



# Linux Academy

## Course Notes

# Debian- Based Package Management

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# Video One: The apt-get Command Set

- Permissions
  - Easiest to run `sudo` or change to `root` account before running `apt-get`
- `sources.list`
  - Contains the list of repositories from which you can download content
  - Sources section list allows download of source code for packages
  - Packages section allow the binary packages
- **`apt-get update`** • Updates the repository list cache, making available packages for installation from any of those configured repositories
- **`apt-get upgrade`** • Upgrades your distribution packages, i.e., if there are updates for packages you have installed then it will list and offer to install them
- **`apt-get dist-upgrade`** • Offers to upgrade your distribution from one version to another if another 'released' version is available, beta versions can also be installed but require a configuration change in the repos file + `apt-get install`; this command installs whatever package(s) that you indicate directly following along with the dependencies for it
- **`apt-get remove`** • Removes whatever package(s) that you indicate directly following along with dependencies that are no longer needed by any other installed packages
- **`apt-get source`** • Installs whatever source package(s) that you indicate directly following
- **`apt-get check`** • Checks to be sure all application dependencies have been installed for all packages
- **`apt-get clean`** • Cleans the apt cache and requires a run of the `apt-get update` command to further install packages
- **`apt-get autoremove`** • Removes packages that are no longer needed for various reasons (upgrades, manual removal/uninstallation, etc) that did not get cleaned up as part of post-install
- **`apt-get ... -q`** • Quietly complete the command, output suitable for logging, no progress indicators
- **`apt-get ... -y`** • Answers affirmative to any necessary confirmation questions for install/remove/etc
- **`apt-get ... -s`** Simulates the installation/removal of the package(s) in question along with a list of the dependencies affected

## Video Two: The dpkg Command Set

- **dpkg** • Used to manually install individual \*.deb packages outside of a repo download; this utility does NOT automatically install dependencies, although it will list those that are missing as part of the output
  - This is resolved by either:
    - Running `apt-get install -f` after attempted installation which downloads and installs the missing dependencies, and then completes the post-installation script that failed earlier
    - Running `apt-get install package.deb`, which allows `apt-get` to scan for dependencies and install and configure them as part of the process
- Package downloads
  - Multiple methods to download packages outside of apt-get:
    - `http/https`
    - `wget`
- **dpkg -i package.deb** • The actual installation command, again note, dependencies not included; ensure you know if superuser privileges are needed before installing
- **dpkg -get-selections** • Shows all installed packages on the system; when looking for a specific package, follow with `| grep searchtext` to filter
- **dpkg -L packagename** • Lists all the files that were installed along with the package name and location on the system
- **dpkg -C** • Audits for partially installed packages
- **dpkg -remove packagename** • Removes the referenced package, again note, dependencies no longer needed are not removed
- **dpkg -purge packagename** • Purges the package, along with all configuration files related to that package during a removal
- **dpkg -reconfigure packagename** • Allows reconfiguration, including configuration, of the referenced package

## Video Three: aptitude and dselect

- **dselect** • High-level package browser, allows selection and installation/removal of packages in a terminal using an 'ncurses' menu system
- **aptitude** • High-level package browser, allows selection and installation/removal of packages in a terminal using an 'ncurses' system, although there are many GUI-based managers that work with

## aptitude

- **aptitude update** • Updates sources
- **aptitude search** • Searches for package
- **aptitude autoclean** • Works the same as **apt-get**
- **aptitude remove** • Works the same as **apt-get**
- **aptitude autoremove** • Works the same as **apt-get**

