

Difference between Login shell and Non login shell

Here we will learn the difference between a **Login shell** and **Non login shell**.

The shell program, for example **Bash**, uses a collection of startup scripts to create an environment. Each script has a specific use and affects the login environment differently. Every subsequent script executed can override the values assigned by previous scripts.

Startup is configured differently for Login shells and Non login shells.

1) Login shells

2) Non login shells

1) Login shells

A Login shell is started after a successful login, using **/bin/login**, by reading the **/etc/passwd** file. Login shell is the first process that executes under our user ID when we log in to a session. The login process tells the shell to behave as a login shell with a convention: passing argument **0**, which is normally the name of the shell executable, with a "-" character prepended. For example, for **Bash** shell it will be **-bash**.

When **Bash** is invoked as a Login shell;

- Login process calls **/etc/profile**
- **/etc/profile** calls the scripts in **/etc/profile.d/**
- Login process calls **~/.bash_profile**
- **~/.bash_profile** calls **~/.bashrc**
- **~/.bashrc** calls **/etc/bashrc**

Login shells include the following.

- Shells created by explicitly telling to login.

examples: **# su -** | **# su -l** | **# su --login** | **# su USERNAME -** | **# su -l USERNAME** | **# su --login USERNAME** | **# sudo -i**

- Shells created at login, including **X login**.

A Login shell can be recognized by the following procedure.

Execute the below command in shell.

```
# echo $0
```

If the output is the name of our shell, prepended by a dash, then it is a login shell.

For example **-bash**, **-su** etc.

2) Non login shells

A Non login shell is started by a program without a login. In this case, the program just passes the name of the shell executable. For example, for a **Bash** shell it will be simply **bash**.

When bash is invoked as a Non login shell;

- Non-login process(shell) calls **~/.bashrc**
- **~/.bashrc** calls **/etc/bashrc**
- **/etc/bashrc** calls the scripts in **/etc/profile.d/**

Non login shells include the following.

- Shells created using the below command syntax.

examples: **# su** | **# su USERNAME**

- Graphical terminals

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- Executed scripts
- Any other bash instances

A Non login shell can be recognized by the following procedure.
Execute the below command in shell.

```
# echo $0
```

If the output is the name of our shell, does not prepend by a dash, then it is a Non login shell.
For example ***bash***, ***su*** etc.

It is recommended to view the following sections also.

[Bash startup scripts](#)

[Difference between Local Variables and Environment Variables](#)

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