OpenCPU Set-Up Guide

Written by Hendrik Mölder (based on an earlier version by Han Qin, 2018)
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This document provides a set-up guide for installing OpenCPU on a UNIX system via terminal commands. Instructions for adding packages to OpenCPU server and a description for using them has also been provided.

Contents

Install OpenCPU

Follow this link to the official OpenCPU user manual.

This guide will use Advanced Package Tool (APT) to install the required packages. Some commands require **sudo** access rights.

(1) Update the package listings and upgrade all installed packages.

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

(2) Add OpenCPU package library to your system.

```
sudo add-apt-repository ppa:opencpu/opencpu-2.0-y
```

```
sudo apt-get update
```

(3) Continue with installing OpenCPU server.

```
sudo apt-get install opencpu-server
```

The following command is optional and will install several other tools along with OpenCPU, e.g. RStudio, git etc.
```
sudo apt-get install opencpu-full
```

(4) To run OpenCPU server, run these two commands.

```
sudo a2ensite opencpu
```

```
sudo apachectl restart
```

You should now be able to access OpenCPU (OCPU) on your browser. Navigate to http://localhost/ocpu/.

Install R packages on OpenCPU

Installing custom R packages

Create R project in RStudio or load an existing R project by opening an .Rproj file.

Click **Build** and **Build source package** from the top navigation menu.

Now, a .tar.gz file has been generated (path shown in RStudio). Use this path (you may need to modify it) to install the package in OpenCPU.

```
sudo R CMD INSTALL <package path>
--library=/usr/local/lib/R/site-library
```

The head to http://localhost/ocpu/library/ and verify you can see the package you just installed. You can also navigate to http://localhost/ocpu/library/<package> to see more information about your package.

Installing publicly available R packages

Open an R environment in your terminal with superuser privileges.

```
sudo R
```

Use the following command to install a package.

```
install.packages("ggplot2")
```

You should replace the package name between the quotation marks (") with the package that you'd like to install.

Required OpenCPU packages

Some useful R packages that I used in my work are listed here. To successfully run the Taverna workflows, you should first install these.

- dplyr
- ggplot2
- wranglingB *(by Han Qin)*