

COOLSPOLS

By Ariadne Software

BASE OPTION USER GUIDE

V7R1

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Introduction

The CoolSpools Base Option must be installed before any of the other CoolSpools product options and includes the core code shared by all of those options. It also includes a number of shared functions and utilities, which are documented here. Refer to the user guide for the relevant product option for information about those options.

System Requirements

- A POWER server running IBM i (OS/400) V6R1M0 or above.
- 600 Mb of IBM i disk space.
- **No** PC is required.

Minimum OS/400 Release Level

The minimum i/OS (OS/400) release level required to run V7R1M0 of CoolSpools base option is OS/400 **V6R1M0**.

If you are running V5R4M0 or an earlier version of OS400, you will not be able to install V7R1M0 of CoolSpools base option, but may be able to install CoolSpools V6R1M0.

Product Library

All product options of CoolSpools V7R1M0 install into the single product library COOLSPV7R1.

Installation

Refer to the [Installation Guide](#) for instructions.

Maintenance

Refer to the [Maintenance Guide](#) for instructions.

Getting Started

The easiest place to start is the CoolSpools Menu. This gives access to the wide range of functions available within CoolSpools.

Enter the following command at a system i (iSeries, AS/400) command line to display the CoolSpools Menu:

GO COOLSPV7R1/COOLMENU

```
COOLMENU                               CoolSpools Menu
                                         http://www.ariadnesoftware.co.uk

Select one of the following:

  1. Base Menu                          (Installation, shared functions and tools)
  2. Spool Converter Menu                (Convert spooled files to PDF, Excel, XML etc.)
  3. Email Menu                          (Send emails, set up lists and directories)
  4. Spool Admin Menu                    (Manage, convert and distribute spooled files)
  5. Database Menu                       (Convert files and queries to Excel, XML etc.)
  6. NetServer Menu                      (Make files available to access from a PC)

Selection or command
===>
```


WRKSTLDFN (Work with Style Definitions)

The **WRKSTLDFN** (Work with Style Definitions) command manages style definitions. Style definitions can be used to control the appearance of data in Excel, XML and HTML files created by CoolSpools.

WRKSTLDFN displays a list of style definitions that have been created and allows new styles to be created and existing styles to be changed, copied, deleted or renamed.

```
Work with Style Definitions                                ARIADNE2

Position to . . . . .

Type options, press Enter.
  2=Change      3=Copy      4=Delete      5=Display      7=Rename

Opt Style name
*DATA
*HEADER
*NORMAL
*SUBTOTAL
*TOTAL
AMBER_TRAFFIC_LIGHT
GREEN_TRAFFIC_LIGHT
RED_TRAFFIC_LIGHT

Bottom

F3=Exit      F5=Refresh      F6=Add      F12=Cancel      F23=More options
```

Options

Options that can be input against entries in the list are:

- | | |
|---------------------------|--|
| 2=Change | Change the style. Runs the CHGSTLDFN command. |
| 3=Copy | Copy the style. Runs the CPYSTLDFN command. |
| 4=Delete | Delete the style. Runs the DLTSTLDFN command. |
| 5=Display | Display the style. Runs the DSPSTLDFN command. |
| 7=Rename | Rename the style. Runs the RNMSTLDFN command. |
| 17=Retrieve Source | Retrieve Style Definition. Runs the RTVSTLDFN command. |

Function keys

Available function keys are:

F3=Exit	Exit the application.
F5=Refresh	Refresh the list.
F6=Create	Create a new style. . Runs the CRTSTLDFN command.
F11=Show Full Name / Show Test	Toggle between showing full name and text.
F12=Cancel	Return to the previous screen.

CRTSTLDFN (Create Style Definition) Command

The **CRTSTLDFN** command creates a style definition for use with CoolSpools Spool Converter and CoolSpools Database.

Style definitions can be used to determine the appearance of cells in Excel spreadsheets and data in XML and HTML documents. When outputting to Excel format, they can also be used with conditional formatting to control the appearance of cells based on rules you define.

Command parameters are as follows:

STYLENAME – Style name

Each style is identified by means of a style name, which must be a valid OS/400 name up to 50 characters in length.

Please note that style names are CASE-SENSITIVE. This is necessary in order to allow them to be matched against XML element names, which are case-sensitive.

The exception to this rule is any predefined style name (one starting with an asterisk in the list below). These are always case-insensitive and shifted to upper case.

You can define your own Style definitions by choosing a name that is helpful to you, but there are also several pre-defined style names which have special meanings:

***NORMAL**

The default style name for cells output by CoolSpools Spool Converter.

If you specify *DATA for the name of the style, the attributes you specify will become the default attributes for data rows.

***DATA**

The default style name for data rows output by CoolSpools Database.

If you specify *DATA for the name of the style, the attributes you specify will become the default attributes for data rows in files generated by CoolSpools Database

***HEADER**

The default style name for header rows output by CoolSpools Database.

If you specify *HEADER for the name of the style, the attributes you specify will become the default attributes for header rows (rows generated as a result of the HEADER parameter settings).

***TITLE**

The default style name for title rows output by CoolSpools Database. .

If you specify *TITLE for the name of the style, the attributes you specify will become the default attributes for title rows. Title rows are those generated from the additional heading lines elements of the CoolSpools Database **CVTDBFxxx** command HEADER parameter and the caption text of the HTML parameter.

***SUBTOTAL** The default style name for subtotal rows output by CoolSpools Database. .

If you specify *SUBTOTAL for the name of the style, the attributes you specify will become the default attributes for subtotal rows. Subtotal rows are those that result from subtotals and group-by fields in Query/400 queries when the *COMBINED output form is selected.

***HYPERLINK** The default style name for hyperlink output by CoolSpools Database.

If you specify *HYPERLINK for the name of the style, the attributes you specify will become the default attributes for hyperlink output in files generated by CoolSpools Database.

***FLWDLINK** The default style name for followed hyperlink output by CoolSpools Database.

If you specify *FLWDLINK for the name of the style, the attributes you specify will become the default attributes for followed hyperlink output in files generated by CoolSpools Database.

***TOTAL** The default style name for total rows output by CoolSpools Database.

If you specify *TOTAL for the name of the style, the attributes you specify will become the default attributes for total rows. Total rows are those that result from subtotals and group-by fields in Query/400 queries when the *COMBINED output form is selected.

***COLHDG** The default style name for column heading rows output by CoolSpools Database.

If you specify *COLHDG for the name of the style, the attributes you specify will become the default attributes for Column Headings output in files generated by CoolSpools Database.

***PAGHDG**

The default style name for page heading rows output by CoolSpools Database.

If you specify *PAGHDG for the name of the style, the attributes you specify will become the default attributes for Column Headings output in files generated by CoolSpools Database.

***ROOT**

XML Only. The default style for the root element.

***ROW**

XML Only. The default style for the row element, i.e. the element corresponding to a record in the input file.

If these styles are not defined, the default attributes assigned are as shown in the table below:

Attribute	*DATA	*HEADER	*TITLE	*SUB TOTAL	*HYPER LINK	*FLWD LINK	*TOTAL	*COLHDG	*PAGHDG	*ROOT	*ROW
Locked (Excel only)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Hidden (Excel only)	No	No	No	No	No	No	No	No	No	N/A	N/A
Horizontal alignment	General	General	General	General	General	General	General	General	General	General	General
Indent	0	0	0	0	0	0	0	0	0	N/A	N/A
Vertical alignment	Top	Bottom	Top	Top	Top	Top	Top	Top	Top	Top	Top
Wrap text	No	Yes	No	No	No	No	No	No	No	No	No
Shrink to fit (Excel only)	No	Yes	No	No	No	No	No	No	No	N/A	N/A
Vertical alignment	Top	Top	Top	Top	Top	Top	Top	Top	Top	Top	Top
Row height	*AUTOFIT	*AUTOFIT	*AUTOFIT	*AUTOFIT	*AUTOFIT	*AUTOFIT	*AUTOFIT	*AUTOFIT	*AUTOFIT	*AUTOFIT	*AUTOFIT
Font name (Excel)	Arial	Arial	Arial	Arial	Arial	Arial	Arial	Arial	Arial	N/A	N/A
Font name (HTML & XML)	sans-serif	sans-serif	sans-serif	sans-serif	sans-serif	sans-serif	sans-serif	sans-serif	sans-serif	sans-serif	sans-serif
Font size in point (Excel)	10	10	10	10	10	10	10	10	10	N/A	N/A
Font size in point (HTML & XML)	12	12	12	12	12	12	12	12	12	12	12
Bold	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Italic	No	No	No	No	No	No	No	No	No	No	No
Underlined	No	No	No	No	No	No	No	No	No	No	No
Text color	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black

Background color	White	White	White	White	White	White	White	White	White	White	White
Pattern color (Excel only)	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO
Pattern style (Excel only)	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE
Border style (Excel)	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	N/A	N/A
Border style (HTML)	*INSET	*INSET	*INSET	*INSET	*INSET	*INSET	*INSET	*INSET	*INSET	N/A	N/A
Border width (HTML only)	1	1	1	1	1	1	1	1	1	1	1
Border color	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO	*AUTO
Number format type (Excel only)	*DFT	*DFT	*DFT	*DFT	*DFT	*DFT	*DFT	*DFT	*DFT	N/A	N/A
Decimal places (Excel only)	*FIELD	*FIELD	*FIELD	*FIELD	*FIELD	*FIELD	*FIELD	*FIELD	*FIELD	N/A	N/A
Thousands separator (Excel only)	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	N/A	N/A
Currency symbol (Excel only)	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	N/A	N/A
Negative numbers (Excel only)	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	*FMT	N/A	N/A
Custom number format (Excel only)	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	N/A	N/A
Cell padding (HTML only)	1	1	1	1	1	1	1	1	1	1	1
Additional style declaration (HTML only)	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE	*NONE
Display option (XML only)	*BLOCK	*BLOCK	*BLOC K	*BLOCK	*BLOCK	*BLOC K	*BLOCK	*BLOCK	*BLOCK	*BLOC K	*BLOCK

DFTUSEAUT – Default use authority

Whether, by default, users other than the creator of this style can use it.

Options are:

***ALLOWED**

(Default). By default, users other than the creator of this style can use it.

***DENIED**

By default, users other than the creator of this style cannot use it.

You can control whether a particular use has rights to use this style by means of the **WRKREGFNC** command. The registered function to manage is

ARIADNE_STL_DFN_#####_USE where ##### is the internal style identifier for this style.

DFTCHGAUT – Default change authority

Whether, by default, users other than the creator of this style can change it.

Options are:

- | | |
|-----------------|---|
| *DENIED | (Default). By default, users other than the creator of this style cannot change it. |
| *ALLOWED | By default, users other than the creator of this style can change it. |

You can control whether a particular use has rights to change this style by means of the **WRKREGFNC** command. The registered function to manage is ARIADNE_STL_DFN_#####_CHG where ##### is the internal style identifier for this style.

TEXT – Text ‘description’

Descriptive text for the style.

FONTNAME – Font name

Specifies the name of the font to be used.

Note that CoolSpools cannot validate whether the font name you have specified is valid or whether it will be available when the file is opened. If the font name is typed incorrectly or if the font is not available when the file is opened, Excel or your browser will substitute a different font.

Note also that when the font you use in Excel is not one of the “well known” fonts (Arial, Courier New or Times New Roman), CoolSpools may not be able to calculate column widths correctly because it has no access to the font metrics on which those calculations depend.

- | | |
|------------------|---|
| *ARIAL | (Default). Arial |
| *COURIER | Courier New |
| *TIMES | Times New Roman |
| font_name | Specify the name of the font to use |
| path | You can also specify a path to a TrueType or OpenType font file on this parameter element. The font file name must have an extension of .ttf or .otf. |

FONTSIZE – Font size

The point size of the font to use.

BOLD - Bold

Whether the font is bold or not. Note that setting this attribute will only result in a bold font if a suitable bold version of the font is available or if the normal font can be adapted.

Options are:

***NO** (Default). Normal font
***YES** Bold font.

ITALIC - Italic

Whether the font is italic or not. Note that setting this attribute will only result in an italic font if a suitable italic version of the font is available or if the normal font can be adapted.

Options are:

***NO** (Default). Normal font
***YES** Italic font.

UNDERLINE - Underlined

Whether the font is underlined or not and, if it is, the style of underlining.

Excel options are:

***NO** (Default). No underlining
***SINGLE** Single underlining
***DOUBLE** Double underlining (Excel only)
***SGLACC** Single accounting underlining (Excel only)
***DBLACC** Double accounting underlining (Excel only)

TEXTCOLOR - Text color

Determines the color applied to text.

Options are (with hexadecimal RGB equivalents):

*BLACK #000000	*WHITE #FFFFFF	*RED #FF0000	*BRIGHTGREEN #00FF00
*BLUE #0000FF	*YELLOW #FFFF00	*PINK #FF00FF	*TURQUOISE #00FFFF
*DARKRED #800000	*GREEN #008000	*DARKBLUE #000080	*DARKYELLOW #808000
*VIOLET #800080	*TEAL #800080	*GRAY25 #800080	*GRAY50 #800080
*MAUVE #9999FF	*PLUM #993366	*YELLOWWHITE #FFFFCC	*LIGHTTURQUOISE #CCFFFF
*DARKPINK #660066	*BLUSH #FF8080	*MEDIUMBLUE #0066CC	*PALEMAUVE #CCCCFF
*SKYBLUE #00CCFF	*LIGHTGREEN #CCFFCC	*LIGHTYELLOW #FFFF99	*PALEBLUE #99CCFF
*ROSE #FF99CC	*LAVENDER #CC99FF	*TAN #FFCC99	*LIGHTBLUE #3366FF
*AQUA #33CCCC	*LIME #99CC00	*GOLD #FFCC00	*LIGHTORANGE #FF9900

*ORANGE #FF6600	*BLUEGRAY #666699	*GRAY40 #969696	*DARKTEAL #003366
*SEAGREEN #339966	*DARKGREEN #003300	*OLIVEGREEN #333300	*BROWN #993300
*INDIGO #333399	*GRAY80 #333333		

You can also optionally specify your own RGB color code in the form of six hexadecimal digits (similar to the codes shown in the table above), but please note that this option is not supported when converting to *XLS BIFF8 format.

BACKCOLOR - Background color

Determines the color of the background of a cell or text item.

The default is:

***AUTO** The Excel default background color (usually white) or white (HTML, XML)

Alternatively, you can use the same options as listed for text color above.

LOCKED - Locked

(Excel only)

Whether cells to which this style is applied are locked when worksheet protection is in effect.

Options are:

***YES** (Default). When the worksheet is protected, the cell will be locked (protected).
***NO** When the worksheet is protected, the cell will remain unlocked.

HIDDEN - Hidden

(Excel only)

Allows you to indicate that a column should be hidden. This might be useful if you do not wish the column to appear but want it to be available for calculations.

Options are:

***NO** (Default). The column is not hidden.
***YES** The columns will be hidden

HRZALIGN - Horizontal alignment

Controls the horizontal alignment of data.

Options are:

*GENERAL	(Default). Character data is left-aligned. Numeric data and dates are right-aligned. In relation to header text, the alignment is dictated by the nature of the data in the column, not the header text, i.e. headings for columns of character data will align to the left and headings for numeric columns and date columns will align to the right.
*LEFT	Left-aligned.
*RIGHT	Right-aligned.
*CENTER	Center-aligned
*FILL	(Excel only) Fill. Repeats the data in the cell across the entire width of the column.
*JUSTIFY	Forces data to fill the entire width of the column, wrapping text to additional lines, if necessary.
*DISTRIBUTED	(Excel only) Distributed. Available only in Excel 2002 and above. It results in the cell contents being distributed across the width of the cell, to line up with both the left and right side.

INDENT - Indent

Sets the text indent level. The effects of this are somewhat different between Excel and HTML/XML.

Options are:

*NONE	(Default). No indent is applied.
0-15	Sets the indentation level. For Excel, each indentation level is equivalent to 3 spaces. All text affected is indented to the same extent, i.e. where text wraps to more than one line, it is all indented to the same point. For HTML/XML, this sets the text-indent property in ems (the width of an em is equivalent to the point size of the font). The first line of the text only is indented.

VRTALIGN - Vertical alignment

Controls the vertical alignment of data in a cell.

Options are:

*BOTTOM	(Default). Information is aligned at the bottom of the cell.
*TOP	Information is aligned at the top of the cell.
*CENTER	information is aligned in the center of the cell.
*JUSTIFY	Text is spread evenly vertically across the height of the cell.
*DISTRIBUTED	(Excel only) Text is spread evenly between the top of the cell and the bottom. Effectively, blank space is placed between each line so that the complete cell is filled.

WRAP - Wrap text

Controls whether text wraps in cells.

Options are:

- | | |
|-------------------|---|
| <u>*NO</u> | (Default). Text does not wrap in the cell. If the text does not fit in the column width, it is truncated. |
| *YES | Text wraps in the cell. If the text does not fit in the column width, it will flow on to multiple lines. |

SHRINK - Shrink to fit

(Excel only)

Determines whether the cell contents are shrunk to fit the available column width by reducing the font size.

Options are:

- | | |
|-------------------|--|
| <u>*NO</u> | (Default). Text is not shrunk to fit. |
| *YES | Text is fitted to the available column width by reducing the font size, as required. |

ROWHEIGHT - Row height

Sets the height of rows.

Note that this attribute is only effective if set on one of the predefined styles:

- *DATA (controlling the height of data rows)
- *HEADER (controlling the height of the column headings row)
- *TITLE (controlling the height of title rows)
- *SUBTOTAL (controlling the height of subtotal rows)
- *TOTAL (controlling the height of total rows)

Even if you associated every column with a style other than these, the row height set for that row will not be effective as the row height is always set from the appropriate predefined style from the list above.

Options are:

- | | |
|------------------------|--|
| <u>*AUTOFIT</u> | (Default). The height of rows is automatically set by Excel or your browser (HTML/XML) based on the font size. |
| 0-409 | Specify the row height in points (72 points = 1 inch) |

PATTERN - Pattern

Excel only.

Set pattern options.

Pattern color

(Excel only)

Determines the color of the any pattern applied to a cell.

The Excel default is:

- | | |
|---------------------|---|
| <u>*AUTO</u> | The Excel default pattern color (usually black) |
|---------------------|---|

Alternatively, you can use the same Excel options as listed for text color above.

Pattern style

(Excel only)

Determines the style of the any pattern applied to a cell.

The default is:

***NONE** No pattern

The available pattern options are the following names, which correspond to Excel's builtin patterns:

- *SOLID**
- *GRAY75**
- *GRAY50**
- *GRAY25**
- *GRAY12.5**
- *GRAY6.25**
- *HRZSTRIPE**
- *VRTSTRIPE**
- *REVERSEDIAGSTRIPE**
- *DIAGSTRIPE**
- *DIAGCROSSHATCH**
- *THICKDIAGCROSSHATCH**
- *THINHRZSTRIPE**
- *THINVRTSTRIPE**
- *THINREVERSEDIAGSTRIPE**
- *THINDIAGSTRIPE**
- *THINHRZCROSSHATCH**
- *THINDIAGCROSSHATCH**

TOPBDR – Top border

Sets top border options.

BOTTOMBDR –Bottom border

Sets bottom border options.

LEFTBDR –Left border

Sets left border options.

RIGHTBDR –Right border

Sets right border options.

Options for TOPBDR, BOTTOMBDR, LEFTBDR and RIGHTBDR are the same and are as follows.

Border style

Determines the style of the border.

The default is:

***NONE**

No border

Other Excel options are the following list of names corresponding to Excel's builtin border styles:

***THIN**

***MEDIUM**

***DASHED**

***DOTTED**

***THICK**

***DOUBLE**

***HAIR**

The HTML/XML options correspond to the CSS border style options:

***THIN**

***MEDIUM**

***DASHED**

***INSET**

***DASHED**

***DOTTED**

***DOUBLE**

***GROOVE**

***HIDDEN**

***OUTSET**

***RIDGE**

***SOLID**

Note that if ***THIN**, ***MEDIUM** or ***THICK** is specified for the border style, when converting to CSS/HTML, this equates to a solid border 1, 2 or 3 pixels wide respectively, and the border width element below is ignored.

Border width

(HTML only)

The width of the cell border in pixels.

Note that if ***THIN**, ***MEDIUM** or ***THICK** is specified for the border style, when converting to CSS/HTML, this equates to a solid border 1, 2 or 3 pixels wide respectively, and this border width element is ignored.

Border color

The color of the border. Options are the same as for text color above.

NBRFMT - Number format

(Excel only)

Number format type

Sets the category of number formatting applied to numbers in cells to which this style relates. The following options allow you to modify or override aspects of the default formatting determined by your choice for this parameter element.

Options are:

*GENERAL	Ignore any editing associated with the field and format numeric data with general numbers in them.
*FIXED	Ignore any editing associated with the field and format numeric data with a fixed number of decimal places.
*CURRENCY	Ignore any editing associated with the field and format numeric data as a currency amount.
*ACCOUNTING	Ignore any editing associated with the field and format numeric data as an accounting value. The Accounting category is the same as the Currency category, except it will align currency symbols and decimal points.
*DATE	Ignore any formatting associated with the field and format it as a date. If the field does not contain a valid date, it will be formatted according to any editing associated with the field.
*TIME	Ignore any formatting associated with the field and format it as a time or date/time. If the field does not contain a valid time or timestamp, it will be formatted according to any editing associated with the field.
*PERCENT	Ignore any editing associated with the field, multiply the value by 100 and format numeric data as a percentage.
*SCIENTIFIC	Ignore any editing associated with the field, and format numeric data in scientific notation.
*TEXT	Ignore any editing associated with the field, and format numeric data as text.
*CUSTOM	Apply a custom number format specified on the custom number format element below.

Decimal places

(Excel only)

Where a numeric format that can include decimal places was specified on the number format type parameter, this parameter element determines the number of decimal places displayed.

Options are:

*FIELD	The number of decimal places defined for the field in its DDS (CoolSpools Database) or the apparent number of printed decimal places (CoolSpools Spool converter).
dec_places	Specify the number of decimal places

Thousands separator

(Excel only)

Where a numeric format that can include thousands separators was specified on the number format type parameter, this parameter element determines whether thousands separators actually appear.

Options are:

*FMT	Whether thousands separators appear depends on the number format type selected. Accounting and currency formatting will include thousands separators but other types will not.
*YES	Include thousands separators in the number format irrespective of the fact that the number format type specified does not normally include them. For example you can format percentage values with thousands separators using this option.
*NO	Do not include thousands separators in the number format irrespective of the fact that the number format type specified does normally include them. For example, you can format currency values without thousands separators using this option.

Currency symbol

(Excel only)

Where a numeric format that can include a currency symbol was specified on the number format type parameter, this parameter element determines whether a currency symbol actually appears and what that symbol should be.

Options are:

*FMT	Whether a currency symbol appears depends on the number format type selected. Accounting and currency formatting will include a currency symbol but other types will not. The currency symbol will be derived from the system value QCURSYM.
*SYSVAL	Include a currency symbol in the number format irrespective of the fact that the number format type specified does not normally include one. The currency symbol will be derived from the system value QCURSYM.

- *NONE** Do not include a currency symbol in the number format irrespective of the fact that the number format type specified does normally include one. You can use this option to display a currency value with no currency symbol.
- currency_symbol** Include a currency symbol in all numbers. The currency symbol will be the one specified here.

Negative numbers

(Excel only)

Overrides the way in which negative numbers are displayed.

Options are:

- *FMT** The format of negative numbers is determined by the option specified for the number format type.
- *LEADING** A leading minus sign is displayed.
- *TRAILING** A trailing minus sign is displayed.
- *PARENTHESES** Negative numbers appear in parentheses.
- *RED** Negative numbers appear in red.
- *REDL** Negative numbers appear in red with a leading minus sign.
- *REDT** Negative numbers appear in red with a trailing minus sign.
- *REDP** Negative numbers appear in red and in parentheses.

CUSTOMFMT - Custom number format

(Excel only)

Specify a custom number format. *CUSTOM must be specified for the number format type element above.

Options are:

- *NONE** No custom number format is defined.
- number_format** Specify the custom Excel number format to use.

CSS – CSS Styling

Specifies CSS-related styling options for use with HTML and XML.

Display option (XML only)

Sets the CSS display style.

Options are:

*BLOCK	(Default). Takes up the full width available, with a new line before and after.
*INLINE	Takes up only as much width as it needs, and does not force new lines.

Cell padding

(HTML only)

The padding to apply to the cell, in pixels.

Additional style declaration

(HTML only)

A free-format, unvalidated string of text which will be appended to the style declaration generated by the previous elements. This option enables you to specify additional CSS formatting not available from this parameter. However, you must ensure that the text you enter is a valid portion of a CSS style declaration.

For example, specifying '**font-variant: small-caps**' would cause the text to appear in small capitals.

OVRSTLDFN (Override with Style Definition) Command

The Override Style Definition (**OVRSTLDFN**) command overrides a style definition for use with CoolSpools Spool Converter and CoolSpools Database.

Style definitions can be used to determine the appearance of cells in Excel spreadsheets and data in XML and HTML documents. When outputting to Excel format, they can also be used with conditional formatting to control the appearance of cells based on rules you define.

Overriding a style definition with **OVRSTLDFN** allows you to either make small temporary changes to an existing style definition or to define a new temporary style definition from scratch.

Style definition overrides established with **OVRSTLDFN** only affect processing in the job in which the **OVRSTLDFN** command is run.

Style definition overrides established with **OVRSTLDFN** persist only for the duration of the job or until deleted. They can be further modified by subsequent **OVRSTLDFN** commands in the same job.

Style definition overrides can be deleted by using the special

OVRSTLDFN BASESTYLE(*DLTOVR)

option.

Restrictions:

- If the name of an existing style definition created with **CRTSTLDFN** is specified on the BASESTYLE parameter, you must have authority to use that style definition.
- The default authority to use a style definition can be modified by a user with *ALLOBJ authority or who already has change authority to the style definition in question by running the **CHGSTLDFN** command.
- Individual user authorities to the style can be managed by means of the IBM **CHGFCNUSG** command or CoolSpools' **WRKREGFNC**. The function controlling authority to use a report definition is

ARIADNE_STL_DFN_nnnnnnnnnn_USE

where nnnnnnnnn is the internal style definition ID, which is displayed by DSPSTLDFN.

Command parameters are the same as **CRTSTLDFN** and **CHGSTLDFN**, with the following exceptions:

BASESTYLE (Based on style name)

Specifies the name of the existing style on which the style override will be based. Where *SAME is specified for any parameter on this command, the attribute will be inherited from the style specified here.

Other options are:

***DLTOVR**

This special value indicates that you are not defining a style override but instead deleting an existing style

***NEW** override. The name of the style override to be deleted is specified on the NEWSTYLE parameter. Indicates that you do not wish to base the style override on any existing style but will instead create a new style from scratch. Where *SAME is specified for any parameter value below, the value of the attribute will be defaulted. Defaults are as per the **CRTSTLDFN** command.

character-value Specify the style name on which the style override is based.

NEWSTYLE (New style name)

Specifies the name by which you will refer to the overridden style, or, if *DLTOVR was specified for the BASESTYLE parameter, the name of the style override to be deleted.

***SAME** The style override will have the same name as the based-on style specified on the BASESTYLE parameter.

***ALL** Permitted only if BASESTYLE(*DLTOVR) was specified. Indicates that you wish to delete all existing style overrides.

character-value Specify the new name by which the override will be known, or, if *DLTOVR was specified on the BASESTYLE parameter, the name of the style override to be deleted.

Other commands used with Style Definitions

CHGSTLDFN (Change Style Definition) Command

Modifies a style definition

CPYSTLDFN (Copy Style Definition) Command

Copies a style definition to create a new style definition.

DLTSTLDFN (Delete Style Definition) Command

Deletes a style definition

DSPSTLDFN (Display Style Definition) Command

Display details of a style definition

RNMSTLDFN (Rename Style Definition) Command

Renames a style definition

RTVSTLDFN (Retrieve Style Definition) Command

Retrieves the command needed to create a style definition into a source file member.

WRKREGFNC (Work with Registered Functions)

The **WRKREGFNC** (Work with Registered Functions) command lets you manage user authorities to various CoolSpools features, such as:

- Style definitions used by CoolSpools Spool Converter and CoolSpools Database
- Report definitions and report output maps created by CoolSpools Spool Converter
- CoolSpools Spool Admin standard options (e.g. 4=Delete) and user-defined options

A registered function is an OS/400 feature which allows user authorities to particular aspects of an application to be managed just as you can manage user authority to objects with **GRTOBJAUT** etc. and to stream files and directories with **CHGAUT** etc. You can use the OS/400 **WRKFCNUSG**, **DSPFCNUSG** and **CHGFCNUSG** commands to set user authorities to registered functions, but **WRKREGFNC** provides a more convenient interface in relation to Ariadne's applications.

When run, **WRKREGFNC** displays a list of registered functions associated with the ariadne software you have installed, which are all part of the registered product called ARIADNE.

You can manage user authorities to registered functions already defined by ariadne when the product was installed, or created as part of your usage of the product (e.g. when defining a style), but you cannot create registered functions of your own.

```

                                CoolSpools V7R1 - Work with Registered Functions      ARIADNE1

Position to function . . .
Base function for 7=Copy . . . . . *NONE

Type options, press Enter.
  2=Change   5=Display   7=Copy from base   8=Specials   9=Select as base

Opt Function
ARIADNE
  ARIADNE_SPECIAL_FUNCTIONS      CoolSpools V7R1M0
  ARIADNE_DLT_AFTER_EMAIL_YES   CoolSpools options that can be restricte
  ARIADNE_STD_OPT_SYS_DFT_CHG    Delete after sending?
  ARIADNE_STD_OPT_OTH_USR_CHG    Change system default standard options
  ARIADNE_ALW_WRK_OTH_USR_SPLF   Change standard options for other users
  ARIADNE_ALW_LMTCPB_CMD         Allow working with other users' spooled
  ARIADNE_ALW_NON_LMTCPB_CMD     Allow LMTCPB users to run commands
  ARIADNE_SYS_ADMIN              Allow non-LMTCPB users to run commands
  ARIADNE_STYLE_DEFINITIONS      Allow user to act as system administrato
  ARIADNE_STL_DFN_000000002_USE  CoolSpools style definitions
  ARIADNE_STL_DFN_000000002_CHG  Normal style (use)
                                  Normal style (change)
                                  More...

F3=Exit      F5=Refresh      F12=Cancel
```

Options

Options that can be input against entries in the list are:

2=Change	Change user authorities to the function
5=Display	Display user authorities to the function.
7=Copy from base	Set the user authorities to the function by copying the authorities associated with the “base” function. The base function must first be selected by using option 9=Select as base. This facility provides a quick and easy way of setting up authorities: just define them once for a single function, then duplicate those authorities where appropriate for other similar functions.
8=Specials	Display user authorities to the function, but only those that differ from the default authority.
9=Select as base	Select the function to be used as the “base function” for option 7=Copy from base (see above).

Function keys

Available function keys are:

F3=Exit	Exit the application.
F5=Refresh	Refresh the list.
F12=Cancel	Return to the previous screen.

When option 2=Change is selected against a registered function in the list, a screen similar to this one appears. It lists all user profiles defined on the system and shows those users' authorities to the selected function.

```

CoolSpools V7R1 - Work with Registered Functions      ARIADNE1

Function . . . . . :   ARIADNE_ALW_LMTCPB_CMD
Description . . . . :   Allow LMTCPB users to run commands

*PUBLIC authority . :   *NO

Position to user . . .

Type options, press Enter.
  1=Authorized    2=Not authorized    4=Remove user special authority

Opt User      Type Auth Spec Source      Description
ARIADNE      *GRP *YES          *USRALLOBJ
FTPUSER      *USR *NO          *PUBLIC
NONDELIVER   *USR *NO          *PUBLIC
PETEWILES    *USR *NO          *PUBLIC
PETOMANE     *USR *NO          *PUBLIC
POSTMASTER   *USR *NO          *PUBLIC
QAUTPROF     *USR *NO          *PUBLIC
QBRMS        *USR *NO          *PUBLIC
More...

F3=Exit      F5=Refresh    F11=Special auth    F12=Cancel

```

Details shown are as follows:

- User** The user profile name.
- Type** ***USR**=Simple user profile
***GRP**=Group profile
- Auth** ***YES**=The user has authority to use the function.
***NO**=The user does not have authority to use the function.
- Spec** The special authority defined for the user.
***YES**=The user has been explicitly granted authority to the function.
***NO**=The user has been explicitly denied authority to the function.
Blank=The user has no special authority to the function and the user's authority to the function will be determined by other factors (e.g. group profile authority, *ALLOBJ special authority or the default authority)
- Source** How the user's authority to the function was determined.

***USRALLOBJ** = The user has *ALLOBJ special authority through the user profile.

***GRPALLOBJ**= The user has *ALLOBJ special authority through the group profile.

***USRSPCAUT**= The user profile has been explicitly granted or denied authority to the function.

***GRPSPCAUT**= The group profile has been explicitly granted or denied authority to the function.

***PUBLIC**= Authority was derived from the default (*PUBLIC) authority setting.

***UNKNOWN**= The source could not be determined.

Description

The user profile's text 'description'

Options

Options that can be input against entries in the list are:

1=Authorized

Explicitly grants the user profile explicit authority to the function.

2=Not authorized

Explicitly denies the user profile explicit authority to the function.

4=Remove user special authority

Where the user profile has previously been explicitly granted or denied authority to the function, this option removes that explicit authority. The user's authority to the function will be determined from other sources (group profile, *ALLOBJ special authority, default *PUBLIC authority).

Function keys

Available function keys are:

F3=Exit

Exit the application.

F5=Refresh

Refresh the list.

F11=Spec. auth

When the full list is displayed, this function key switches to just displaying those user profiles with explicitly granted or denied special authority to the function.

F11=All users

When just users with special authority are displayed, this function key switches to displaying the full list of users.

F12=Cancel

Return to the previous screen.

SAVREGFNC (Save Registered Functions)

The **SAVREGFNC** (Save Registered Functions) command provides a means of saving registered functions that control user authorities to application features and options. It is our understanding that they are not saved by **SAVSECDTA**.

Registered functions settings saved with **SAVREGFNC** are saved into a stream file. The registered functions can be restored from the stream file subsequently using **RSTREGFNC**.

This can be useful for things like:

- duplicating registered functions to another system
- backing up registered functions before installing a new release or a PTF

Command parameters are as follows:

TOSTMF – Save in stream file

The full path of the stream file in which the registered function data will be saved.

REPLACE – Replace existing file

Whether an existing file will be replaced.

Options are:

*NO	If the file specified on the TOSTMF parameter already exists, an error will occur, it will not be replaced and no changes will be made to it.
*YES	If the file specified on the TOSTMF parameter already exists, it will be replaced.

AUT – Authority

The public data authority level to assign to a new file.

Options are:

*R	(Default). Read only
*W	Write only
*X	Execute only
*RW	Read and write
*RX	Read and execute
*WX	Write and execute
*RWX	Read, write and execute (all)
*NONE	No authority
autl_name	Specify the name of an authorization list that will control public authority to the file

RSTREGFNC (Restore Registered Functions)

The **RSTREGFNC** (Restore Registered Functions) command provides a means of restoring registered functions that control user authorities to application features and options that were previously saved with **SAVREGFNC**.

This can be useful for things like:

- duplicating registered functions to another system
- reinstating registered functions after installing a new release or a PTF

Command parameters are as follows:

FROMSTMF – Restore from stream file

The full path of the stream file in which the registered function data was saved.

FUNCTION – Function(s) to restore

Which function(s) to restore.

Options are:

Function_name	The name of a registered function saved by the SAVREGFNC command previously.
*ARIADNE	All ariadne registered functions saved by the SAVREGFNC command previously.

SAVENVVAR Command

The **SAVENVVAR** (Save System Environment Variables) command saves your system-level environment settings into a stream file. Those settings can subsequently be restored from that stream file using the **RSTENVVAR** command.

This can be useful when transferring settings to a new system or partition.

Command parameters are as follows:

TOSTMF – To stream file

Specifies the path name of the stream file into which the environment variable settings will be saved. You can choose any name that you find convenient.

This is a required parameter.

REPLACE – Replace existing file

Specifies whether or not an existing file will be replaced.

Options are:

*NO	Do not replace the file if it exists
*YES	Replace the file if it exists

AUT – Public data authority

The public data authority level to assign to a new file.

Options are:

*NONE	No authority
*R	(Default). Read only
*W	Write only
*X	Execute only
*RW	Read and write
*RX	Read and execute
*WX	Write and execute
*RWX	Read, write and execute (all)
autl_name	Specify the name of an authorization list that will control public authority to the file

RSTENVVAR Command

The **RSTENVVAR** (Restore System Environment variables) command lets you restore system-level environment variables from a stream file into which they were saved by the **SAVENVVAR** command.

This can be useful when transferring settings to a new system or partition.

Command parameters are as follows:

FROMSTMF – From stream file

Specifies the path name of a stream file into which environment variable settings were previously saved using the **SAVENVVAR** command.

This is a required parameter.

ENVVAR – Environment variables

Specifies which environment variable(s) should be restored.

Options are:

*ARIADNE	All environment variables defined by Ariadne
*ALL	All environment variables
name	Specify the name of an individual environment variable

DSPENCPWD Command

The **DSPENCPWD** command displays a string of hexadecimal digits representing the encrypted form of a password that you enter.

You can use this encrypted form of the password on a number of parameters of the various CoolSpools commands. CoolSpools will decrypt the password before using it.

The primary purpose of this feature is to avoid the need to store passwords in source code in plain text form.

The following parameters support the use of encrypted passwords:

Command	Parameter	Element	Description
CVTDBFXL CVTDBFXLSX CVTDBFXML CVTDBFTXT CVTDBFHTML CVTDBFPDF CVTDBFCSV CVTSPLCSV CVTSPLDLM CVTSPLHTML CVTSPLPDF CVTSPLRTF CVTSPLSAV CVTSPLTIFF CVTSPLTXT CVTSPLXL CVTSPLXML MRGPDF SAVSPLF	FTP	Remote password	Password for the FTP server
CVTDBFXL CVTDBFXLSX CVTDBFXML CVTDBFTXT CVTDBFHTML CVTDBFPDF CVTDBFCSV	EMAILOPT	Zip file password	Optional password of the zip file in which email attachments may be sent

CVTSPLCSV CVTSPLDLM CVTSPLHTML CVTSPLPDF CVTSPLRTF CVTSPLSAV CVTSPLTIFF CVTSPLTXT CVTSPLXL CVTSPLXML MRGPDF SAVSPLF			
MRGPDF	FROMPDF	Password	Password needed to modify/read the from-PDF
CVTDBFXL CVTDBFXLSX CVTSPLXL	XLSPROTECT	Worksheet unprotect password	Password needed to unprotect a protected worksheet
CVTSPLPDF MRGPDF ADDPDFSGN	PASSWORD	Applies to owner and user passwords	Passwords needs to modify/open a protected PDF
CVTSPLPDF ADDPDFSGN	SIGNATURE	Certificate password	The password of the certificate file being used to sign the PDF.
UNZIPDTA	PWD	Password	Password for zip file
ZIPDTA	PWD	Password	Password for zip file

In each case, the parameter element is followed by another element called “**Encrypted password supplied**”. If *YES is specified for this element, CoolSpools will interpret the password supplied on the previous element as an encrypted password string and will automatically decrypt it using the internal key setting before using the password.

The password algorithm used is not symmetrical, i.e. simply supplying the encrypted form of the password to **DSPENCPWD** will not result in the original password being displayed.

The command parameters are as follows.

PWD– Password to encrypt

Specify the password to be encrypted. CoolSpools will apply an encryption algorithm to the password string using an internal key setting and will display the password in its encrypted form as a string of hexadecimal digits. Make a note of this encrypted password string for use in your code or copy and paste it into your source member.

FTPPUT Command

The **FTPPUT** command establishes an FTP connection to a remote server and transfers a stream file from the IBM i server IFS to the remote server.

Command parameters are as follows:

LCLPATH – Local path name

Specifies the path of the file on the local system to be transferred.

This is a required parameter, and generic path names using a wildcard character are not permitted (e.g. /home/myfiles/*.dat).

Physical file members are supported but must be specified in IFS naming format. For example, to send file MYFILE in library MYLIB, use:

LCLPATH('/qsys.lib/mylib.lib/myfile.file/myfile.mbr')

Note that sending physical file data may result in unexpected results due to translation between character sets.

RMTSYS – Remote system name or IP address

Specify the name or IP address of the system to which the data should be transmitted by FTP.

This is a required parameter.

If you specify a name, the iSeries must be able to resolve that name to an IP address either by means of a DNS (Domain Name Server) or by looking up the name in the system Host Table.

RMTPATH – Remote path name

Specify the path name where the output should be saved on the server. This should include both the name of the file to be created and the directory tree in which it should be saved.

Note that the path specified here is relative to the FTP site directory (this is the root directory which is shown when you connect to the FTP server, before issuing a "cd" command).

For example, if the FTP site directory is c:\ftp_files and you wish to save your output as test.pdf in a subdirectory called pdf_files, you would specify: pdf_files/test.pdf

Note also that names on the server may be case-sensitive, especially if it is a UNIX system or similar, and may need to be enclosed in single quotes.

RMTUSER – Remote user id

Specify the user id to be used when connecting to the remote server.

Options are:

- | | |
|-----------------|---|
| *CURRENT | The logon user name is the same as the iSeries user profile. Note that a password still needs to be provided. |
| *NONE | No logon user is required. |

Character-value The user id to use when logging on. Names may be case sensitive.

RMTPWD – Remote password

Specify the password to be used when connecting to the remote server. Passwords may be case sensitive and may need to be enclosed in single quotes.

Options are:

Character-value The password to use when logging on. Passwords may be case sensitive.

***NONE** No password is required to logon to the remote server.

PORT – Port number

Specify the port number to be used when establishing an FTP connection. Firewall settings may be needed within your network, and within the network of the remote server, to permit traffic using the specified port number.

Options are:

***FTP** The standard FTP port number (21) will be used, except if *SFTP is specified for the security mechanism below, in which case port 22 is used.

***SECURE** The default port for FTP over SSL (990) will be used.

1-65535 A valid port number between 1 and 65535.

SECCNN – Secure connection

Specifies the type of security mechanism to be used for protecting information transferred on the FTP control connection (which includes the password used to authenticate the session with the FTP server). Transport Layer Security (TLS) and Secure Sockets Layer (SSL) are compatible protocols which use encryption to protect data from being viewed during transmission and verify that data loss or corruption does not occur.

Options are:

***NONE** CoolSpools does not use encryption when connecting to the specified FTP server.

***SSL** After connecting to the specified FTP server, CoolSpools sends an AUTH (authorization) subcommand requesting an SSL protected session. If the server does not support SSL, the connection is closed.

***TLS** After connecting to the specified FTP server, CoolSpools sends an AUTH (authorization) subcommand requesting a TLS protected session. If the server does not support TLS, the connection is closed.

***IMPLICIT** CoolSpools immediately attempts to use TLS/SSL when connecting to the specified FTP server (without sending an AUTH subcommand to the server). If the server does not support implicit TLS/SSL on the specified port, or the

TLS/SSL negotiation fails for any reason, the connection is closed.

***SFTP**

SFTP (SSH File Transfer Protocol, also known as Secure File Transfer Protocol and Secure FTP).

Please note that SFTP is a totally different protocol from FTP. SFTP is closely related to the UNIX SSH protocol.

In order to use SFTP to send files created by CoolSpools to a target server, it is necessary first to exchange public keys with that server. Password-level security is not used and the password field below is ignored when *SFTP is specified as the security mechanism.

See the IBM Redpaper entitled Securing Communications with OpenSSH on IBM i5/OS for details of how to set up your IBM i server to use SSH and SFTP. In particular, refer to the section entitled "4.2 Using public key authentication with scp to transfer files".

DTAPROT – Data protection

Specifies the type of data protection to be used for information transferred on the FTP data connection. This connection is used to transfer file data and directory listings. The FTP protocol does not allow protection of the data connection if the control connection is not protected.

Note: The Data Protection option controls the use of the PROT(Protection) FTP server subcommand.

Options are:

- | | |
|-----------------|---|
| *DFT | If the Secure Connection option specifies a protected control connection, *PRIVATE is used; otherwise, *CLEAR is used. |
| *CLEAR | Information sent on the FTP data connection is not encrypted. |
| *PRIVATE | Information sent on the FTP data connection is encrypted. If the Secure Connection option specifies that the FTP control connection is not encrypted, *PRIVATE cannot be specified. |

LOG – Logging

Specifies where the FTP transactions should be logged, if at all.

Options are:

- | | |
|------------------|--|
| *JOBLOG | The transactions will be logged in the joblog. |
| *NONE | No transactions will be logged |
| path-name | To record the transactions to a file specify the path to a file. |

To save to the iSeries IFS the file could be specified as
`\ftp_files\logs\FTP_Log.txt`

Alternatively, to save the log to a data base file use the
format `\QSYS.LIB\FTPLOGS.LIB\LOG.FILE\LOG.MBR`

LOGCCSID – CCSID for log messages

To specify the CCSID to be used with the LOG parameter, when output is to a file.

Options are:

*CALC	CoolSpools will attempt to calculate the best CCSID based on the content of the LOG parameter.
1-65533	Specify the CCSID to be used.

FTPGET Command

The **FTPGET** command establishes an FTP connection to a remote server and transfers a file from the remote server onto the local IBM i server IFS.

Command parameters are as follows:

RMTPATH – Remote path name

Specify the path name where the on the remote server from which the file is to be copied. This should include both the name of the file and the directory tree in which it resides.

Note that the path specified here is relative to the FTP site directory (this is the root directory which is shown when you connect to the FTP server, before issuing a "cd" command).

For example, if the FTP site directory is `c:\ftp_files` and you wish to retrieve a file named `test.pdf` from a subdirectory called `pdf_files`, you would specify: `pdf_files/test.pdf`

Note also that names on the server may be case-sensitive, especially if it is a UNIX system or similar, and may need to be enclosed in single quotes.

RMTSYS – Remote system name or IP address

Specify the name or IP address of the system from which the data is to be transmitted by FTP.

This is a required parameter.

If you specify a name, the iSeries must be able to resolve that name to an IP address either by means of a DNS (Domain Name Server) or by looking up the name in the system Host Table.

LCLPATH – Local path name

Specifies the path on the local system where the file should be placed.

You should note, that if an IFS file already exists with the same name it will be over-written with the new file. No checks are made or warnings given.

This is a required parameter.

Physical file members are supported but must be specified in IFS naming format. For example, to retrieve data into file MYFILE in library MYLIB, use:

LCLPATH('/qsys.lib/mylib.lib/myfile.file/myfile.mbr')

RMTUSER – Remote user id

Specify the user id to be used when connecting to the remote server.

Options are:

- | | |
|------------------------|---|
| *CURRENT | The logon user name is the same as the iSeries user profile. Note that a password still needs to be provided. |
| *NONE | No logon user is required. |
| Character-value | The user id to use when logging on. Names may be case sensitive. |

RMTPWD – Remote password

Specify the password to be used when connecting to the remote server. Passwords may be case sensitive and may need to be enclosed in single quotes.

Options are:

- | | |
|------------------------|---|
| Character-value | The password to use when logging on. Passwords may be case sensitive. |
| *NONE | No password is required to logon to the remote server. |

PORT – Port number

Specify the port number to be used when establishing an FTP connection. Firewall settings may be needed within your network, and within the network of the remote server, to permit traffic using the specified port number.

Options are:

- | | |
|----------------|---|
| *FTP | The standard FTP port number (21) will be used, except if *SFTP is specified for the security mechanism below, in which case port 22 is used. |
| *SECURE | The default port for FTP over SSL (990) will be used. |
| 1-65535 | A valid port number between 1 and 65535. |

SECCNN – Secure connection

Specifies the type of security mechanism to be used for protecting information transferred on the FTP control connection (which includes the password used to authenticate the session with the FTP server). Transport Layer Security (TLS) and Secure Sockets Layer (SSL) are compatible protocols which use encryption to protect data from being viewed during transmission and verify that data loss or corruption does not occur.

Options are:

- | | |
|--------------|---|
| *NONE | CoolSpools does not use encryption when connecting to the specified FTP server. |
|--------------|---|

- *SSL** After connecting to the specified FTP server, CoolSpools sends an AUTH (authorization) subcommand requesting an SSL protected session. If the server does not support SSL, the connection is closed.
- *TLS** After connecting to the specified FTP server, CoolSpools sends an AUTH (authorization) subcommand requesting a TLS protected session. If the server does not support TLS, the connection is closed.
- *IMPLICIT** CoolSpools immediately attempts to use TLS/SSL when connecting to the specified FTP server (without sending an AUTH subcommand to the server). If the server does not support implicit TLS/SSL on the specified port, or the TLS/SSL negotiation fails for any reason, the connection is closed.
- *SFTP** SFTP (SSH File Transfer Protocol, also known as Secure File Transfer Protocol and Secure FTP).

Please note that SFTP is a totally different protocol from FTP. SFTP is closely related to the UNIX SSH protocol.

In order to use SFTP to send files created by CoolSpools to a target server, it is necessary first to exchange public keys with that server. Password-level security is not used and the password field below is ignored when *SFTP is specified as the security mechanism.

See the IBM Redpaper entitled Securing Communications with OpenSSH on IBM i5/OS for details of how to set up your IBM i server to use SSH and SFTP. In particular, refer to the section entitled "4.2 Using public key authentication with scp to transfer files".

DTAPROT – Data protection

Specifies the type of data protection to be used for information transferred on the FTP data connection. This connection is used to transfer file data and directory listings. The FTP protocol does not allow protection of the data connection if the control connection is not protected.

Note: The Data Protection option controls the use of the PROT(Protection) FTP server subcommand.

Options are:

- *DFT** If the Secure Connection option specifies a protected control connection, *PRIVATE is used; otherwise, *CLEAR is used.
- *CLEAR** Information sent on the FTP data connection is not encrypted.

***PRIVATE** Information sent on the FTP data connection is encrypted. If the Secure Connection option specifies that the FTP control connection is not encrypted, *PRIVATE cannot be specified.

LOG – Logging

Specifies where the FTP transactions should be logged, if at all.

Options are:

*JOBLOG	The transactions will be logged in the joblog.
*NONE	No transactions will be logged
path-name	To record the transactions to a file specify the path to a file. To save to the iSeries IFS the file could be specified as \ftp_files\logs\FTP_Log.txt Alternatively, to save the log to a data base file use the format \QSYS.LIB\FTPLOGS.LIB\LOG.FILE\LOG.MBR

LOGCCSID – CCSID for log messages

To specify the CCSID to be used with the LOG parameter, when output is to a file.

Options are:

*CALC	CoolSpools will attempt to calculate the best CCSID based on the content of the LOG parameter.
1-65533	Specify the CCSID to be used.

FTPDLT Command

The **FTPDLT** command establishes an FTP connection to a remote server and deletes a file from the remote server.

Command parameters are as follows:

RMTPATH – Remote path name

Specify the path name on the remote server of the file which is to be deleted. This should include both the name of the file and the directory tree in which it resides.

Note that the path specified here is relative to the FTP site directory (this is the root directory which is shown when you connect to the FTP server, before issuing a "cd" command).

For example, if the FTP site directory is c:\ftp_files and you wish to delete a file named test.pdf from a subdirectory called pdf_files, you would specify: pdf_files/test.pdf

Note also that names on the server may be case-sensitive, especially if it is a UNIX system or similar, and may need to be enclosed in single quotes.

Your ability to delete the file will depend upon user and file permissions on the remote server.

RMTSYS – Remote system name or IP address

Specify the name or IP address of the system from which a file is to be deleted.

This is a required parameter.

If you specify a name, the iSeries must be able to resolve that name to an IP address either by means of a DNS (Domain Name Server) or by looking up the name in the system Host Table.

RMTUSER – Remote user id

Specify the user id to be used when connecting to the remote server.

Options are:

- | | |
|------------------------|---|
| *CURRENT | The logon user name is the same as the iSeries user profile. Note that a password still needs to be provided. |
| *NONE | No logon user is required. |
| Character-value | The user id to use when logging on. Names may be case sensitive. |

RMTPWD – Remote password

Specify the password to be used when connecting to the remote server. Passwords may be case sensitive and may need to be enclosed in single quotes.

Options are:

- | | |
|------------------------|---|
| Character-value | The password to use when logging on. Passwords may be case sensitive. |
| *NONE | No password is required to logon to the remote server. |

PORT – Port number

Specify the port number to be used when establishing an FTP connection. Firewall settings may be needed within your network, and within the network of the remote server, to permit traffic using the specified port number.

Options are:

- | | |
|----------------|---|
| *FTP | The standard FTP port number (21) will be used, except if *SFTP is specified for the security mechanism below, in which case port 22 is used. |
| *SECURE | The default port for FTP over SSL (990) will be used. |
| 1-65535 | A valid port number between 1 and 65535. |

SECCNN – Secure connection

Specifies the type of security mechanism to be used for protecting information transferred on the FTP control connection (which includes the password used to authenticate the session with the FTP server). Transport Layer Security (TLS) and Secure Sockets Layer (SSL) are compatible protocols which use encryption to protect data from being viewed during transmission and verify that data loss or corruption does not occur.

Options are:

<u>*NONE</u>	CoolSpools does not use encryption when connecting to the specified FTP server.
*SSL	After connecting to the specified FTP server, CoolSpools sends an AUTH (authorization) subcommand requesting an SSL protected session. If the server does not support SSL, the connection is closed.
*TLS	After connecting to the specified FTP server, CoolSpools sends an AUTH (authorization) subcommand requesting a TLS protected session. If the server does not support TLS, the connection is closed.
*IMPLICIT	CoolSpools immediately attempts to use TLS/SSL when connecting to the specified FTP server (without sending an AUTH subcommand to the server). If the server does not support implicit TLS/SSL on the specified port, or the TLS/SSL negotiation fails for any reason, the connection is closed.
*SFTP	SFTP (SSH File Transfer Protocol, also known as Secure File Transfer Protocol and Secure FTP).

Please note that SFTP is a totally different protocol from FTP. SFTP is closely related to the UNIX SSH protocol.

In order to use SFTP to send files created by CoolSpools to a target server, it is necessary first to exchange public keys with that server. Password-level security is not used and the password field below is ignored when *SFTP is specified as the security mechanism.

See the IBM Redpaper entitled Securing Communications with OpenSSH on IBM i5/OS for details of how to set up your IBM i server to use SSH and SFTP. In particular, refer to the section entitled "4.2 Using public key authentication with scp to transfer files".

DTAPROT – Data protection

Specifies the type of data protection to be used for information transferred on the FTP data connection. This connection is used to transfer file data and directory listings. The FTP protocol does not allow protection of the data connection if the control connection is not protected.

Note: The Data Protection option controls the use of the PROT(Protection) FTP server subcommand.

Options are:

<u>*DFT</u>	If the Secure Connection option specifies a protected control connection, *PRIVATE is used; otherwise, *CLEAR is used.
--------------------	--

*CLEAR	Information sent on the FTP data connection is not encrypted.
*PRIVATE	Information sent on the FTP data connection is encrypted. If the Secure Connection option specifies that the FTP control connection is not encrypted, *PRIVATE cannot be specified.

LOG – Logging

Specifies where the FTP transactions should be logged, if at all.

Options are:

*JOBLOG	The transactions will be logged in the joblog.
*NONE	No transactions will be logged
path-name	To record the transactions to a file specify the path to a file. To save to the iSeries IFS the file could be specified as \ftp_files\logs\FTP_Log.txt Alternatively, to save the log to a data base file use the format \QSYS.LIB\FTPLOGS.LIB\LOG.FILE\LOG.MBR

LOGCCSID – CCSID for log messages

To specify the CCSID to be used with the LOG parameter, when output is to a file.

Options are:

*CALC	CoolSpools will attempt to calculate the best CCSID based on the content of the LOG parameter.
1-65533	Specify the CCSID to be used.

LCKXLS Command

The **LCKXLS** (Lock Excel Spreadsheet) command applies password protection to an existing Excel workbook. This password protection controls access to the entire document (rather than write-protecting specific sheets or cells).

Documents with a file extension of .xls and .xlsx are both supported.

WARNING: Once a spreadsheet is password protected, it will not be possible to open that spreadsheet unless the password is known. This functionality is used at the user's own risk and CoolSpools support will be unable to assist should a spreadsheet be rendered inaccessible due to a forgotten or misplaced password.

Command parameters are as follows:

XLSSTMF – XLS Stream File

Specifies the file path of the XLS or XLSX workbook to be locked in IFS naming format.

PWD – Password

Specifies the password to be used when applying password protection to the Excel workbook. The password can be supplied as plain text or as an encrypted value in the form X'0A1B2C3D4E5F' (if accompanying parameter ENCRYPT is set to *YES).

Options are:

Character-value Password value that will be required to open the Excel spreadsheet, or encrypted version of that password.

ENCRYPT – Password Encrypted

Specifies whether the preceding password is an encrypted value.

Options are:

***NO** The password value is not encrypted.

***YES** The password value has been encrypted using the command **DSPENCPWD**.

ZIPDTA Command

The **ZIPDTA** command compresses one or more files (IFS stream files or database file members) using the industry-standard zlib compression library to create a zip file compatible with applications such as WinZip.

Command parameters are as follows:

FROMFILE –Files to zip

Specify from one to 100 file path names in IFS naming format.

Path names can be generic, .e.g.

/home/myfiles/*

or /home/myfiles/test*

or /home/myfiles/*.dat

or /home/myfiles/test*.d*

Physical file members are supported but must be specified in IFS naming format. For example, to zip all members in file MYFILE in library MYLIB, use:

ZIPDTA FROMFILE('/qsys.lib/mylib.lib/myfile.file/*')

Note that ZIPDTA simply compresses the data in a physical file member: it does not carry out any conversion or re-encoding. This means that if you zip a physical file member on the system i (most probably EBCDIC) and attempt to unzip on an ASCII system (e.g. PC or UNIX machine) the data will unzip but is unlikely to be easily readable.

TOZIP – Zip file name

The name of the zip file which be created or replaced.

STMFOPT – Stream file option

Whether an existing file will be replaced or the new zipped data added to an existing zip file.

Options are:

- *NONE** If the file specified on the TOZIP parameter already exists, it will not be replaced and no changes will be made to it.
- *REPLACE** If the file specified on the TOZIP parameter already exists, it will be replaced.
- *ADD** If the file specified on the TOZIP parameter already exists, the newly compressed files will be added to it.

CPRLVL – The data compression level

The level of data compression that is applied. The higher the compression level, the smaller the files that result (normally) but the longer the compression processing time.

Options are:

- *DFT** The default compression level (6)
- *FASTEST** The fastest compression method but giving the least compressed results (1).
- *BEST** The method giving the highest compression factor but also taking the longest to process (9)
- *NONE** No compression (0). Files are stored in the zip uncompressed.
- compression** Specify the compression level (0-9)

PWD – Password

An optional password for the zip file. If a password is specified, the zipped file will be encrypted.

There is a single option:

- *NONE** No password is required to unzip the file and the file is not encrypted.

Password

The password needed to unzip the file.

Encrypted password supplied

Whether or not the password supplied on the previous element is supplied in the encrypted form returned by the CoolSpools base option's **DSPENCPWD** (Display Encrypted Password) command.

DSPENCPWD applies an encryption algorithm to a password and returns a scrambled version of that password to you. If you specify the scrambled password on the previous element, and specify *YES here, the CoolSpools base option will unscramble the password for you before sending it to the FTP server. The main purpose of this facility is to avoid the need to hold passwords in plain text form in source code.

Options are:

- *NO** The password supplied on the previous element is in plain text format and not scrambled.
- *YES** The password supplied on the previous is in the scrambled form returned by DSPENCPWD. It will be automatically unscrambled before being sent to the FTP server.

Encryption method

If the zip file is to be encrypted, and a password has been supplied on the first element, this element determines the encryption method.

- *ENVVAR** The value of environment variable CS_DFT_ZIP_ENCRYPTION sets the encryption method.
If this environment variable exists, and is set to one of the other values permitted for this parameter (*ZIP, *AES128 or *AES256), that value is used, otherwise *ZIP is used.
This provides a convenient way of setting the default value for this parameter element.
- *ZIP** The original Zip encryption method. This method is now considered weak and AES is recommended if strong encryption is required. However, this encryption method is likely to be more widely supported than AES, which is recognized by WinZip and most major zip utilities, but not all zip software.
- *AES128** 128-bit AES encryption.
- *AES256** 256-bit AES encryption.

SUBTREE - Zip directory subtree

Specify whether the directory is a sub-directory.

These are the options:

- *NO** The directory is not a subtree.
- *YES** The directory is a subtree.

ZIPDIR - Directory path in zip file

Root directory

These are the options:

- *FROMFILE** The directory path on the FROMFILE parameter is duplicated inside the zip if ZIPDIR(*FROMFILE).
So, if FROMFILE has a relative path such as FROMFILE('mydir/*'), the top-level folder inside the zip will be 'mydir'.

- *ABS** The directory path on the FROMFILE parameter is duplicated inside the zip if ZIPDIR(*ABS), but converted to an absolute path.
So, if FROMFILE('mydir/*') the top-level folder inside the zip will be the absolute path to 'mydir' e.g. 'home/mydir'.
- *NONE** No path is taken into account.

Include directory subtree

Specify whether the subtrees are to be included in the root directory.

These are the options:

- *NO** Sub Trees are not included.
- *YES** Sub Trees are included.

UNZIPDTA Command

The **UNZIPDTA** command decompresses one or more files zipped using the industry-standard zip format.

Command parameters are as follows:

FROMZIP –From zip file

Specify the name of the zip file containing the file(s) to unzip.

FROMFILE –Files to unzip

Specify from one to 100 file path names in IFS naming format.

Path names can be generic, .e.g.

 /home/myfiles/*

or /home/myfiles/test*

or /home/myfiles/*.dat

or /home/myfiles/test*.d*

The path name specified must match the directory path inside the zip file.

TODIR – Unzip to directory

The name of the directory into which the files are unzipped.

Options are:

 ***FROMFILE** The file will be restored to the same directory as that in which it is stored inside the zip.

dir_name Specify the directory into which the file will be unzipped.

Note that a physical file name can be specified here if the zipped file being restored is a physical file member.

TOFILE – Unzip to file

The name of the file after it has been unzipped.

Options are:

 ***FROMFILE** The name of the file will be the same as in the zip.

file_name Specify the new name of the file after unzipping.

REPLACE – Replace existing files

Whether an existing file will be replaced or not.

Options are:

 ***NO** Existing files are not replaced and an error will occur if a file of the same name already exists.

 ***YES** Any existing file of the same name will be replaced.

PWD – Password

The password required to unzip the file.

There is a single option:

***NONE** No password is required to unzip the file.

Password

The password needed to unzip the file.

Encrypted password supplied

Whether or not the password supplied on the previous element is supplied in the encrypted form returned by the CoolSpools base option's **DSPENCPWD** (Display Encrypted Password) command.

DSPENCPWD applies an encryption algorithm to a password and returns a scrambled version of that password to you. If you specify the scrambled password on the previous element, and specify ***YES** here, the CoolSpools base option will unscramble the password for you before sending it to the FTP server. The main purpose of this facility is to avoid the need to hold passwords in plain text form in source code.

Options are:

***NO** The password supplied on the previous element is in plain text format and not scrambled.

***YES** The password supplied on the previous is in the scrambled form returned by **DSPENCPWD**. It will be automatically unscrambled before being sent to the FTP server.

STMFCODPAG – Stream file code page

The code page that will be allocated to a new file that is unzipped.

Note that this attribute does not in any way cause conversion or re-encoding of the contents of the file. It simply determines the setting of the CCSID attribute of the new stream file. You should choose an appropriate setting that accurately reflects the encoding of the contents of the file.

If the file already exists, its CCSID attribute is unchanged and this parameter is ignored.

Options are:

***PCASCII** A Windows code page is derived from the job CCSID and assigned to the file.

***STDASCII** A standard ASCII code page is derived from the job CCSID and assigned to the file.

***ISOASCII** An ISO ASCII code page is derived from the job CCSID and assigned to the file.

ccsid Specify the CCSID to assign to the file.

AUT – Public data authority

The public data authority level to assign to a new file.

Options are:

*R	(Default). Read only
*W	Write only
*X	Execute only
*RW	Read and write
*RX	Read and execute
*WX	Write and execute
*RWX	Read, write and execute (all)
*NONE	No authority
autl_name	Specify the name of an authorization list that will control public authority to the file

DSPPRDINF Command

The Display Product Information command is not intended for use as a user tool, but is provided to facilitate support of the application by the CoolSpools support team.

The command displays a screen of information about your CoolSpools installation that the support team may request to assist with support. The initial screen includes details of product license keys and their expiry dates; function key F11 will present software version details, including the current fix pack level.

CHKJVAENV Command

The Check Java Environment command is not intended for use as a user tool, but is provided to facilitate support of the application by the CoolSpools support team.

Some CoolSpools commands (e.g. IMPXLDBF, CVTDBFXLSX) are reliant upon the IBM i Java environment for processing, and may fail if there are any issues in the system's Java configuration. This command generates a Java configuration report that can be shared with the CoolSpools support team.

Acknowledgements

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- JPEG processing in this software is based in part on the work of the Independent JPEG Group <http://www.hal9k.com/cug/cug381.htm>
- XML parsing uses code supplied by the Expat package Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd <http://expat.sourceforge.net/>
- TIFF compression processing supplied by LIBTIFF Copyright (c) 1988-1997 Sam Leffler Copyright (c) 1991-1997 Silicon Graphics, Inc. <http://www.libtiff.org/>
- PDF signing is provided by the iText library <http://www.lowagie.com/iText>
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