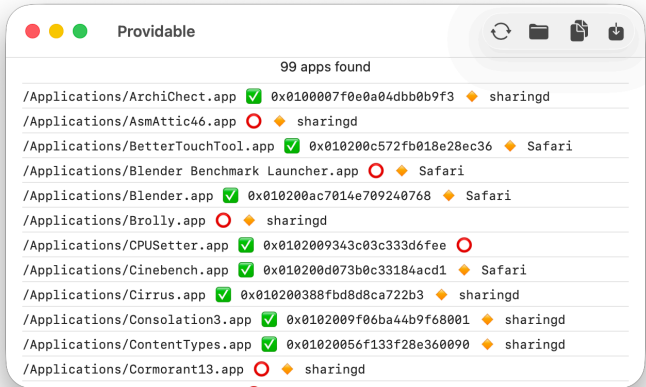


# Start



Providable gives you information about two types of extended attribute (xattr) now used extensively in macOS: *provenance* and *quarantine*. These can reveal which app last opened or modified a file, and how it was delivered to your Mac when it was downloaded or transferred to it. For further information → [Provenance and quarantine](#).

Providable has three windows:

- the **main window** is used to discover which apps are installed, and compile a list of provenance IDs before examining folders or files → [Providable main window](#)
- the **Crawl Folder** window is used to examine large folders of files and reveal provenance and quarantine information about each → [Crawl Folder](#)
- the **Drop Files** window is used to examine smaller collections of files and reveal provenance and quarantine information about each → [Drop Files](#).

→ [Technical Information](#)

# Provenance and quarantine

## Provenance

Recent versions of macOS track the origins of files and their subsequent changes using an extended attribute named `com.apple.provenance`. This contains an 11-byte integer to uniquely identify each app known to the Provenance Tracking table in the ExecPolicy database in macOS.

Apps are entered into that table, and assigned an ID, when they complete their first-run Gatekeeper checks successfully. As a result, apps signed by Apple don't take part in provenance tracking. Those include Apple's own apps, such as those bundled in macOS, and all apps supplied through the App Store.

When an app with a provenance ID performs operations like creating a file or opening it in write mode, macOS attaches its ID to that file in the provenance xattr, so that can be used to identify which app of those being tracked performed that operation.

One limitation to Providable's approach is that apps and processes that update apps replace their original xattr with their own, as they have performed file operations on the app's bundle contents to update it. When apps are removed, their provenance IDs persist on the files they have altered, although the app itself can no longer be found. This would also apply to an app updated by replacement, where the new app is given a fresh ID.

## Quarantine

Apps and other files obtained over a network normally have a quarantine xattr of type `com.apple.quarantine` attached to them. Recent versions of macOS also routinely attach the same xattr to some files that are created or changed. These xattrs contain the name of process that transferred them from the network, or the app that created or changed them. Provenance extracts that name from those quarantine xattrs that it encounters.

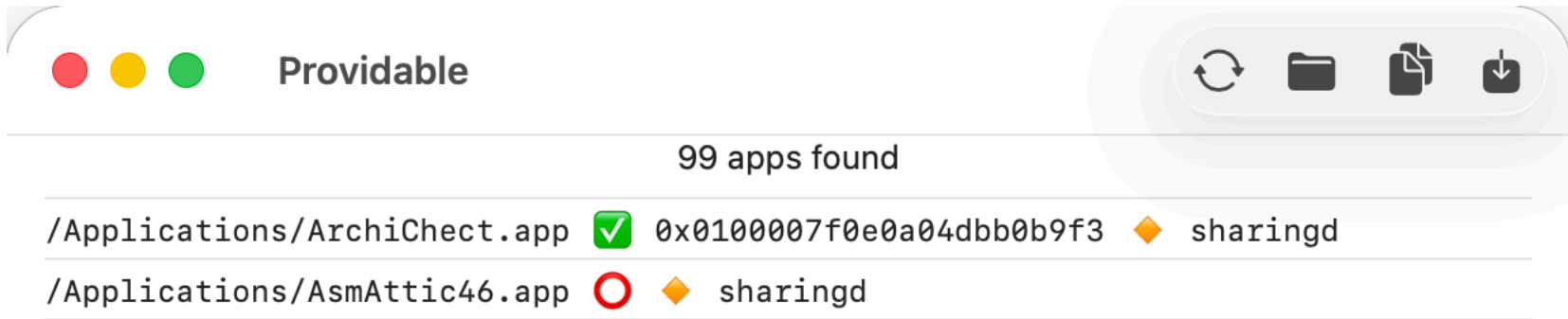
→ [Providable main window](#)

→ [Crawl Folder](#)




→ [Drop Files](#)

→ [Technical Information](#)

# Providable main window



Your first action when opening Providable is to discover which apps are installed using this window. Click on the **Load Apps** tool at the left of the toolbar. Providable then uses Spotlight to find all apps installed in the default search scope, that have been assigned provenance IDs or have quarantine xattrs, and displays them in this window. Providable also builds an index of their provenance IDs for use in the other two windows. Without that, it can't match files with known apps.

Entries give each app's full path and name, its provenance ID after the emoji , and any quarantine 'owner' given after the emoji . Where there's no provenance ID or quarantine owner given, the emoji  is shown instead.

This list of apps *excludes* Apple's and those supplied through the App Store, as those don't take part in the provenance system, and shouldn't have been quarantined either.

You can select multiple entries in this list, copy and paste them into a text editor. If you want a record of them all in CSV format, with commas separating fields, use the **Write CSV** tool at the right to save that as a file. When you're ready to examine files, use the **Crawl Folder** or **Drop Files** tool to open the next window.

→ [Provenance and quarantine](#)

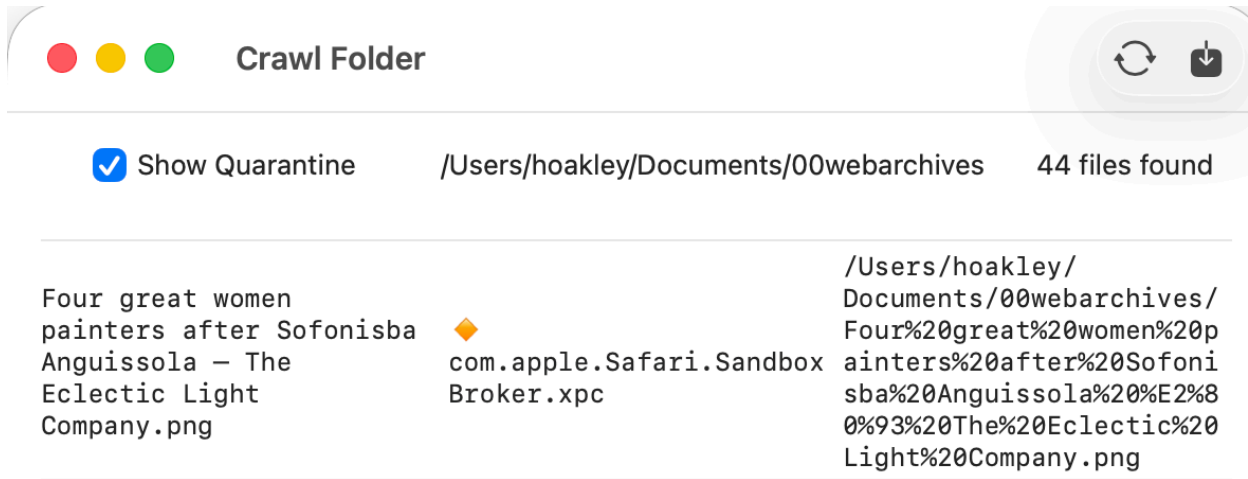
→ [Crawl Folder](#)

→ [Drop Files](#)



→ [Technical Information](#)

→ [Start](#)

# Crawl Folder



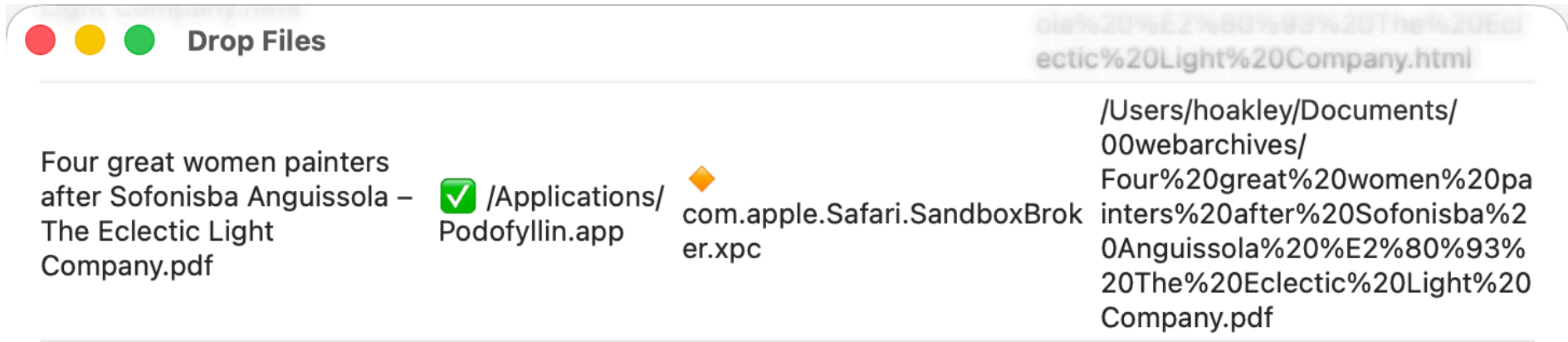
To inspect provenance and quarantine information of all the files in substantial folders, open this window, select the **Show Quarantine** checkbox if you want to include quarantine information as well, and click on the **Load Folder** tool. This window will then display the path to the window it's searching, and update the count of file it has found so far. When that number stops increasing, the list is complete.

This window *only* lists files that have either provenance ID or a quarantine xattr. Fields shown are in the order: file name, provenance ID (either the app name, or the raw ID if that can't be identified) marked with , the quarantine 'owner' marked with , and the full path to the file.



You can select multiple entries in this list, copy and paste them into a text editor. If you want a record of them all in CSV format, with commas separating fields, use the **Save Folder To CSV** tool at the right to save that as a file.

→ [Provenance and quarantine](#) → [Providable main window](#) → [Drop Files](#) → [Technical Information](#)

# Drop Files



To inspect provenance and quarantine information of a smaller collection of files, open this window and drag and drop the files onto it. If they include folders, files inside those won't be examined. This window then displays information about all the files dropped, even those without provenance or quarantine xattrs.

Information is given in the order: file name, provenance ID (either the app name, or the raw ID if that can't be identified) marked with , the quarantine 'owner' marked with , and the full path to the file.

You can select multiple entries in this list, copy and paste them into a text editor.

→ [Provenance and quarantine](#) → [Providable main window](#) → [Crawl Folder](#) → [Technical Information](#)

# Technical Information

Providable obtains information about these xattrs directly, using the `getxattr()` function. It doesn't use the `xattr` command tool.

The list of all apps is obtained using the command `mdfind "kMDItemKind == 'Application'"` on the default domain.

Drag and drop is implemented using code derived from Javier at [The SwiftUI Lab](#).

Providable requires an Intel or Apple silicon Mac running at least macOS 14.6 because of its use of features in SwiftUI.

Detailed information about the provenance system is given in Koh M. Nakagawa's [account of XProtect Remediator](#). A shorter summary of provenance and quarantine xattrs for the non-specialist is [given here](#).

→ [Provenance and quarantine](#)    → [Providable main window](#)    → [Crawl Folder](#)    → [Drop Files](#)

## Change list

*1.1:*

- fixed confusing typos in Help book.

*1.0:*

- first release.

2 January 2026.