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Carsten's Corner - New Command - Work with Command Security(WRKCMDSEC)

[System iNetwork Systems Management Newsletter](#)

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The System i OS includes a wealth of CL commands, many of which provide access to critical and sensitive system and security functions. IBM puts a lot of effort into restricting access to these commands by setting public authority adequately and, if necessary, requires additional user profile special authority in order to successfully execute the commands in question.

The command's public or private object authority could however for some reason be changed at a later point and so could the command's Allow limited user attribute, which normally excludes common user profiles from running most system commands. Add to this the number of user created commands that exist on most systems and you're looking at quite a challenge in order to manage, monitor and audit access to the CL commands on an average System i.

To ease this task I've written the *Work with Command Security* (**WRKCMDSEC**) command, which allows you to locate and list CL commands of particular interest based on an array of selection criteria, including the aforementioned public authority and allow limited user setting, as well as the presence of a validity checking program, command call state, proxy command status, command creator domain and command change date. The resulting list can be either displayed in a work with-panel or produce a printed list or an output file. Here's the WRKCMDSEC command prompt in its entirety:

```

Work with Command Security (WRKCMDSEC)

Type choices, press Enter.

Command . . . . . *ALL          Name, generic*,
*ALL
Library . . . . . *LIBL        Name, *LIBL,
*CURLIB...
Select:

Allow limited user . . . . . *ALL      *ALL, *YES, *NO

Proxy command . . . . . *ALL      *ALL, *YES, *NO

```

Validity check program	*ALL	*ALL, *YES, *NO
Command created by	*ALL	*ALL, *IBM, *USER
Command state	*ALL	*ALL, *SYSTEM, *USER
Public authority	*ANY	*ANY, *NONEXCL,
*EXCLUDE...		
Earliest change date	*ANY	Date, *ANY
Sort order	*CMD	*CMD, *LIB
Output	*	*, *PRINT, *OUTFILE

You specify a subset of commands or all commands in the specified library or library special value, the latter including **ALLUSR*, **USRLIBL* and **ALL*, as well as a set of selection criteria to further narrow the resulting command list. You also define whether the list should be presented in command or library order and specify one of the three output options; display, printed list or output file. Here's an example of what the display option returns:

```

                                Work with Command Security

WYNDHAMW
                                01-08-10
21:24:29
List order . . . :   *CMD                Position to . . .

Type options, press Enter.

    2=Change    4=Delete    5=Display    6=Display program    7=Work with
command
    8=Work with object    9=Edit object authority    10=Change object
auditing

                                Created                Public
Limited
Opt  Command      Library    By          Owner        Authority    User
Proxy
  ADDACC      QSYS      *IBM      QSYS      *EXCLUDE    *NO
*NO
  ADDAJE      QSYS      *IBM      QSYS      *USE        *NO
*NO
  ADDALRACNE  QSYS      *IBM      QSYS      *USE        *NO
*NO

```

ADDALRD	QSYS	*IBM	QSYS	*USE	*NO
*NO					
ADDALRSLTE	QSYS	*IBM	QSYS	*USE	*NO
*NO					
ADDAUTLE	QSYS	*IBM	QSYS	*USE	*NO
*NO					
ADDBKP	QSYS	*IBM	QSYS	*USE	*NO
*NO					
ADDBNDDIRE	QSYS	*IBM	QSYS	*USE	*NO
*NO					
More...					
Parameters or command					
==>					
F3=Exit	F4=Prompt	F5=Refresh	F9=Retrieve	F10=Security	
Tools					
F11=View 2	F12=Cancel	F17=Top	F18=Bottom		

You have four list views showing the most significant security related command information and attributes. You toggle between the different views using the function key **F11**. All columns and panel areas are explained in more detail using the cursor sensitive help text. Simply point the cursor to the column or area of interest and press function key **F1**. The available list options allow you to perform a variety of object and security management functions.

While the **WRKCMDSEC** command does not include information about command change or command retrieve exit programs having been registered for the commands listed, I recently published a *Work with Command Exit Programs (WRKCMDEXIT)* command that would make such information easily accessible. I've included a link below to the article presenting the **WRKCMDEXIT** command and allowing you to download the command if you're interested in covering that angle as well.

The following sources are involved in creating the WRKCMDSEC command:

- CBX800 - RPGLE - Work with Command Security - CPP
- CBX800E - RPGLE - Work with Command Security - UIM Exit Program
- CBX800H - PNLGRP - Work with Command Security - Help
- CBX800P - PNLGRP - Work with Command Security - Panel Group
- CBX800V - RPGLE - Work with Command Security - VCP
- CBX800X - CMD - Work with Command Security
- CBX800M - CLP - Work with Command Security - Build command

You can [download all the source code here](#).

To create all above objects, compile and run **CBX800M**, following the instructions in the source header. As always, you'll also find compilation instructions in the respective source headers.

IMPORTANT NOTE: For the WRKCMDSEC command processing program CBX800 to compile, you'll need to download and copy a **SQLCLI_H** member created by Scott Klement to a QRPGLSRC source file in your job's library list. Below I've provided a link to a zip file containing the **SQLCLI_H** copy member.

For a more detailed explanation of the programming techniques involved in creating a command output file please refer to the article "*Directing API Output to Output Files*" for which you'll find a link below also.

Related articles and material:

[Work with Command Exit Programs command](#)

[Directing API Output to Output Files](#)

[SQLCLI_H copy member](#)

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