

iTerm2

University of Utah

February 15, 2023

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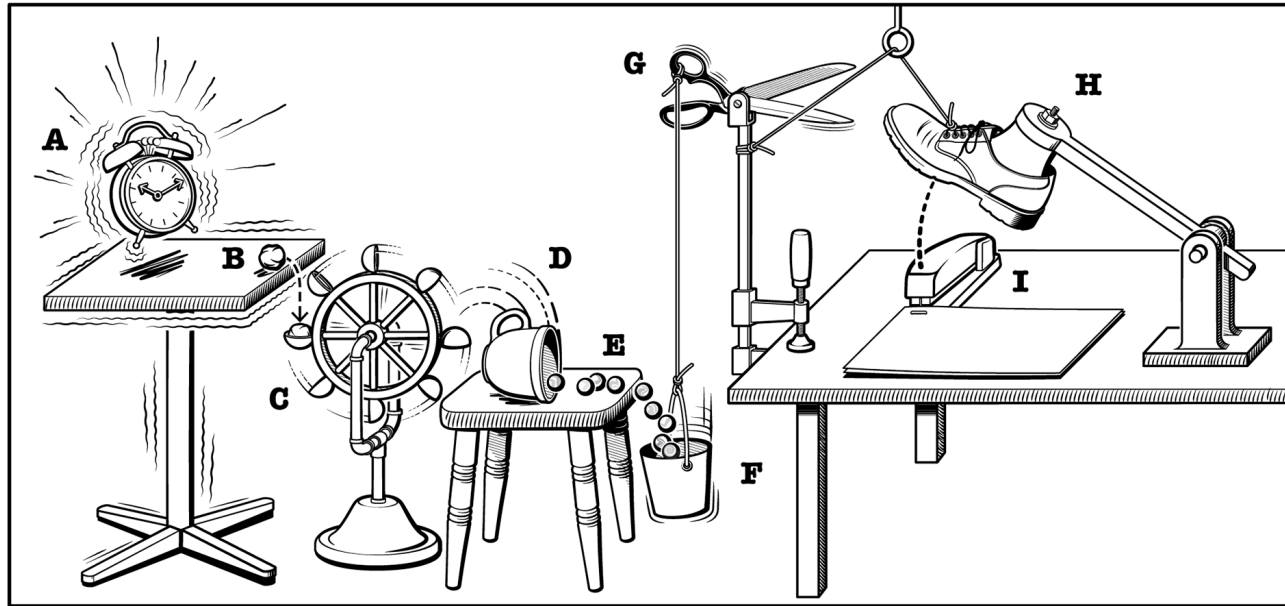
OVERVIEW

- The origin story.
- A look at under-appreciated features of the current version.
- What's coming next?
- Q&A



ORIGIN STORY





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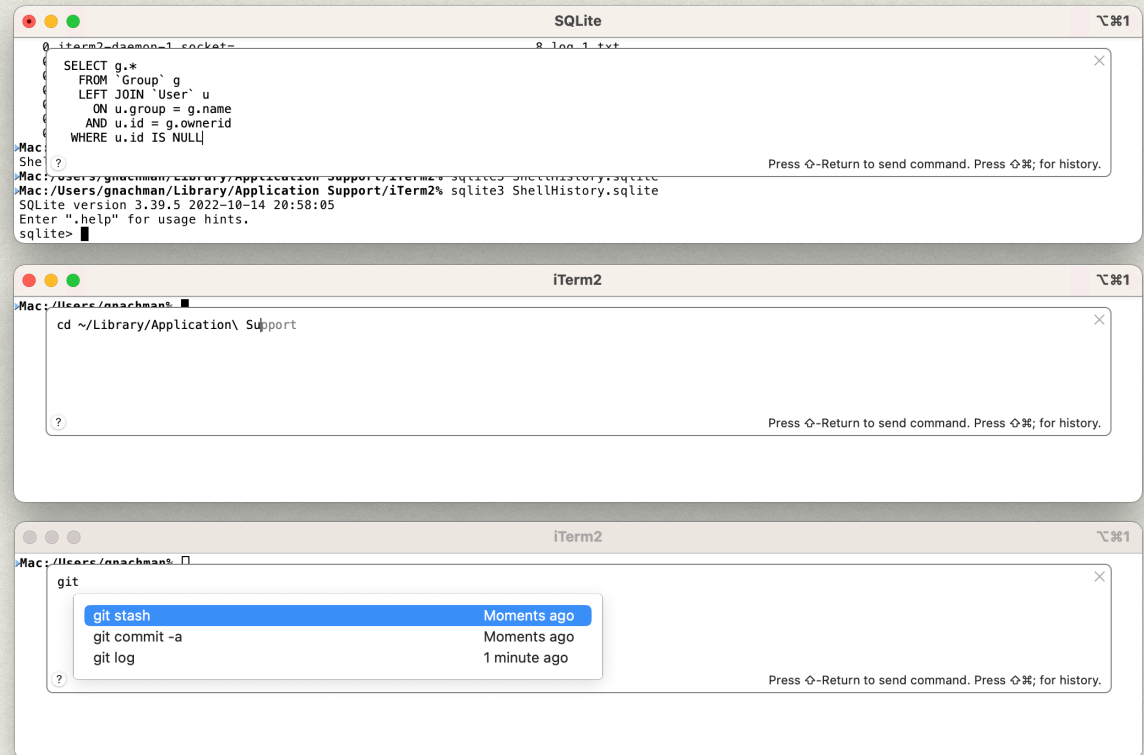
UNDER-APPRECIATED FEATURES

COMPOSER

Edit a command before sending it

Filename completion

Direct access to history



SNIPPETS


Save text to use again later.




OPEN QUICKLY


Quick access to many actions

Q build


 **Build and run tests**
Send snippet "Build and run tests". Press `⌘` to edit first.


Q dark background

 **Dark Background**
Load color preset "Dark Background"


 **Pastel (Dark Background)**
Load color preset "Pastel (Dark Background)"

Q default


 **Default**
Create a new tab with this profile

 **Default**
Change current session's profile


Q vim

 **vim**
Command: `vim` — Directory: `/Users/gnachman`

Q bryan

 **Production**
Host: `bryan.dreamhost.com` — Directory: `/home/gnachman`

Q item2.com

 **Production**
Directory: `/home/gnachman/item2.com`

PYTHON API

Automate iTerm2 and add new behaviors using Python

- Develop custom status bar components
- Automatically change colors for different SSH hosts
- Add custom control sequences
- Custom tab navigation
- Automate actions like “sum numbers in selection”





What's Coming Next?

MORE THROUGHPUT

A new threading model.

Before: terminal state modified on UI thread

After: terminal state modified in background thread and synced to UI thread periodically



FILTERING

Reveal only lines that contain a search query

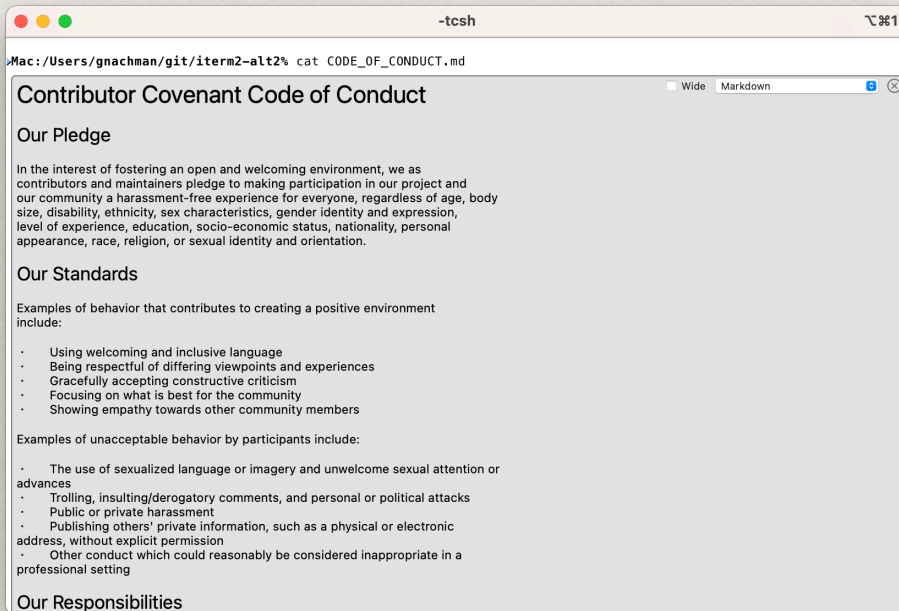


The screenshot shows a code editor window titled "— 227X40" with a search bar in the top right corner. The search bar contains the text "error" and has a magnifying glass icon, a close button, and a dropdown menu showing "item". The code editor displays a log of system events, with lines containing the word "error" highlighted in yellow. The log entries are structured as follows:

```
2023-02-14 21:53:08.865496-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x8504, C:0x0) (null)
2023-02-14 21:53:08.865531-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm on / (B:0x8550, C:0x0) (null)
2023-02-14 21:53:08.865544-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm on / (B:0x8554, C:0x0) (null)
2023-02-14 21:53:08.865554-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x85e8, C:0x0) (null)
2023-02-14 21:53:08.865564-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x8658, C:0x0) (null)
2023-02-14 21:53:08.865586-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm on / (B:0x8760, C:0x0) (null)
2023-02-14 21:53:08.865597-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x8788, C:0x0) (null)
2023-02-14 21:53:08.865607-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x89f8, C:0x0) (null)
2023-02-14 21:53:08.865626-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x8a28, C:0x0) (null)
2023-02-14 21:53:08.865641-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm.app on / (B:0x8b60, C:0x0) (null)
2023-02-14 21:53:08.865650-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm.app on / (B:0x8ec8, C:0x0) (null)
2023-02-14 21:53:08.865663-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x95ec, C:0x0) (null)
2023-02-14 21:53:08.865681-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x96f4, C:0x0) (null)
2023-02-14 21:53:08.865691-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x9884, C:0x0) (null)
2023-02-14 21:53:08.865700-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x98f8, C:0x0) (null)
2023-02-14 21:53:08.865725-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x9978, C:0x0) (null)
2023-02-14 21:53:08.865736-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x9998, C:0x0) (null)
2023-02-14 21:53:08.865753-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0xa1d4, C:0x0) (null)
2023-02-14 21:53:08.865761-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] 42 bindings found
2023-02-14 21:53:08.865805-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] Skipping xcode-select matching due to options
2023-02-14 21:53:08.865812-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] Truncating a list of bindings to max 1 known-good ones.
2023-02-14 21:53:08.865827-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] +++ iTerm2 on / (B:0x7e78, C:0x0) (null)
2023-02-14 21:53:08.865833-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] Best binding found for evaluator 0x16b74d748: <private>
2023-02-14 21:53:08.865862-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] BindingEvaluator::~BindingEvaluator(0x16b74d438)
2023-02-14 21:53:08.865876-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:binding] BindingEvaluator::~BindingEvaluator(0x16b74d748)
2023-02-14 21:53:08.865896-0800 0x293049 Debug 0x0 54059 0 iTerm2: (LaunchServices) [com.apple.launchservices:error] Constructing NSError NSOSSStatusErrorDomain/-10813 at _LSBundleGetDisplayNameForNo
deWithUnregisteredBundleType:1996
2023-02-14 21:53:08.866058-0800 0x293049 Debug 0x0 54059 0 iTerm2: (CoreFoundation) [com.apple.CFBundle:resources] Resource lookup at <private>
2023-02-14 21:53:08.867085-0800 0x293049 Debug 0x0 54059 0 iTerm2: (CoreFoundation) [com.apple.CFBundle:resources] Resource lookup at <private>
2023-02-14 21:53:08.867102-0800 0x293049 Debug 0x0 54059 0 iTerm2: (CoreFoundation) [com.apple.CFBundle:resources] Resource lookup at <private>
2023-02-14 21:53:08.867176-0800 0x293049 Debug 0x0 54059 0 iTerm2: (CoreFoundation) [com.apple.CFBundle:strings] Bundle: <private>, key: No Services Apply, value: , table: Services, localizationName
: (null), result: No Services Apply
2023-02-14 21:53:08.867206-0800 0x293049 Debug 0x0 54059 0 iTerm2: (CoreFoundation) [com.apple.CFBundle:strings] Lazy cache miss for bundle: <private> key: Services Settings\U2026 table: Services
2023-02-14 21:53:08.867224-0800 0x293049 Debug 0x0 54059 0 iTerm2: (CoreFoundation) [com.apple.CFBundle:strings] Bundle: <private>, key: Services Settings\U2026, value: , table: Services, localizati
onName: (null), result: Services Settings...
2023-02-14 21:53:08.867513-0800 0x293049 Debug 0x0 54059 0 iTerm2: (CoreFoundation) [com.apple.defaults:User Defaults] found no value for key LanguageAgnosticKeyBindings in CFPrefsSearchListSource<0
x600002b21b00> (Domain: com.googlecode.item2, Container: (null))
2023-02-14 21:53:08.867591-0800 0x293049 Debug 0x0 54059 0 iTerm2: (CoreFoundation) [com.apple.defaults:User Defaults] found no value for key LanguageAgnosticKeyBindings in CFPrefsSearchListSource<0
x600002b21b00> (Domain: com.googlecode.item2, Container: (null))
```


NATIVE RENDERING

Native rendering for markdown, code, and more



A terminal window titled "-tcsh" with a status bar showing "Mac: /Users/gnachman/git/iterm2-alt2%". The command "cat CODE_OF_CONDUCT.md" has been executed. The output is a rendered markdown document titled "Contributor Covenant Code of Conduct". It includes sections for "Our Pledge", "Our Standards", and "Our Responsibilities", each with descriptive text and bulleted lists of guidelines.

```
Mac: /Users/gnachman/git/iterm2-alt2% cat CODE_OF_CONDUCT.md
```

Contributor Covenant Code of Conduct

Our Pledge

In the interest of fostering an open and welcoming environment, we as contributors and maintainers pledge to making participation in our project and our community a harassment-free experience for everyone, regardless of age, body size, disability, ethnicity, sex characteristics, gender identity and expression, level of experience, education, socio-economic status, nationality, personal appearance, race, religion, or sexual identity and orientation.

Our Standards

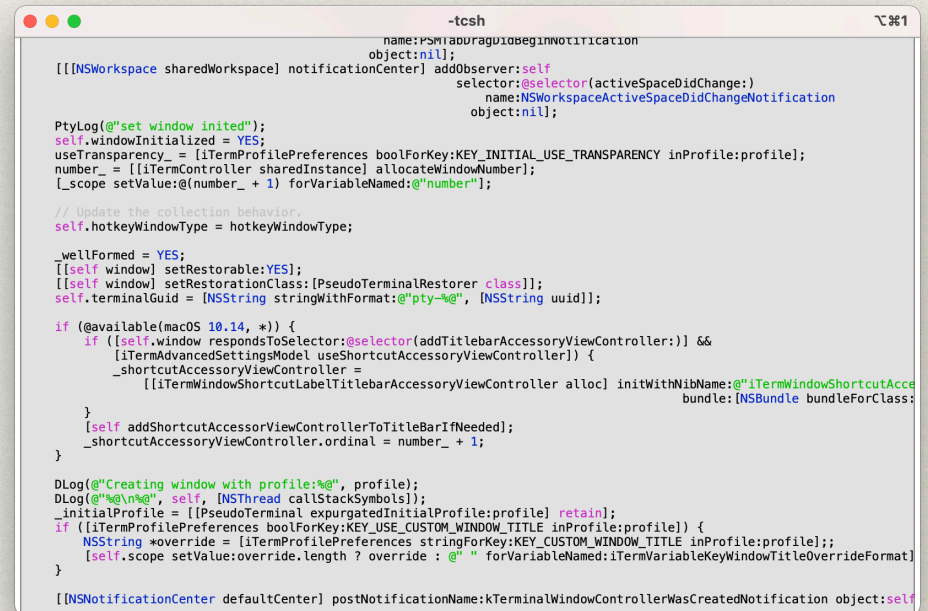
Examples of behavior that contributes to creating a positive environment include:

- Using welcoming and inclusive language
- Being respectful of differing viewpoints and experiences
- Gracefully accepting constructive criticism
- Focusing on what is best for the community
- Showing empathy towards other community members

Examples of unacceptable behavior by participants include:

- The use of sexualized language or imagery and unwelcome sexual attention or advances
- Trolling, insulting/derogatory comments, and personal or political attacks
- Public or private harassment
- Publishing others' private information, such as a physical or electronic address, without explicit permission
- Other conduct which could reasonably be considered inappropriate in a professional setting

Our Responsibilities



A terminal window titled "-tcsh" with a status bar showing "Mac: /Users/gnachman/git/iterm2-alt2%". The command "cat CODE_OF_CONDUCT.md" has been executed. The output is the raw markdown code, including the same text and code blocks as the left window, but without the visual rendering.

```
Mac: /Users/gnachman/git/iterm2-alt2% cat CODE_OF_CONDUCT.md
```

```
name: PseudoTerminalRestorer
object: nil;

[[[NSWorkspace sharedWorkspace] notificationCenter] addObserver:self
 selector:@selector(activeSpaceDidChange:)
 name:NSWorkspaceActiveSpaceDidChangeNotification
 object:nil];

PtyLog(@"set window initied");
self.windowInitialized = YES;
useTransparency_ = [iTermProfilePreferences boolForKey:KEY_INITIAL_USE_TRANSPARENCY inProfile:profile];
number_ = [[iTermController sharedInstance] allocateWindowNumber];
[_scope setValue:@(number_ + 1) forKey:@"number"];

// Update the collection behavior.
self.hotkeyWindowType = hotkeyWindowType;

_wellFormed = YES;
[[self window] setRestorable:YES];
[[self window] setRestorationClass:[PseudoTerminalRestorer class]];
self.terminalGuid = [NSString stringWithFormat:@"pty-%@", [NSString uuid]];

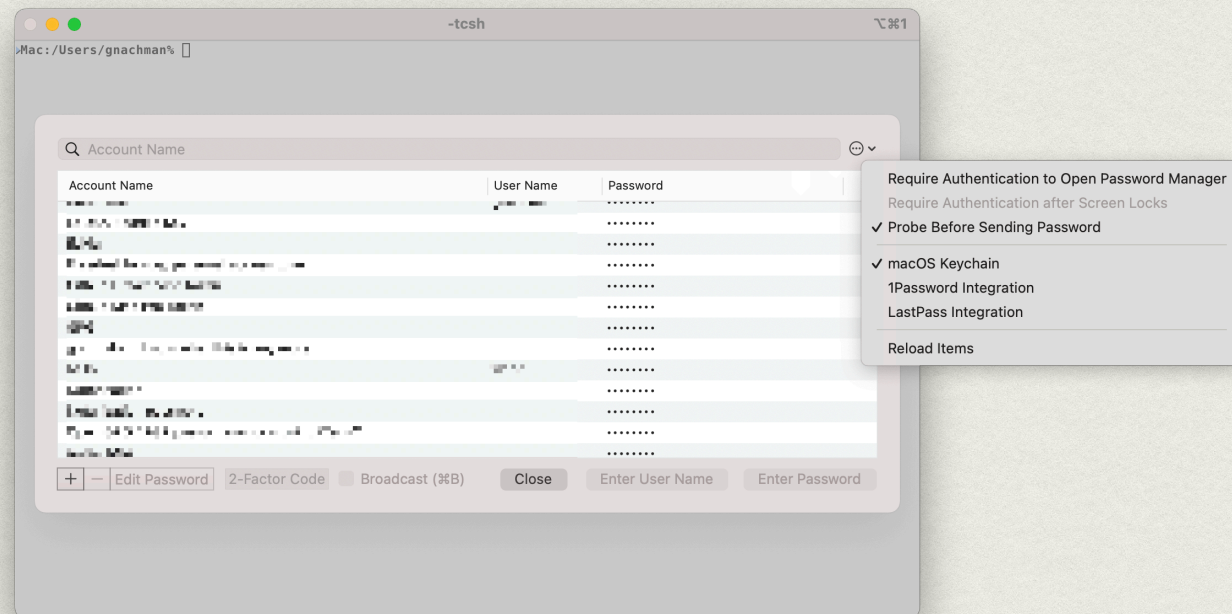
if (@available(macOS 10.14, *)) {
    if ([self.window respondsToSelector:@selector(addTitlebarAccessoryViewController:)]) &&
        [iTermAdvancedSettingsModel useShortcutAccessoryViewController]) {
        _shortcutAccessoryViewController =
            [[iTermWindowShortcutLabelTitlebarAccessoryViewController alloc] initWithNibName:@"iTermWindowShortcutAcces"
            bundle:[NSBundle bundleForClass:
                [self addShortcutAccessoryViewControllerToTitleBarIfNeeded];
        _shortcutAccessoryViewController.ordinal = number_ + 1;
    }

DLog(@"Creating window with profile:%@", profile);
DLog(@"%@\\n%@", self, [NSThread callStackSymbols]);
_initialProfile = [[PseudoTerminal expurgatedInitialProfile:profile] retain];
if ([iTermProfilePreferences boolForKey:KEY_USE_CUSTOM_WINDOW_TITLE inProfile:profile]) {
    NSString *override = [iTermProfilePreferences stringForKey:KEY_CUSTOM_WINDOW_TITLE inProfile:profile];
    [self.scope setValue:override.length ? override : @" " forKey:@"iTermVariableKeyWindowTitleOverrideFormat"];
}

[[NSNotificationCenter defaultCenter] postNotificationName:kTerminalWindowControllerWasCreatedNotification object:self]
```

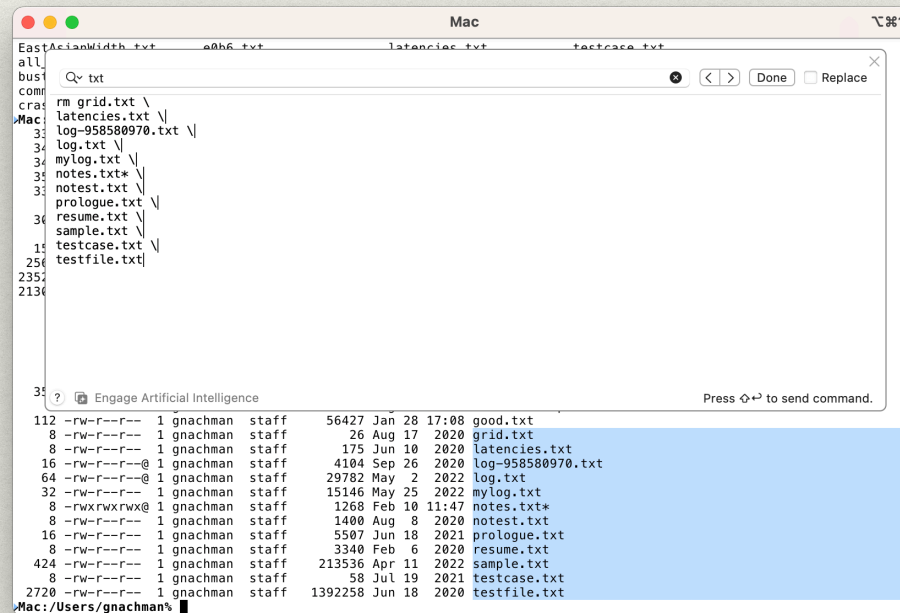

PASSWORD MANAGER

Integration with 1Password and LastPass



COMPOSER ENHANCEMENTS

Search & replace and multiple cursors

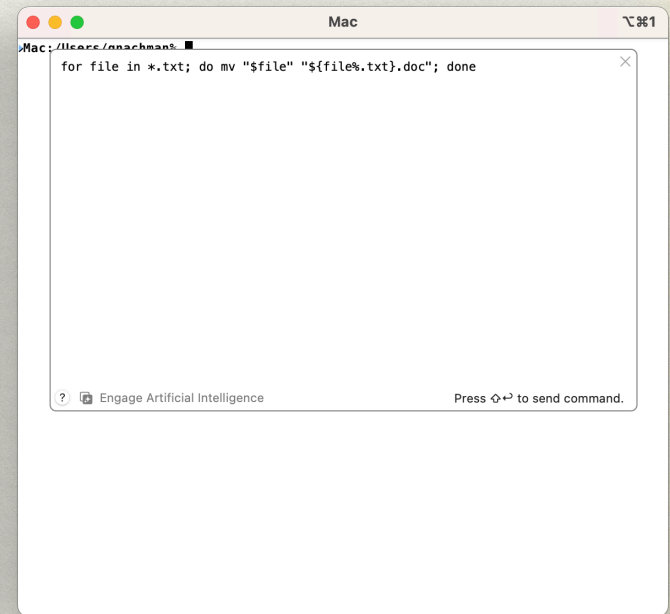
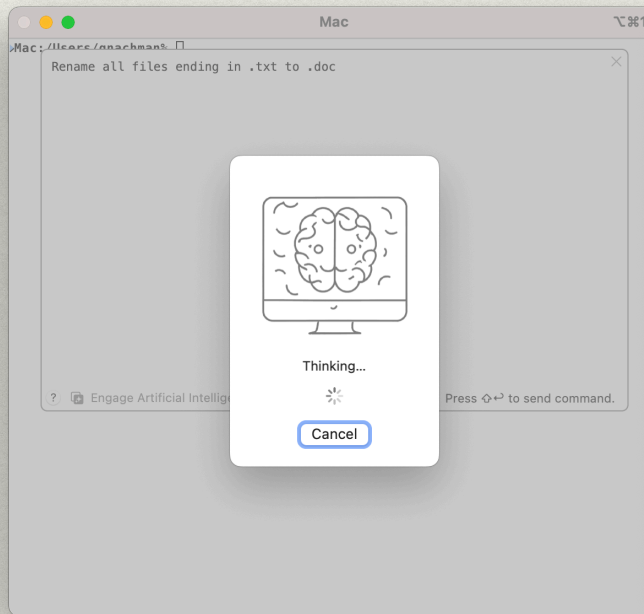
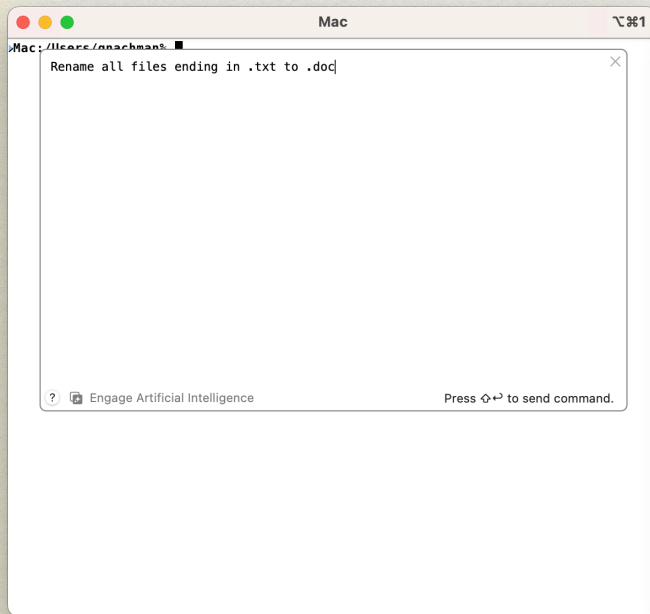


The screenshot shows a macOS terminal window titled "Mac" with a search bar at the top. The search bar contains the text "txt" and has buttons for "Done" and "Replace". Below the search bar, a list of files is displayed, including "grid.txt", "latencies.txt", "log-958580970.txt", "log.txt", "mylog.txt", "notes.txt*", "notest.txt", "prologue.txt", "resume.txt", "sample.txt", "testcase.txt", and "testfile.txt". The terminal output shows a list of files with their permissions, owner, group, size, date, time, and filename. The files are listed in a table format with columns for permissions, owner, group, size, date, time, and filename. The files are listed in a table format with columns for permissions, owner, group, size, date, time, and filename. The files are listed in a table format with columns for permissions, owner, group, size, date, time, and filename.

Permissions	Owner	Group	Size	Date	Time	Filename
-rw-r--r--	gnachman	staff	56427	Jan 28	17:08	good.txt
-rw-r--r--	gnachman	staff	26	Aug 17	2020	grid.txt
-rw-r--r--	gnachman	staff	175	Jun 10	2020	latencies.txt
-rw-r--r--	gnachman	staff	4104	Sep 26	2020	log-958580970.txt
-rw-r--r--	gnachman	staff	29782	May 2	2022	log.txt
-rw-r--r--	gnachman	staff	15146	May 25	2022	mylog.txt
-rw-r--r--	gnachman	staff	1268	Feb 10	11:47	notes.txt*
-rw-r--r--	gnachman	staff	1400	Aug 8	2020	notest.txt
-rw-r--r--	gnachman	staff	5507	Jun 18	2021	prologue.txt
-rw-r--r--	gnachman	staff	3340	Feb 6	2020	resume.txt
-rw-r--r--	gnachman	staff	213536	Apr 11	2022	sample.txt
-rw-r--r--	gnachman	staff	58	Jul 19	2021	testcase.txt
-rw-r--r--	gnachman	staff	1392258	Jun 18	2020	testfile.txt

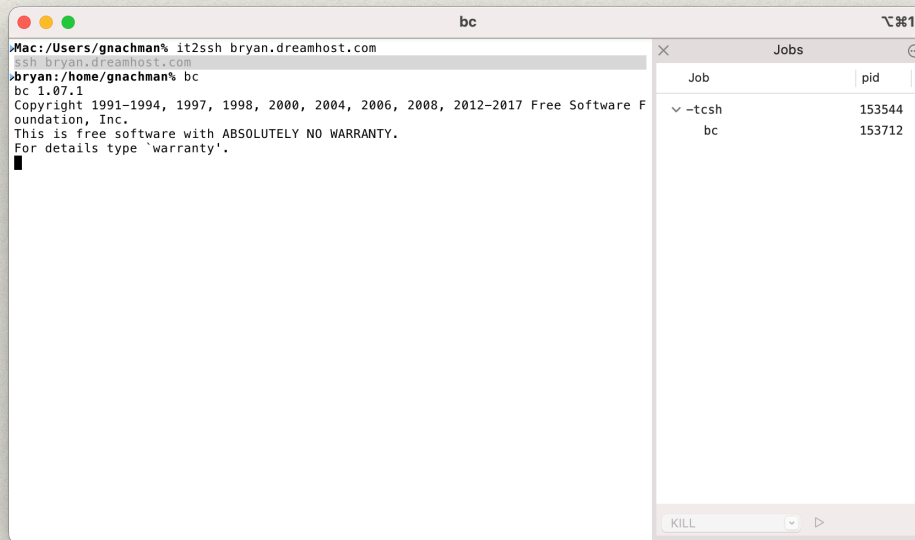
ARTIFICIAL INTELLIGENCE

Describe your command and have GPT write it for you



SSH INTEGRATION

More features of iTerm2 will “just work” when SSHed.



- Jobs tool
- Git status bar component
- Duplicate session
- File transfer without hacks
- Transfer environment variables
- Upload files
- Automatic shell integration injection

Q&A

