

The background features a dark blue gradient with a starry space pattern. On the left side, there are several technical diagrams, including a large circular scale with numerical markings from 140 to 260 and various circular arrows and dashed lines. The text is positioned on the right side of the image.

CREATE PACKAGE REPOSITORY FOR THE RASPBERRY PI

MOTIVATION

- I wanted to create my own software package repository
 - Wanted to install software with apt-get
 - Wanted to be able to update my software with apt-get

```
pi@raspberrypi:~ $ sudo apt-get update
Ign http://jcbdev.com jessie InRelease
Ign http://jcbdev.com jessie Release.gpg
Hit http://mirrordirector.raspbian.org jessie InRelease
Ign http://jcbdev.com jessie Release
Hit http://archive.raspberrypi.org jessie InRelease
Hit http://mirrordirector.raspbian.org jessie/main armhf Packages
Hit http://mirrordirector.raspbian.org jessie/contrib armhf Packages
Hit http://jcbdev.com jessie/main armhf Packages
Ign http://jcbdev.com jessie/main Translation-en
Hit http://mirrordirector.raspbian.org jessie/non-free armhf Packages
Hit http://archive.raspberrypi.org jessie/main armhf Packages
Hit http://mirrordirector.raspbian.org jessie/rpi armhf Packages
Hit http://archive.raspberrypi.org jessie/ui armhf Packages
Ign http://mirrordirector.raspbian.org jessie/contrib Translation-en
Ign http://mirrordirector.raspbian.org jessie/main Translation-en
Ign http://mirrordirector.raspbian.org jessie/non-free Translation-en
Ign http://mirrordirector.raspbian.org jessie/rpi Translation-en
Ign http://archive.raspberrypi.org jessie/main Translation-en
Ign http://archive.raspberrypi.org jessie/ui Translation-en
Reading package lists... Done
pi@raspberrypi:~ $
```


CREDITS

- This is based on a post by Philipp C Heckel at <https://blog.heckel.xyz/2015/10/18/how-to-create-debian-package-and-debian-repository/>
 - I had to make a few changes for the Raspberry Pi.
 - I had to install the dh-make and devscripts packages
 - The Raspbian repo is currently “jessie”
- Only one really significant issue
 - I initially tried to place my script in /usr/local/bin rather than /usr/bin, but dkpg-buildpackage would fail. I never really researched the issue.

The screenshot shows the homepage of 'Philipp's Tech Blog'. The header includes navigation links for 'ABOUT ME', 'PAPERS', 'PROJECTS', and 'TRAVEL MAP', along with social media icons for LinkedIn, GitHub, and RSS. A bio states: 'My name is Philipp C. Heckel and I write about nerdy things. This site moved here recently from blog.philippheckel.com!'. The main article is titled 'HOW-TO: CREATE A DEBIAN PACKAGE AND A DEBIAN REPOSITORY', dated 'Oct 18 / 2015', with tags for 'Bash, Debian, Linux, Packaging'. A code snippet is shown:

```
# Create debia
$ dh_make \
  --native \
  --single \
  --packagename \
  --email phil
```

 The article title is 'How-To: Create a Debian package and a Debian repository'. The text explains that Debian packages and repositories are everywhere but many people don't understand how to create them. It offers a quick tutorial on creating a Debian package from scratch and a simple Debian repository. A 'Content' section lists: 1. Demo package 'netutils', 2. Create a Debian package (with sub-points: 2.1. Create the debian/ directory, 2.2. Build the first (empty) package, 2.3. Install the (empty) package). The right sidebar features an 'ABOUT ME' section with a photo of Philipp C. Heckel, Principal Engineer and Team Lead at Datto. Below are 'TAGS' including Bash, Cloud Computing, Code Snippets, Cron, Debian, Distributed Systems, Hacking, Java, Linux, Mail, Mobile, PHP, Scripts, Security, SSL, Syncany, Synchronization, TLS, Ubuntu, and zfs. A 'POPULAR POSTS' section lists 'Roundcube login via PHP script (208)' and 'Send WhatsApp messages via PHP using WhatsAppAPI (157)'.

RAW STEPS, PART 1

```
Execute: sudo apt-get install dh-make devscripts
Execute: mkdir -p src/pkg/Raspbian/jcb-utils
Execute: cd src/pkg/Raspbian/jcb-utils
Execute: export DEBFULLNAME="Jonathan Brandenburg"
Execute: dh_make --native --single --packagename jcb-utils_1.0.0 --email jonathan@jcbdev.com
Execute: dpkg-buildpackage # Perform a test build of the empty package
Execute: mkdir -p files/usr/bin
Execute: cp -/tmp/initrpi.sh files/usr/bin/. # Place my script in the directory
Execute: chmod u+x files/usr/bin/initrpi.sh # Ensure the script is executable
Execute: echo "files/usr/* usr" > debian/install

Modify debian/control
Change the line with...
    Depends: ${shlibs:Depends}, ${misc:Depends}
To
    Depends: ${shlibs:Depends}, ${misc:Depends}, expect
```


RAW STEPS, PART 2

```
Execute: dch -im
Modify the changelog file to change the section with:
    jcb-utils (1.0.1) UNRELEASED; urgency=medium
    *
    -- Jonathan Brandenburg <jonathan@jcbdev.com>  Fri, 02 Jun 2017 12:33:02 -0500
To
    jcb-utils (1.0.1) unstable; urgency=medium
    * add the initrpi.sh script, add expect dependency
    -- Jonathan Brandenburg <jonathan@jcbdev.com>  Fri, 02 Jun 2017 12:33:02 -0500
Execute: dpkg-buildpackage
Execute: cd ..
Execute: mkdir -p ../repo/pool/main/j ../repo/dists/jessie/main/binary-armhf
Execute: cp *.deb ../repo/pool/main/j/.
Execute: cd ../repo
Execute: dpkg-scanpackages -m pool | gzip > dists/trusty/main/binary-amd64/Packages.gz
Upload the contents of the repo directory to a location on the network that is accessible. In my case, I upload it to http://xxxx.com/files/repo
Execute: cd /etc/apt/sources.list.d
Create a file called jcb-utils.list with the following contents:
deb http://jcbdev.com/files/repo/ jessie main
```

RESULTS

```
pi@raspberrypi:~ $ sudo apt-get update
Ign http://jcbdev.com jessie InRelease
Ign http://jcbdev.com jessie Release.gpg
Ign http://jcbdev.com jessie Release
Hit http://archive.raspberrypi.org jessie InRelease
Hit http://mirrordirector.raspbian.org jessie InRelease
Hit http://mirrordirector.raspbian.org jessie/main armhf Packages
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Ign http://jcbdev.com jessie/main Translation-en
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Ign http://archive.raspberrypi.org jessie/ui Translation-en
Ign http://mirrordirector.raspbian.org jessie/main Translation-en
Ign http://mirrordirector.raspbian.org jessie/non-free Translation-en
Ign http://mirrordirector.raspbian.org jessie/rpi Translation-en
Reading package lists... Done
pi@raspberrypi:~ $ sudo apt-get install jcb-utils
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  jcb-utils
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 0 B/3168 B of archives.
After this operation, 33.8 kB of additional disk space will be used.
WARNING: The following packages cannot be authenticated!
  jcb-utils
Install these packages without verification? [y/N] y
Selecting previously unselected package jcb-utils.
(Reading database ... 37668 files and directories currently installed.)
Preparing to unpack .../jcb-utils_1.0.1_armhf.deb ...
Unpacking jcb-utils (1.0.1) ...
Setting up jcb-utils (1.0.1) ...
pi@raspberrypi:~ $
```

- It worked!

FUTURE WORK

- I need to protect my domain with a secure certificate
- I want to be able to sign my packages