Zsh Cheat Sheet

A comprehensive cheat sheet for Zsh, covering essential commands, expressions, process substitution, and configuration tips for efficient command-line usage.

Zsh Basics

Shell Navigation

`cd`	Change directory to home.
`cd <directory>`	Change directory to `<directory>`.
`cd -`	Change to the previous directory.
`pwd`	Print the current working directory.
`pushd <directory>`	Push current directory onto stack and change to `<directory>`.
`popd`	Pop directory from stack and change to it.

File and Directory Management

`ls`	List files and directories in the current directory.
`ls -l`	List files with detailed information.
`mkdir <directory>`	Create a new directory named `<directory>`.
`rm <file>`	Remove the specified `<file>`.
`rm -r <directory>`	Recursively remove the directory `<directory>` and its contents.
`cp <source> <destination>`	Copy `<source>` to `<destination>`.

Basic Commands

`echo <text>`	Print `<text>` to the console.
`cat <file>`	Display the contents of `<file>`.
`less <file>`	View `<file>` one page at a time.
`head <file>`	Display the first 10 lines of `<file>`.
`tail <file>`	Display the last 10 lines of `<file>`.
`grep <pattern> <file>`	Search for `<pattern>` in `<file>`.

Expressions and History

History Expansion

`!!`	Execute the last command.
`!<number>`	Execute the command with the specified history number.
`!$`	The last word of the previous command.
`!*`	All words from the previous command (except the command name).
`!^`	The first argument of the previous command.
`!-n`	Execute the nth command from the end of the history list.

Filename Generation (Globbing)

`*`	Matches any string of characters.
`?`	Matches any single character.
`[abc]`	Matches a, b, or c.
`[^abc]`	Matches any character except a, b, or c.
`[a-z]`	Matches any character in the range a to z.
`**/*`	Recursively matches files in subdirectories.

Modifiers in History Expansion

`s/foo/bar/`	Substitute `foo` with `bar`.
`&`	Repeat the last substitution.
`g`	Global substitution.
`h`	Remove a trailing filename component, leaving only the head.
`t`	Remove all leading filename components, leaving the tail.
`r`	Remove a filename extension, leaving the root name.

Process Substitution & Redirection

Process Substitution

`<(command)`	Treat the output of `command` as a file for reading.
`>(command)`	Treat a file as the input to `command`.
Example:	`diff <(ls dir1) <(ls dir2)`
Example:	`sort <(echo "b\na")`
Example:	`paste <(seq 3) <(seq 3)`

Redirection

`>`	Redirect output to a file (overwrites).
`>>`	Redirect output to a file (appends).
`2>`	Redirect standard error to a file.
`&>`	Redirect both standard output and standard error to a file.
`|`	Pipe output of one command to the input of another.
`tee <file>`	Send output to both standard output and `<file>`.

Combining Redirection and Process Substitution

Example:

```
comm <(sort file1) <(sort file2)
```

Compares two sorted files and outputs the lines unique to each file and the lines common to both.

Example:

```
grep pattern <(zcat file.gz)
```

Grep through gzipped file without explicit extraction.

Example:

```
wc -l <(ls -l | grep "^-")
```

Counts the number of files in the current directory.

Zsh Configuration

Zsh Configuration Files

`~/.zshrc` - User-specific configuration file executed when a new shell is started interactively.

`~/.zprofile` - User-specific configuration file executed for login shells.

`~/.zlogin` - Alternative for `~/.zprofile`, also executed for login shells.

`~/.zlogout` - User-specific configuration file executed when a login shell exits.

`/etc/zsh/zshrc` - System-wide configuration file for interactive shells.

`/etc/zsh/zprofile` - System-wide configuration file for login shells.

Options and Settings

`setopt <option>`	Enable a Zsh option.
`unsetopt <option>`	Disable a Zsh option.
`bindkey <key> <command>`	Bind a key sequence to a Zsh command.
`alias <name>= <command>`	Create an alias for a command.
`export VAR=value`	Set an environment variable.
`source <file>`	Execute commands from `<file>` in the current shell.

Example Configuration Snippets

Enable command autocorrection:

```
setopt correct
```

Set up a custom alias:

```
alias la='ls -la'
```

Configure history settings:

```
HISTSIZE=10000
SAVEHIST=10000
```

Enable vi mode:

```
bindkey -v
```