



@MacITConf
#MacIT2015

Deploying iOS and OS X
in the Enterprise

July 14-16, 2015 | Santa Clara, CA

Using AutoPkgr to Automate Patch Management

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automate | 'ôtə,māt |

verb

convert (a process or facility) to largely automatic operation

patch management | paCH 'manijmənt |

noun

the acquisition, delivery, and installation of software to a fleet of computers

AutoPkgr | 'ôtōpakijr | *noun*

a free, open-source Mac app that serves as a front-end interface for the AutoPkg package creation framework

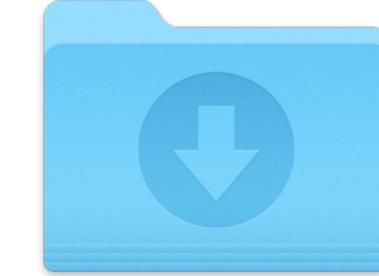
We're *not* automating the entire process.

Humans can and should remain involved.

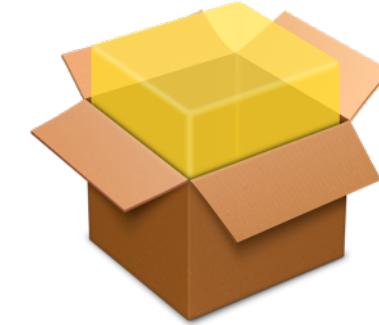
We're *not* changing your distribution tool.

AutoPkgr helps make things easy, but you still need to know how things work.

What's in it for me?



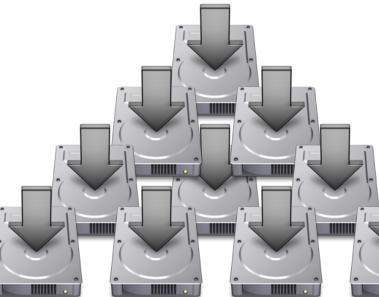
Stop monitoring for new software releases. Let your Mac do the work.



Repackaging manually will become something you do less often.



Helps to standardize the testing/staging process with reproducible results.



Consistent deployments that scale well and reduce human error.



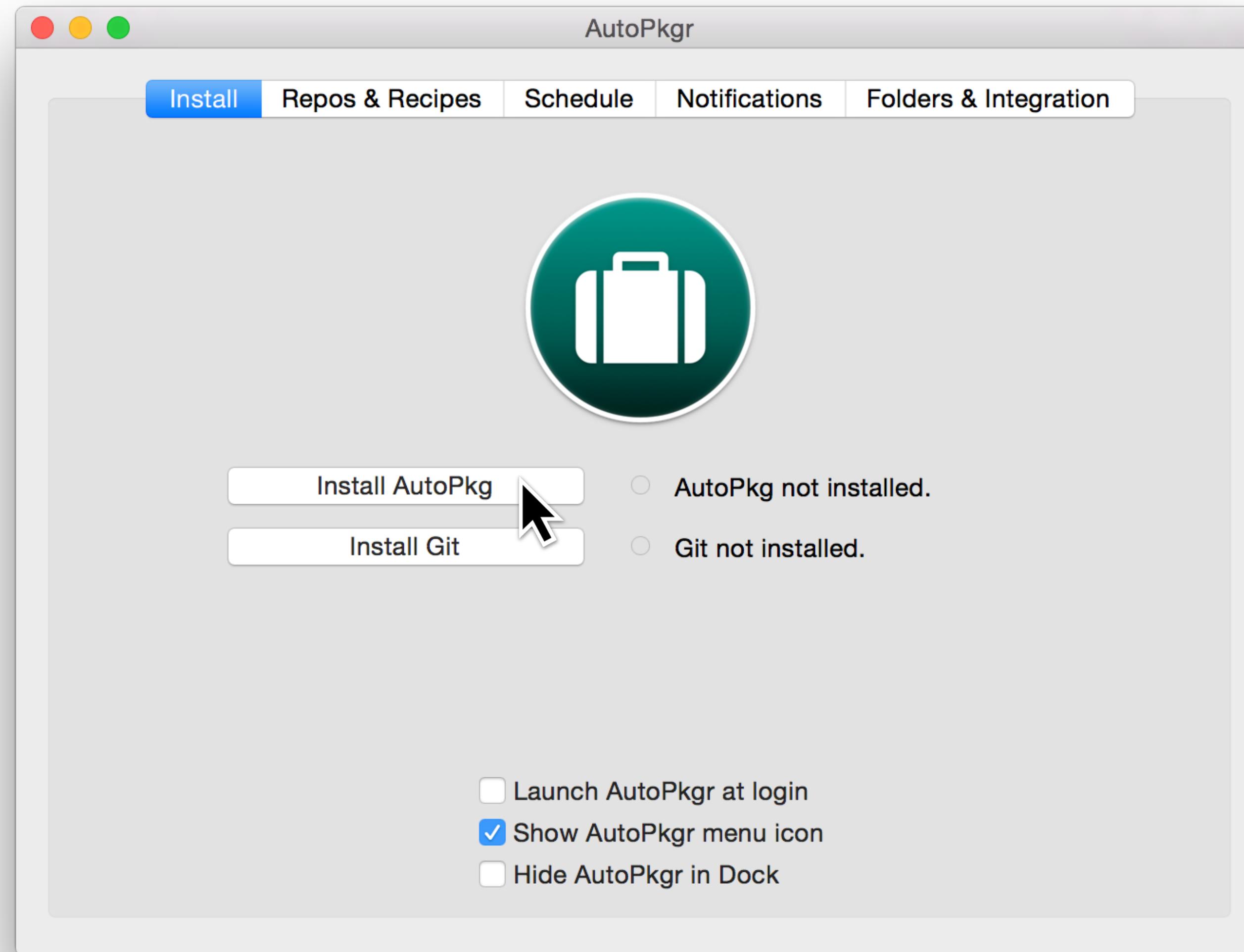
Spend time doing more interesting things.



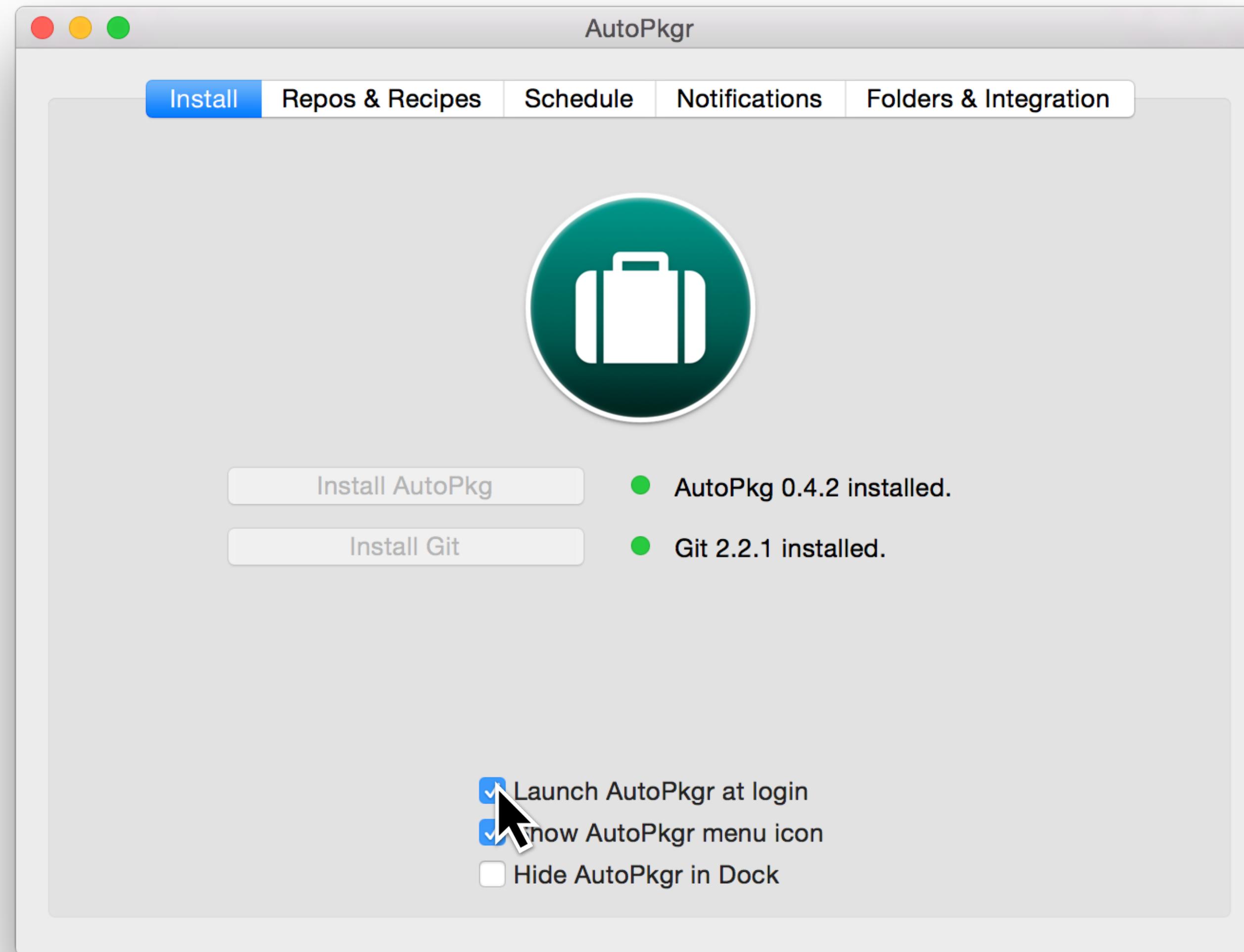
AutoPkgr

<http://www.lindegroup.com/autopkgr>

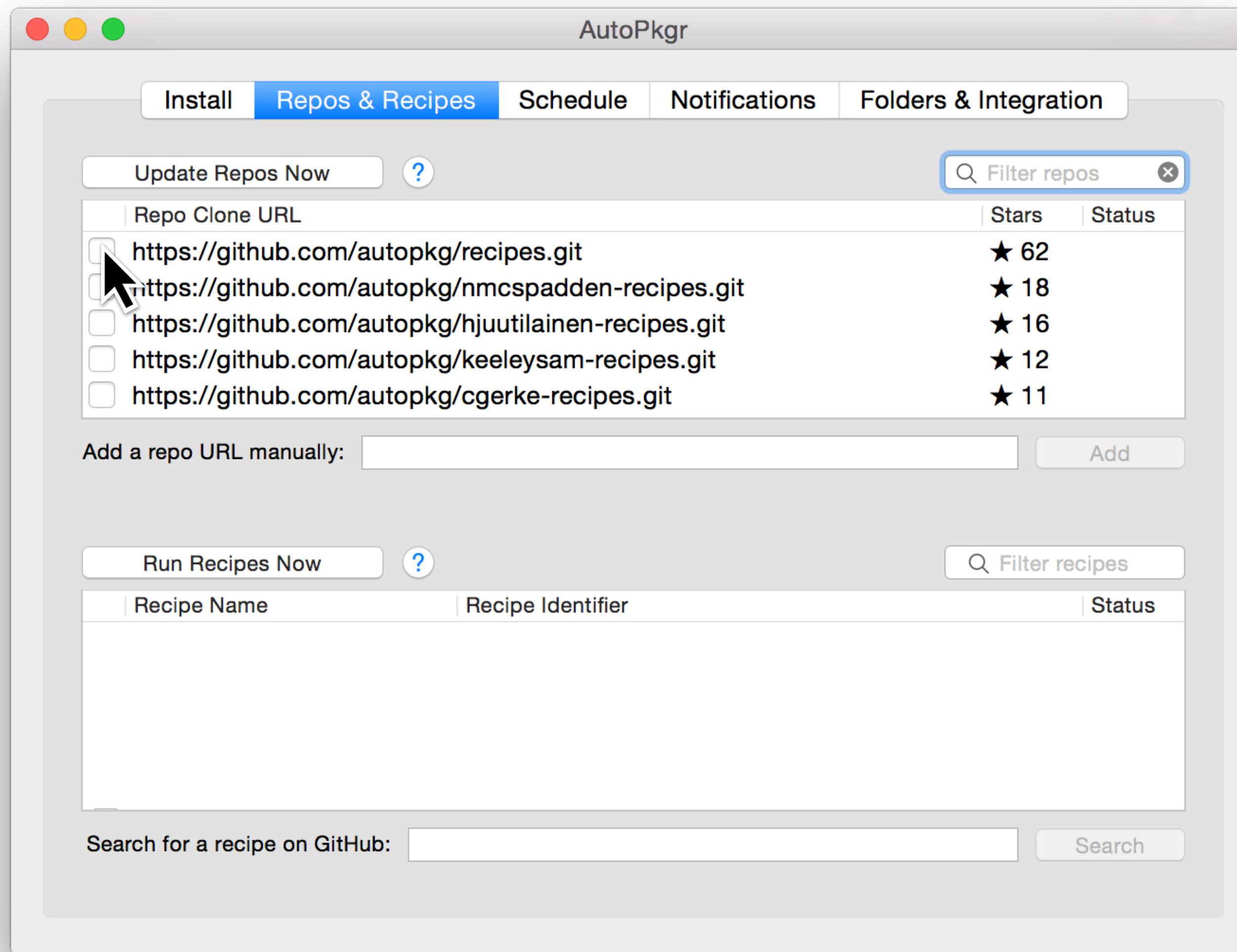
Installing the necessary tools



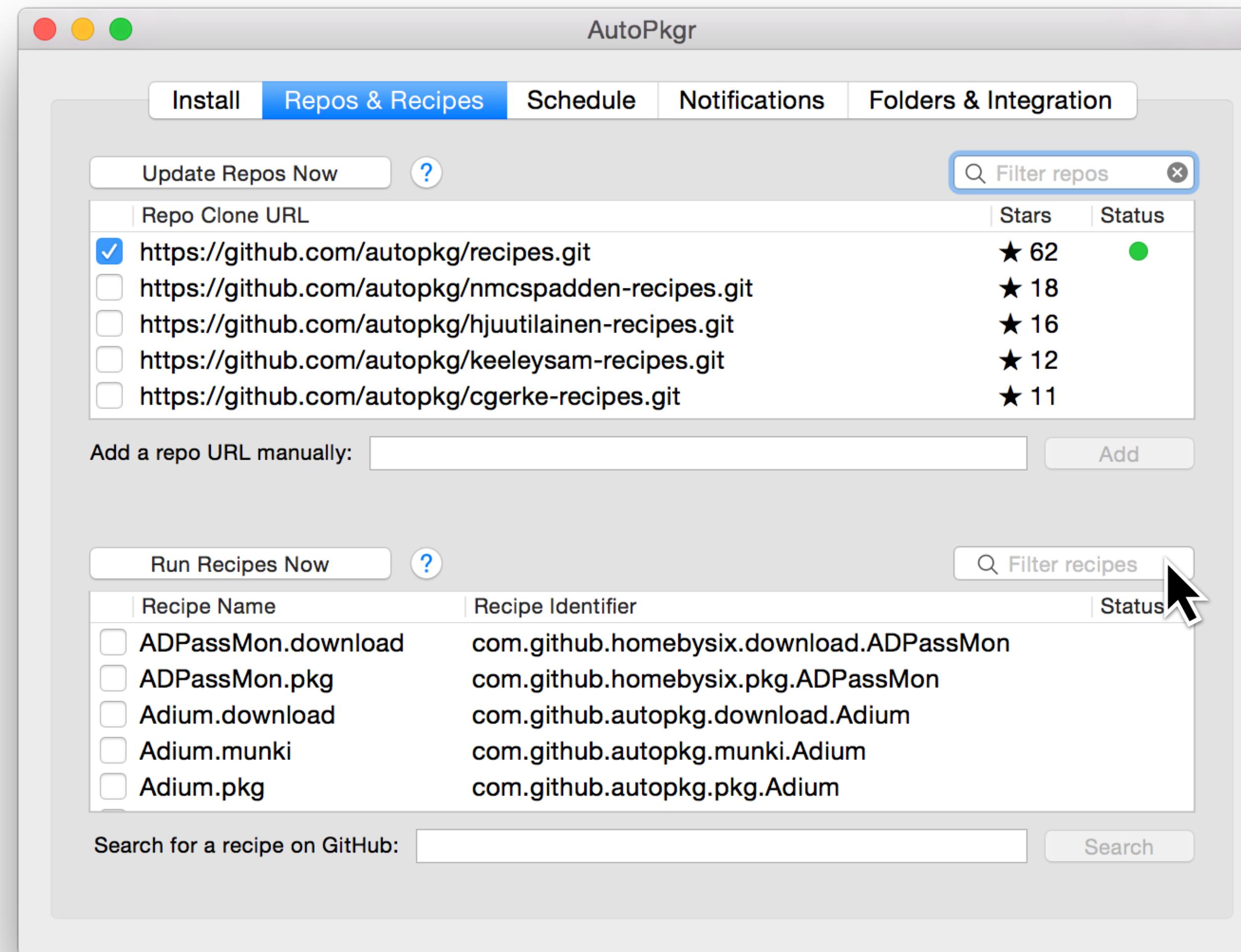
Installing the necessary tools



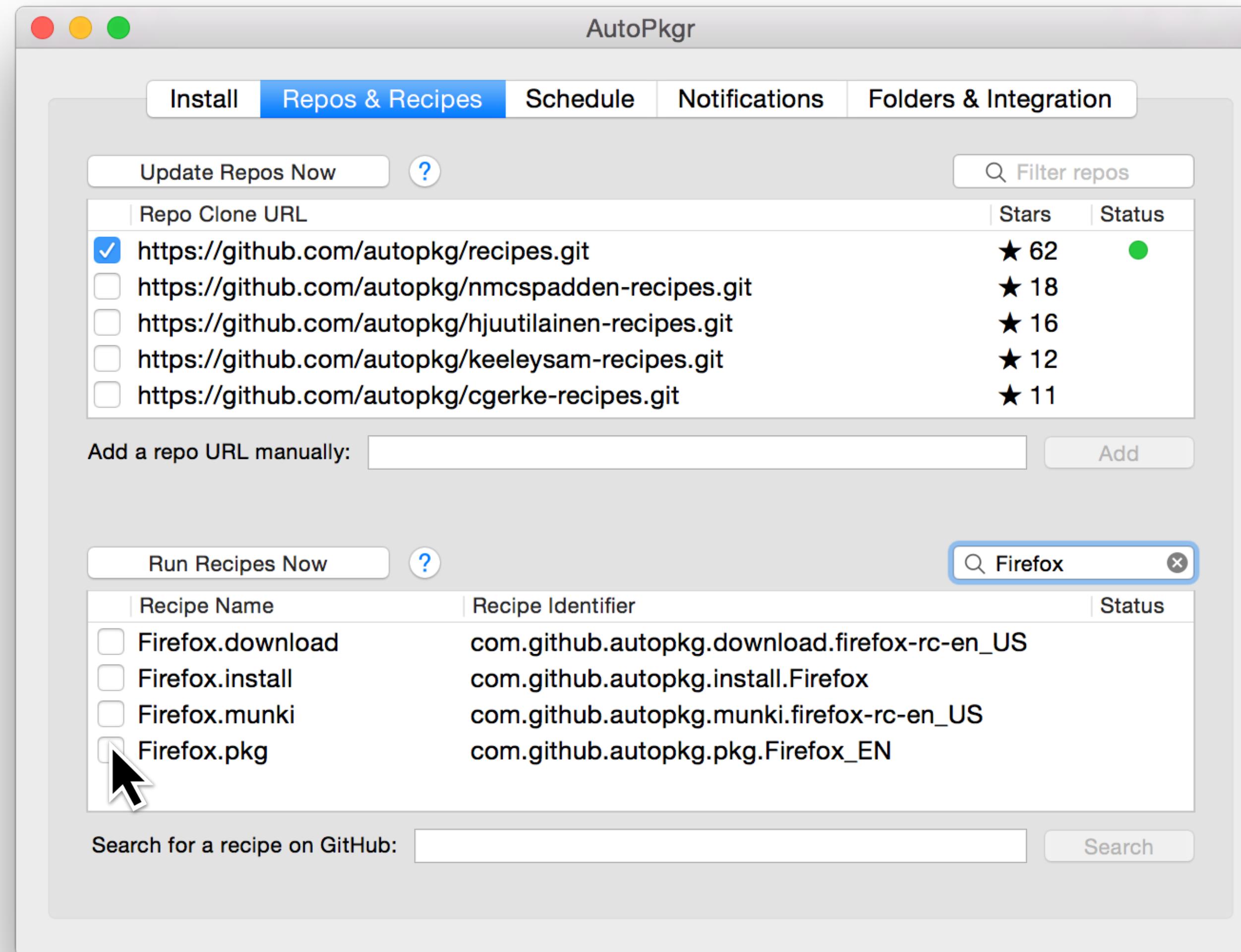
Configuring Repos and Recipes



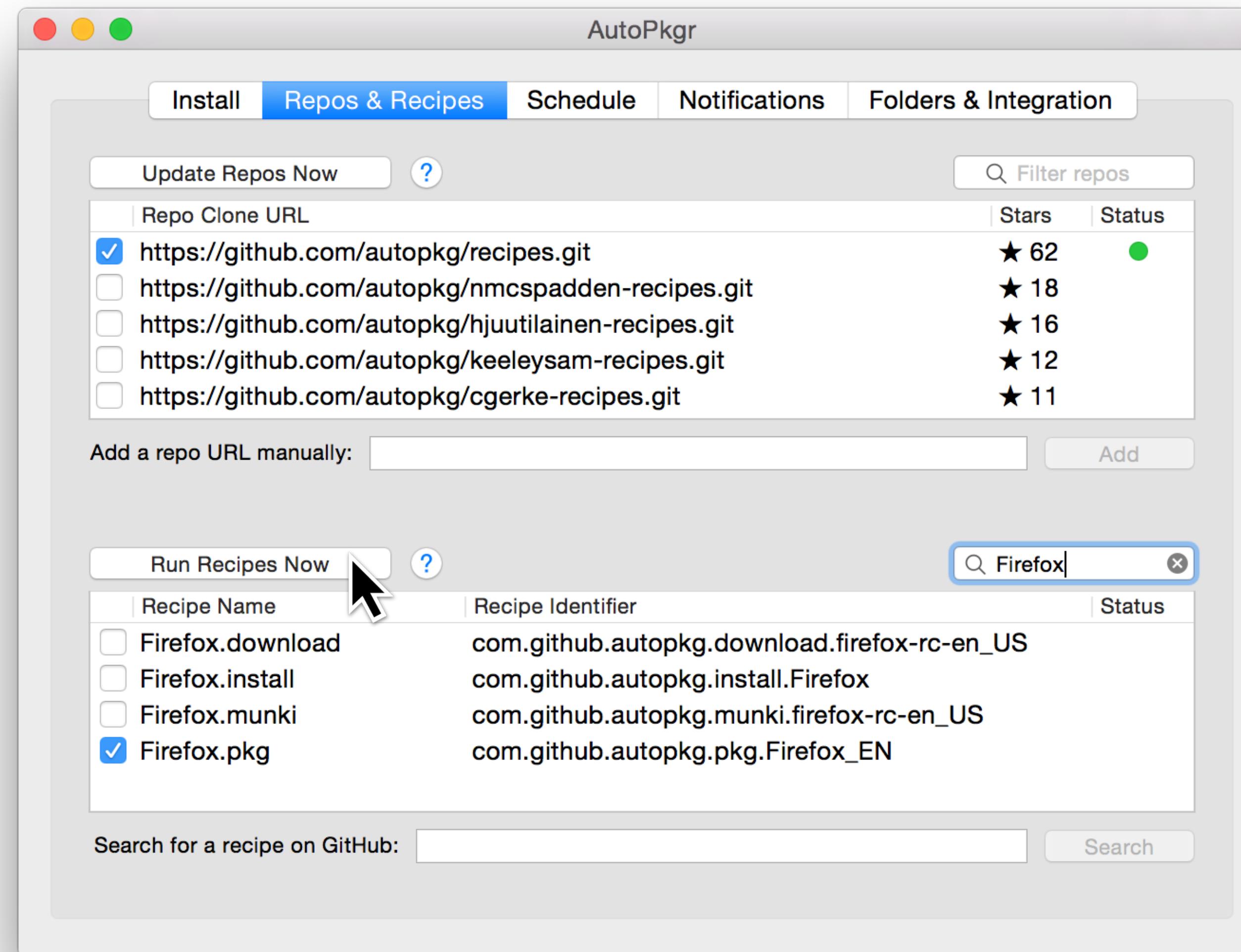
Configuring Repos and Recipes



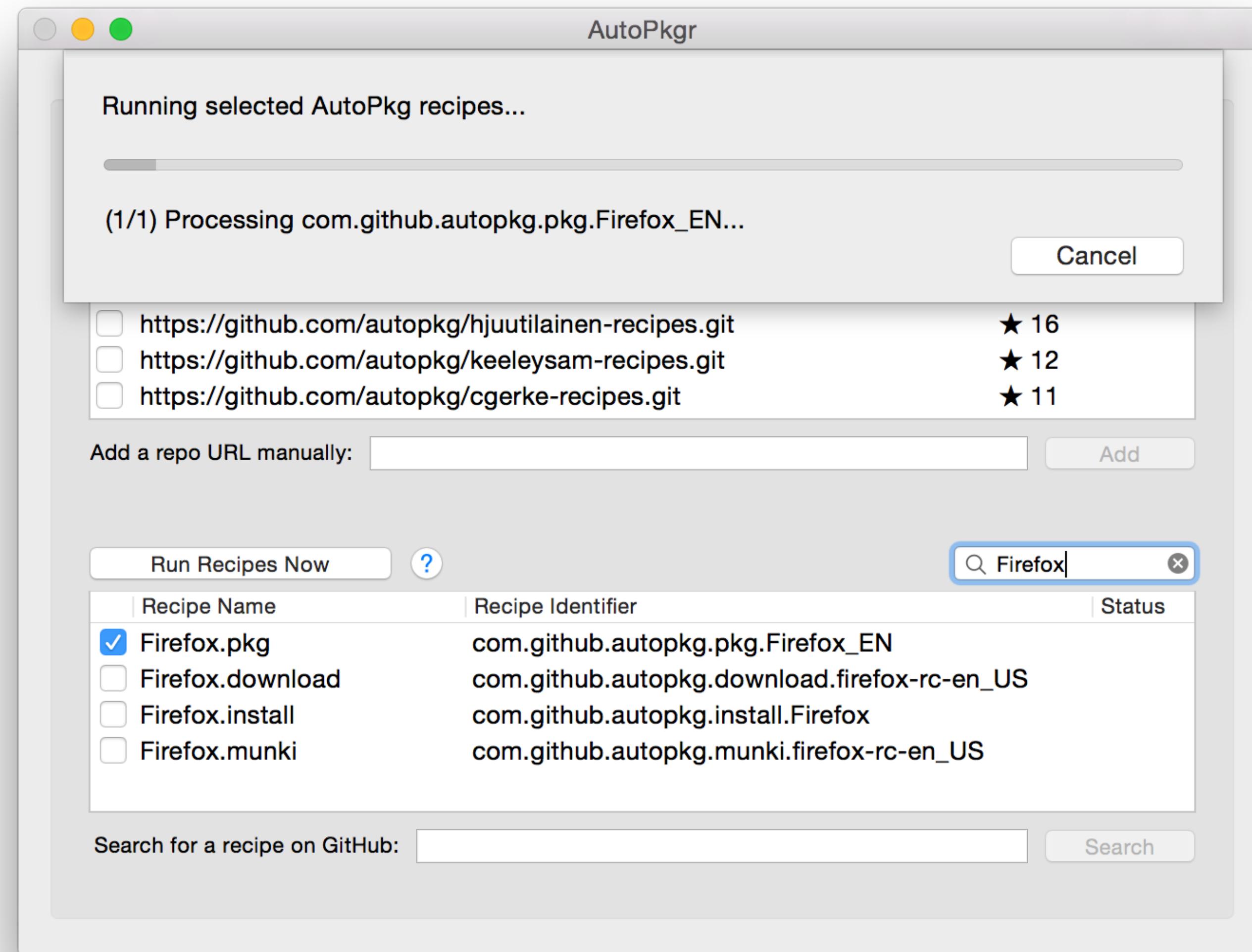
Configuring Repos and Recipes



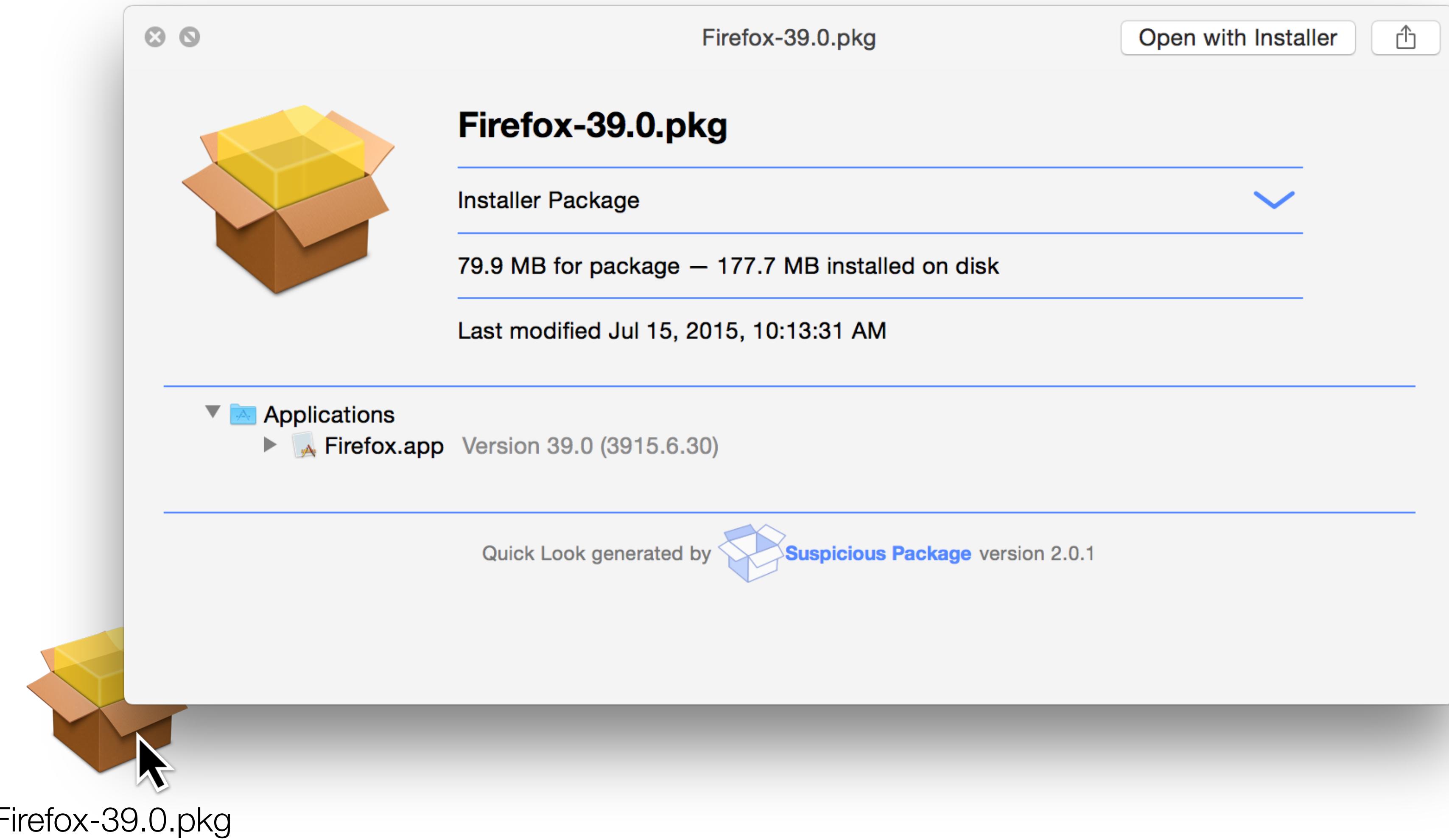
Configuring Repos and Recipes



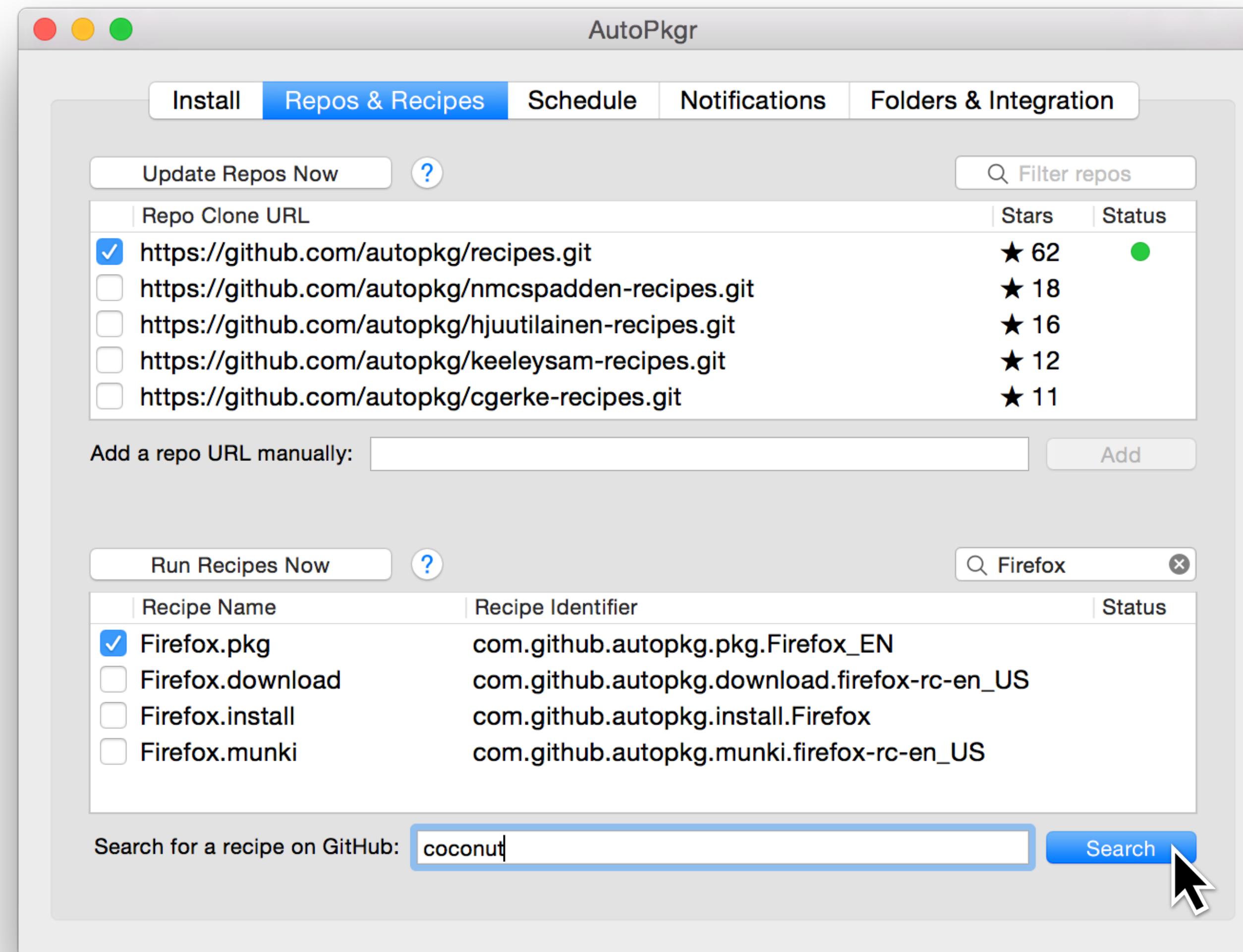
Configuring Repos and Recipes



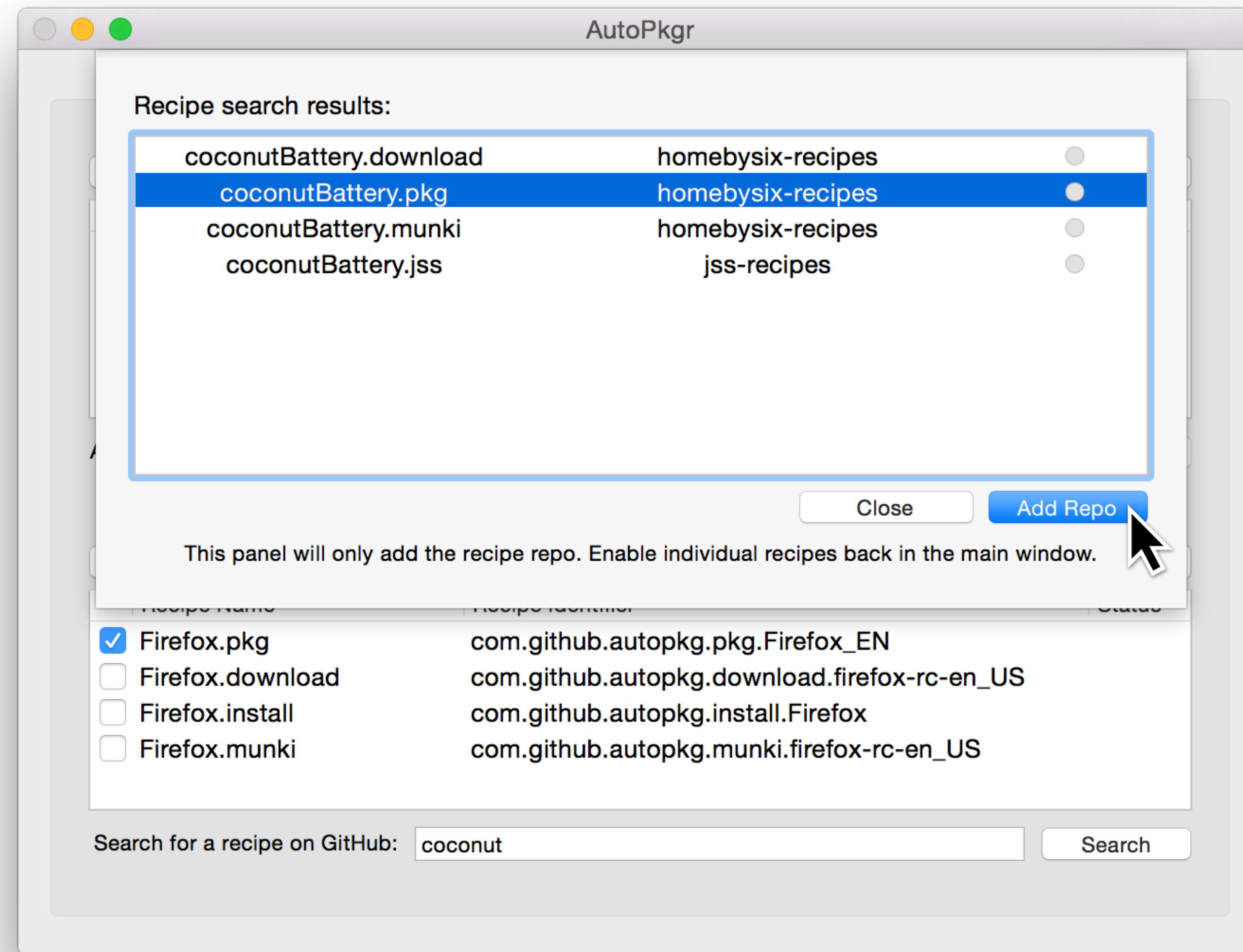
Configuring Repos and Recipes



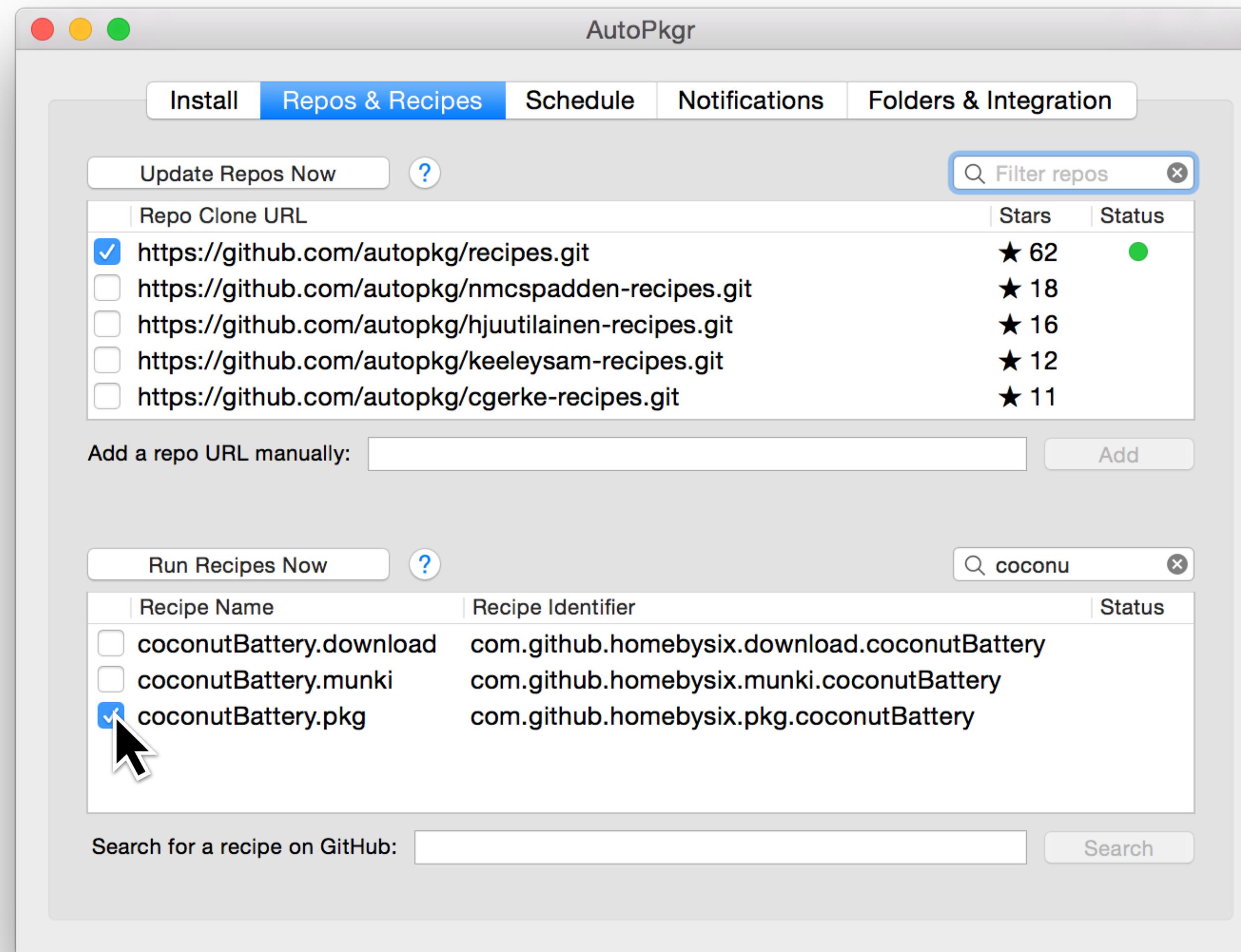
Configuring Repos and Recipes



Configuring Repos and Recipes



Configuring Repos and Recipes





Recipe Overrides

Firefox.download.recipe

The screenshot shows a Mac OS X TextEdit window with the title "Firefox.download.recipe". The content is an XML plist file. A specific section of the code, which defines the "RELEASE" key as "latest", is highlighted with an orange rectangle.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
    <key>Description</key>
    <string>Download recipe for Firefox. Finds and downloads a Firefox release. Values for RELEASE correspond to directories here: http://download-origin.cdn.mozilla.net/pub/mozilla.org/firefox/releases/ Some useful values are: 'latest', 'latest-10.0esr', 'latest-esr', 'latest-3.6', 'latest-beta' LOCALE corresponds to directories at http://download-origin.cdn.mozilla.net/pub/mozilla.org/firefox/releases/$RELEASE/mac/ Examples include 'en-US', 'de', 'ja-JP-mac', 'sv-SE', and 'zh-TW' No idea if all Firefox builds are available in all the same localizations, so you may need to verify that any particular combination is offered.</string>
    <key>Identifier</key>
    <string>com.github.autopkg.download.firefox-rc-en_US</string>
    <key>Input</key>
    <dict>
        <key>RELEASE</key>
        <string>latest</string>
        <key>LOCALE</key>
        <string>en_US</string>
        <key>NAME</key>
        <string>Firefox</string>
    </dict>
    <key>MinimumVersion</key>
    <string>0.2.0</string>
```

Recipe Overrides

Firefox.download



Firefox.pkg.recipe

```
Firefox.pkg.recipe
1 <?xml version="1.0" encoding="UTF-8"?>
2 <!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.
com/DTDs/PropertyList-1.0.dtd">
3 <plist version="1.0">
4 <dict>
5   <key>Description</key>
6   <string>Downloads Firefox disk image and builds a package.
7 Values for RELEASE correspond to directories here: http://download-origin.cdn.
mozilla.net/pub.mozilla.org/firefox/releases/
8 Some useful values are: 'latest', 'latest-10.0esr', 'latest-esr', 'latest-3.6',
'latest-beta'
9 LOCALE corresponds to directories at http://download-origin.cdn.mozilla.
net/pub.mozilla.org/firefox/releases/$RELEASE/mac/
10 Examples include 'en-US', 'de', 'ja-JP-mac', 'sv-SE', and 'zh-TW'
11 No idea if all Firefox builds are available in all the same localizations, so
you may need to verify that any particular
combination is offered.</string>
12   <key>Identifier</key>
13   <string>com.github.autopkg.pkg.Firefox_EN</string>
14   <key>Input</key>
15   <dict>
16     <key>NAME</key>
17     <string>Firefox</string>
18   </dict>
19   <key>MinimumVersion</key>
20
21   <key>ParentRecipe</key>
22   <string>com.github.autopkg.download.firefox-rc-en_US</string>
23
24
25
```

Recipe Overrides

Firefox.download



Firefox.pkg



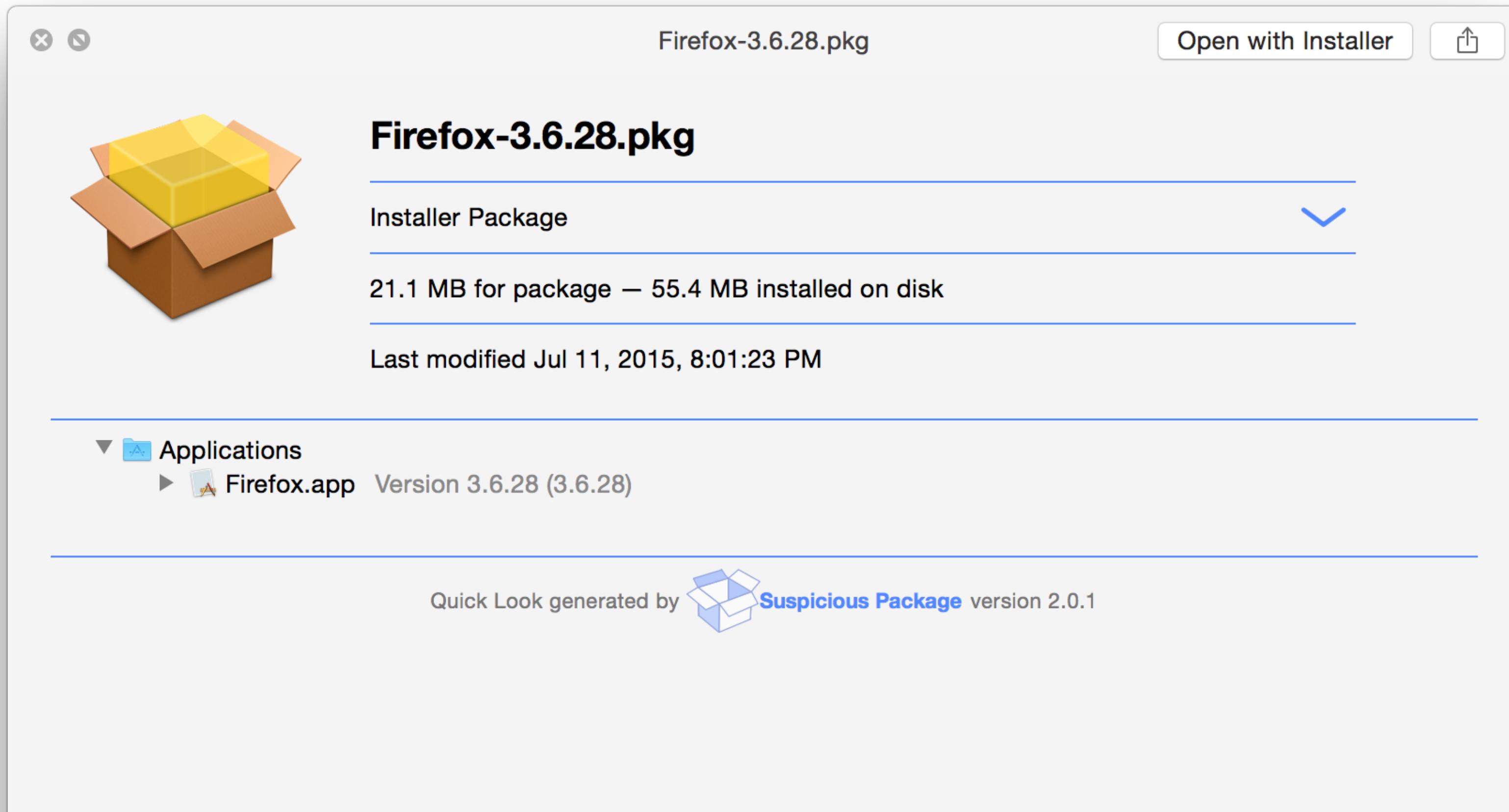
Firefox-3.6.pkg.recipe

```
Firefox-3.6.pkg.recipe
1  <?xml version="1.0" encoding="UTF-8"?>
2  <!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN"
   "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
3  <plist version="1.0">
4  <dict>
5    <key>Identifier</key>
6    <string>local.pkg.Firefox-3.6</string>
7    <key>Input</key>
8    <dict>
9      <key>RELEASE</key>
10     <string>latest-3.6</string>
11   </dict>
12   <key>ParentRecipe</key>
13   <string>com.github.autopkg.pkg.Firefox_EN</string>
14 </dict>
15 </plist>
16
```

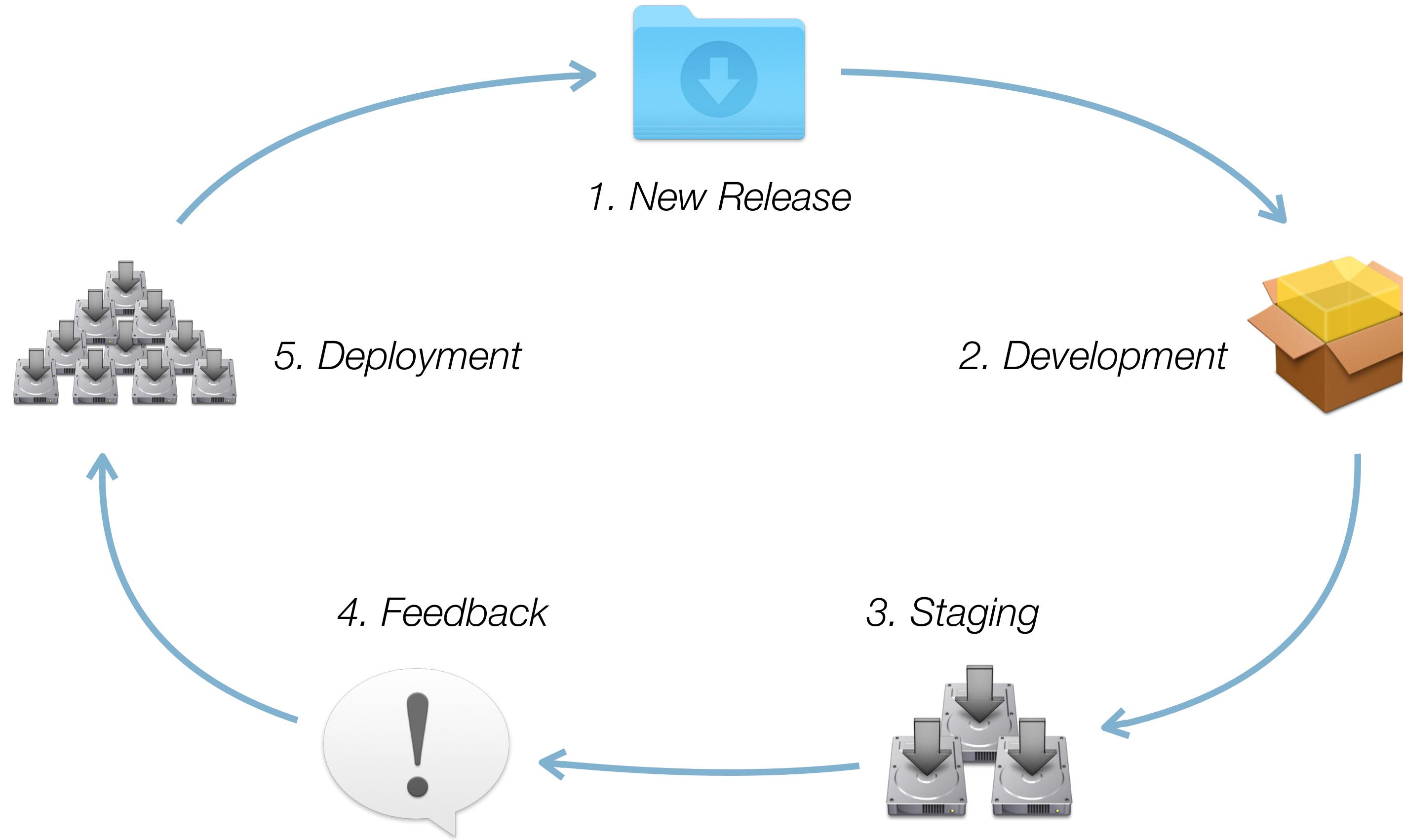
Line 16, Column 1 Spaces: 4 plist

Recipe Overrides

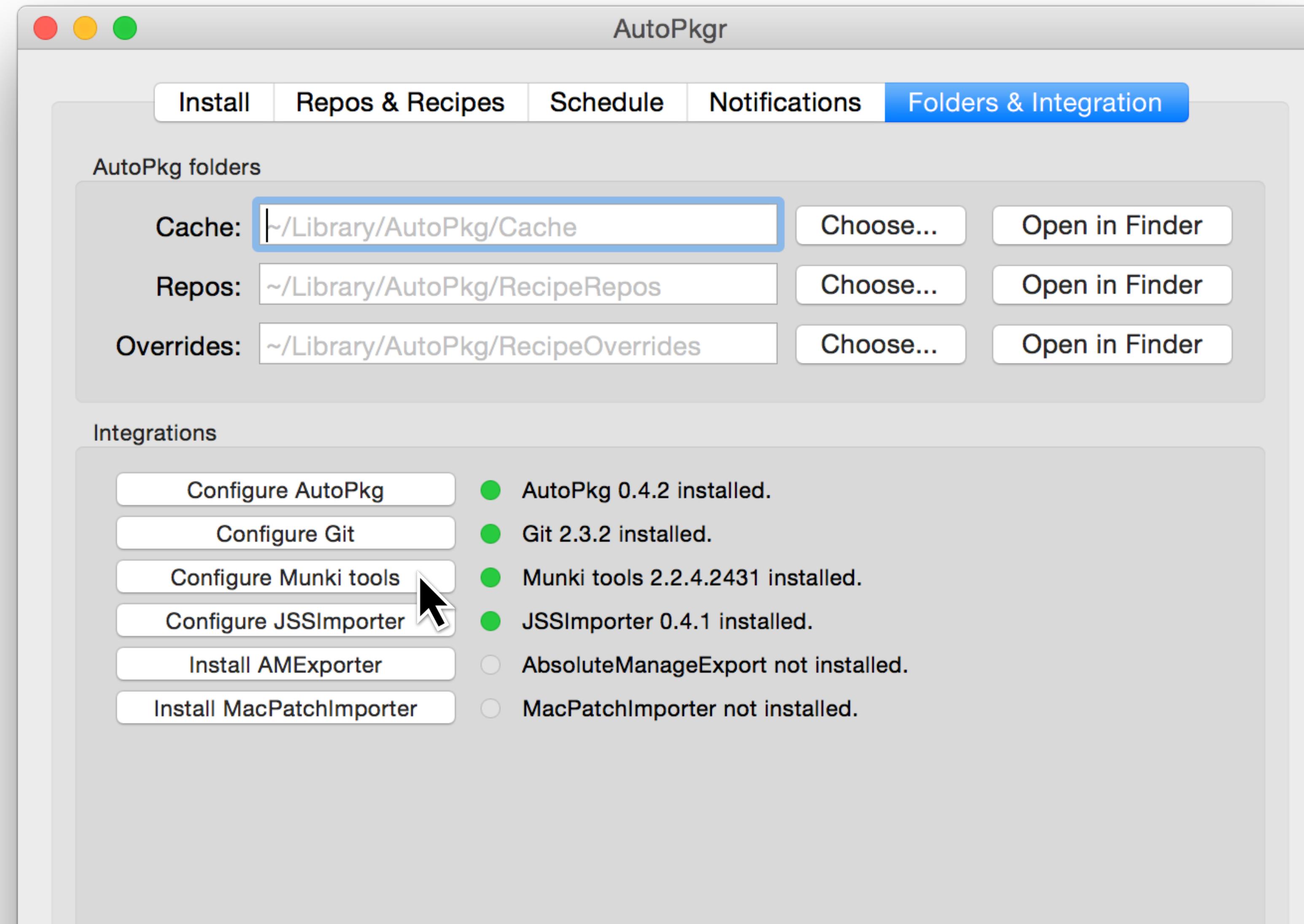
autopkg run Firefox-3.6.pkg



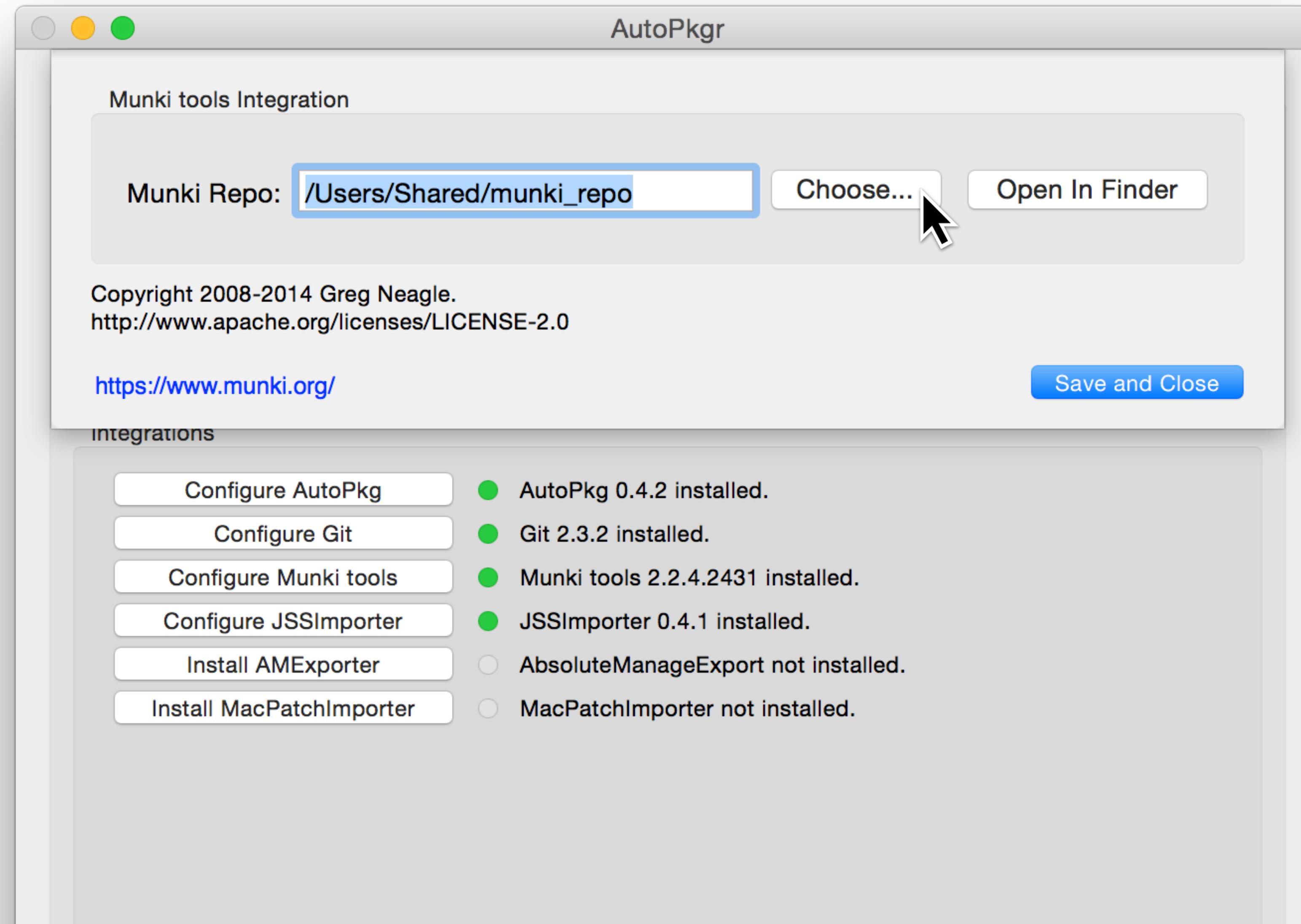
The Software Distribution Circle of Life



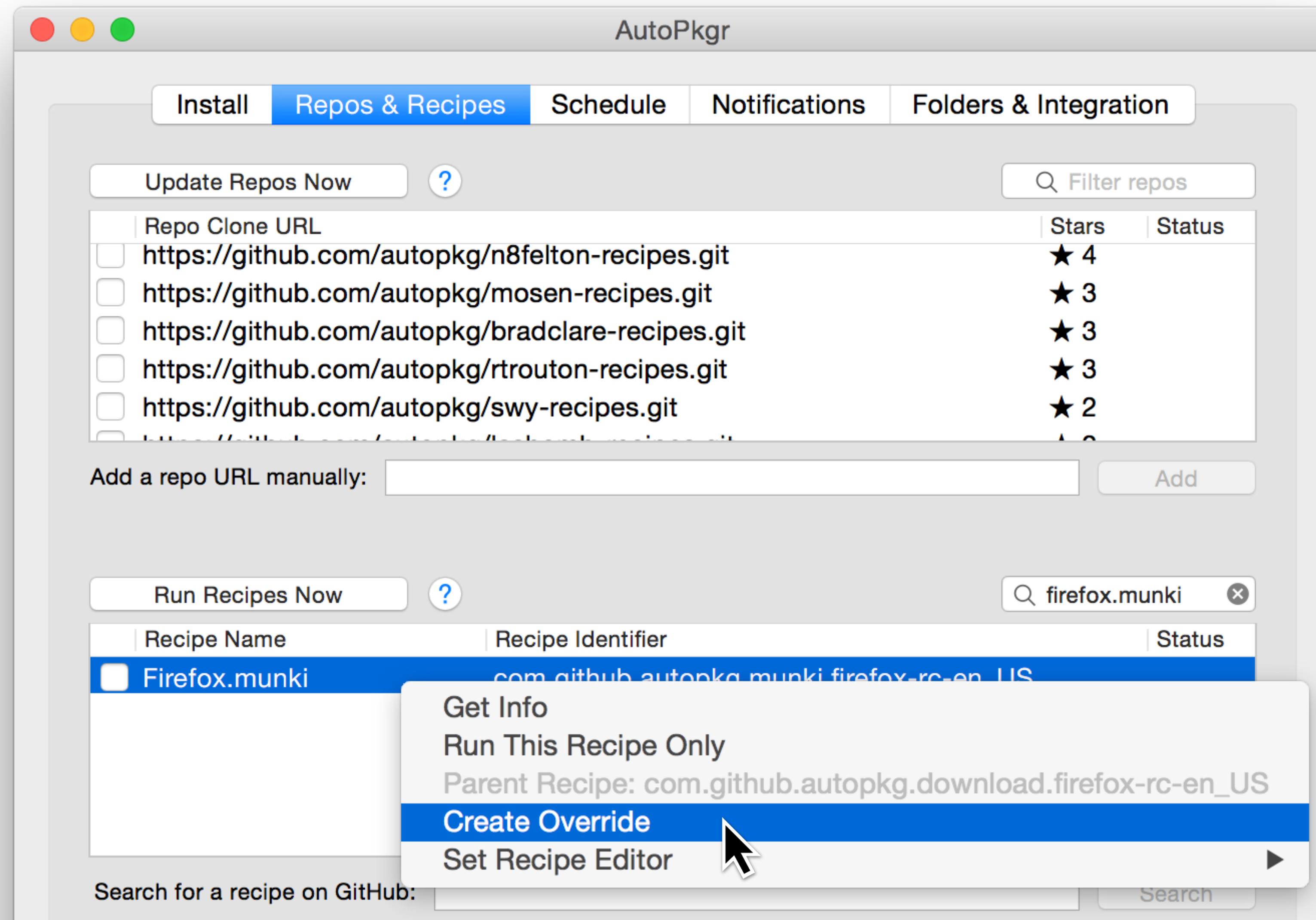
Munki



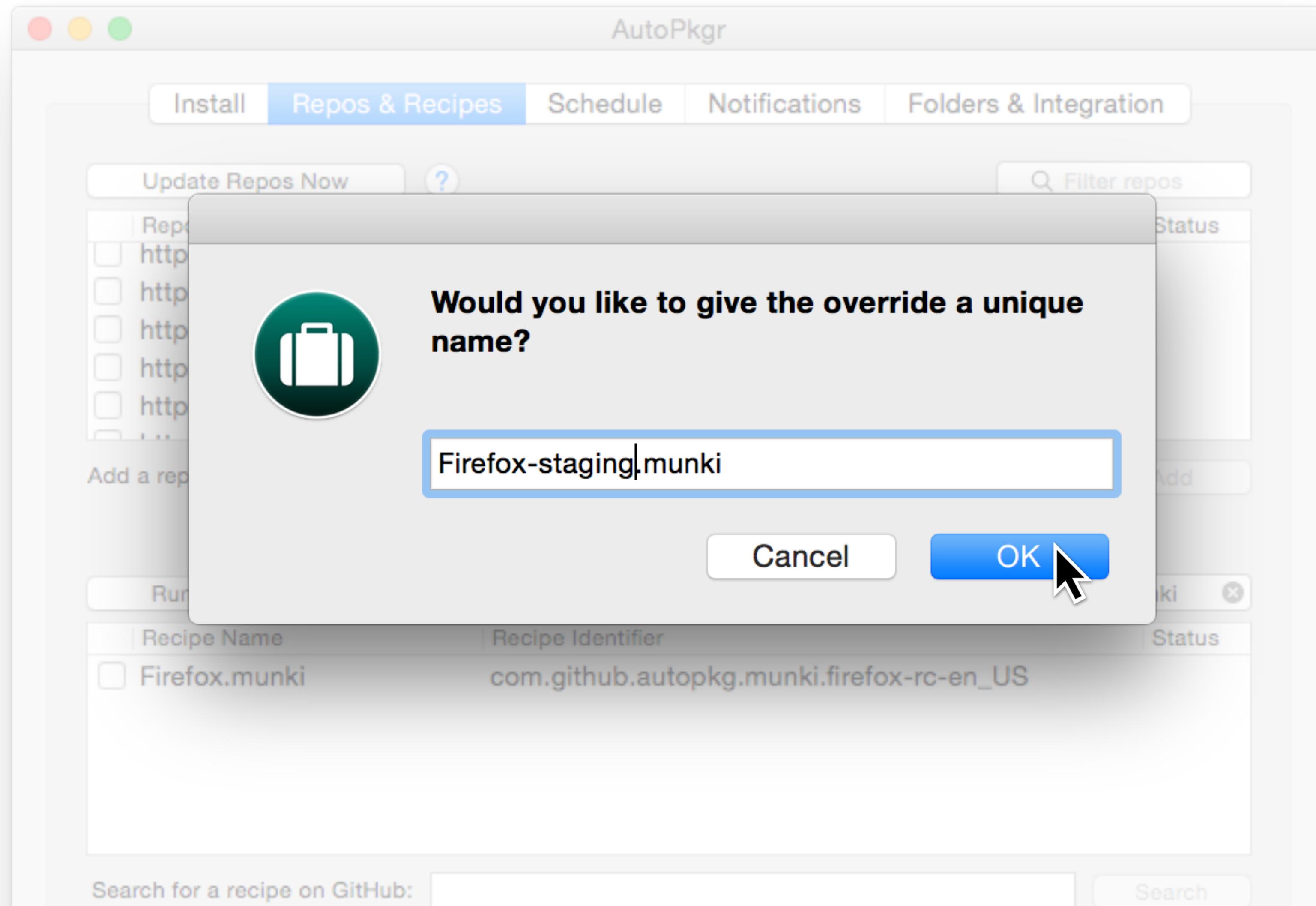
Munki



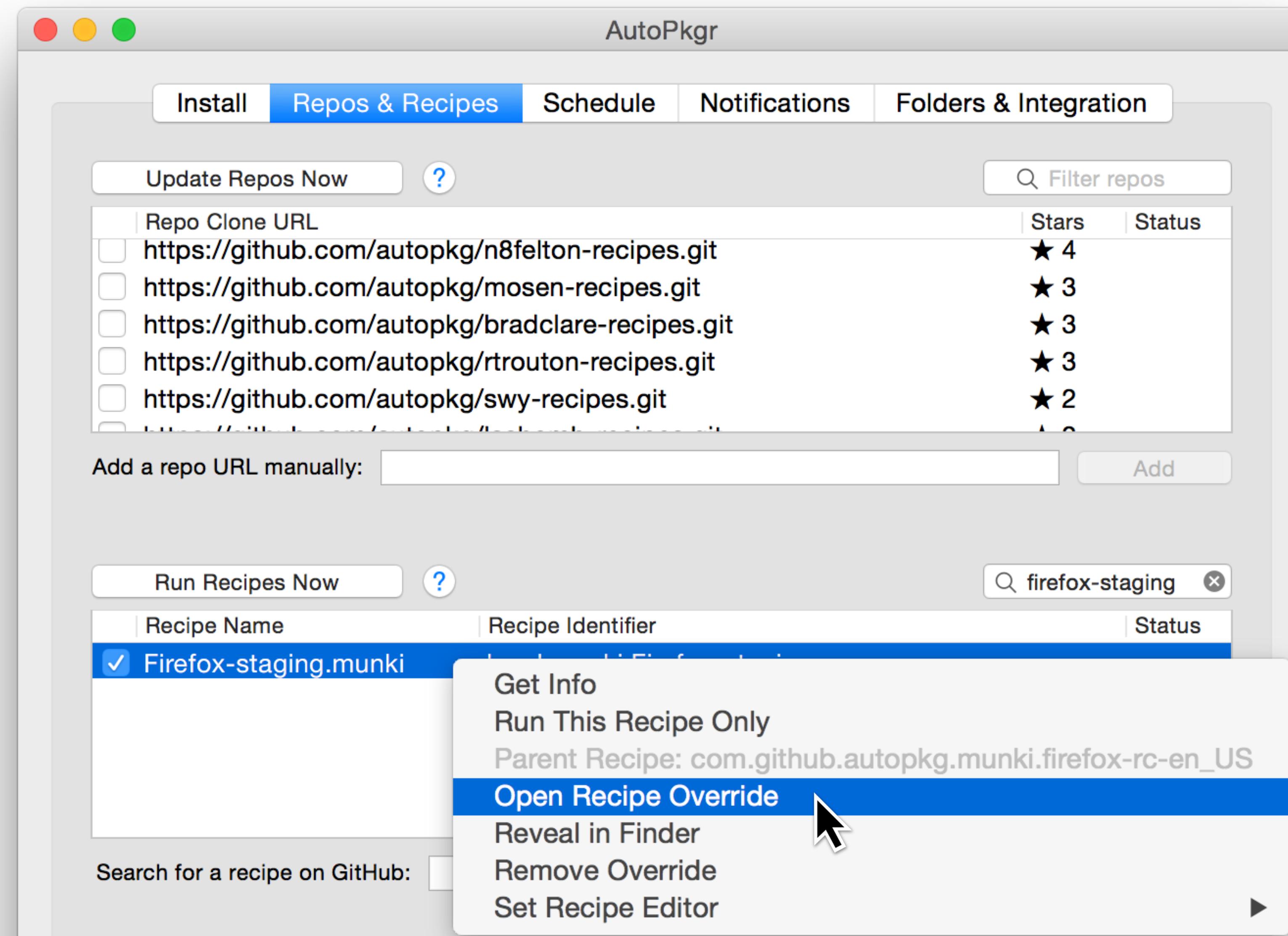
Munki



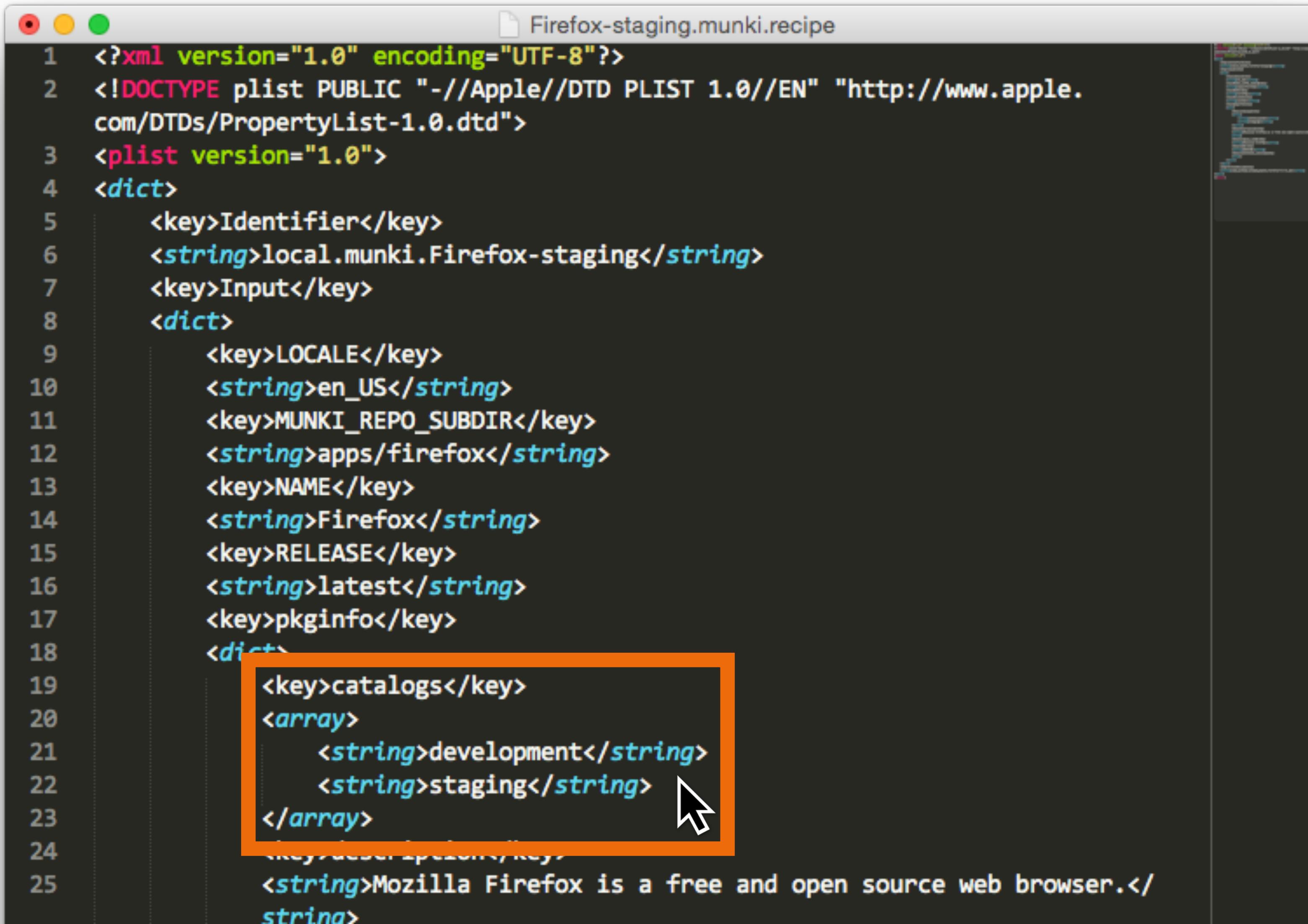
Munki



Munki

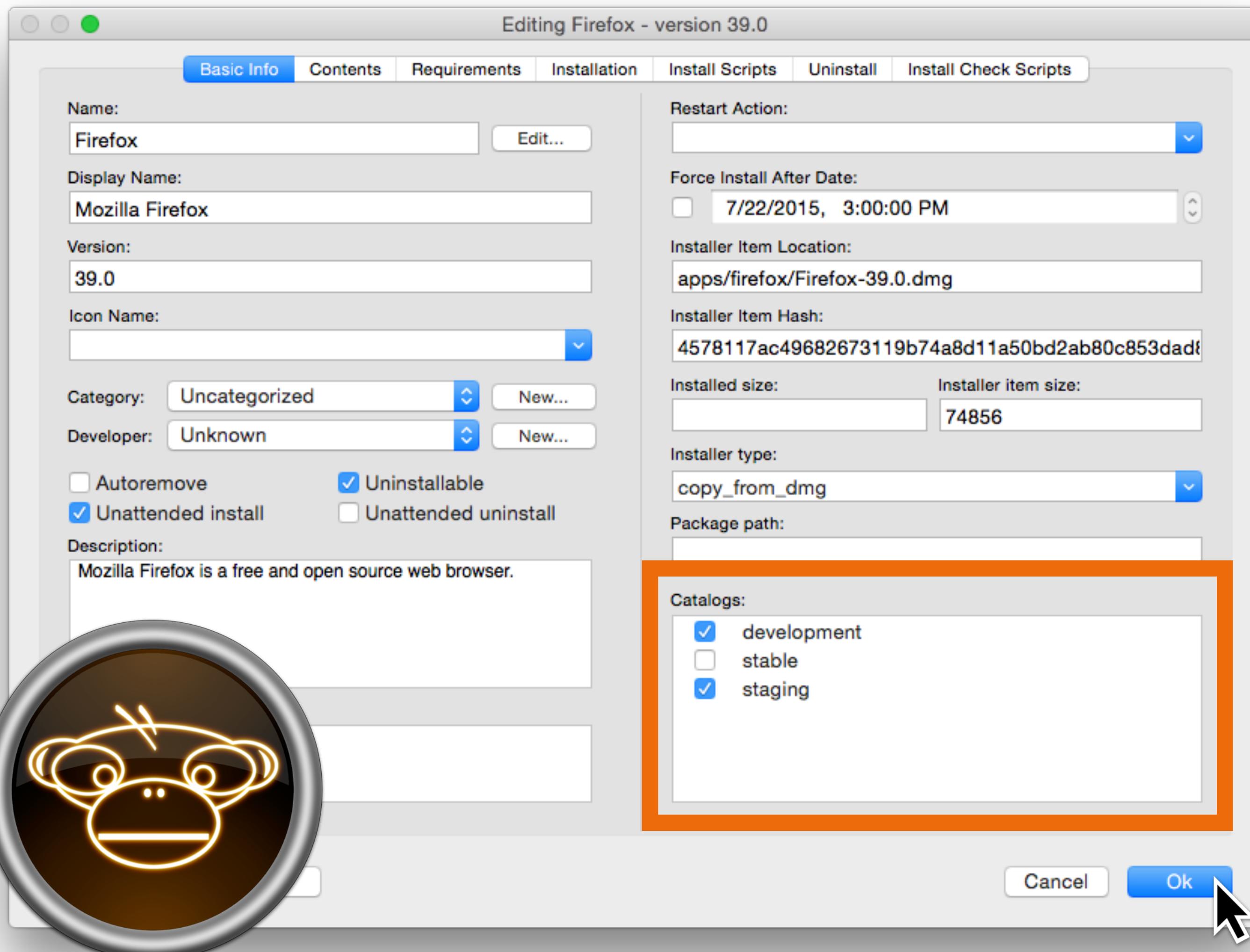


Munki

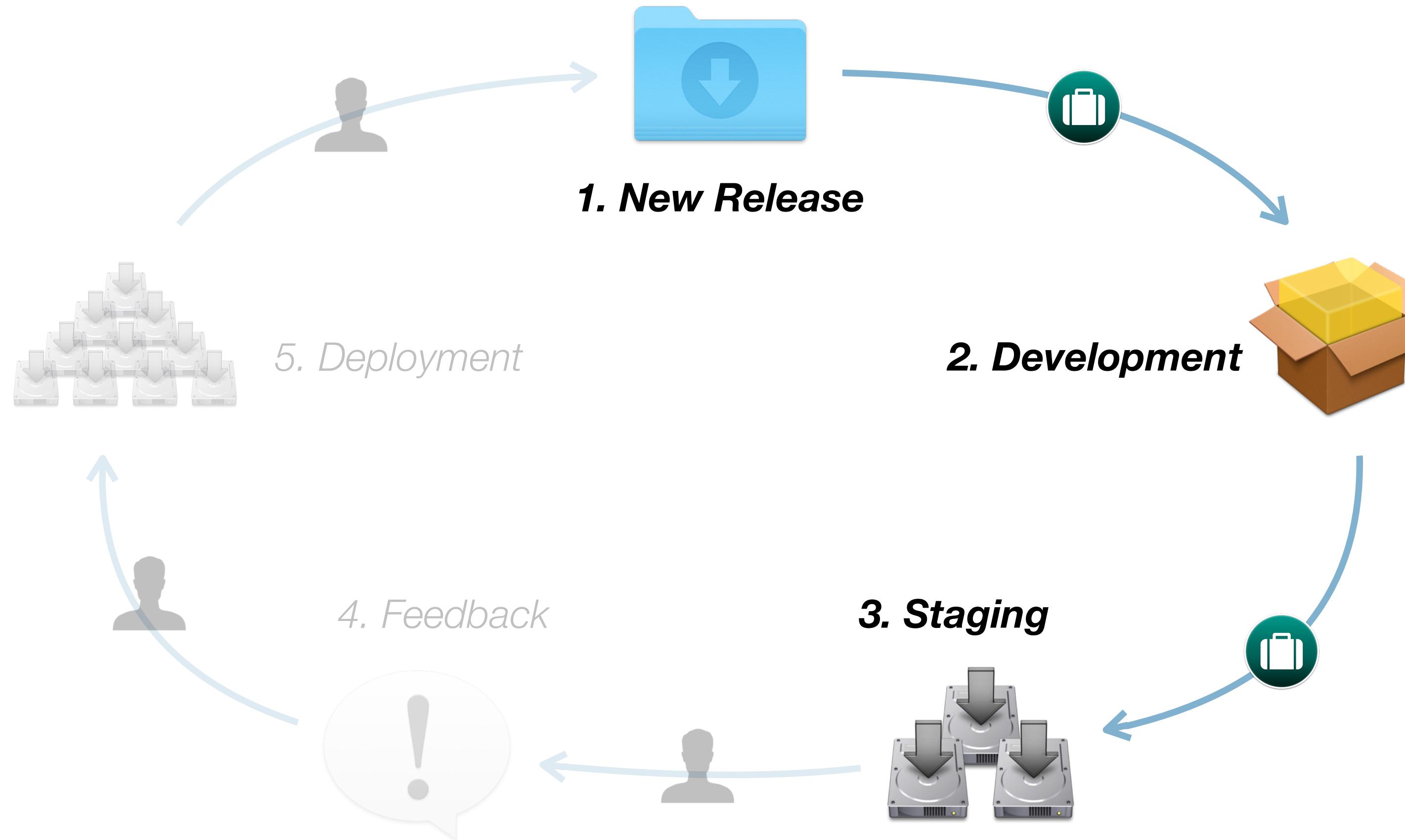


```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
<key>Identifier</key>
<string>local.munki.Firefox-staging</string>
<key>Input</key>
<dict>
<key>LOCALE</key>
<string>en_US</string>
<key>MUNKI_REPO_SUBDIR</key>
<string>apps/firefox</string>
<key>NAME</key>
<string>Firefox</string>
<key>RELEASE</key>
<string>latest</string>
<key>pkginfo</key>
<dict>
<key>catalogs</key>
<array>
<string>development</string>
<string>staging</string>
</array>
<key>description</key>
<string>Mozilla Firefox is a free and open source web browser.</string>
```

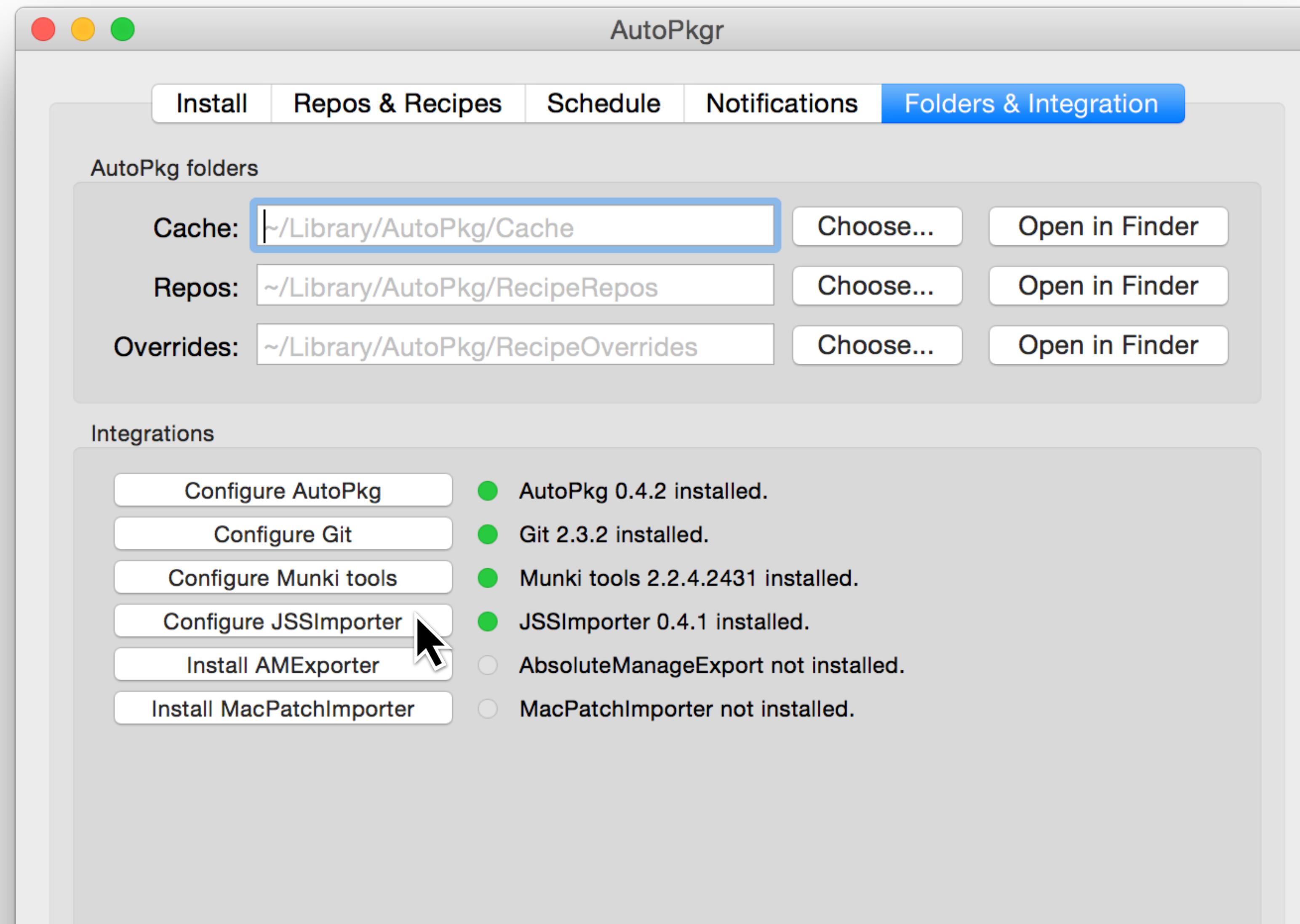
Munki



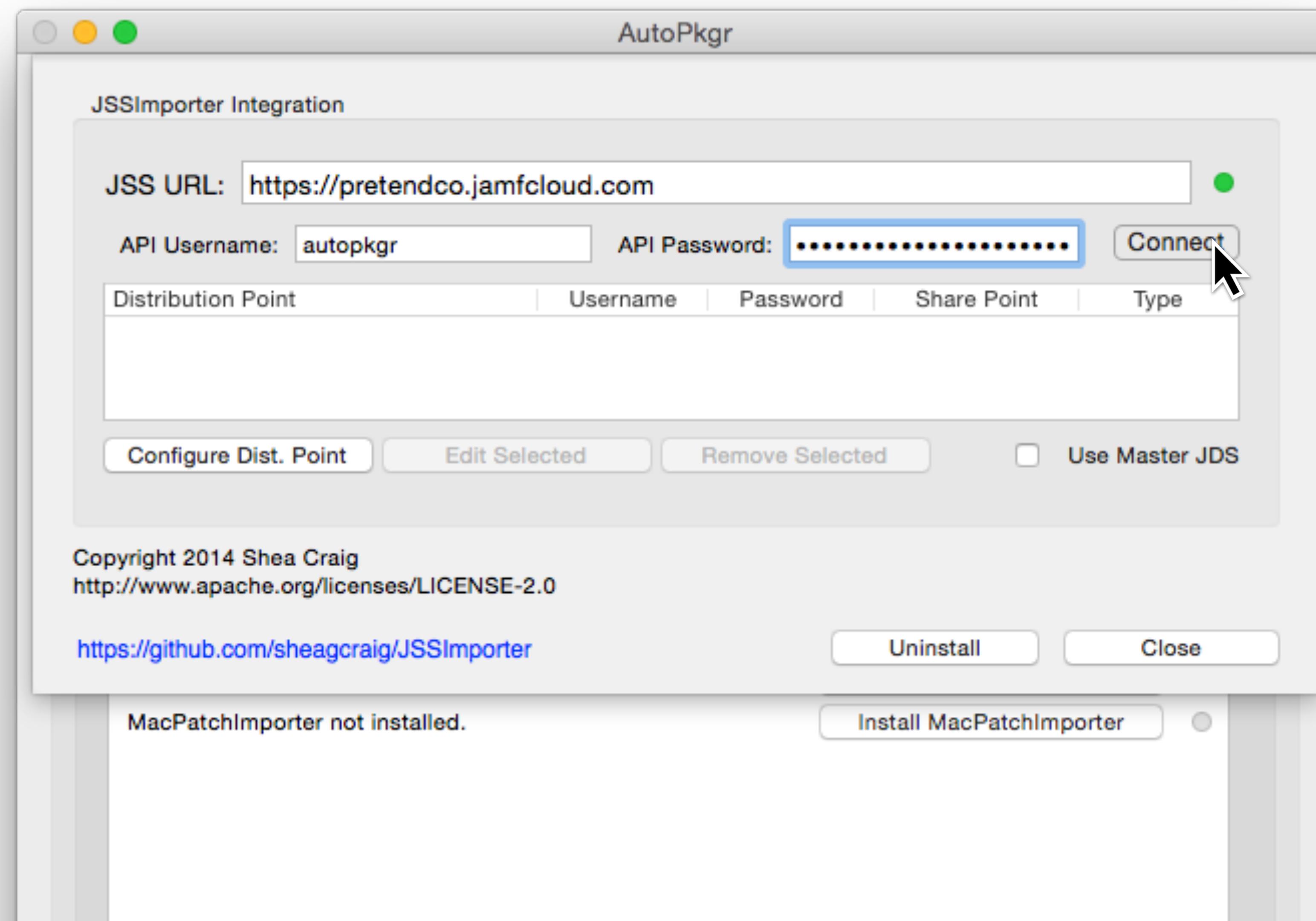
The Software Distribution Circle of Life



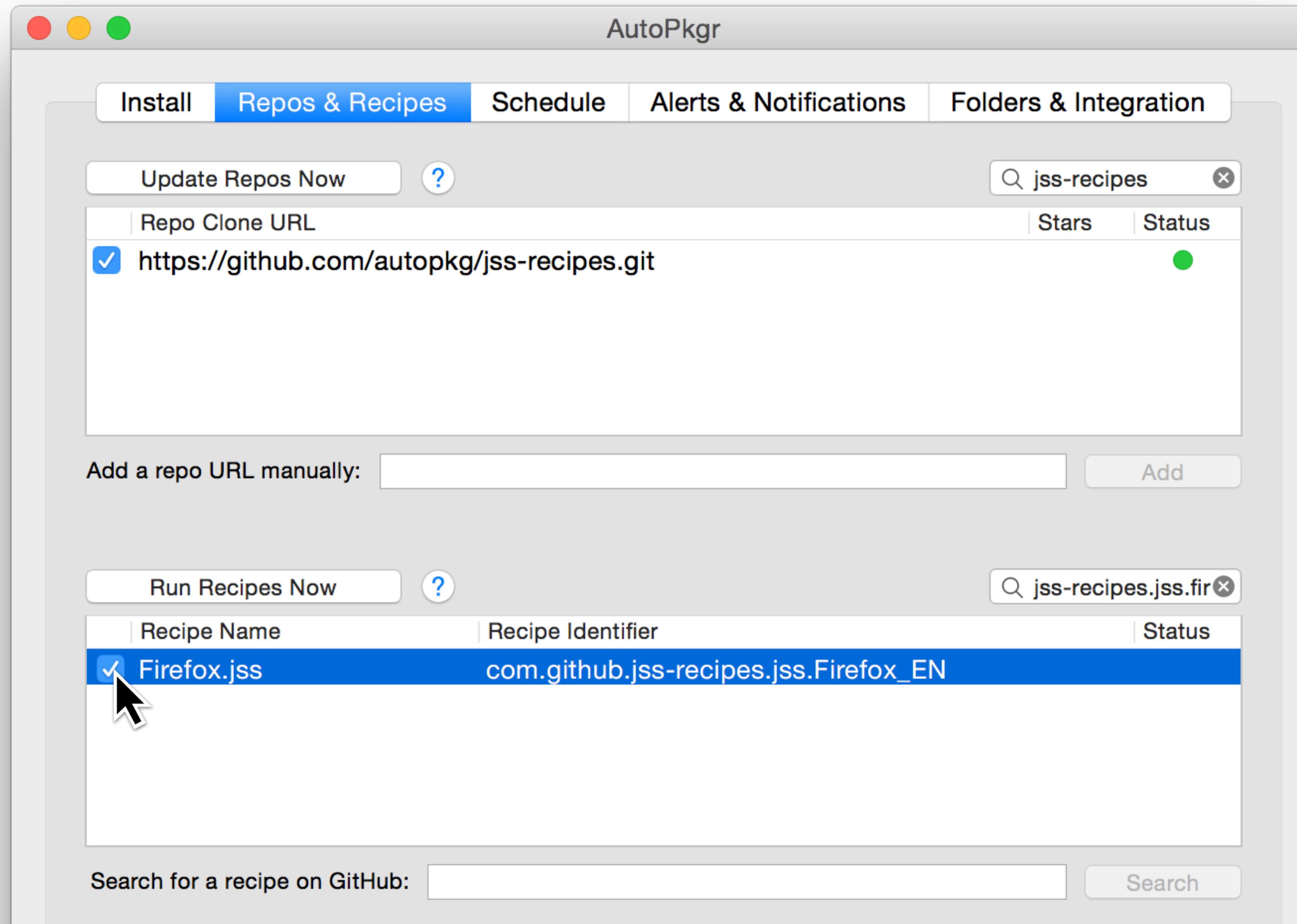
Casper



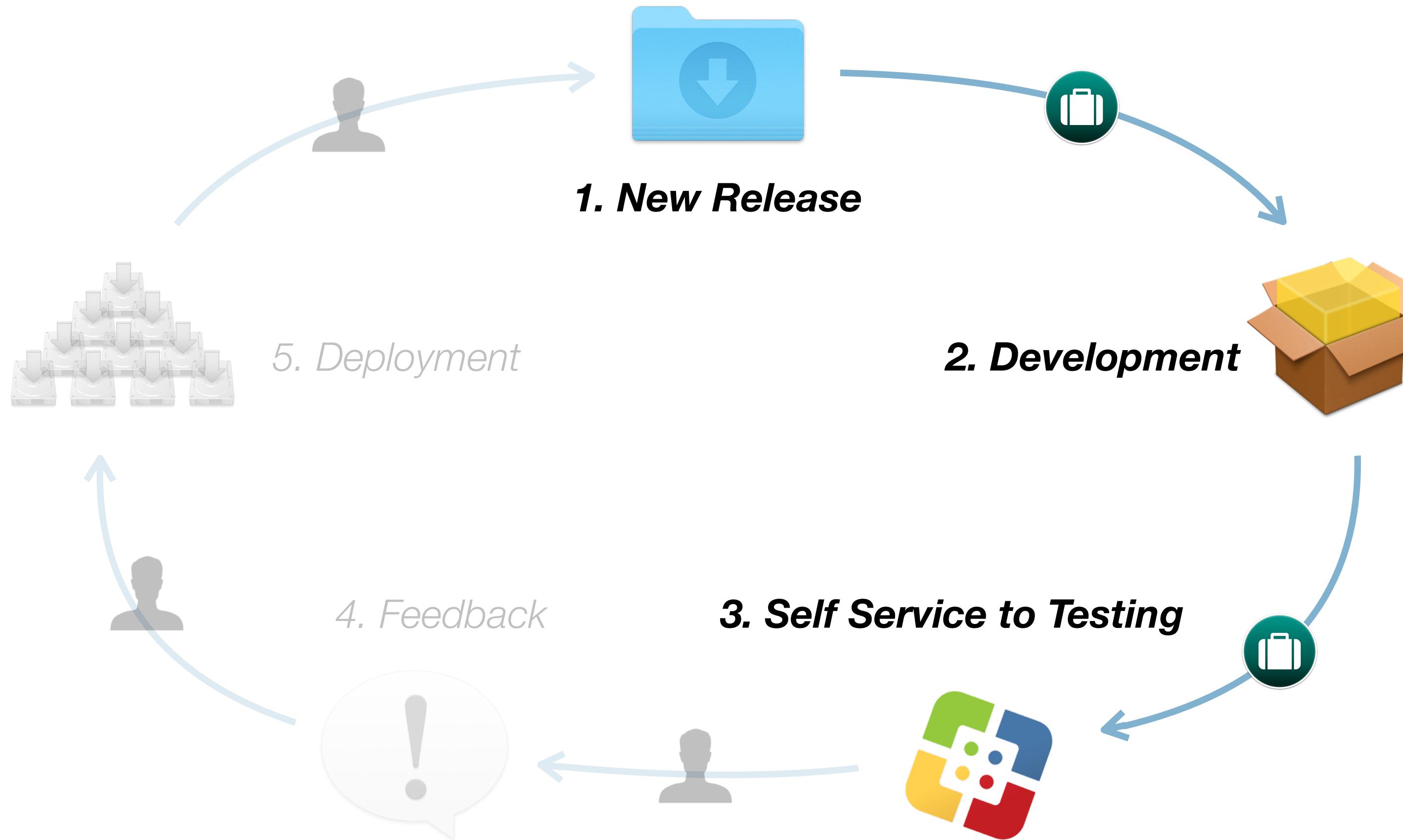
Casper



Casper



The Software Distribution Circle of Life



Casper

jss_helper promote "Deploy Latest Firefox" "Firefox-39.0.pkg"

The screenshot shows a GitHub repository page for 'sheagcraig/jss_helper'. The repository has 93 commits, 2 branches, 3 releases, and 2 contributors. The master branch is selected. The repository description is: "Helps perform operations on Jamf JSS that are difficult to do through the web interface." The commit history shows several commits from 'sheagcraig' on Jun 10, including moves files around and setup as a separate package and executable, and initial commits. The right sidebar includes links for Code, Issues (4), Pull requests (0), Wiki, Pulse, and Graphs, along with an HTTPS clone URL.

sheagcraig / jss_helper

Watch 2 | Star 11 | Fork 0

Helps perform operations on Jamf JSS that are difficult to do through the web interface.

93 commits | 2 branches | 3 releases | 2 contributors

branch: master | jss_helper / +

Prepare for release. ...

sheagcraig authored on Jun 10

latest commit 567018c01f

jss_helper_lib Prepare for release. a month ago

CHANGELOG.md Prepare for release. a month ago

LICENSE.txt Initial commit (post-splitting from python-jss) a year ago

README.md Move files around and setup as a separate package and executable. a month ago

jss_helper Prepare for release. a month ago

README.md

Code

Issues 4

Pull requests 0

Wiki

Pulse

Graphs

HTTPS clone URL

<https://github.com/> [Clone](#)

You can clone with [HTTPS](#), [SSH](#), or [Subversion](#).

Casper

The screenshot shows the Casper software interface. On the left is a sidebar with a green circular logo at the top, followed by a list of management options: Search Inventory, Licensed Software, Policies (selected), Configuration Profiles, Managed Preferences, Restricted Software, PreStage Imaging, Mac App Store Apps, eBooks, Smart Computer Groups, Static Computer Groups, Enrollment Invitations, and Management Settings. At the top right, there are tabs for Computers (selected), Mobile Devices, and Users, along with a user icon for 'elliot' and a gear icon. The main area is titled 'Policies (3)' and contains a table with three rows. The first row is under the category 'Production' and includes a plus sign icon, a 'New' button, a 'Show All' button, a 'Hide All' button, and a 'Filter Policies' button. The table has columns for Name, Frequency, Trigger, and Scope. The first row shows a policy named 'Deploy Latest Firefox' with an ongoing frequency, triggered by check-in, and applied to all managed clients. It includes actions for 'Install Firefox-38.0.5.pkg' and 'Update Inventory'. The second row is under the category 'Testing' and shows a policy named 'Install Latest Firefox' with an ongoing frequency, triggered by self-service, and applied to the group 'Firefox-update-smart'. It includes actions for 'Install Firefox-39.0.pkg' and 'Update Inventory'. The third row is under the category 'No category assigned' and shows a policy named 'Update Inventory' with a once-every-week frequency, triggered by check-in, and applied to all computers. It includes an action for 'Update Inventory'.

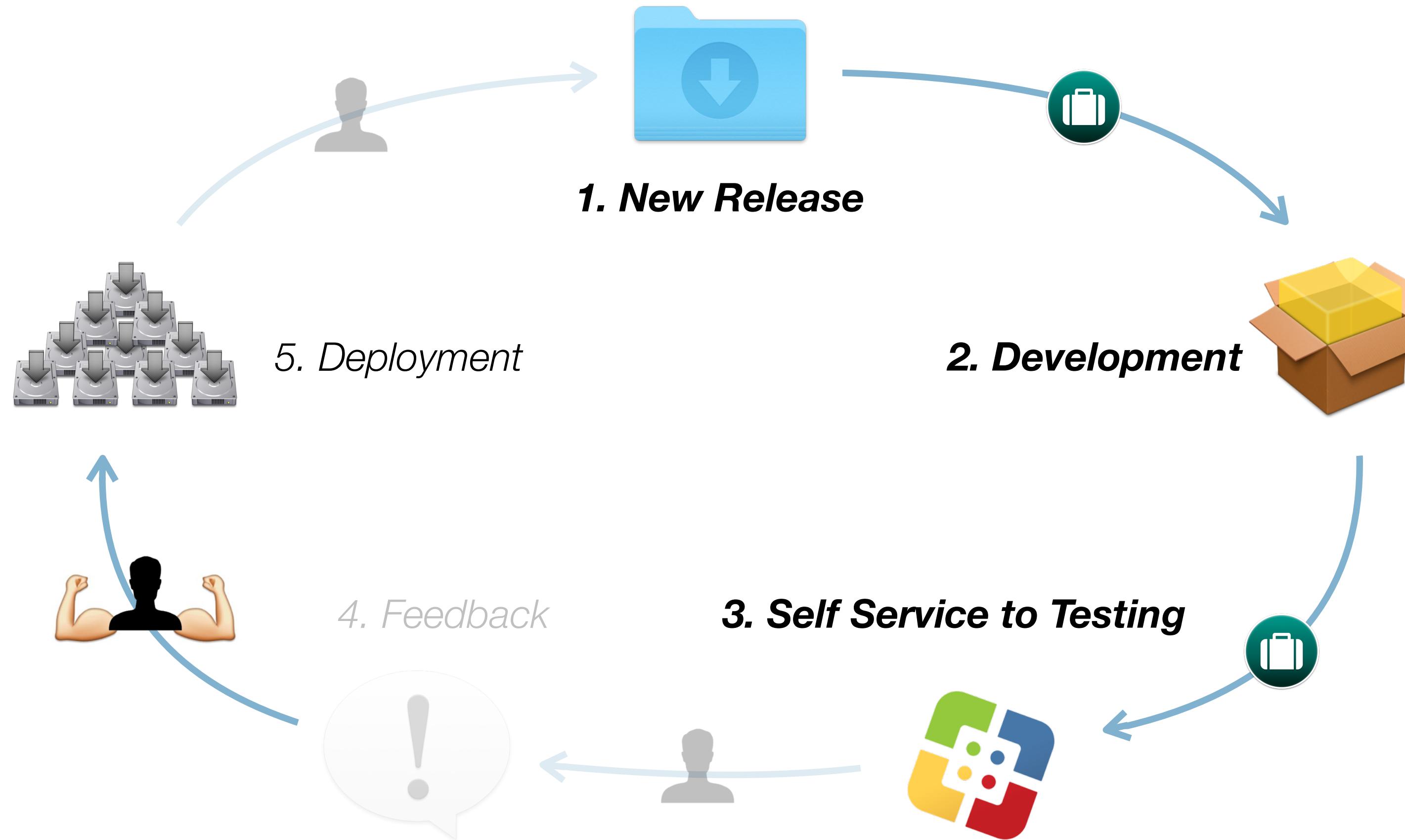
Name	Frequency	Trigger	Scope
Production			
Deploy Latest Firefox	Ongoing	Check-in	All Managed Clients
Install Firefox-38.0.5.pkg			
Update Inventory			
Testing			
Install Latest Firefox	Ongoing	Self Service	Firefox-update-smart
Install Firefox-39.0.pkg			
Update Inventory			
No category assigned			
Update Inventory	Once every week	Check-in	All computers

Casper

The screenshot shows the Casper software interface. On the left is a sidebar with a green circular logo at the top, followed by a list of management options: Search Inventory, Licensed Software, Policies (selected), Configuration Profiles, Managed Preferences, Restricted Software, PreStage Imaging, Mac App Store Apps, eBooks, Smart Computer Groups, Static Computer Groups, Enrollment Invitations, and Management Settings. At the bottom of the sidebar is a purple footer bar with the text '@MacITConf' and '#MacIT2015'. The main area has tabs for Computers (selected), Mobile Devices, and Users. A user icon 'elliot' is in the top right. The title 'Policies (3)' is displayed above a table. The table has columns for Name, Frequency, Trigger, and Scope. It lists three categories: Production, Testing, and No category assigned. Under Production, there is a policy named 'Deploy Latest Firefox' with an ongoing frequency, check-in trigger, and scope of all managed clients. This policy includes actions for 'Install Firefox-39.0.pkg' and 'Update Inventory', with 'Install Firefox-39.0.pkg' highlighted with an orange border. Under Testing, there is a policy named 'Install Latest Firefox' with an ongoing frequency, self-service trigger, and scope of Firefox-update-smart. This policy also includes actions for 'Install Firefox-39.0.pkg' and 'Update Inventory'. Under No category assigned, there is a policy named 'Update Inventory' with a once every week frequency, check-in trigger, and scope of all computers.

Name	Frequency	Trigger	Scope
Production			
Deploy Latest Firefox	Ongoing	Check-in	All Managed Clients
Install Firefox-39.0.pkg			
Update Inventory			
Testing			
Install Latest Firefox	Ongoing	Self Service	Firefox-update-smart
Install Firefox-39.0.pkg			
Update Inventory			
No category assigned			
Update Inventory	Once every week	Check-in	All computers

The Software Distribution Circle of Life



Other Possibilities

Absolute Manage (with AutoPkgr 1.3+)

MacPatch (with AutoPkgr 1.3+)

SCCM (with .sccm recipes and the CMAppUtil tool)

DeployStudio (with .ds recipes)

Apple Remote Desktop with .pkg recipes (but please don't)

Use **.install** recipes to keep your AutoPkgr Mac itself up to date

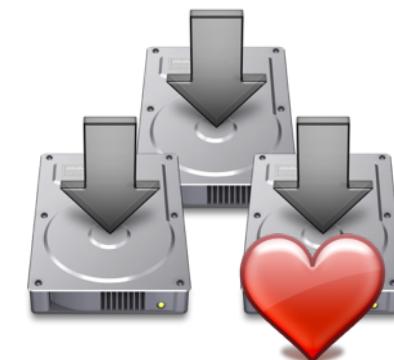
Recap



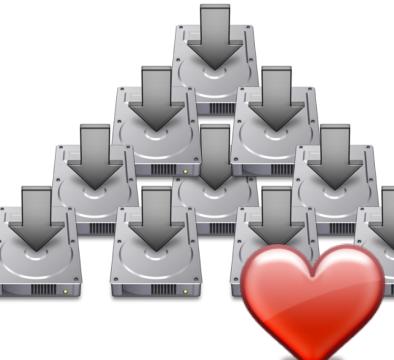
AutoPkgr tells AutoPkg to run regularly and download new updates.



Repackaging happens automatically, and only if necessary.



The software is set up to be tested and staged automatically.



Allows IT staff to focus where it matters: careful deployment to production.



Use your new spare time to learn the guitar. (Or write AutoPkg recipes.)

Thank you!

Notes: <https://goo.gl/50r6jB>

Elliot Jordan

Senior Consultant, Linde Group

elliot@lindegroup.com