Let’s Get Mobile – 5250, Database, Print and More on the Go

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Agenda

• Overview

• Access Functions
  – 5250
  – Print
  – Database
  – File System
IBM i Mobile Access Overview

This IBM i Mobile Access Solution is a web browser based solution that has been optimized for reduced screen footprint environments.

• Easy to deploy and get running
• Simple URL to connect to
• Robust IBM i OS system interaction
  - System Management Views
  - Printing, Database, IFS, Commands, Messages
  - 5250 Interface
• Highly Customizable
  - “What the users have access to” can be simply set based on IBM i OS User or Group Profile
Overview

• IBM i Mobile Access is being distributed as part of the r7.2 IBM i Access for Web (5770XH2) product
  
  – Customers at IBM i OS r7.1 or r6.1 can obtain and run r7.2 IBM i Access for Web
    
    • For r6.1 order refresh feature 6289 of 5761SS1
    • For r7.1 order refresh feature 6289 of 5770SS1
    • Install r7.2 5770XH2 LPP
      
      - If already running r6.1 or r7.1 of Access for Web, need to re-run the CFGACCWEB command for those instances
    
    - The IBM i Mobile Access will be updated via PTFs to Access for Web
      
      • GA Level PTF SI56123 for 5770XH2 released in May 2015
      • Latest Function is available in current Access for Web Service Pack PTF SI62710 released in November 2016

• The IBM i Mobile Access Solution is designed to be integrated into the IBM i OS *ADMIN HTTP Server environment
  
  – Requires IBM i OS HTTP Server Group PTF to deploy new ADMIN5 job specifically for this solution
    
    • r7.2 5770DG1 Group SF99713 Level 1
    • r7.1 5770DG1 Group SF99368 Level 27
    • r6.1 5761DG1 Group SF99115 Level 38
  
  – Started and stopped automatically with the *ADMIN HTTP Server
    
    • Can be started and stopped individually (r7.1 IBM i OS and later)
      
      » STRTCPSVR SERVER(*IAS) INSTANCE(ADMIN5)
      » ENDTCPWSVR SERVER(*IAS) INSTANCE(ADMIN5)
    
    • ADMIN5 runs on port 2011
• Deployed with a simple 2 parameter CL or QShell command
  - CL command
    • CFGACCWEB APPSVRTYPE(*INTAPPSVR) INSTANCE(*MOBILE)
  - QShell command in /QIBM/ProdData/Access/Web2/install
    • cfgaccweb –appsvrtype *INTAPPSVR –instance *MOBILE

• It can be deployed on other IBM Integrated Application Server instances or other Web Application Server types like WebSphere Application Server, though additional customization is required

• Connected to via a simple URL from HTTP *ADMIN port 2001

• ADMIN5 runs on port 2011
  - 2001/iamobile redirects
  - Can also use
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More Information:
http://www.ibm.com/systems/power/software/i/access/mobile.html

Latest Information available at this location

IBM i Access

A mobile solution for accessing IBM i is now available as a technology preview. Powered by IBM i Access for Web (i5/OS v6), you can now access IBM i resources from any mobile device that supports a browser.

Features include the ability to:
- view and manage jobs, messages, output queues, files, printers
- view, add, update database records
- build, view and update SQL statements with an SQL wizard
- A client can move IBM i environments with the ability to run concurrent applications simultaneously.

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- Solutions
- Operating Systems
- Migrate to z/OS

5250

for Business
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Access for Web 5250 Interface

Runs as an interactive job

- Only function in IBM i Access for Web that is interactive

Telnet 5250 port

5250 Environment Comparison

IBM i Access Client Solutions or Access for Windows:

- PC5250
  - User input and Display update
- TCP/IP Network

IBM i Mobile Access:

- Web Browser
  - User input and Display update
- HTTP

IBM i Access for Web 5250 session

- HTTP Server (Apache)
- Application Server (WebSphere, Integrated Web App Server)

IBM i Access Host Servers, 5250 application, Database, Files, Printer output

Local Sockets, or TCP/IP Network

IBM i Access Host Servers, 5250 application, Database, Files, Printer output
Things to Consider

Because 5250 session is implemented using HTML, considerations to be aware of:

- Not intended to replace full function emulators like IBM i Access for Windows PC5250, IBM i Access Client Solutions Host On Demand based emulator, etc. for purposes of "heads-down" data entry type of operations
  - Does not include graphics, EHLPAPI, DDE functionality
  - Does not provide keyboard mapping
  - Does not support certain keys the way PC5250 does (ie, Field Exit)
- Does not include Printer Emulation (push to printer)
  - IBM i strategy is Internet Printing Protocol (IPP) printing
  - IBM i Mobile Access provides capability to convert spooled files to PDF
- No direct interaction with server, so unsolicited server messages can't be received.
  - Need to request refresh to see break messages

Starting a 5250 session
How to Start a 5250 Session

Two options:

1. Select ‘Start Session’
   - Fill in information on Start Session and connect
   - To save the session, select ‘Active Session Settings’ link at bottom of screen, modify any information you wish, then click on ‘Save’

2. Select ‘Configured Sessions’
   - Select ‘Configure New Session’ link on lower screen
   - Set up as you wish, then click on ‘Save’

Use “Start Session” Dynamically

- Specify the system to connect
- Select the session attributes
  - Port, code page, workstation ID, etc.
- Start session
Start a Configured Session

- Configured sessions list shows the list of sessions for the logged in user
- Select the “Start” action for the session to start

Configuration Options for 5250 Sessions
Configure a New Session

Select the “Configure new session” action

Setting up a 5250 Session

Select Session Name
- Name of the ‘Configured’ session

Determine screen look
- Web View is default
- Traditional View can be selected

Select IBM i to connect to
- Enter System Name or TCP/IP address
- Port Address
Web View vs. Traditional View

Web View
- Proportional font
- Menu displayed as links
- Active function keys displayed as buttons
- Allows cursor positioning at non-input fields
- Display “More…” as button
- Message line (25th line) treated as help

Traditional View
- Fixed width font
- Function key bar (F1-F24)
- Background color configurable (default is black)

• All the view settings are configurable.
• Configure web and traditional view settings for your environment.
Proportional Width vs. Fixed Width

Default for ‘Web View’ is to display output using Proportional width fonts.

To change to Fixed width fonts, check the box that says:
  - Display text using fixed width fonts

Users can also do this on-the-fly by clicking on the “Active session settings” link and change the setting for this connection, or by switching to Traditional view.

Configuring a New Session (continued)

Web View and Traditional View settings

- Many keyboard and screen settings can be set to improve end user productivity and satisfaction
- Can also set up different text colors
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### Bypass Signon

- **QRMTSIGN** system value must be "VERIFY"
- Select bypass signon when starting or configuring a session

#### Configure New Session

- IBM i Access for Web must be configured for application authentication or application server authentication with Kerberos for bypass signon to be available
  - **CFGACCWEB2** `AUTHTYPE(*APP)`...
    - Uses the credential the user used to log in to System i Access for Web
  - **CFGACCWEB2** `AUTHTYPE(*APPSVR)` `AUTHMETHOD(*KERBEROS)`

- Start Session

#### Workstation ID

- **Use user ID**: IBM i Access for Web authenticated user ID is used for the workstation ID, up to ten characters.
- **Specify workstation ID**: Enter a workstation ID of your choice, up to ten characters. If you select the radio button and leave the text field blank, a value is generated by IBM i. The default device name starts with QPADEV.
- **Avoid duplicates for this user**: When this option is enabled, a wild card character is added to the device name to make it unique for the current user.
- **Avoid duplicates with other users**: When this option is enabled, the server adds a wild card character to the device name to make it unique for all users on the server.
Enable Function Keys As Buttons

Defaults:
- Display Active Function Keys as Buttons
- Show More... as a button

Can uncheck these boxes to deliver a more traditional view

Setting User Defaults

“Save As Default” saves this session configuration as the default for the current user.

Can be performed from active session settings or configured session settings.
Configured Session Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
<td>Start the configured session</td>
</tr>
<tr>
<td>Copy</td>
<td>Make a copy of the configured session for yourself</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete the configured session</td>
</tr>
<tr>
<td>Rename</td>
<td>Rename the configured session</td>
</tr>
<tr>
<td>Create Shortcut</td>
<td>Share the configured session with another user or group of users</td>
</tr>
<tr>
<td>Edit</td>
<td>Change the configured session settings</td>
</tr>
</tbody>
</table>

Creating Shortcuts to your configured sessions
**Shortcuts**

- Shortcut is a pointer to an IBM i Access for Web object
  - Configured 5250 session
  - Database request
  - Shortcuts to an object are deleted when the object is deleted
- The objects is only accessible to the user that created it
- Can share the object with other users
  - Create shortcut for user or group to share with user or group
- User of the shortcut has read-only access to the object
  - Cannot modify or delete the object

**Shortcut Example**

![Shortcut Example Diagram]

- Indicates if request is a shortcut
- User or group that was granted access
- Shortcut granted to group the user belongs to
- Owner of the request
Create Shortcuts

Your Configured Session
- Create ‘Shortcuts’ for other users

Can set Policies
- To restrict what users can do with your shortcut.
- Do not allow users to:
  - Copy your shortcut
  - Delete your shortcut
  - Rename your shortcut

Macros
Macros

Behave differently than PC5250

– Keys processed on a screen by screen basis
  • PC5250 – every key is recorded and played back
  • IBM i Mobile Access – cursor positioned in field and keys entered into field
– On a given screen, keys may not be processed in the same order as they are entered
– Functionally equivalent, but behaves differently

Recording Macros
Stop Macro Recording

Naming the Macro
Playing Macro

Add a macro to a New Session

All macros you have created, or shortcuts that have been shared with you will appear in pull-down
Managing Macros

Active Sessions

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**Active Sessions**

- An active session is a session that has been started
  - Dynamically or configured session
- A user may have more than one active session

**Active Session Life Span**

- Session resides on the server, not the workstation
- Session remains active until
  - User ends (stops) the session, or
  - Session time out due to inactivity
    - Time out value is configurable through Access for Web

Taking advantage of active session behavior
- Leave the session and browse on the web, or
- Leave your workstation and go to another workstation and
- Reconnect to your session
Ending from the Active Session

End this active session

Ending from Active Session List
5250 Summary

- IBM i Mobile Access 5250:
  - Starting and Configuring a Session
  - Shortcuts
  - Macros
  - Active Sessions

Database
IBM i Mobile Access has many functions for Database access and management.

- Run SQL – Run SQL statements with a wizard to build Queries
- My Requests – Run and Manage your saved SQL statements
- Import Query – Imports DB2 Query Manager and Query for i saved queries
- Tables – Robust set of tools for interacting with Tables on the IBM i OS

Access for Web uses the JDBC Driver for Database Connectivity
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
  - SVG
  - ...

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The SQL Wizard helps you generate a SELECT statement

Includes support for joining tables

Identify the IBM i 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
Joining Multiple Tables

- Select multiple tables
- Select the join type
- Optionally add conditions

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
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.

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 statement and in a condition list. You may edit or delete the condition.
- You may also add additional conditions.
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

Condition Value Option

- 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.
- 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.

Specifying a Static Value

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

The value can be:
- Constant
- Other specific function

Can find values in table
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.

Save the SQL Request

After creating a statement (by hand or with the SQL Wizard) you have the option to save it for later use.

Can Run it now

Or

Save and Run it later from “My Requests”
Choose from 4 different output destinations:

- Browser
- Email
- Personal folder
- Integrated File System

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

Browser sees the .xls format type, starts Excel or viewer, and displays the results.
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My Requests

Requests that are saved for an user to run again at any time.

Requests are saved by an user.

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

- Selected Users are then given access to run these selected data requests. These are called Shortcuts.
Welcome to the Waitless World

Import Queries

- Bring your existing queries to a browser environment
- Use the Import Query tool to bring them into Access for Web
  - IBM Query for i5/OS (5761-QU1)
  - DB2 for i5/OS Query Manager (5761-ST1)

Import Query

*QMORY and *QRYDFN are the query file types supported
Tables

Working with Tables
Working with Tables

- Insert
- Update
- Quick View
- Find Record
- Run SQL

Tables → Find Record
Inserting New Records into a Table

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSNUM</td>
<td>NUMERIC(8,0)</td>
<td>0</td>
<td>Customer number field</td>
</tr>
<tr>
<td>LSTNAM</td>
<td>CHAR(8)</td>
<td></td>
<td>Last name field</td>
</tr>
<tr>
<td>INIT</td>
<td>CHAR(3)</td>
<td></td>
<td>First and middle initial field</td>
</tr>
<tr>
<td>STREET</td>
<td>CHAR(13)</td>
<td></td>
<td>Street address field</td>
</tr>
<tr>
<td>CITY</td>
<td>CHAR(8)</td>
<td></td>
<td>City field</td>
</tr>
<tr>
<td>STATE</td>
<td>CHAR(2)</td>
<td></td>
<td>State abbreviation field</td>
</tr>
<tr>
<td>ZIPCODE</td>
<td>NUMERIC(5,0)</td>
<td>0</td>
<td>Zip code field</td>
</tr>
<tr>
<td>CDTLMT</td>
<td>NUMERIC(6,2)</td>
<td>0</td>
<td>Credit limit field</td>
</tr>
<tr>
<td>CHGCD</td>
<td>NUMERIC(1,3)</td>
<td>0</td>
<td>Charge code field</td>
</tr>
<tr>
<td>BALDUE</td>
<td>NUMERIC(6,2)</td>
<td>0</td>
<td>Balance due field</td>
</tr>
<tr>
<td>COTDUE</td>
<td>NUMERIC(6,2)</td>
<td>0</td>
<td>Credit due field</td>
</tr>
</tbody>
</table>

Update Function

1. Select Records to Update
   - Specify column values to update which records you want to update.

2. Records to Update
   - Action: CUSNUM, LSTNAM, INIT, STREET, CITY, STATE, ZIPCODE, CDTLMT, CHGCD, BALDUE, COTDUE
   - Filter on page: 1

3. Update Record
   - To update the record, change column values and click Update Record.
Quick View

Database Summary

- IBM i Mobile Access Database:
  - Run SQL statements
    - Create SQL Query Wizard
  - Import Queries
  - Work with IBM i Database Tables
Access for Web Print Overview

Access for Web uses the IBM Toolbox for Java to access printers and output queues on the IBM i OS.
IBM i Mobile Access has many functions for printing and print management.

- Printer output - preview, manage output
- Printers - view and manage printers and output
- Printer shares - view printers and manage output
- Output queues - view and manage queues and output
Printer Output

- Display spooled files for the signed on user for all output queues
- Use navigation to navigate list
- List shows spooled file attributes – User, Pages Per Copy, Creation Timestamp

Managing Printer Output

- Work with printer output
- View printer output
- View as PDF
View SCS and AFP spooled files in several formats:
- PNG
- TIFF
- PCL
- AFP Viewer

View
- Configure default view in Preferences

View as
- Select format to view
PDF Support

- Utilizes either
  - IBM Infoprint Server (5722-IP1) if installed
    - Can be disabled by Policy or Preference
    - Will fail if not licensed
  - IBM Transform Service for i - 5770TS1 Option 1 Transforms – AFP to PDF Transforms
    - Can be disabled by Policy or Preference
    - True PDF document
  - Built in IBM Host Print Transform iText support
    - Generated PTF is image only

- View printer output as PDF
  - Requires PDF viewer such as Adobe Acrobat Reader

- Destination
  - Browser
    - Preview or Save/Print from Browser PDF viewer
  - Mail as Attachment
    - Send PDF result as attachment to a list of email addresses
    - Status sent to own email address
    - Works well with large output files, runs in background
  - Send to personal folder
    - Send to user's own or other users' folders
    - Status sent to user's own folder
    - Works well with large output files, runs in background

- "Restore original printer output" setting
  - Places spooled file back on the output queue after being displayed, deleted if not selected

- "Embed font in PDF output" setting
  - Larger PDF document download size, but ensures font is available when viewing

PDF Output (InfoPrint)

- Select device type
- Select paper size
  - default by browser locale
- Select destination
  - browser
  - mail as attachment
  - personal folder
- Output is removed from the output queue if
  "Restore original printer output" is not checked

Menu:

PDF Output Settings

- Destination: Browser

Advanced Settings

- Device type to emulate: InfoPrint 40 (300 DPI)
- Drawer 1 paper size: Letter
- Drawer 2 paper size: Letter
- Restore original printer output
- Restore original printer output status
- Embed font in PDF output

Run

Print help:
View help for accessing printer output as a PDF document.
PDF Output (5770TS1)

- Select destination
  - browser
  - mail as attachment
  - personal folder

Print

Printers
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Printers

- View system printers
- Check printer status
- Perform Actions
  - Start
  - Stop
  - Make Available
  - Hold
  - Make Unavailable

Access Attached Output Queues

List output for a printer

Click on the output queue associated with a printer to list the output in the queue.
Print

Printer Shares

Click on share name to manage the printer

Click on the output queue name to display the printer output

Netserver Printer Shares
Output Queues

• List output queues for current “filter”
• Click on output queue to display a list of spooled files
• View status
• Change status
• View number of spooled files on the queue
• View associated writer
**Print Summary**

- IBM i Mobile Access Print:
  - Preview and print output in several formats
  - Manage printers
  - Work with printer shares
  - Manage output queues

**Files**
Work with Files in the IFS

- Navigate and browse the directories located on your IBM i integrated file system
  - Don’t need to map drives
  - Don’t need to know directory structures

- View, upload, and download files
- Copy and mail files
- Rename and delete files and directories
- Zip and unzip files and directories
- Edit authorities and change ownership of objects in the integrated file system
Summary

- Overview

- Access Functions
  - 5250
  - Print
  - Database
  - File System

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