Linux Changing Run Levels

Posted By nixCraft <webmaster@cyberciti.biz> On October 16, 2005 @ 5:44 pm [12 Comments]

A question from my email bag:

How do changing run levels affect us or our users?

If you are moving to higher run levels, you may make additional services available to users, while moving to a lower run level will causes to services (daemons) to become unavailable. On the production server run level 3 is the normally used and rarely changed. However, some administrative tasks require the administrator to move system to run level 1 i.e single user mode.

[1]

Linux Find Out Current Run Level Command

Type the following command:

```
$ who -r
```

Sample outputs:

```
         run-level 2  2011-10-12 05:38
```

Linux Change Run Level Command

Use the init command to change rune levels:

```
# init 1
```

Runlevel And Its Usage

The Init is the parent of all processes with PID # 1. Its primary purpose is to create processes from a script stored in the file /etc/inittab file. This file usually has entries which cause init to spawn gettys on each line that users can log in. A runlevel is nothing but a software configuration of the Linux system which allows only a selected group of processes to exist. The processes spawned by init for each of these runlevels are defined in the /etc/inittab file. Init can be in one of eight runlevels as follows:

- Runlevel 0 is halt
- Runlevel 1 is single-user
- Runlevels 2-5 are multi-user (some distro uses RUN level 5 to start X [KDE/Gnome])
- Runlevel 6 is for rebooting system

For example, typing the **init 3** command will move system to run level 3:

```
# init 3
```

On most Linux server system default run level is 3 and on most Linux Desktop system default run level is 5. The default run level is defined by the initdefault line at the top of /etc/inittab file under CentOS / Fedora / Redhat / RHEL / Debian Linux. To change the default run level, edit /etc/inittab file, and edit entry initdefault:

```
# vi /etc/inittab
```

Set initdefault to 5, so that you can boot to X next time when Linux comes up:

```
id:5:initdefault:
```

Save and close the file. Reboot the system to see changes:

```
# reboot
```

More About getty

getty is the program which opens a tty port, prompts for a login name and password (via /bin/login command). Your console displays a login/password prompt at run levels 1 through 6. You can use ALT+F1...ALT+F6 keys to switch console (use CTRL+ALT+F1..F6 under X windows).

SSH logins are handled by OenSSH (sshd) server which starts at run level 2/3. KDE/Genome Desktop login are handled by GDM/XDM/KDM display manager which starts at run level 5 (however Debian Linux and some other distro can start them from run level 2 via special rc.d script located in /etc/init.d/gdm)

Related articles:

- Changing run levels 3 to 5

Updated for accuracy!