

## 6.3.4 Debian Package Management Facts

Debian packages are preconfigured installation packages similar to RPM packages.

This lesson covers the following topics:

- Debian package functions
- Common commands

### Debian Package Functions

Debian packages:

- Are used with some Linux distributions, including Ubuntu, Knoppix, and Linspire.
- Use naming conventions similar to RPM naming conventions, but use a .deb file extension.
- Include dependency information.
- Are not natively compatible with RPM.

### Common Commands

The following table lists and describes several common commands for managing Debian packages:

Command	Function	Examples
<b>dpkg</b>	<p>Installs Debian packages on Debian distributions. Be aware of the following <b>dpkg</b> options:</p> <ul style="list-style-type: none"> <li><b>-i</b> installs a package.</li> <li><b>--configure</b> reconfigures an unpacked package.</li> <li><b>-r</b> removes the package but does not delete the configuration files.</li> <li><b>-P</b> completely uninstalls the package including the configuration files.</li> <li><b>-p</b> lists information about a currently installed Debian package.</li> <li><b>-I</b> (uppercase i) or <b>--info</b> lists information about packages that are not installed.</li> <li><b>-l</b> (lowercase L) displays all packages with names that match a specified pattern.</li> <li><b>-L</b> shows the installed files for a package.</li> <li><b>-S</b> finds a package associated with specified files.</li> <li><b>-C</b> searches for packages that have been installed only partially on the system.</li> <li><b>B</b> disables packages that have dependencies on the package being removed.</li> <li><b>--ignore-depend</b>s ignores dependency-checking for specified packages.</li> <li><b>-no-act</b> prevents changes from being written.</li> <li><b>-G</b> prevents a package from being installed if a newer version of the package already exists on the computer.</li> <li><b>-E</b> does not install the package if the same version of the package is already installed.</li> <li><b>-R</b> installs the package recursively.</li> </ul> <p>The <b>dpkg-reconfigure</b> command reconfigures an already installed package.</p>	<p><b>dpkg -i docbook_4.5-4_all.deb</b> installs the docbook package.</p> <p><b>dpkg -r docbook</b> removes the docbook package.</p> <p><b>dpkg -P docbook</b> removes the docbook package and its configuration files.</p> <p><b>dpkg -i docbook</b> displays information about the package.</p> <p><b>dpkg -l dwm-tools_26-2_i386.deb</b> displays information about the dwm-tools package.</p> <p><b>dpkg -l kcheckers*</b> lists all packages that begin with kcheckers.</p> <p><b>dpkg -L docbook</b> lists all files installed with the docbook package.</p> <p><b>dpkg -S /usr/share/base-files/motd</b> shows the package associated with the motd file.</p> <p><b>dpkg -B -r docbook</b> removes the docbook package and disables any package dependent on the docbook package.</p> <p><b>dpkg -G -i docbook_4.5-4_all.deb</b> installs the docbook package if it is a newer version than a previously installed package.</p>
<b>apt-cache</b>	<p>Retrieves information about the Debian package database. Be aware of the following <b>apt-cache</b> options:</p> <ul style="list-style-type: none"> <li><b>showpkg</b> displays information about a package in the database.</li> <li><b>stats</b> shows the number of packages installed, dependency information, and other package cache statistics.</li> <li><b>unmet</b> lists any missing dependencies in the package cache.</li> <li><b>depends</b> shows all of the package's dependencies.</li> <li><b>pkgnames</b> displays whether a package is installed on the system. When the package name is left off, the command shows information for all packages on the computer.</li> <li><b>search</b> searches for a package in the cache.</li> </ul>	<p><b>apt-cache showpkg 3dchess</b> shows information about the 3dchess package.</p> <p><b>apt-cache depends 3dchess</b> shows dependency information for the 3dchess package.</p> <p><b>apt-cache pkgnames 3dchess</b> displays whether the 3dchess package is installed.</p> <p><b>apt-cache search kde</b> searches for all packages that contain kde anywhere in the name.</p>

<b>apt-get</b>	<p>Downloads and install packages. <b>apt-get</b>:</p> <ul style="list-style-type: none"> <li>Is similar to the <b>yum</b> utility on an RPM distribution.</li> <li>Gets its information about the application repositories from the <b>/etc/apt/sources.list</b> file.</li> <li>Automatically calculates and resolves package dependencies when installing, updating, and removing packages.</li> </ul> <p>Be aware of the following <b>apt-get</b> options:</p> <ul style="list-style-type: none"> <li><b>update</b> updates <b>/etc/apt/sources.list</b> with the latest information about available packages.</li> <li><b>upgrade</b> upgrades all installed packages to the latest versions in accordance with the information in <b>/etc/apt/sources.list</b>.</li> <li><b>dist-upgrade</b> shows all of the package's dependencies.</li> <li><b>install</b> installs a package using the package name. The package name is not the file name. During the install, <b>apt-get</b> retrieves the most recent version of the package.</li> <li><b>remove</b> removes a specified package, but leaves the configuration files.</li> <li><b>purge</b> removes the package and the configuration files.</li> <li><b>source</b> retrieves the latest version of the package. The command accesses the <b>/etc/apt/sources.list</b> file to determine whether the latest package version is installed.</li> <li><b>check</b> checks the package database for consistency and errors.</li> <li><b>clean</b> removes unneeded package information files and logs. This command is needed when not using the <b>dselect</b> utility to install Debian packages.</li> <li><b>autoclean</b> removes information files about packages that can no longer be downloaded.</li> <li><b>-d</b> downloads packages without installing them.</li> <li><b>-f</b> attempts to fix a computer with unsatisfied dependencies. Use this with <b>apt-get install</b> and <b>apt-get remove</b>.</li> <li><b>-m</b> ignores package files that cannot be accessed or located.</li> <li><b>-q</b> shows less progress information.</li> <li><b>-s</b> simulates package installation without doing an actual install.</li> <li><b>-y</b> automatically provides a <i>yes</i> response to <i>yes / no</i> questions in the package installation script.</li> </ul>	<p><b>apt-get dist-upgrade 3dchess</b> shows dependency information for the 3dchess package.</p> <p><b>apt-get install 3dchess</b> downloads and installs the 3dchess package from a package repository.</p> <p><b>apt-get remove 3dchess</b> removes the 3dchess package but leaves the 3dchess configuration files.</p> <p><b>apt-get purge 3dchess</b> removes the 3dchess package along with the 3dchess configuration files.</p> <p>Before <b>purge</b> was added as a command in the apt-get utility, <b>--purge</b> had to be used as an option with the remove command, for example <b>apt-get remove --purge 3dchess</b> (this older syntax is still supported)</p> <p><b>apt-get source 3dchess</b> determines whether a newer version of 3dchess is available, and if so, installs it.</p> <p><b>apt-get -d install 3dchess</b> downloads the 3dchess package without installing it.</p> <p><b>apt-get -f install 3dchess</b> tries to fix dependency issues for the 3dchess package.</p> <p><b>apt-get -m remove 3dchess</b> removes the 3dchess package but ignores missing files.</p> <p><b>apt-get -q remove 3dchess</b> removes the 3dchess package but shows less of the information during the process.</p> <p><b>apt-get -s install 3dchess</b> tests the installation process of the 3dchess package without installing it.</p> <p><b>apt-get -y install 3dchess</b> installs the 3dchess package and automatically provides a yes answer to any yes/no prompts.</p>
<b>aptitude</b>	<p>Views the list of packages and perform package management tasks such as installing, upgrading, and removing packages in the Advanced Packaging Tool (APT). <b>aptitude</b> is the front-end to APT. It displays a list of software packages and allows the user to interactively pick packages to install or remove.</p>	