Format	Yes	Yes
• Extensible Markup Language (XML)	Yes	Yes
• Hyper Text Markup Language (HTML) (on downloads)	Yes	Yes
• No conversion	No	Yes
• ASCII Text	Yes	Yes
• Text – Tab delimited	Yes	Yes
• Basic Random	No	Yes
• Basic Sequential	No	Yes
• DOS Random	No	Yes
• DOS Random Type 2	No	Yes

Supported File Formats (continued)

Supported file formats	iSeries Access for Web Database (servlets)	iSeries Access for Windows Data Transfer
<ul style="list-style-type: none"> • Preview (on downloads) • Portable Document Format (PDF) (on downloads) 	<p style="text-align: center;">Yes</p> <p style="text-align: center;">Yes</p>	<p style="text-align: center;">Yes</p> <p style="text-align: center;">No</p> <p style="text-align: center;">(can send to PC printer by selecting 'Print' as output device)</p>
<ul style="list-style-type: none"> • Microsoft Excel Version 3 	<p style="text-align: center;">Yes</p>	<p style="text-align: center;">Yes</p>
<ul style="list-style-type: none"> • Microsoft Excel Version 4 	<p style="text-align: center;">Yes</p>	<p style="text-align: center;">Yes</p>
<ul style="list-style-type: none"> • Microsoft Excel Version 5 	<p style="text-align: center;">No</p>	<p style="text-align: center;">Yes</p>
<ul style="list-style-type: none"> • Microsoft Excel Version 7 	<p style="text-align: center;">No</p>	<p style="text-align: center;">Yes</p>
<ul style="list-style-type: none"> • Microsoft Excel Version 8 	<p style="text-align: center;">No</p>	<p style="text-align: center;">Yes</p>
<ul style="list-style-type: none"> • Microsoft Excel XML 	<p style="text-align: center;">Yes</p>	<p style="text-align: center;">Yes</p>
<ul style="list-style-type: none"> • Lotus 123 	<p style="text-align: center;">No</p>	<p style="text-align: center;">Yes</p>
<ul style="list-style-type: none"> • Lotus 123 Version 1 	<p style="text-align: center;">Yes</p>	<p style="text-align: center;">No</p>
<ul style="list-style-type: none"> • Lotus 123 Version 4 	<p style="text-align: center;">No</p>	<p style="text-align: center;">Yes</p>
<ul style="list-style-type: none"> • Lotus 123 Version 9 	<p style="text-align: center;">No</p>	<p style="text-align: center;">Yes</p>

Microsoft Excel Support

What is significance of various Microsoft Excel formats supported?

1. **Microsoft Excel XML** - is the newest type supported by Excel and Word, and it is a defined format that is easy to parse programmatically.
2. For **iSeries Access for Web**, the Microsoft Excel XML file type is the only "native" Excel file type that is supported for working with very large amounts of rows.
3. **iSeries Access for Windows** enables you to work with large amounts of rows using **BIFF5, BIFF7, BIFF8** file types.



Supported file formats	iSeries Access for Web Database (servlets)	iSeries Access for Windows Data Transfer
• Microsoft Excel Version 3	Yes	Yes
• Microsoft Excel Version 4	Yes	Yes
• Microsoft Excel Version 5	No	Yes
• Microsoft Excel Version 7	No	Yes
• Microsoft Excel Version 8	No	Yes
• Microsoft Excel XML	Yes	Yes

Overall Strengths – database function

iSeries Access for Windows

Data Transfer

- Runs natively on Windows; can also run on a Windows web server
- Provides an SQL-like interface to allow full file SELECT or customized queries including joins, sorting, and record grouping. Can run advanced queries.
- Transfer source physical files and data physical files to PC file types
- Transfer PC file types to the source and data physical files on System i.
- Transfers may be run interactively, in batch mode, and programmatically
- Can run requests by clicking an icon
- Can schedule data transfers
- Has Excel Add-ins
- Has ActiveX Automation Objects

iSeries Access for Web

Database:

- Runs on System i web server; sends HTML to browser
- You can work directly with Tables, including Find, Insert, Updating, Delete, and Add. You may also view the entire table.
- Can run any SQL statement
- Supports both Dynamic and Static queries
- SQL Wizard helps you build SELECT statements.
- Can email results in many data formats
- Can convert results to PDF
- Can create Requests and give to other users to run
- Can Import Client Access Data Transfer requests; and IBM Query for iSeries (5722-QU1) and DB2 Query Manager SQL requests.

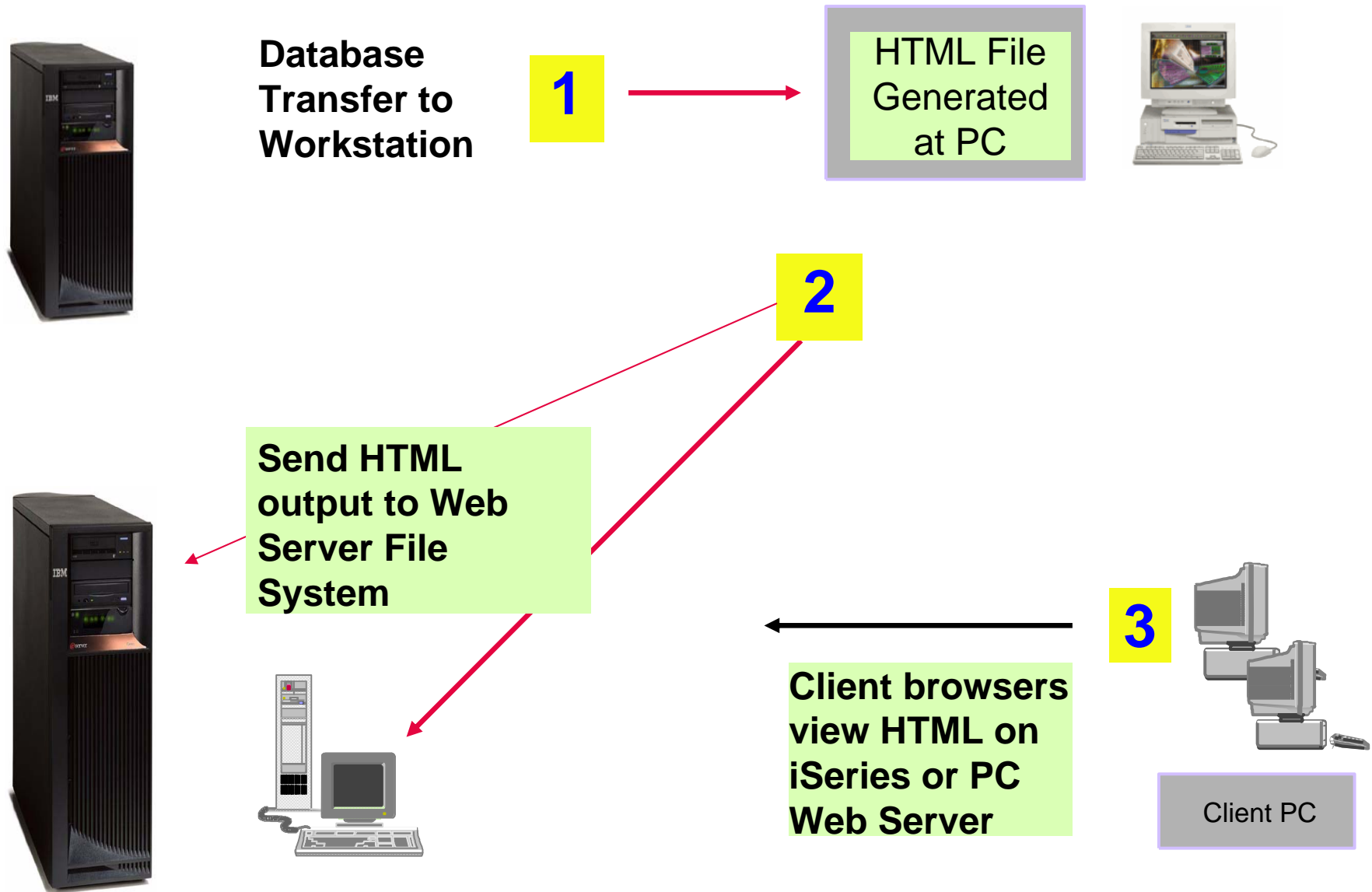
Appendix B. HTML Output Types

Comparison of HTML support in

- ★ iSeries Access for Windows Data Transfer
- ★ iSeries Access for Web

Use HTML File support

Updating a Web server

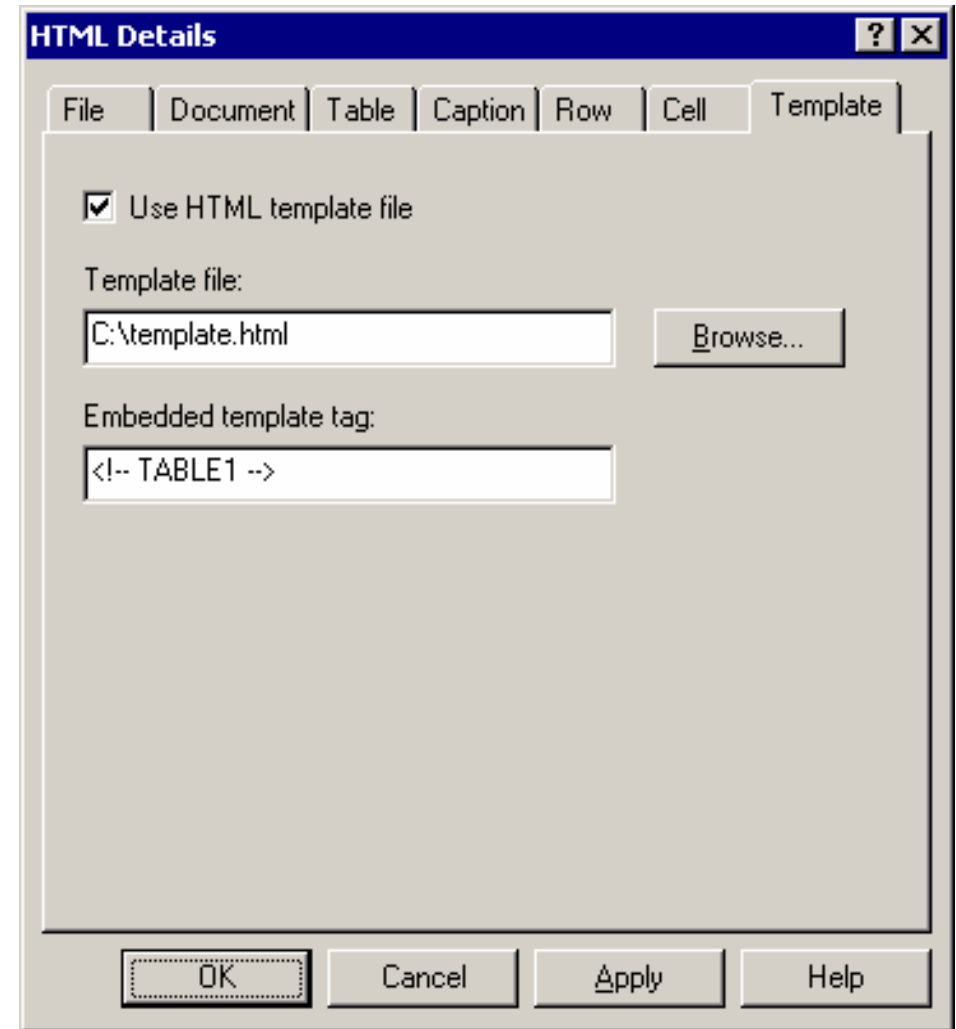


HTML Template support - enhancing web pages

HTML Template allows iSeries tabular data to be inserted into a pre-formatted HTML document at a specified location.

The location is defined by an embedded template tag.

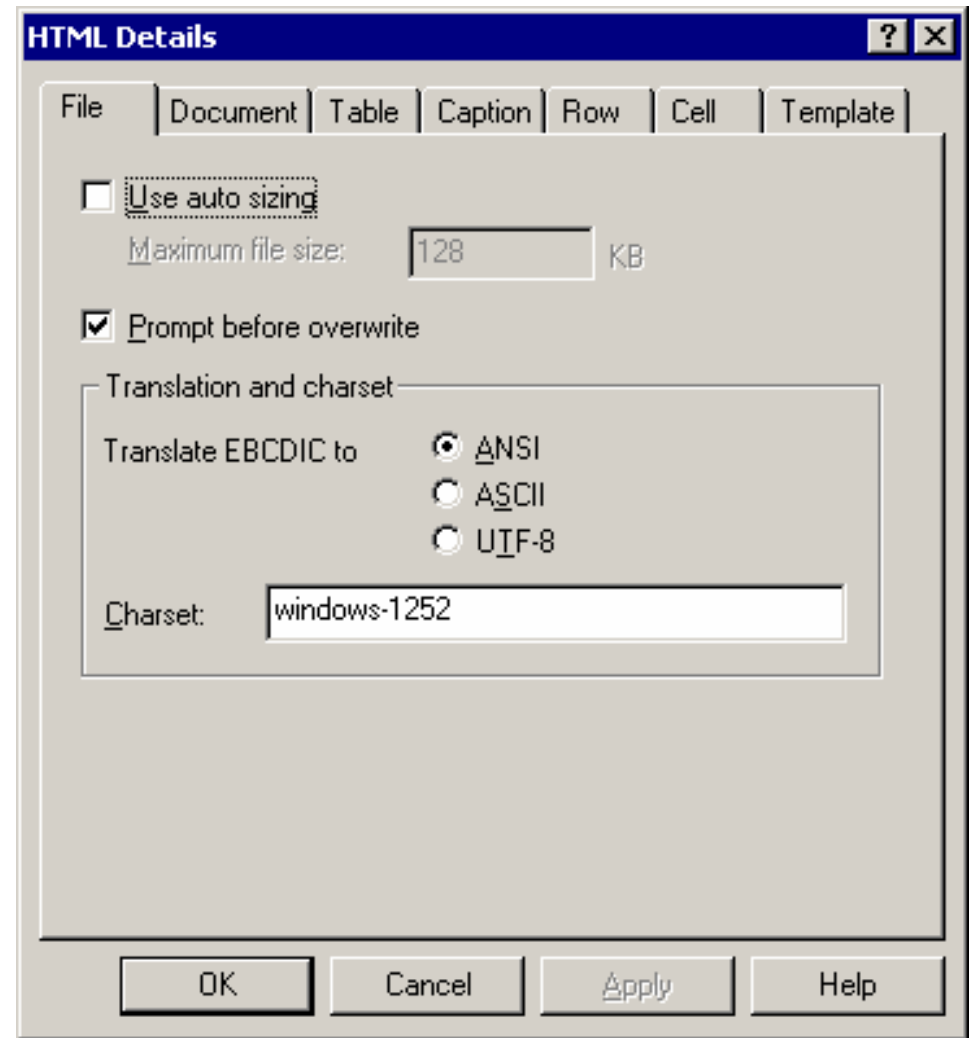
The template document may contain graphics, links, frames, and any other HTML elements you provide.



iSeries Access for Windows

Setting HTML properties

- **File**
- **Document**
 - Specify a title and timestamp
- **Table**
 - Specify spacing, alignment, and other table properties
- **Caption**
 - Specify whether to add a caption for your table
- **Row**
- **Cell**
- **Template**



iSeries Access for Windows (continued)


Notes: Using Data Transfer with a Web server

```
<HTML>  
<HEAD>  
<TITLE>Sample HTML Code</TITLE>  
</HEAD>  
<BODY>  
<H1>Customer Data</H1>  
<!-- TABLE1 -->  
</BODY>  
</HTML>
```

When the transfer is run, the template file will be used as a base for the new HTML file. When data is received from the iSeries, the data will be formatted and will inserted in place of the `<!-- TABLE1 -->` tag.

DATALINK data type support

Transferring the DB2 UDB for iSeries DATALINK type to a HTML file will produce active links within your HTML File.



CUSTNAM	ADDRESS	PHONE	WEBSITE
IBM iSeries	Rochester, MN	800-426-3333	//www.ibm.com/eserver/series/index.html
COMMON	Chicago, IL	800-270-8223	//www.common.org/index.html

...

...

...

...

iSeries Access for Windows (continued)

Viewing Datalink Results

RCHASD88 - QIWS/QCUSTCDT - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <C:\temp\dtransfer\mydata.htm> Go

CUSNUM	LSTNAM	INIT	STREET	CITY	STATE	ZIPCOD	CDTLMT	CF
938472	Henning	G K	4859 Elm Ave	Dallas	TX	75217	5000	3
839283	Jones	B D	21B NW 135 St	Clay	NY	13041	400	1
392859	Vine	S S	PO Box 79	Broton	VT	5046	700	1
938485	Johnson	J A	3 Alpine Way	Helen	GA	30545	9999	2
397267	Tyron	W E	13 Myrtle Dr	Hector	NY	14841	1000	1

Done My Computer

HTML Output Settings

- Many settings from:
- **Caption**
- **Table**
- **Cell data**

HTML Output Settings

Caption

Text:

Alignment:

Font size:

Style: **Bold** *Italic* Fixed width Underline

Table

Alignment:

Rows per table:

Table width:

Border width: pixels

Cell spacing between cells: pixels

Cell padding within cells: pixels

Cell data:

Include column headings

Template

File:

Tag:

General

Character set:

iSeries Access for Web

Displaying output in a paged list

iSeries Access for Web (continued)

• Run SQL
 • Copy data to table
 • Import request
 • Import query
 • Extract server data

Table

Alignment:

Rows per table:

Table width:

Border width:

Cell spacing between cells:

Cell padding within cells:

Cell data:

Include column headings

[Data Settings](#)

[Heading Settings](#)

iSeries Access for Web

My Home Page

My Folder

Print

Messages

Jobs

5250

Database

• Tables

• My requests

• Run SQL

• Copy data to table

• Import request

• Import query

• Extract server data

Files

Command

Download

Customize

Other

SQL Output

« « « [1] 2 » » » 🔍

BCOST	BTYPE	BNAME	BFEE	BYEAR
2975000	P	Monterey Marine Custom	80	1996
1588000	P	Fairline Squadron	58	2005
1000000	P	Poole Boat Co Aluminum	80	1979
750000	P	Spandau Houseboat	720	1995
450000	S	Merlin's Magic	54	1990
450000	P	Seacamper 795 Houseboat	72	2000
269500	S	Seafinn 411 Motorsailer Ketch	41	1989
249000	P	Miki Miki Original Tug	126	1944
185000	P	Baveria 50 Yacht	50	2000
179500	S	Fontaine Pajot Antigua	37	1993
179000	S	Nauticat 40	40	1989
159900	S	Shannon 50 ketch	50	1981
149000	S	Brandlmayr 48	48	1985
80000	S	Garden Design Porpoise Ketch	51	1974
69950	S	Corsair 27	27	1994

« « « [1] 2 » » » 🔍

- ❑ Specify a value for 'Rows per table' to limit the number of rows displayed on a page

Contrasting other layouts

http://.../webaccess/iWADbExec/sqlOutput.html?destType=brw

File Edit View Favorites Tools Help

Customer Information

CUSNUM	LSTNAM	INIT	STREET	CITY	STATE	ZIPCO
583990	Abraham	M T	396 Mill St	Isle	MIN	56342
839283	Jones	B D	21B NW 135 St	Clay	NY	13041
555666	Zeeman	J K	345 Ralph Ave	Edina	Ia	45443
593029	Williams	E D	485 SE 2 Ave	Dallas	TX	75218
846283	Alison	J S	787 Lake Dr	Isle	MIN	56342
397267	Tyron	W E	13 Myrtle Dr	Hector	NY	14841
593829	Pamas	F N	Bridle Lan	Salts	UT	76609
503000	Alison	M T	300 Mill St	Isle	MIN	56342

Done

Preview output type displays a limited number of rows per page, but you can't customize how the list is displayed

SQL Output [RCHAS1DD.RCHLAND.IBM.COM] - Microsoft Internet Explorer

File Edit View Favorites Tools Help

My Folder

Home Page

Print

Messages

Jobs

5250

Database

Tables

My requests

Run SQL

Copy data to table

Import request

Files

Done

SQL Output

« « « [1] 2 3 4 » » »

CUSNUM	LSTNAM	INIT	STREET	CITY	STATE	ZIP
583990	Abraham	M T	396 Mill St	Isle	MIN	5
839283	Jones	B D	21B NW 135 St	Clay	NY	1
555666	Zeeman	J K	345 Ralph Ave	Edina	Ia	4
593029	Williams	E D	485 SE 2 Ave	Dallas	TX	7
846283	Alison	J S	787 Lake Dr	Isle	MIN	5

« « « [1] 2 3 4 » » »

Done

If you do not specify a value for 'Rows per table', all results are returned in a single page

iSeries Access for Web (continued)

A template file can be used to display custom content before and after the statement results

The template file must have previously been placed in the Integrated File System (IFS) on the iSeries server

The image shows two overlapping screenshots of a Microsoft Internet Explorer browser window. The top screenshot displays the 'HTML Output Settings' dialog box. The 'Template' section is circled in red, showing the 'File' field set to '/boats/homepage/accesswater.html' and the 'Tag' field set to '%%CONTENT%%'. The 'General' section shows the 'Character set' set to 'Multilingual [UTF-8]'. The bottom screenshot shows the rendered web page. It features a blue header with the IBM logo, a boat image, and the text 'Access for Water' and 'Supplying quality boats since 2002'. Below the header is a table of boat specifications and a navigation bar with links for 'IBM', 'iSeries', and 'Service'.

BNAME	BFEET	BYEAR	BCOST	BNT01
Mako Sportfisher	19	1989	13000	-Located in Anacortes, WA.
Monk Bridgedeck Cruiser	36	1956	19900	-Built of mahogany, oak, and cedar.
Carver Santa Cruz	28	1978	23900	-Constructed of fiberglass.

iSeries Access for Web (continued)

Example of template file

```
<HTML>
<BODY>
<table>
<tr><td>
<img SRC="boathead.gif" height=43 width=614>
</td>
<tr>
<td align="right">
<a href="/webaccess/iWAHome">Home</a>
</td>
</tr>
</table>
<br>
%%CONTENT%%
<br>
<BODY>
</HTML>
```

iSeries Access for Web (continued)

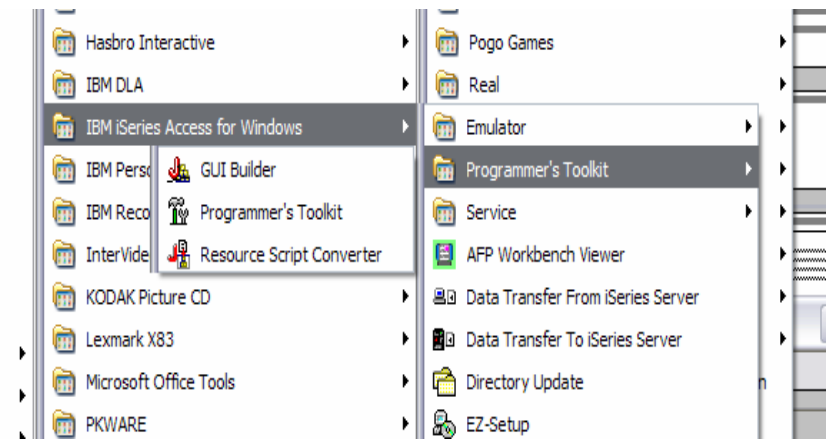
Appendix C. Programmer Toolkits



Programming Toolkits

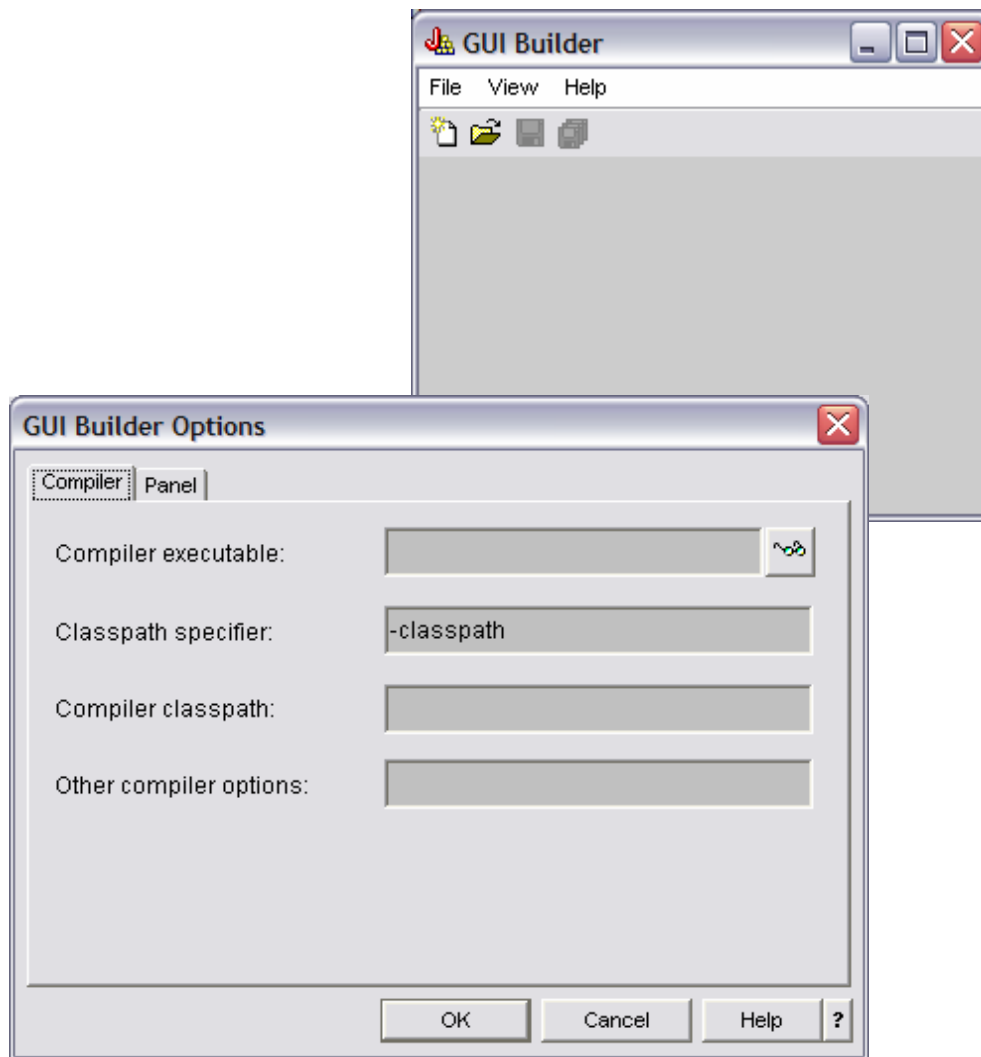
The following ship with iSeries Access for Windows and are separately installable options:

- **IBM® Toolbox for Java™** is a set of Java(TM) classes that allow you to use Java programs to access data on your iSeries™ servers. You can use these classes to write client/server applications, applets, and servlets that work with data on your iSeries. You can also run Java applications that use the IBM Toolbox for Java classes on the iSeries Java virtual machine (JVM).
- **The GUI Builder** is a WYSIWYG visual editor for creating Java dialogs, property sheets and wizards.
- **The Resource Script Converter** converts Windows resource scripts into an XML representation that is usable by Java programs. These converted files can then be edited with the GUI Builder.



- **The iSeries Access Programmer's Toolkit** should be used as the primary source of information about iSeries Access for Windows application development. This includes programming with iSeries Access for Windows ActiveX Automation Objects, ADO/OLE DB, .NET, and Java. The Programmer's Toolkit contains links to header files, sample programs, and complete documentation.

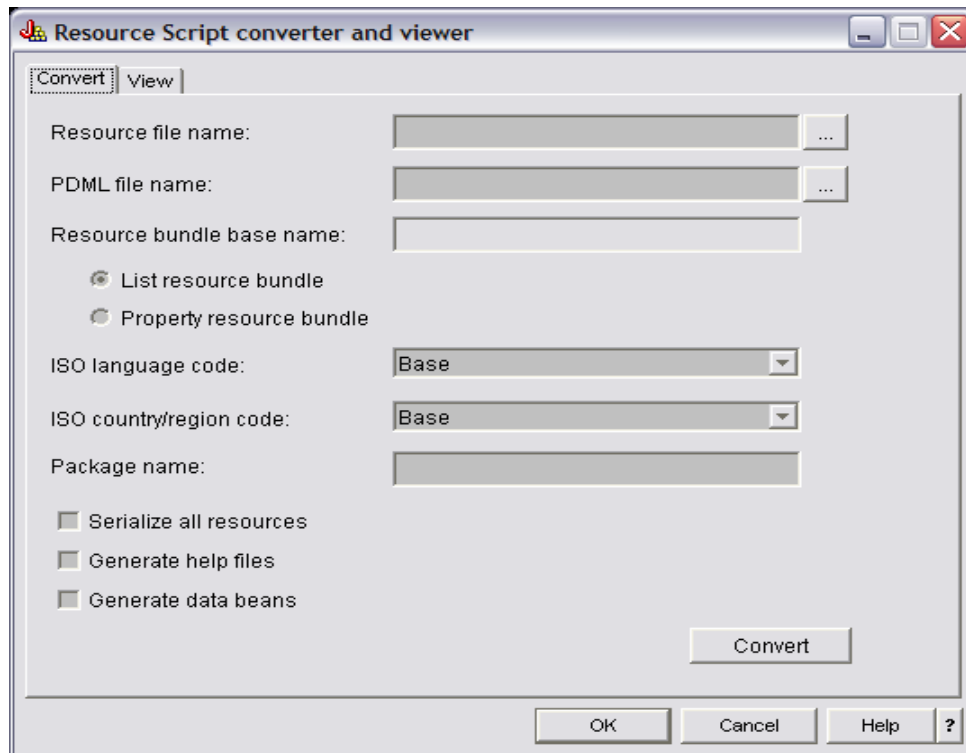
GUI Builder



The GUI Builder is a WYSIWYG visual editor for creating Java dialogs, property sheets and wizards

- With the GUI Builder you can add, arrange, or edit user interface controls on a panel, and then preview the panel to verify the layout behaves the way you expected.
- The panel definitions you create can be used in dialogs, inserted within property sheets and wizards, or arranged into splitter, deck, and tabbed panes.
- The GUI Builder also allows you to build menu bars, toolbars, and context menu definitions.
- You can also incorporate JavaHelp in your panels, including context sensitive help.

Resource Script Provider



The Resource Script Converter converts Windows resource scripts into an XML representation that is usable by Java programs.

- With the Resource Script Converter you can process Windows resource scripts (RC files) from your existing Windows dialogs and menus.
- These converted files can then be edited with the GUI Builder. Property sheets and wizards can be made from RC files using the resource script converter along with the GUI Builder.

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AS/400e	IBM	i5/OS
eServer	IBM (logo)	
eServer	iSeries	

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