Difference between Zsh and Bash

Both shells provide powerful scripting languages ??but they are not fully compatible with each other. Let's find out the difference between Zsh and Bash with TipsMake.com.com!

When it comes to shell scripting on Unix-like operating systems, two shells dominate: Bash (Bourne Again Shell) and Zsh (Z Shell). If you are a programmer or system administrator, choosing one of the two significantly affects work efficiency and productivity.

Understanding the differences and similarities between these two shells will help you optimize your command line process. In addition, by understanding the characteristics of each shell, you can easily make wise decisions.

What are Bash and Zsh?

Bash is a popular system on both Linux and macOS. It is a powerful tool that you can use to interact with the operating system and run commands. You can also use Bash for shell commands, which automate tasks by writing scripts that contain more than one command.

Zsh (Z shell) is an extended version of Bash but with more features. It is the default shell on macOS, which is also increasingly popular on Linux systems.

How to switch from Bash to Zsh

If you're on a Linux system and want to switch to Zsh, start by using the package manager to install it. For example, on Debian or Ubuntu, use the following command:

```
sudo apt install zsh
```

After installing Zsh on the system, switch to it by running the following command:

```
chsh -s $(which zsh)
```

If you are using macOS, Zsh is already installed. To switch to it, run the following command:

```
chsh -s /bin/zsh
```

To switch back to Bash, replace Zsh with Bash in the command above.

To check which shell you are using, run the following command:

```
echo $SHELL
```

This helps confirm that you are using the desired shell.

Difference between Zsh and Bash

Zsh and Bash have some differences. Let's compare the differences with TipsMake.com.com to choose the most suitable shell for you!

Bash	**Zsh**
Bash is the default shell for Linux. It is designed as a replacement for Bourne Shell.	Zsh is built on top of the bash shell and is an extended version of bash with many new features.
Bash reads the **.bashrc** file in a non-login interactive shell and **.bash_profile** in a login shell.	Zsh reads **.zshrc** in an interactive cell and **.zprofile** in a login shell.
Bash uses backslashes to escape.	Zsh uses percent signs to escape.
Bash does not attempt inline character expansion.	Zsh has built-in character expansion.
There are no customization options.	Zsh has many frameworks that provide customization capabilities.
There is no support for multiple themes and plugins.	There are many plugins and themes.

Bash lacks grammar highlighting and auto-correction features.	Zsh has syntax highlighting and auto-correction features.
In bash, key binding is done using '.inputrc' and 'bind buildin'.	Data binding is done using 'bindkey builtin'.

Things to consider when choosing between Zsh and Bash

1. **Compatibility and portability** : Bash is the default shell on many Unix-based systems. This makes it a safer choice for cross-platform scripting. If you need a script to run on a large range of systems without modification, Bash is a better choice.
2. **Complexity and advanced features** : Zsh offers advanced features such as associative arrays, expandable patterns, and advanced parameter expansion. This simplifies complex scripting tasks. If your script needs advanced string editing or data structures, Zsh is a better choice.
3. **Community and plugin ecosystem** : Both Bash and Zsh have active communities, but Zsh has a stronger community and a scalable plugin and theme ecosystem. If you value customization, support from a vibrant community and plugins can benefit you significantly.
4. **Easy to learn** : If you're new to shell scripting, Bash is a more accessible starting point. It has extensive documentation and resources ready for beginners. This makes learning the basics of shell scripting easier.