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# STZCMD – STEEZWARE COMMAND-LINE TOOLS

Version 2020-03

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[steezware.com](http://steezware.com)

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## OVERVIEW

stzCMD – *pronounced steeze-C-M-D* – is a set of programs that enhance the ProvideX and PxPlus command-line environments. Some of the tools were inspired by those developed at Sage Software in the late 1990's, but updated to...

- ✓ Work with PxPlus
- ✓ Add new commands
- ✓ Increase functionality
- ✓ Provide Help for each tool
- ✓ Use a rich graphical user interface

## HOW CONSOLE COMMANDS WORK

When something is typed at the READY prompt, the interpreter attempts to resolve the syntax and perform the command. For example, PRINT "Hello, World" echoes "Hello, World" on the line below where the command was typed. If an unknown or incorrectly structured command is entered, the interpreter returns an ERROR 20 – or possibly some other error – signifying the command could not be interpreted.

But before returning an interpreter error an additional step is performed. The string entered is parsed, taking its first argument to use as the name of a called program located in the LIB\\_CMD folder, with the remainder of the arguments passed as a single string to the called program. For example, entering **SF account** calls the stzCMD "SF" program and passes to it the value "account", causing SF to display open files that include "account" in their name. Note that SF, and all other stzCMD tools, can also be called without specifying an argument.

No doubt most PxPlus and ProvideX programmers know about the console commands, but I am still sometimes surprised when I encounter a fellow Pvx engineer who is unaware of the console commands and their usefulness. Once I was on a call with a Sage programmer and we were debugging an error on a client's system. I told him to type STK at the ready prompt, and he asked me, "What does that do?" I was very surprised, because the Sage STK command that shows the current program stack is - I feel - one of the most useful console commands at my disposal. After typing STK, he replied, "Wow, how did I not know about that!" In stzCMD, by the way, ST is used to display the program stack.

For more information on the history of console commands, see [Appendix B](#).

## INSTALLATION

stzCMD is distributed as a zip file. To install, copy everything in the zip file - the nine stzCMD tools and the stzCMD subfolder - into your LIB\\_CMD folder.

- ✓ Note that the stzCMD tool names are all 2 or 3 characters in length and they each begin with the letter "S". If you have any existing non-stzCMD commands with identical names they will get overwritten when copying from the zip file, so make copies of them before extracting the zip file.
  - For example, before installing stzCMD on a Sage 100 system, rename the SS tool to SS2 or some other name. Also, PxPlus has a command called SD that will not run from its \_CMD\SYSTEM folder unless you rename it to something that does not conflict with the stzCMD SD tool.
  - See below for details on how you can [rename](#) the stzCMD tools.

## PURPOSE OF THIS DOCUMENT

Each stzCMD tool provides in-depth help accessed by clicking the [Help] button or by pressing the [F1] key. This document is intended to give a high-level introduction to the tools and the features that are common across the tools.

## TOOLS

There are nine extended console command tools in stzCMD. Each tool begins with the letter “S”, with the following letters indicating the purpose of the tool.

SD	Displays results of the <b>D</b> ump of current memory
SDD	Displays ProvideX <b>D</b> ata <b>D</b> ictionary schema
SF	Shows open <b>F</b> iles
SM	Displays a user-defined <b>M</b> enu of the stzCMD tools – useful for learning which tools are available
SO	Displays active <b>O</b> bjects in the workplace
SP	Shows information about the current <b>P</b> rogram – labels, variables, functions, methods, properties, and errors
SS	<b>S</b> earches strings in the current program
ST	Displays the current program <b>S</b> Tack
SZ	stzCMD settings

## RUNNING THE STZCMD COMMANDS

From the console mode READY> prompt, simply type the name of a tool, without regard to case. Examples...

```
>SD
>st
>sz
```

Most of the tools also accept arguments for filtering results, for example...

```
>sd nomads
>sf cust
>ss while
```

### BEST PRACTICES

To make best use of the stzCMD tools for debugging a program, insert a break point in the code where you want to view and analyze variables, open files, the program stack or other things. Use the Pvx debug mode – which is activated by adding DEBUG=1 to the INI file – to have a command-window available for issuing stzCMD commands. If you have debug mode activated, you can add the following line to your code where you wish it to break...

**PREINPUT -1301; ESCAPE**

- ✓ If you are using the stzUE UltraEdit Tool Kit, this line can be added to your code by pressing [ALT+Ø].
- ✓ If using the Pvx Eclipse plug-in, create a template to automatically enter this code into your working source file.

## EULA

The first time you run any tool, you are prompted to and must accept the steezware End-User License Agreement.

## SUPPORT

Send an email from the [steezware](http://steezware.com) website - accessible from the [Contact] button on the About window – to request support or to report issues or suggestions.

## COMMON TOOL FEATURES

List Box	Most stzCMD tools display results in a formatted or tree-view list box. Double-clicking to select a line in the results list box is ignored except when running the SF or SP tools.
Filter	Results can be filtered by entering a value and pressing Enter. Recent filter selections are found in the dropbox, and the current filter can be cleared by clicking the adjacent [X] button.
[Clipboard]	Click this button to write the filtered results to the clipboard for saving or printing. Note that if a text editor is specified in the SZ settings program, the editor will be automatically opened to display the clipboard contents.
[Tree]	Result list boxes that use a tree view can have their contents expanded and contracted by pressing this button.
[Settings]	Many tools have options that can be set to modify the behavior of the tool.
[Help]	Click to show instructions on how to use the tool. The F1 key will also open help on windows that have a [Help] button.  ✓ Note that invoking help repositions the tool to the far left and sets it be always-on-top to assist in viewing the underlying help PDF file. Normally the tools are not set to always-on-top, this is only done when a help file is displayed. After viewing help, move the tool to where you would like it.
[About]	Opens a window showing the version of stzCMD and allowing access to this document and other useful information.
Saved Settings	Each tool saves all its settings so subsequent running of the tool defaults to the filter and other options last used. If you type a tool with an argument, the argument overrides the saved filter setting.
Error Handler	Each stzCMD tool uses a simple error handler that displays the error information and copies the details to the clipboard, which can be pasted into an email sent to <a href="mailto:steezware@steezware.com">steezware</a> if desired. The error handler used prior to running the tool is restored and the stzCMD global variables are cleared and its open files are closed, but there is no guarantee that continuing execution of your original program from console mode will function correctly.

## SPECIFIC TOOL FEATURES

SDD / Data Dictionary Viewer	This tool displays the schema for a selected Pvx data dictionary. What's cool about this tool – which at the time this document was created did not exist in either the ProvideX or the PxPlus utilities – is the ability to enter a filter value to scan the schema for any value. The filtering is fast because the dictionary is scanned when first opened, and automatically rescanned when SDD notes changes have been made to the dictionary.
SF / File Viewer	Besides showing file information, this tool allows you to edit field data. Editing data does <b>not</b> perform any validations, so this feature must be used with extreme care – in fact, you must agree to allow SF to change your data the first time you use it. SF ways in certain ways be a better tool than the Sage DFDM utility, although it must be run

from console mode ... and there is one group of stzCMD users whose system has no such utility, so SF has been of great benefit to them.

SM / Command Menu

When you are first getting used to stzCMD, use SM to view and invoke the tools. After you get comfortable with the names and uses of each tool, SM will likely become irrelevant.

## RENAMING TOOLS

Any stzCMD tool can be renamed, except for SZ which must **not** be renamed for the tools to function correctly. If the name of a tool is changed, that name is used in its UI and clipboard output.

- ✓ To rename a tool, you must access the LIB\\_CMD folder and manually rename it – there is no support within stzCMD to do the rename for you.
- ✓ Note that renaming a tool will prevent the SM menu command from properly running until the new name is specified in settings...
  - Run SZ to identify the new name of a stzCMD tool

## APPENDIX A / WHAT'S NEW

### VERSION 2020-03

- ✓ Help
  - Implemented stzHLP that provides Nomads-based help windows attached to specific controls, even when the parent window is moved or resized.
    - stzHLP is available for download and free use from [steezware.com](http://steezware.com).
- ✓ SD – Memory Dump
  - The “Level” dropbox is now sorted from current program to lowest-level program.

### VERSION 2020-02

- ✓ Note
  - Some of the features added to the 2019-05 version were deprecated in this release, such as Windows Help and expanded support and website features.
- ✓ SF – File Viewer
  - New option in the Key List window to select starting key
- ✓ Help
  - Windows CHM help files replaced with Nomads windows for each tool
- ✓ Error Handler
  - Enhanced to show more information and to automatically open [steezware.com](http://steezware.com) to email the error results
- ✓ About Window
  - Removed Donate and Support buttons

### VERSION 2019-05

- ✓ UI
  - All Nomads fonts were cleaned up for consistency between PxPlus, ProvideX, Sage 100 and other systems
  - Button sizes, colors, captions and window-resize placement were standardized across all tools
  - Adjustments were made to all windows to render better when Sage 100 “Application Scaling” is not set to default
- ✓ Help
  - Windows Help replaces PDF files for tool-specific help
  - F1 on windows with a [Help] button opens help
    - On windows without [Help] F1 is ignored rather than displaying a “No Help” message
  - Invoking a tool with a question mark as the only option opens help
    - Example, SDD ?
- ✓ About Window
  - Shows the date/time when the EULA was agreed to
  - Shows the data/time that liability for editing data in SF was agreed to
- ✓ Revamped and Expanded Website Support
  - Now supports file upload and the option to subscribe to email/text messages
- ✓ SF – File Viewer
  - New option to open a file
    - Open-from-parent-folder option added to SF settings
  - New option to display files sorted by name
  - New “Copy File” option for creating a copy of a file, with or without its contents

- Key Definitions shown for multi-keyed files
  - Requires you to accept liability when editing a field
  - Settings broken into two panels
  - The stzCMD settings file is normally hidden in SF, to show it invoke the file viewer with a tilde argument
    - SF ~
- ✓ SM – Menu
  - Now works correctly with renamed tools
    - You must enter the new name in SZ for the menu selection to work
- ✓ SP – Program Information
  - A new [Save Text] feature saves the current program in memory as a text file
- ✓ SZ – Settings
  - Allows you to specify the name of a tool that was renamed, to allow tool selection from the SM menu command to work properly
  - The name and location of the stzCMD settings file is displayed, and can be copied for sharing to another installation of stzCMD
  - Note that the keys in stzOptions.sw1 include the computer name to distinguish settings from one user to another. When copying the entire contents of the settings file to another location or when accessing stzCMD tools from a different computer, the copied settings may not be applicable.
- ✓ Clipboard
  - If running in an Infor FACTS console mode, the FACTS user, developer and version information are included in the clipboard output heading
  - If running in a Sage 100 console mode, the Sage 100 version and developer code are now included in the clipboard output heading
- ✓ New steeware Logo Replaces Old Logo
  - Found on the About window – click the logo to access the steeware website
  - Also displayed on the splash screen used by SDD, SF and SO
- ✓ stzOptions.sw1 file Renamed to stzSettings.sw1
  - If you are updating from a previous version of stzCMD, the settings file is automatically renamed the first time any tool is run

## APPENDIX B / A BRIEF HISTORY OF EXTENDED CONSOLE COMMANDS

The Business Basic interpreter console mode - often recognized by its READY> prompt - has been used by Business Basic programmers since the advent of the language in the 1970's. Although modern tools allow for program development using a rich UI interface, console mode is still an important and powerful part of the Business Basic language - used for debugging, checking variables on-the-fly, and stepping and tracing through code as it executes.

In the late 1980's, a small group of engineers developed MicroShare Basic, a version of Business Basic that supported multitasking and multiple users under MS-DOS. A core feature of MSB was its "extended console commands", which enhanced console mode by having the interpreter automatically redirect commands to called programs. It was a simple and elegant feature, which unburdened the interpreter from many complex and large commands. For example, the MSB interpreter did not have a built-in EDIT function - the methods for editing lines of code in console mode were performed by an extended console command, aptly named EDIT.

### ENHANCEMENTS TO PROVIDEX

The early days of developing MAS 90 for Windows were driven to success by the new-kid-on-the-block ProvideX interpreter. Those of us at State of the Art had the amazing opportunity to work closely with Mike King in adding features and capabilities to his already rich language. One of the things I suggested to Mike - since I had formerly been the Director of Product Development at MicroShare - was the idea of extended console commands. Other useful things from MicroShare - such as reserved labels like \*NEXT and \*CONTINUE - were also added to ProvideX in the late 1990's. I took many of the original ideas from MicroShare and came up with several more to create the MAS 90 console commands, and Mike also added - and continues to add - console commands specific to ProvideX and PxPlus.