Cool things in Navigator for IBM i to be a Rock Star Administrator

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iTech Solutions because IBM i (AS/400s) don’t come with System Administrators
In this session

We are going to go over how to use IBM Director Navigator for i, by first making sure we have all the components required. Then what needs to be started, and then look at the features and functions in the product that you can use.
What we will cover

• Getting Started

• Task Categories
  • System: System Status, Messages, disk status
  • Database: Performance monitors and Index Advisor
  • Basic Operations: View Messages, Out Queues, Printers, Jobs.
  • Configuration: Manage hardware, software, and system values.
  • Network: TCP/IP
  • Integrated Server Admin: Hosted servers & disk
  • Security: Authorization lists, Object authority, and Intrusion Detection.
  • Users & Groups: Manage profiles & groups.
  • Journal Management: Journals and receivers
  • Performance: Tools & Graphs to Analyze performance
  • Files: Manage objects and IFS
  • Internet Configurations: HTTP Server, Digital Certificates
Director Navigator for i

• Introduced with 6.1, Director Navigator for i is a web-based console that provides a single, easy-to-use view of your system.
• There is nothing required to purchase.
• Many Systems Management and Operations functions.
• Confusing name.
• Merger of System i Navigator into a web tool
• Portlet based – Refreshes better.
• New release via PTFs
System i Navigator (What you were used to)

• Windows based application that runs on a PC
• Contains Management Central to manage multiple systems
• Requires loading IBM i Access (Client Access - iSeries Access) on your PC
• Has limited graphical interface
• A Client/Server application.
Director Navigator for i

- Uses a web browser
- Nothing additional to load
- Integrated into IBM i base operating system (57xx-SS1 option 3)
- Has over 300 tasks
- URL addressable

What it does not have

- Management Central
- Visual Explain
- Database Navigator
- Disk Management graphics
Required Software

• 57xx-SS1 Option 1 – Extended Base Support
• 57xx-SS1 Option 3 – Extended Base Directory Support
• 57xx-SS1 Option 12 – Host Servers
• 57xx-SS1 Option 30 – Qshell
• 57xx-SS1 Option 33 – Portable Application Solutions Environment (PASE)
• 57xx-DG1 – IBM i HTTP Server
• 57yy-JV1 – IBM Developer Kit for Java (6.1 only)
• 57yy-JV1 – Install default JVM for release

• xx = 61 for IBM i 6.1, 70 for IBM i 7.1, 7.2, & 7.3
• yy = 61 for IBM i 6.1 & 7.1, 70 for IBM i 7.2 & 7.3
Required PTFs

New functionality is delivered via HTTP DG1 Group PTF

- IBM I 7.3 SF99722
- IBM I 7.2 SF99713 Level 6 or higher
- IBM I 7.1 SF99368 Level 16 or higher
- IBM I 6.1 SF99115 Level 28 or higher

- WRKPTFGRP
Check to make sure this is active

- Start TCP
- Start TCP Servers: STRTCP$VR SERVER(*HTTP) HTTPSVR(*ADMIN)
- You need the ADMIN Server under QHTTPS$VR subsystem running
Optional Plug-ins available

- Backup Recovery Media Services (BRMS) – 57xx-BR1
- IBM i High Availability Solutions Manager – 57xx-HAS
- IBM Performance Tools for IBM i Disk Watcher – 57xx-PT1 Opt1
- IBM i Job Watcher – 57xx-PT1 Opt 3
How to Connect – URL -
http://<systemname>:2001
This is your sign-on screen – regular User ID & Password
Without PTFs
Main Screen

Welcome to the IBM Navigator for i

IBM Navigator for i provides an easy to use interface for the web-enabled IBM i management tasks, including all previous IBM i Navigator tasks on the web, and 2001 port tasks.

Expand IBM i Management in the left-hand navigation area to get started.

To see the previous version of the 2001 port tasks and where they are located now, click below.

[IBM i Tasks Page]
Old 2001 Port screen – IBM i Tasks from Main menu

IBM i Tasks - Itech07.itechsol.com

IBM i Tasks allows you to access the tasks that were previously displayed on the IBM i Tasks web page.

- IBM Web Administration for i
  Allows you to manage and configure HTTP servers and application servers (Located in Internet Configurations)

- Digital Certificate Manager
  Allows you to create, distribute, and manage Digital Certificates (Located in Internet Configurations)

- IBM Tivoli Directory Server Web Administration Tool
  Allows you to administer the IBM Tivoli Directory Server for i (Located in Network)

- IBM IPP Server for i
  Allows you to configure the IBM IPP Server (Located in Internet Configurations)

Close
Welcome to the IBM Navigator for i

IBM Navigator for i provides an easy to use interface for the web-enabled IBM i management tasks. Expand IBM i Management in the left-hand navigation area to get started.

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[IBM i Tasks Page]
Task Categories

- System: System Status, Messages, disk status
- Database: Performance monitors and Index Advisor
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- Files: Manage objects and IFS
- Internet Configurations: HTTP Server, Digital Certificates
System Tasks

IBM i System management allows you to perform general system level tasks.

- **System Status**
  Allows you to display the system's current status.

- **System Operator Messages**
  Allows you to display messages sent to the system operator.

- **History Log**
  Allows you to display the system's current history log.

- **Search**
  Allows you to search for text strings in system objects such as spooled files and IFS files.

- **Disk Status**
  Allows you to view the system's current disk status.

- **Run a Command**
  Allows you to run an IBM i command.

- **5250 Emulation**
  Allows you to access a 5250 emulation session.

- **Change Password**
  Allows you to change your system password, or, if authorized, another user's password.

- **Application Administration**
  Allows you to manage user's authorizations to IBM i Navigator functions.

Close
General information on System, Tasks

![Image of IBM Navigator for i interface with System Status page open]
## Memory Pools: Subset of WRKSYSSTS

<table>
<thead>
<tr>
<th>Pool</th>
<th>Description</th>
<th>Current Size (MB)</th>
<th>Current Threads</th>
<th>Maximum Eligible Threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine</td>
<td>Used by internal machine functions</td>
<td>597.46</td>
<td>91</td>
<td>0</td>
</tr>
<tr>
<td>Base</td>
<td>Default system pool</td>
<td>7,115.98</td>
<td>942</td>
<td>234</td>
</tr>
<tr>
<td>Interactive</td>
<td>Used for interactive work</td>
<td>409.2</td>
<td>1</td>
<td>77</td>
</tr>
<tr>
<td>Spool</td>
<td>Used for printing</td>
<td>61.36</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>
Memory Pools: Health Indicators

Collection
Name(s): Q110000103
Library: QMPGDATA
Type: Collection Services File Based Collection
File level: 36

Time
Start: Apr 20, 2015 12:01:03 AM
End: Ongoing

System
Name: ITECH07
Release: V7R1M0

Intervals Distribution (Percent)
Faults Per Second
Disk Capacity Information

System Status - 172.29.6.2

Last refresh: 4/20/15 9:28:33 PM
Elapsed time: 00:00:00

Total disk space: 1,702.77 GB

System disk pool
- Capacity: 1,702.77 GB
- Usage: 58.148%

Temporary storage used
- Current: 5,798 MB
- Maximum since last system restart: 8,600 MB

- Disk Status
- Storage System Values
- Disk Health Indicators
## Disk Information - WRKDSKSTS

![Disk Status - Itech07](image)

### Disk Status - Itech07

- **Refresh**  Elapsed time: 00:00:19

### Actions

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type</th>
<th>Size (MB)</th>
<th>% Used</th>
<th>% Busy</th>
<th>I/O Requests</th>
<th>Request Size (KB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19A1</td>
<td>243,253</td>
<td>58.1</td>
<td>0</td>
<td>2.1</td>
<td>5.8</td>
</tr>
<tr>
<td>3</td>
<td>19A1</td>
<td>243,253</td>
<td>58.1</td>
<td>0</td>
<td>0.5</td>
<td>5.3</td>
</tr>
<tr>
<td>4</td>
<td>19A1</td>
<td>243,253</td>
<td>58.1</td>
<td>0</td>
<td>1.1</td>
<td>10.3</td>
</tr>
<tr>
<td>5</td>
<td>19A1</td>
<td>243,253</td>
<td>58.1</td>
<td>0</td>
<td>1.2</td>
<td>8.4</td>
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<td>6</td>
<td>19A1</td>
<td>243,253</td>
<td>58.1</td>
<td>0</td>
<td>1.8</td>
<td>11.9</td>
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<td>19A1</td>
<td>243,253</td>
<td>58.1</td>
<td>0</td>
<td>0.5</td>
<td>9.8</td>
</tr>
<tr>
<td>8</td>
<td>19A1</td>
<td>243,253</td>
<td>58.1</td>
<td>0</td>
<td>0.6</td>
<td>6.2</td>
</tr>
</tbody>
</table>
What to do when maximum Disk space is reached

<table>
<thead>
<tr>
<th>Maximum system disk pool usage:</th>
<th>90%</th>
</tr>
</thead>
</table>

**When maximum usage is reached:**

- [ ] Send message to system operator and system message queue
- [ ] Send message to service users
- [ ] Run registered exit programs
- [ ] End system to restricted state
- [ ] Immediately power down and restart system
- [x] Automatically clean up unused printer output storage

**Retention period (0-366):** 8 days
System Operator messages: like DSPMSG QSYSOPR

<table>
<thead>
<tr>
<th>From User</th>
<th>Type</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qsrvagt</td>
<td>Information</td>
<td>Service Agent is analyzing your system product activity log entries.</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Journal receivers AUDRCVO138 and *N detached.</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Job not submitted for job schedule entry QEZBKTMMON number 000016 because the</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Journal receivers AUDRCVO137 and *N detached.</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Log version QHST15110G in QSYS closed and should be saved.</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Log version QHST15110F in QSYS closed and should be saved.</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Log version QHST15110E in QSYS closed and should be saved.</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Log version QHST15110D in QSYS closed and should be saved.</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Log version QHST15110C in QSYS closed and should be saved.</td>
</tr>
<tr>
<td>Qsys</td>
<td>Information</td>
<td>Journal receivers AUDRCVO136 and *N detached.</td>
</tr>
<tr>
<td>Message ID</td>
<td>Severity</td>
<td>Type</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>CPIAD09</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPIAD09</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPF1124</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPF1124</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPIAD09</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPIAD08</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPF1124</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPF1124</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPIAD09</td>
<td>0</td>
<td>Info</td>
</tr>
<tr>
<td>CPIAD08</td>
<td>0</td>
<td>Info</td>
</tr>
</tbody>
</table>
Run an IBM i Command
Application Administration

- Control what users have access to FTP & what they can do.
- Control what FTP commands users can perform
  - Change Directory
  - Receive files
  - Send files
  - CL Commands
- Control what users can upload and download data using IBM i Access, and ODBC.
- Everyone can do until one person is entered.
- This and Index Advisor worth price of entire conference.
# Application Control

Select the functions or applications available to users.

<table>
<thead>
<tr>
<th>System</th>
<th>Function</th>
<th>Default Access</th>
<th>All Object Access</th>
<th>Customized Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client Applications</td>
<td>localhost in My Connections</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Basic Operations</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Work Management</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Configuration and Service</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Network</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Integrated Server Administration</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Security</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Users and Groups</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Databases</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>File Systems</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Multimedia (Pre-V5R1M0 clients only)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Host Applications</td>
<td>Backup</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Application Development</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>AFP Manager</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Application Administration</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>
Application Control FTP

Select the functions or applications available to users.

<table>
<thead>
<tr>
<th>Select</th>
<th>Function</th>
<th>Default Access</th>
<th>All Object Access</th>
<th>Customized Access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CIMOM Server</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Digital Certificate Manager (DCM)</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>IBM i</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>iSeries Navigator Tasks on the Web</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Management Central</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>QIBM_EJB_PRODUCT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TCP/IP Utilities for iSeries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>File Transfer Protocol (FTP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTP Client</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTP Server</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 1 of 1 | 1 Go | Rows 10 | Total: 10 Selected: 1

Remove Customization
Application Control - FTP Server - Logon Server

Function:
- Logon Server

Product:
- TCP/IP Utilities for iSeries

Function Description:
Permission to logon to the FTP Server. Must be allowed to use other server operations.

Access:
- Default access
- Users with all object system privilege

Customized access for users and groups

Users and groups:
- All Users
- Groups
- Users Not in a Group

Access Allowed:
- [Empty] Go Add -> Remove <-

Access denied:
- [Empty] Go Add -> Remove <-
## Control FTP Commands

<table>
<thead>
<tr>
<th>Host Applications</th>
<th>Specific Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Certificate Manager (DCM)</td>
<td>Change Directory</td>
</tr>
<tr>
<td>IBM i</td>
<td>CL Commands</td>
</tr>
<tr>
<td>iSeries Navigator Tasks on the Web</td>
<td>Create Directory/Library</td>
</tr>
<tr>
<td>Management Central</td>
<td>Delete Directory/Library</td>
</tr>
<tr>
<td>QIBM_EJB_PRODUCT</td>
<td>Delete Files</td>
</tr>
<tr>
<td>TCP/IP Utilities for iSeries</td>
<td>List Files</td>
</tr>
<tr>
<td>File Transfer Protocol (FTP)</td>
<td></td>
</tr>
</tbody>
</table>
Task Categories

- System: System Status, Messages, disk status
- Database: Performance monitors and Index Advisor
- Basic Operations: View Messages, Out Queues, Printers, Jobs.
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- Journal Management: Journals and receivers
- Performance: Tools & Graphs to Analyze performance
- Files: Manage objects and IFS
- Internet Configurations: HTTP Server, Digital Certificates
Database

• Index Advisor – Show what indexes are required
  • Easy to use
  • Great way of getting performance
  • Resolve long running jobs that create AP
  • Second best feature of DN.

• SQL Plan cache
• Create SQL Statements
• SQL Packages
• Performance monitors
IBM i Databases allows you to manage your databases.

Current database: S108e6be    Current schema: Qusrsys

- **Databases**
  Displays a list of the databases on the system from which you can perform all database tasks.

- **All Objects**
  Allows you to work with all database objects for a specific database and schema.

- **Tables**
  Allows you to work with the database tables for a specific database and schema.

- **Views**
  Allows you to work with database views for a specific database and schema.

- **Indexes**
  Allows you to work with database indexes for a specific database and schema.

- **Performance Monitors**
  Allows you to monitor the performance of a specific database.

- **Health Center**
  Allows you to monitor the current health of a specific database.
Index Advisor: An AMAZING Tool

Built from information in QSYS2/SYSIXADV. Can also condense indexes for those which can be fulfilled by other recommendations.
Times no Index was found and the time to build

<table>
<thead>
<tr>
<th>Table for Which Index was Advised</th>
<th>Keys Advised</th>
<th>Advised Index Type</th>
<th>Last Advised for Query Use</th>
<th>Times Advised for Query Use</th>
<th>Estimated Index Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCW1403</td>
<td>W1PAL#</td>
<td>Binary Radix</td>
<td>4/20/15 4:16:19 PM</td>
<td>4,564,760</td>
<td>00:00:01</td>
</tr>
<tr>
<td>BCW1403</td>
<td>W1CO#, W1FWHS, W1FLOC, W1PRD, W1PAL#</td>
<td>Binary Radix</td>
<td>4/20/15 4:16:19 PM</td>
<td>2,943,922</td>
<td>00:00:05</td>
</tr>
<tr>
<td>FFDFILE</td>
<td>WHNAME, WHFLDI</td>
<td>Binary Radix</td>
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<tr>
<td>WBPPKOD</td>
<td>HDCO#, HDLOT</td>
<td>Binary Radix</td>
<td>4/18/15 6:29:57 PM</td>
<td>2,102,233</td>
<td>00:00:02</td>
</tr>
<tr>
<td>INPIDBS</td>
<td>SBCO#, SBDTPP, SBDVAR, SBDSIZ</td>
<td>Binary Radix</td>
<td>4/20/15 5:45:24 PM</td>
<td>935,515</td>
<td>00:00:01</td>
</tr>
<tr>
<td>BCW1403</td>
<td>W1CO#, W1FWHS, W1FLOC, W1PRD</td>
<td>Binary Radix</td>
<td>4/20/15 7:09:51 AM</td>
<td>876,904</td>
<td>00:00:01</td>
</tr>
<tr>
<td>GAPBNT</td>
<td>BTCO, BTTPYP, BTLOT, BTSTAT</td>
<td>Binary Radix</td>
<td>4/20/15 6:52:32 AM</td>
<td>665,297</td>
<td>00:00:01</td>
</tr>
<tr>
<td>SAPORD</td>
<td>ODCO#, ODCUSH, ODCUS, ODPRD, ODCMD</td>
<td>Binary Radix</td>
<td>4/20/15 4:08:45 AM</td>
<td>644,080</td>
<td>00:00:41</td>
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<tr>
<td>SAPORD</td>
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<td>Binary Radix</td>
<td>4/20/15 4:08:45 AM</td>
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<td>00:00:47</td>
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<tr>
<td>SAPORD</td>
<td>ODCO#, ODCUSH, ODCUS, ODPRD, ODTTSH</td>
<td>Binary Radix</td>
<td>4/20/15 4:08:45 AM</td>
<td>644,080</td>
<td>00:00:40</td>
</tr>
<tr>
<td>ARPCUS</td>
<td>CUCUS, CUO#, CUCUSH, CUCUS</td>
<td>Binary Radix</td>
<td>4/20/15 4:08:45 AM</td>
<td>644,080</td>
<td>00:00:01</td>
</tr>
<tr>
<td>GAPBNT</td>
<td>BTCO, BTBOWN, BTTPYP, BTLOAD, BTBIN, BTLOT</td>
<td>Binary Radix</td>
<td>4/20/15 6:48:27 PM</td>
<td>539,907</td>
<td>00:00:24</td>
</tr>
<tr>
<td>GAPBNT</td>
<td>BTCO, BTBOWN, BTTPYP, BTLOAD, BTBIN, BTLOT</td>
<td>Binary Radix</td>
<td>4/20/15 6:48:27 PM</td>
<td>539,907</td>
<td>00:00:23</td>
</tr>
<tr>
<td>GAPBNT</td>
<td>BTCO, BTBOWN, BTTPYP, BTLOAD, BTBIN, BTLOT</td>
<td>Binary Radix</td>
<td>4/20/15 2:38:28 AM</td>
<td>525,759</td>
<td>00:00:04</td>
</tr>
<tr>
<td>GAPBNT</td>
<td>BTCO, LCCSUP, LCSUPL, LCPOOL, LCLOT, LCCCHG</td>
<td>Binary Radix</td>
<td>4/20/15 2:38:28 AM</td>
<td>525,759</td>
<td>00:00:04</td>
</tr>
<tr>
<td>WBPGLR</td>
<td>GLCO#, GLLLOT</td>
<td>Binary Radix</td>
<td>4/20/15 2:38:06 AM</td>
<td>507,428</td>
<td>00:00:26</td>
</tr>
<tr>
<td>GANW40</td>
<td>W1LOT</td>
<td>Binary Radix</td>
<td>4/20/15 2:38:06 AM</td>
<td>484,108</td>
<td>00:00:01</td>
</tr>
</tbody>
</table>
Click Actions then Columns to customize
### Sorted by Index creation time

**Database: S101**

<table>
<thead>
<tr>
<th>sys Advised</th>
<th>Leading Keys Order Independent</th>
<th>Advised Index Type</th>
<th>Last Advised for Query Use</th>
<th>Times Advised for Query Use</th>
<th>Estimated Index Creation Time</th>
<th>Reason Advised</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYMN0, SBLOC, SBCOMP</td>
<td>SYMN0, SBLOC, SBCOMP</td>
<td>Binary Radix</td>
<td>4/26/22 19:40:00 AM</td>
<td>12</td>
<td>02:10:09</td>
<td>Row selection</td>
</tr>
<tr>
<td>MHV</td>
<td>MHV</td>
<td>Binary Radix</td>
<td>5/2/22 16:47:10 AM</td>
<td>36</td>
<td>01:54:17</td>
<td>Row selection</td>
</tr>
<tr>
<td>FDV</td>
<td>FDV</td>
<td>Binary Radix</td>
<td>4/29/22 19:01:40 AM</td>
<td>32</td>
<td>00:53:51</td>
<td>Row selection</td>
</tr>
<tr>
<td>ALOC, SACMP, SAINDT, SACUST</td>
<td>ALOC, SACMP</td>
<td>Binary Radix</td>
<td>10/19/22 1:58:11 PM</td>
<td>4</td>
<td>00:09:62</td>
<td>Row selection</td>
</tr>
<tr>
<td>SCMP, FEVEND, PEODEL</td>
<td>SCMP</td>
<td>Binary Radix</td>
<td>7/31/22 19:14:59 AM</td>
<td>2</td>
<td>00:07:53</td>
<td>Row selection</td>
</tr>
<tr>
<td>ALOC, SACMP, SAINDT</td>
<td>ALOC, SACMP</td>
<td>Binary Radix</td>
<td>2/8/22 9:22:46 AM</td>
<td>9</td>
<td>00:09:20</td>
<td>Row selection</td>
</tr>
<tr>
<td>SCMP, POLOC, PORQTY</td>
<td>SCMP, POLOC</td>
<td>Binary Radix</td>
<td>3/39/22 1:21:12 PM</td>
<td>1</td>
<td>00:05:59</td>
<td>Row selection</td>
</tr>
<tr>
<td>SYTFR, TGCPM, TGGPRD, TSSMINO, TGFVRD, TG używa, TGGUS</td>
<td>SYTFR, TGGPRD</td>
<td>Binary Radix</td>
<td>4/2/23 1:05:10 PM</td>
<td>68</td>
<td>00:20:34</td>
<td>Row selection</td>
</tr>
<tr>
<td>SYLOL, TOTYPE, TGCPM, TGOST, TGOST, TGOST</td>
<td>SYLOL</td>
<td>Binary Radix</td>
<td>3/15/23 0:06:33 PM</td>
<td>128</td>
<td>00:53:12</td>
<td>Row selection</td>
</tr>
<tr>
<td>DEED, TGCPM, TGGPRD</td>
<td>DEED</td>
<td>Binary Radix</td>
<td>3/29/23 19:43:11 PM</td>
<td>49</td>
<td>00:59:15</td>
<td>Row selection</td>
</tr>
<tr>
<td>SCMP, SBLOC, SAINDT</td>
<td>SCMP</td>
<td>Binary Radix</td>
<td>3/2/23 9:11:03 PM</td>
<td>4</td>
<td>00:52:48</td>
<td>Row selection</td>
</tr>
<tr>
<td>PRID, ICMP, UTYPE, UDVEND, UITEM, UDATE</td>
<td>PRID, ICMP</td>
<td>Binary Radix</td>
<td>10/15/22 12:04:53 PM</td>
<td>34</td>
<td>00:58:40</td>
<td>Row selection</td>
</tr>
<tr>
<td>NITEM</td>
<td>NITEM</td>
<td>Binary Radix</td>
<td>2/12/23 3:31:24 AM</td>
<td>16</td>
<td>00:52:28</td>
<td>Row selection</td>
</tr>
<tr>
<td>SYMPF</td>
<td>SYMPF</td>
<td>Binary Radix</td>
<td>3/30/23 14:09:40 PM</td>
<td>4</td>
<td>00:52:28</td>
<td>Row selection</td>
</tr>
<tr>
<td>JCPM, PRSD ENDS</td>
<td>JCPM</td>
<td>Binary Radix</td>
<td>6/12/23 11:12:30 AM</td>
<td>2</td>
<td>00:52:69</td>
<td>Row selection</td>
</tr>
<tr>
<td>TDATE, UDATE, ICMP, UDVEND, UPO</td>
<td>TDATE, UDATE</td>
<td>Binary Radix</td>
<td>4/2/23 5:11:27 PM</td>
<td>1,413</td>
<td>00:58:91</td>
<td>Row selection</td>
</tr>
<tr>
<td>TGGPRD, TGGMT</td>
<td>TGGPRD</td>
<td>Binary Radix</td>
<td>10/25/22 1:02:20 PM</td>
<td>1</td>
<td>00:51:29</td>
<td>Row selection</td>
</tr>
<tr>
<td>TSPR, TSPR</td>
<td>TSPR</td>
<td>Binary Radix</td>
<td>10/25/22 1:02:46 PM</td>
<td>1</td>
<td>00:51:39</td>
<td>Row selection</td>
</tr>
<tr>
<td>TCODE, TSPRBA</td>
<td>TCODE</td>
<td>Binary Radix</td>
<td>4/2/23 11:01:00 PM</td>
<td>889</td>
<td>00:51:26</td>
<td>Row selection</td>
</tr>
<tr>
<td>TDATE, ICMP, UDVEND, UPO</td>
<td>TDATE, ICMP</td>
<td>Binary Radix</td>
<td>1/16/23 5:30:05 PM</td>
<td>2</td>
<td>00:51:26</td>
<td>Row selection</td>
</tr>
</tbody>
</table>

List is incomplete. Total number of items not known yet.
Create a Permanent Index
Build our logical file that was “missing”
Show SQL: Easy way to learn SQL

You can generate SQL for most database objects regardless if created by SQL or DDS. If you generate SQL for file that has triggers or constraints, the SQL for those are also generated.
SQL Performance Monitor

• Great tool
• Can generate lots of data – Don’t forget you started it.
• Find performance problems.
• Be specific when you can
• CPU & Disk Intensive
• Cleanup collection
• Wizard
Specify collection criteria

To limit the amount of data collected, specify which filters to use. When filters are provided, only statements that specified filter values will be captured.

If you would like to limit the amount of data collected specify which filters to use:

- [ ] Initial number of records: [ ]
- [ ] Minimum estimated query runtime: [ ]
- [ ] Minimum estimated temporary storage: [ ]
- [ ] Job name: QZDAS0INIT
- [ ] Job user: QUSER
- [ ] Current user or group profile: PETEM
- [ ] Client location:
- [ ] Local port: Use entry from below
- [ ] Query Governor limits: Always collect information when exceeded
- [ ] Statement result or SQL code: Error or warning

**Client registers**

- [ ] Accounting string:
- [ ] Application name:
SQL Performance monitor started

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Status</th>
<th>Schema</th>
<th>Table</th>
<th>Created By</th>
</tr>
</thead>
<tbody>
<tr>
<td>test</td>
<td>Detailed</td>
<td>Ended</td>
<td>QUSRSYS</td>
<td>QZG00000000</td>
<td>PETEM</td>
</tr>
<tr>
<td>test72</td>
<td>Detailed</td>
<td>Started</td>
<td>QUSRSYS</td>
<td>QZG00000007</td>
<td>PETEM</td>
</tr>
</tbody>
</table>
Overview of Collected information: Full presentation

Pseudo Opens better than Full Opens.
The plan cache is a repository that contains access plans for queries that were optimized by SQE. SQL Plan Cache is always available. Can go back in time, but can’t look back at SQL Performance monitor if it wasn’t started.
# SQL Plan Cache Statements

![Image of SQL Plan Cache Statements](image)

## SQL Plan Cache Statements - Localhost(10198a)

<table>
<thead>
<tr>
<th>Filters</th>
<th>Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Time Run</td>
<td>4/2/13 8:53 AM</td>
</tr>
<tr>
<td>Work with SQL Statement</td>
<td><img src="image" alt="Actions" /></td>
</tr>
<tr>
<td>Save to File...</td>
<td>4/2/13 8:53 AM</td>
</tr>
<tr>
<td>Show Longest Runs</td>
<td><img src="image" alt="No filter applied" /></td>
</tr>
<tr>
<td>Show Active Jobs</td>
<td><img src="image" alt="No filter applied" /></td>
</tr>
<tr>
<td>Show User History</td>
<td><img src="image" alt="No filter applied" /></td>
</tr>
<tr>
<td>Work with SQL Statement and Variables</td>
<td><img src="image" alt="No filter applied" /></td>
</tr>
<tr>
<td>Advanced Filter</td>
<td><img src="image" alt="No filter applied" /></td>
</tr>
<tr>
<td>Export</td>
<td><img src="image" alt="No filter applied" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Times</th>
<th>Average Processing Time (Microseconds)</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0447</td>
<td>SELECT RMCMP, RMCUST, RNAME, RMCEITY, RMCHR, RMM</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.1555</td>
<td>SELECT FCOMPL, FITEM, FLOG, FFQOH, FFQCM, FFPRVNL, F</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.6292</td>
<td>SELECT FROM WEBTEST/WTPRINT WHERE WEBRID = '</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.6991</td>
<td>SELECT Datasize, Blobservice FROM QMGTC.QAYVDTA</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.0434</td>
<td>SELECT Datasize, Blobservice FROM QMGTC.QAYVDTA</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.0012</td>
<td>SELECT RMCMP, RMCUST, RNAME, RMCEITY, RMCHR, RMM</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.0037</td>
<td>DELETE FROM QMGTC.QAYVDRG WHERE SYSTEM = ? AND</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.0065</td>
<td>SELECT ACMP, ACVSN, ACNAME, ACITY, ACSTAT, ACM</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.1034</td>
<td>SELECT SYSTEM, RGAB_ID, LENGTH, BLOBSTREAM FROM</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.0087</td>
<td>SELECT NAME FROM QST562.SYSINDEXES WHERE TABLE_S</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.0762</td>
<td>SELECT RMCMP, RMCUST, RNAME, RMCEITY, RMCHR, RMM</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.0060</td>
<td>SELECT RMCMP, RMCUST, RNAME, RMCEITY, RMCHR, RMM</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
<tr>
<td>0.0351</td>
<td>SELECT RMCMP, RMCUST, RNAME, RMCEITY, RMCHR, RMM</td>
<td><img src="image" alt="SQL statement" /></td>
</tr>
</tbody>
</table>

---

It can be seen that the SQL Plan Cache Statements are being monitored and analyzed for performance efficiency. The statement analysis includes various SQL queries with different execution times and average processing times. The system is equipped with tools to filter and export the data for further analysis.
The health center provides an overview of your system databases, and the information within the database.
Task Categories

- System: System Status, Messages, disk status
- Database: Performance monitors and Index Advisor
- Basic Operations: View Messages, Out Queues, Printers, Jobs.
- Configuration: Manage hardware, software, and system values.
- Network: TCP/IP
- Integrated Server Admin: Hosted servers & disk
- Users & Groups: Manage profiles & groups.
- Journal Management: Journals and receivers
- Performance: Tools & Graphs to Analyze performance
- Files: Manage objects and IFS
- Internet Configurations: HTTP Server, Digital Certificates
Basic Operations

IBM i Basic Operations allows you to manage messages, printer output, printers, and your own jobs.

Send a Message
Allows you to send a message to other users or message queues.

Messages
Allows you to manage your messages.

Printer Output
Allows you to manage printer output.

Add a Printer
Allows you to add and configure a new printer for IBM i.

Printers
Allows you to manage printers.

User Jobs
Allows you to manage your jobs.
Printer Output: PDF Output made E-A-S-Y
PDF output

• Doesn’t get easier than this
• Can set up PDF printer
• Can email these printouts
Welcome to the i5/OS Add Printer Wizard for TCP/IP network-attached printers.

This wizard will help you configure and then add a printer to i5/OS.

Click Next to continue.
Printer Configuration Wizard

Location of the printer
You must indicate the location of the printer by specifying its DNS name, its TCP/IP address or its IPP URL. If your printer is not directly connected to the network but is attached to a print server, specify the address of the print server and check the "Printer is connected to a print server" checkbox.

- DNS name of printer or print server:

  Example: OFFICE

- TCP/IP address of printer or print server:

  Example: 9.5.0.100

- URL of internet printer:

  Example: http://server/ipp/printers/office

- Printer is connected to a print server
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IBM i Configuration and Service allows you to perform system configuration.

**System Values**
Allows you to change the system values that determine how your system operates.

**Time Management**
Allows you to manage time on your system.

**Disk Units**
Allows you to manage disk units on your system.

**Disk Pools**
Allows you to manage disk pools on your system.

**Add Disk Unit**
Allows you to add a disk unit to your system.

**New Disk Pool**
Allows you to create a disk pool on your system.

**Close**
## Configuration: System Values

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditing</td>
<td>Changes auditing values</td>
</tr>
<tr>
<td>Date and Time</td>
<td>Changes date, time, and time zone information</td>
</tr>
<tr>
<td>Devices</td>
<td>Changes device auto-configuration and recovery values</td>
</tr>
<tr>
<td>International</td>
<td>Changes locale settings and format of numbers, currency, dates, and time</td>
</tr>
<tr>
<td>Jobs</td>
<td>Changes system level job limits and default job properties</td>
</tr>
<tr>
<td>Library Lists</td>
<td>Changes the default library lists</td>
</tr>
<tr>
<td>Messages and Service</td>
<td>Changes message, logging, and service information</td>
</tr>
<tr>
<td>Password</td>
<td>Changes password expiration and validation</td>
</tr>
<tr>
<td>Performance</td>
<td>Changes performance values for processing, memory pools, communications, and database</td>
</tr>
<tr>
<td>Power Control</td>
<td>Changes power supply values</td>
</tr>
</tbody>
</table>
## Configuration: System Values: Performance

### Performance System Values - Localhost

<table>
<thead>
<tr>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Checkbox] Dynamically adjust job priorities of interactive jobs</td>
</tr>
<tr>
<td>![Checkbox] Dynamically adjust job priorities within priority bands</td>
</tr>
</tbody>
</table>

- **General**: Dynamically adjust job priorities of interactive jobs
- **General**: Dynamically adjust job priorities within priority bands
Task Categories

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IBM i Network Management allows you to manage TCP/IP and internet support.

- **Create IPv4 Object**
  Allows you to create IP version 4 objects.

- **Create IPv6 Object**
  Allows you to create IP version 6 objects.

- **Lines**
  Allows you to manage and configure physical lines.

- **TCP/IP Servers**
  Allows you to manage and configure TCP/IP servers.

- **DNS Servers**
  Allows you to manage and configure Domain Name System (DNS) servers.

- **IBM Tivoli Directory Server Web Administration Tool**
  Allows you to administer the Tivoli Directory Server for i.
## Manage TCP Servers

### TCP/IP Servers - Itech07.itechsol.com

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BootP</td>
<td>Stopped</td>
<td>BootP Server</td>
</tr>
<tr>
<td>BootP DHCP Relay Agent</td>
<td>Stopped</td>
<td>BootP DHCP Relay Agent</td>
</tr>
<tr>
<td>DDM</td>
<td>Started</td>
<td>DRDA DDM Server TCP/IP</td>
</tr>
<tr>
<td>DHCP</td>
<td>Stopped</td>
<td>Dynamic Host Configuration Protocol</td>
</tr>
<tr>
<td>DLFM</td>
<td>Stopped</td>
<td>Datalink File Manager</td>
</tr>
<tr>
<td>EDRSQL</td>
<td>Stopped</td>
<td>Extended Dynamic Remote SQL</td>
</tr>
<tr>
<td>FTP</td>
<td>Started</td>
<td>File Transfer Protocol</td>
</tr>
<tr>
<td>HTTP Administration</td>
<td>Started</td>
<td>HTTP Server</td>
</tr>
<tr>
<td>IAS</td>
<td>Started</td>
<td>Integrated Web Application Server</td>
</tr>
<tr>
<td>IBM i NetServer</td>
<td>Started</td>
<td>IBM i Support for Windows Network Neighborhood</td>
</tr>
<tr>
<td>IBM Tivoli Directory Server for IBM i</td>
<td>Started</td>
<td>IBM Tivoli Directory Server for IBM i (LDAP)</td>
</tr>
</tbody>
</table>

1 - 32 of 32 items

- [ ] 5
- [ ] 10
- [ ] 25
- [ ] 50
- [x] 100
- [ ] All
Properties on each TCP/IP Server selected

<table>
<thead>
<tr>
<th>Subsystems</th>
<th>IBM i Support for Windows Network Neighborhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td></td>
</tr>
<tr>
<td>Start when TCP/IP is started:</td>
<td>Yes</td>
</tr>
<tr>
<td>Server name:</td>
<td>ITECH07</td>
</tr>
<tr>
<td>Allow IBM i NetServer access using the system name:</td>
<td>No</td>
</tr>
<tr>
<td>Domain name:</td>
<td>ITECHSOL.COM</td>
</tr>
<tr>
<td>Description:</td>
<td>OS/400</td>
</tr>
<tr>
<td>Logon server role:</td>
<td>None</td>
</tr>
</tbody>
</table>

[Next Start]
## Manage Lines

<table>
<thead>
<tr>
<th>Line Name</th>
<th>Status</th>
<th>Line Type</th>
<th>IPv6</th>
<th>MAC Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHBRIDGE</td>
<td>Unknown (0)</td>
<td>Ethernet</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>ETHLINE1</td>
<td>Active</td>
<td>Ethernet</td>
<td>No</td>
<td>E4:1F:13:06:23:61</td>
</tr>
<tr>
<td>Loopback</td>
<td>Active</td>
<td>None</td>
<td>No</td>
<td>00:00:00:00:00:00</td>
</tr>
</tbody>
</table>
Task Categories

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Use Integrated Server Administration to manage servers that are hosted by IBM i.

- **Servers**
  Manage integrated and virtual servers. Also manage IBM i user and group enrollment to Windows servers.

- **Create Server**
  Create a new iSCSI attached server.

- **All Virtual Storage**
  Manage virtual storage that IBM i provides to integrated and virtual servers.

- **New Virtual Storage**
  Create new virtual storage and assign it to a server.

- **Network Server Host Adapters**
  Manage IBM i network server host adapter (NWSH) configuration objects for IBM i iSCSI target adapters.

- **New Network Server Host Adapter**
  Create a new network server host adapter (NWSH) configuration.

- **Remote Systems**
  Manage IBM i remote system configuration objects for iSCSI attached servers.

- **New Remote System Configuration**
  Create a new remote system configuration for iSCSI attached servers.

- **Service Processors**
  Manage IBM i service processor configuration objects for iSCSI attached servers.

- **New Service Processor Configuration**
Network Server Descriptions

These are some Virtual IBM i hosted partitions, which this partition is actually hosting. How to build Virtual IBM i partitions can be found in my other session.

You can manage Blade, IXA, IXS, Linux, and hosted partitions.
Management of Servers
## Network Server Disks

### All Virtual Storage - 172.29.6.2

<table>
<thead>
<tr>
<th>Storage</th>
<th>GB</th>
<th>% Used</th>
<th>Server</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaf01</td>
<td>34.2</td>
<td>0%</td>
<td>Gaf</td>
<td>GAF Seelig Virtual Disk 01</td>
</tr>
<tr>
<td>Gaf02</td>
<td>17.1</td>
<td>0%</td>
<td>Gaf</td>
<td>GAF Seelig Virtual Disk 02</td>
</tr>
<tr>
<td>Gaf03</td>
<td>17.1</td>
<td>0%</td>
<td>Gaf</td>
<td>GAF Seelig Virtual Disk 03</td>
</tr>
<tr>
<td>Gaf04</td>
<td>17.1</td>
<td>0%</td>
<td>Gaf</td>
<td>GAF Seelig Virtual Disk 04</td>
</tr>
<tr>
<td>Gaf05</td>
<td>17.1</td>
<td>0%</td>
<td>Gaf</td>
<td>GAF Seelig Virtual Disk 05</td>
</tr>
<tr>
<td>Gaf06</td>
<td>17.1</td>
<td>0%</td>
<td>Gaf</td>
<td>GAF Seelig Virtual Disk 06</td>
</tr>
<tr>
<td>Itech72ls</td>
<td>77.2</td>
<td>0%</td>
<td>Itechv72</td>
<td>ITECH72LS</td>
</tr>
<tr>
<td>Mrdyn6101</td>
<td>34.2</td>
<td>0%</td>
<td>Mrdyn61</td>
<td>MidRange Dynamics V6R1 Disk 1</td>
</tr>
<tr>
<td>Mrdyn6102</td>
<td>34.2</td>
<td>0%</td>
<td>Mrdyn61</td>
<td>MidRange Dynamics V6R1 Disk 2</td>
</tr>
<tr>
<td>Mrdyn7101</td>
<td>34.2</td>
<td>0%</td>
<td>Mrdyn71</td>
<td>Midrange Dynamics Disk 1</td>
</tr>
<tr>
<td>Mrdyn7102</td>
<td>34.2</td>
<td>0%</td>
<td>Mrdyn71</td>
<td>MidRange Dynamics Disk 2</td>
</tr>
</tbody>
</table>

1 - 23 of 23 items

Options: 5 10 25 50 100 All
Task Categories

- System: System Status, Messages, disk status
- Database: Performance monitors and Index Advisor
- Basic Operations: View Messages, Out Queues, Printers, Jobs.
- Configuration: Manage hardware, software, and system values.
- Network: TCP/IP
- Integrated Server Admin: Hosted servers & disk
- Users & Groups: Manage profiles & groups.
- Journal Management: Journals and receivers
- Performance: Tools & Graphs to Analyze performance
- Files: Manage objects and IFS
- Internet Configurations: HTTP Server, Digital Certificates
IBM i Security allows you to configure and manage security settings for your system.

- **Authorization Lists**
  Allows you to manage authorization lists.

- **Create an Authorization List**
  Allows you to group objects with similar security requirements and associate the group with a list of users and user authorities.

- **Change Object Permissions**
  Allows you to change permissions for an IBM i object.

- **Application Administration**
  Allows you to manage user's authorizations to IBM i Navigator functions.

- **Cryptographic Services Key Management**
  Allows you to store and manage master keys and keystores.

- **Cryptographic Coprocessor**
  Allows you to configure the cryptographic coprocessor.

- **Intrusion Detection**
  Allows you to set up and manage policies that notify you of any intrusions detected against your server.
Intrusion detection and prevention system notifies you of attempts to hack into or disrupt your system. ID also monitors if someone is using your system to launch attacks. This uses policies to monitor your system. A must for any company with their machine on the Internet.
Intrusion Detection: Setup Notifications

- Send message notifications
- Message queue: QSYSOPR
- Library: QSYS

Where to send e-mail notifications:
- E-mail address 1: pmassiello@itechsol.com
- E-mail address 2:
- E-mail address 3:
Intrusion Detection: Setup Wizard

Intrusion Detection Policies - localhost

Once all the policy changes have been made in the table, click the OK button to apply the changes.

Intrusion Detection Notification: Started

View: All policies

### Intrusion Detection Policies

<table>
<thead>
<tr>
<th>Name</th>
<th>Policy Type</th>
<th>Status</th>
<th>Local IP Addresses</th>
<th>Local Ports</th>
<th>Remote IP Addresses</th>
<th>Remote Ports</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QIBM_Ad</td>
<td>Attack (Address Pol)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default address</td>
</tr>
<tr>
<td>QIBM_Flo</td>
<td>Attack (Flood)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default flood</td>
</tr>
<tr>
<td>QIBM_Frag</td>
<td>Attack (Fraggle)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default Fraggle</td>
</tr>
<tr>
<td>QIBM_ICM</td>
<td>Attack (ICMP Redirect)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default ICMP redirect</td>
</tr>
<tr>
<td>QIBM_IP</td>
<td>Attack (IP Fragment)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default IP fragment</td>
</tr>
<tr>
<td>QIBM_Mal</td>
<td>Attack (Malformed Pack)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default malformed</td>
</tr>
<tr>
<td>QIBM_Out</td>
<td>Attack (Outbound Ref)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default outbound ref</td>
</tr>
<tr>
<td>QIBM_Perp</td>
<td>Attack (Perpetual Echo)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default perpetual echo</td>
</tr>
<tr>
<td>QIBM_Pin</td>
<td>Attack (Ping of Death)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default ping</td>
</tr>
<tr>
<td>QIBM_Restricted</td>
<td>Attack (Restricted)</td>
<td>Enabl.</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>IBM-supplied default restricted</td>
</tr>
</tbody>
</table>
Intrusion detection allows you to set up policies to notify you of any network intrusions that are detected against your system. The different types of policies can also notify you of possible intrusions or areas of concern that may need further review. As an example, if you’re scanning for the number of connections through a certain port and the threshold is reached, you may need to verify that the threshold was set correctly for the application or environment.

**Intrusion detection notification status:** Started [Stop]

**Note:** Applies to all enabled policies

- **Intrusion detection system setup.**
  - Manage intrusion detection system properties such as your e-mail addresses and message queue for notification.
- **Manage intrusion detection policies**
  - Create and manage intrusion detection policies for your system.
- **Display intrusion detection events**
  - Display the list of intrusion detection events that have been sent based on your intrusion detection policies.

[Close]
Manage Authority Lists
Task Categories

- System: System Status, Messages, disk status
- Database: Performance monitors and Index Advisor
- Basic Operations: View Messages, Out Queues, Printers, Jobs.
- Configuration: Manage hardware, software, and system values.
- Network: TCP/IP
- Integrated Server Admin: Hosted servers & disk
- Users & Groups: Manage profiles & groups.
- Journal Management: Journals and receivers
- Performance: Tools & Graphs to Analyze performance
- Files: Manage objects and IFS
- Internet Configurations: HTTP Server, Digital Certificates
Manage your Users from here

IBM i User Management allows you to manage your users and groups.

- **Users**
  Allows you to manage the users on your server. You can also view the list of user objects for the user.

- **Users not in a Group**
  Allows you to manage any existing users that are not currently in a group.

- **Create User**
  Allows you to create a new user.

- **Change User**
  Allows you to change the properties of an existing user.

- **Groups**
  Allows you to manage any existing groups or create new ones.

- **Create Group**
  Allows you to create a new group.
Task Categories

• System: System Status, Messages, disk status
• Database: Performance monitors and Index Advisor
• Basic Operations: View Messages, Out Queues, Printers, Jobs.
• Configuration: Manage hardware, software, and system values.
• Network: TCP/IP
• Integrated Server Admin: Hosted servers & disk
• Security: Authorization lists, Object authority, and Intrusion Detection.
• Users & Groups: Manage profiles & groups.
  • Journal Management: Journals and receivers
• Performance: Tools & Graphs to Analyze performance
• Files: Manage objects and IFS
• Internet Configurations: HTTP Server, Digital Certificates
IBM i Journal Management allows you to manage your journals and journal receivers.

Current database: S108e6be  Current library: Qusrsys

- **Journals**
  Allows you to manage all journals.

- **Create a journal**
  Allows you to create a new journal.

Set Database / Library to Use with Journal Tasks

Close
Manage all your journals
Task Categories

- System: System Status, Messages, disk status
- Database: Performance monitors and Index Advisor
- Basic Operations: View Messages, Out Queues, Printers, Jobs.
- Configuration: Manage hardware, software, and system values.
- Network: TCP/IP
- Integrated Server Admin: Hosted servers & disk
- Users & Groups: Manage profiles & groups.
- Journal Management: Journals and receivers

**Performance: Tools & Graphs to Analyze performance**
- Files: Manage objects and IFS
- Internet Configurations: HTTP Server, Digital Certificates
This is the tool to find out what is happening on your machine. We will view just a few of the many graphs available, but you will see the power of the graphs, which is based upon the data of Collection Services.
Performance: Collections: Investigate

Collection Library: QPFRDATA
Collection Name: Q110000004 (*CSMGTCOL) - Apr 20, 2015 12:00:04 AM

Options: Display, Search, Save as Favorite, Close

Selection:
Name: Database
Description:
Chart and table views over a variety of database related performance
Performance Monitor and SQL Plan Cache performance data.
Resource Utilization

Collection:
- Name(s): Q110000004
- Library: QPFRDATA
- Type: Collection Services File Based Collection
- File level: 35

Time:
- Start: Apr 20, 2015 12:00:04 AM
- End: Ongoing

System:
- Name: MISSION
- Release: V7R1M0

Resource Utilization Percentages

- Percent Disk Busy
- Disk Space Utilization
- Partition CPU Utilization
5250 Transactions per second & Average Response time

Collection:
- Name(s): Q110000004
- Library: QFFRDATA
- Type: Collection Services File Based Collection
- File level: 36

Time:
- Start: Apr 20, 2015 12:00:04 AM
- End: Ongoing

System:
- Name: MISSION
- Release: V7R1M0

Graph showing 5250 Display Transactions Per Second and Average 5250 Display Transaction Response Time.
Average Disk Response time & Percent busy
I/O Adapter Utilization
Virtual I/O device Performance
Disk Health

This chart shows Disk health indicators by analyzing all collection time intervals according to the defined thresholds for disk. Use this chart to determine the proportion of intervals where Disk health indicators exceeded the defined thresholds.
Task Categories

- System: System Status, Messages, disk status
- Database: Performance monitors and Index Advisor
- Basic Operations: View Messages, Out Queues, Printers, Jobs.
- Configuration: Manage hardware, software, and system values.
- Network: TCP/IP
- Integrated Server Admin: Hosted servers & disk
- Users & Groups: Manage profiles & groups.
- Journal Management: Journals and receivers
- Performance: Tools & Graphs to Analyze performance
- Files: Manage objects and IFS
- Internet Configurations: HTTP Server, Digital Certificates
IBM i File Systems allows you to manage the file system.

**Integrated File System**
Allows you to manage the file system contents, IBM i NetServer file shares, and permissions.

**File Shares**
Allows you to manage IBM i NetServer file shares.

**Create File Share**
Allows you to create an IBM i NetServer file share.
Working with the IFS
Task Categories

- System: System Status, Messages, disk status
- Database: Performance monitors and Index Advisor
- Basic Operations: View Messages, Out Queues, Printers, Jobs.
- Configuration: Manage hardware, software, and system values.
- Network: TCP/IP
- Integrated Server Admin: Hosted servers & disk
- Users & Groups: Manage profiles & groups.
- Journal Management: Journals and receivers
- Performance: Tools & Graphs to Analyze performance
- Files: Manage objects and IFS
- Internet Configurations: HTTP Server, Digital Certificates
Internet Configuration

Internet Configurations - 192.168.1.6

IBM i Internet Configurations allows you to perform internet configuration tasks.

**IBM Web Administration for i**
Allows you to manage and configure HTTP servers and application servers.

**Digital Certificate Manager**
Allows you to create, distribute, and manage Digital Certificates.

**IBM IPP Server for i**
Allows you to configure the IBM IPP Server.

**Internet Setup Wizard**
Allows you to use the internet setup wizard to configure your internet environment.

Close
Optional BRMS Plug-in

<table>
<thead>
<tr>
<th>List</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setup BRMS Services (IBM i)</td>
<td>Select actions such as displaying the global policy properties, baseline data, existing objects, and managing devices.</td>
</tr>
<tr>
<td>Archive Control Groups</td>
<td>Create, edit, display, and maintain archive control groups.</td>
</tr>
<tr>
<td>Backup Control Groups</td>
<td>Create, edit, display, and maintain backup control groups.</td>
</tr>
<tr>
<td>Media Policies</td>
<td>Display media pool information.</td>
</tr>
<tr>
<td>Move Policies</td>
<td>Display move policy information.</td>
</tr>
<tr>
<td>Volumes</td>
<td>Display volume information.</td>
</tr>
<tr>
<td>Media Pools</td>
<td>Display media pool information.</td>
</tr>
<tr>
<td>Task Schedule</td>
<td>Tasks which are scheduled, executing, or have been completed.</td>
</tr>
</tbody>
</table>

Welcome to Backup, Recovery, and Media Services for IBM i!
Backup, Recovery, and Media Services help you implement a disciplined approach to managing your backups, and provides you with an orderly way to recover lost or damaged data. Using BRMS, you can manage your most critical and complete backups, including online backups of Lotus servers, simply and easily. You can also recover your system fully in the event of a disaster or hardware failure.
7 Key Points to take home

• This is free and ready to use on 6.1, 7.1, 7.2, & 7.3
• Only need *ADMIN HTTP server running to access it.
• Use your machines IP address and the 2001 port
• Look at Performance graphs first get some bench marks.
• Use Index Advisor to find logical files you can create to improve performance.
• If machine is on the Internet make sure you setup Intrusion Detection.
• Create quick and easy PDFs using the Basic Operations and Output Queues.
Your Turn!

Questions?

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Email: pmassiello@itechsol.com
Twitter: petem59