

Demonstrate from your favorite graphical environment listing all the processes on your system. Demonstrate using the a graphical environment stopping and starting a process. Demonstrate from the command line listing all the processes running on your Linux system. Demonstrate from the command line stopping and starting a process. Demonstrate from the command line starting, put in the background, stopping, putting in the background at start, put into the foreground a job.

Desktop Folder



Firefox



My Computer



Office



Online Help



openSUSE

Taskbar icons: openSUSE logo, file manager, settings, printer, and keyboard shortcuts (1-2, 3-4).

System tray: US flag, file manager, openSUSE logo, time (07:33 pm), and power button.

To direct input to this virtual machine, press Ctrl+G.






Desktop Folder

User preuss on msctclinux

openSUSE

Search:

System > Monitor

-  GNOME System Monitor
-  HP Device Manager
-  Java Web Start
-  Monitors System Load
-  System Monitor

We want the System Monitor.

 Favorites
  Applications
  Computer
  Recently Used
  Leave

System Monitor

File Edit Settings Help

Process Table System Load

Kill Process

All Processes

Name	User Name	CPU %	Memory	Shared Mem	Window Title
plasma	preuss		7 M	19 M	
vmware-user-loa	preuss		4 M	13 M	
klipper	preuss		2 M	8 M	
kupdateapplet	preuss		2 M	10 M	
pulseaudio	preuss		1 M	3 M	
startkde	preuss		0 M	1 M	
gvfsd	preuss		0 M	2 M	
dbus-launch	preuss		0 M	1 M	
dbus-daemon	preuss		0 M	1 M	
kdeinit4	preuss		1 M	4 M	
klauncher	preuss		1 M	8 M	
kded4	preuss		4 M	13 M	
kio_trash	preuss		2 M	5 M	
ksysguard	preuss		4 M	16 M	System Monitor
ksysguardd	preuss		0 M	1 M	
kwrapper4	preuss		0 M	0 M	
ksmserver	preuss		2 M	11 M	
kwin	preuss		3 M	12 M	
knotify4	preuss		6 M	12 M	

94 processes CPU: 1% Memory: 110.5 MiB / 1,008.7 MiB No swap space available

System Monitor

File Edit Settings Help

Process Table System Load

Kill Process

Quick search

All Processes

Name	User Name	CPU %	Memory	Shared Mem	Window Title
acpid	root		0 M	0 M	
aio/0	root				
ata/0	root				
ata_aux	root				
audispd	root		0 M	1 M	
auditd	root		0 M	1 M	
console-kit-dae	root		1 M	2 M	
cqueue	root				
cron	root		0 M	1 M	
cupsd	root		1 M	2 M	
dbus-daemon	preuss		0 M	1 M	
dbus-daemon	messagebus		0 M	1 M	
dbus-daemon	root		0 M	1 M	
dbus-launch	preuss		0 M	1 M	
dbus-launch	root		0 M	1 M	
dhcpd	root		0 M	0 M	
dhcpd	root		0 M	0 M	
events/0	root				
gvfsd	preuss		0 M	2 M	

We will work with cupsd or the cups daemon.

92 processes CPU: 1% Memory: 110.2 MiB / 1,008.7 MiB No swap space available

System Monitor

File Edit Settings Help

Process Table System Load

Kill Process

Quick search

All Processes

Name	User Name	CPU %	Memory	Shared Mem	Window Title
acpid	root		0 M	0 M	
aio/0	root				
ata/0	root				
ata_aux	root				
audispd	root		0 M	1 M	
auditd	root		0 M	1 M	
console-kit-dae	root		1 M	2 M	
cqueue	root				
cron	root		0 M	1 M	
cupsd			1 M	2 M	
dbus-daemon			0 M	1 M	
dbus-daemon			0 M	1 M	
dbus-daemon			0 M	1 M	
dbus-launch			0 M	1 M	
dbus-launch			0 M	1 M	
dhcpcd	root		0 M	0 M	
dhcpcd	root		0 M	0 M	
events/0	root				
gvfsd	preuss		0 M	2 M	

- Renice Process...
- Send Signal >
- Monitor input and output
- Kill Process

We did a right click on cupsd.

92 processes CPU: 2% Memory: 110.3 MiB / 1,008.7 MiB No swap space available

System Monitor

File Edit Settings Help

Process Table System Load

Kill Process

Quick search

All Processes

Name	User Name	CPU %	Memory	Shared Mem	Window Title
acpid	root		0 M	0 M	
aio/0	root				
ata/0	root				
ata_aux	root				
audispd	root		0 M	1 M	
auditd	root		0 M	1 M	
console-kit-dae	root		1 M	2 M	
cqueue	root				
cron	root		0 M	1 M	
cupsd			1 M	2 M	
dbus-daemon			0 M	1 M	
dbus-daemon					
dbus-daemon					
dbus-launch					
dbus-launch					
dhcpcd	root				
dhcpcd	root				
events/0	root				
gvfsd	preuss				

- Renice Process...
- Send Signal
 - Suspend (STOP)
 - Continue (CONT)
 - Hangup (HUP)
 - Interrupt (INT)
 - Terminate (TERM)
 - Kill (KILL)
 - User 1 (USR1)
 - User 2 (USR2)
- Monitor input and output
- Kill Process

We will choose suspend.

92 processes CPU: 1% 10.5 MiB / 1,008.7 MiB No swap space available

System Monitor

File Edit Settings Help

Process Table System Load

Kill Process

Quick search

All Processes

Name	User Name	CPU %	Memory	Shared Mem	Window Title
acpid	root		0 M	0 M	
aio/0	root				
ata/0	root				
ata_aux	root				
audispd	root		0 M	1 M	
auditd	root		0 M	1 M	
console-kit-dae	root		1 M	2 M	
cqueue	root				
cron	root		0 M	1 M	
cupsd	root	<i>stopped</i>	1 M	2 M	
dbus-daemon	preuss		0 M	1 M	
dbus-daemon	messagebus		0 M	1 M	
dbus-daemon	root		0 M	1 M	
dbus-launch	preuss		0 M	1 M	
dbus-launch	root		0 M	1 M	
dhcpcd	root		0 M	0 M	
dhcpcd	root		0 M	0 M	
events/0	root				
gvfsd	preuss		0 M	2 M	

Success

93 processes CPU: 1% Memory: 112.9 MiB / 1,008.7 MiB No swap space available

System Monitor

File Edit Settings Help

Process Table System Load

Kill Process

Quick search

All Processes

Name	User Name	CPU %	Memory	Shared Mem	Window
acpid	root		0 M	0 M	
aio/0	root				
ata/0	root				
ata_aux	root				
audispd	root		0 M	1 M	
auditd	root		0 M	1 M	
console-kit-dae	root		1 M	2 M	
cqueue	root				
cron	root		0 M	1 M	
cupsd	root	<i>stopped</i>			
dbus-daemon	preuss				
dbus-daemon	messagebus				
dbus-daemon	root				
dbus-launch	preuss				
dbus-launch	root				
dhcpcd	root				
dhcpcd	root		0 M	0 M	
events/0	root				
gvfsd	preuss		0 M	2 M	

We right click on cupsd and choose continue.

- Renice Process...
- Send Signal
- Monitor input and output
- Resume Stopped Process
- Kill Process

- Suspend (STOP)
- Continue (CONT)
- Hangup (HUP)
- Interrupt (INT)
- Terminate (TERM)
- Kill (KILL)
- User 1 (USR1)
- User 2 (USR2)

93 processes CPU: 1% Memory: 112.9 MiB / 1024 MiB available

System Monitor

File Edit Settings Help

Process Table System Load

Kill Process

Quick search

All Processes

Name	User Name	CPU %	Memory	Shared Mem	Window Title
acpid					
aio/0					
ata/0					
ata_aux					
audispd					
auditd					
console-kit-dae					
cqueue					
cron					
cupsd					
dbus-daemon	preuss				
dbus-daemon	mes				
dbus-daemon					
dbus-launch	preuss				
dbus-launch	root		0 M	1 M	
dhcpcd	root		0 M	0 M	
dhcpcd	root		0 M	0 M	
events/0	root				
gvfsd	preuss		0 M	2 M	

Run as root - KDE su

The action you requested needs **root privileges**. Please enter **root's** password below or click Ignore to continue with your current privileges.

Command: kill '-18' '2094'

Password:

Remember password

Ignore OK Cancel

94 processes CPU: 1% Memory: 116.4 MiB / 1,008.7 MiB No swap space available

System Monitor

File Edit Settings Help

Process Table System Load

Kill Process

Quick search

All Processes

Name	User Name	CPU %	Memory	Shared Mem	Window Title
acpid	root		0 M	0 M	
aio/0	root				
ata/0	root				
ata_aux	root				
audispd	root		0 M	1 M	
auditd	root		0 M	1 M	
console-kit-dae	root		1 M	2 M	
cqueue	root				
cron	root		0 M	1 M	
cupsd	root		1 M	2 M	
dbus-daemon	preuss		0 M	1 M	
dbus-daemon	messagebus		0 M	1 M	
dbus-daemon	root		0 M	1 M	
dbus-launch	preuss		0 M	1 M	
dbus-launch	root		0 M	1 M	
dhcpcd	root		0 M	0 M	
dhcpcd	root		0 M	0 M	
events/0	root				
gvfsd	preuss		0 M	2 M	

Success

93 processes CPU: 1% Memory: 113.6 MiB / 1,008.7 MiB No swap space available

Desktop Folder



Firefox



My Computer



Office



Online Help



openSUSE

System tray area containing icons for:

- openSUSE logo
- Network
- Volume
- System Monitor (with a graph icon)
- Application dock with buttons 1, 2, 3, 4

System Monitor

System tray area containing:

- US Flag
- Folder icon
- Volume icon
- Time: 07:37 pm
- Power button
- Refresh button

preuss : bash

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```
preuss@msctclinux:~> cd  
preuss@msctclinux:~> █
```

We want to be in our home directory,
so we gave the cd command.

preuss : bash

preuss : bash

File Edit View Scrollback Bookmarks Settings Help

```
preuss@msctclinux:~> cd  
preuss@msctclinux:~> ps -x
```

preuss : bash

preuss : bash

File Edit View Scrollback Bookmarks Settings Help

```

4776 ?      s      0:00 klauncher
4778 ?      s      0:00 kded4
4817 ?      s      0:00 kwrapper4 ksmserver
4818 ?      sl     0:00 ksmserver
4820 ?      s      0:00 kwin -session 10145157cce2000126385451300000053340000_1265664264_611246
4826 ?      sl     0:02 /usr/bin/plasma
4827 ?      s      0:00 /usr/bin/knotify4
4832 ?      s      0:00 kdeinit4: kio_file [kdeinit] file local:/tmp/ksocket-preuss/klauncherMT4776.sl
4835 ?      sl     0:00 /usr/bin/nepomukserver
4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      sl     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmware-user-loader --blockFd 3
4864 ?      s      0:00 /usr/bin/klipper
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      ssl    0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      sl     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      sl     0:00 /usr/bin/konsole
4984 pts/0    Rs     0:00 /bin/bash
5014 pts/0    R+    0:00 ps -x

```

preuss@msctclinux:~>

preuss : bash

preuss : bash

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```

4776 ?      s      0:00 klauncher
4778 ?      s      0:00 kded4
4817 ?      s      0:00 kwrapper4 ksmserver
4818 ?      sl     0:00 ksmserver
4820 ?      s      0:00 kwin -session 10145157cce2000126385451300000053340000_1265664264_611246
4826 ?      sl     0:02 /usr/bin/plasma
4827 ?      s      0:00 /usr/bin/knotify4
4832 ?      s      0:00 kdeinit4: kio_file [kdeinit] file local://tmp/ksocket-preuss/klauncherMT4776.sl
4835 ?      sl     0:00 /usr/bin/nepomukserver
4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukserVICESTUB nepomuk
4841 ?      sl     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmware-u
4864 ?      s      0:00 /usr/bin/klipper
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      ssl    0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      sl     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      sl     0:00 /usr/bin/konsole
4984 pts/0    Rs     0:00 /bin/bash
5014 pts/0    R+    0:00 ps -x

```

We want to stop/kill Klipper.

preuss@msctclinux:~> kill 4864

preuss : bash

preuss : bash

File Edit View Scrollback Bookmarks Settings Help

```

4778 ?      s      0:00 kded4
4817 ?      s      0:00 kwrapper4 ksmserver
4818 ?      s1     0:00 ksmserver
4820 ?      s      0:00 kwin -session 10145157cce2000126385451300000053340000_1265664264_611246
4826 ?      s1     0:02 /usr/bin/plasma
4827 ?      s      0:00 /usr/bin/knotify4
4832 ?      s      0:00 kdeinit4: kio_file [kdeinit] file local:/tmp/ksocket-preuss/klauncherMT4776.s1
4835 ?      s1     0:00 /usr/bin/nepomukserver
4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      s1     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmware-user-loader --blockFd 3
4864 ?      s      0:00 /usr/bin/klipper
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      s1     0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      s1     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      s1     0:00 /usr/bin/konsole
4984 pts/0    Rs     0:00 /bin/bash
5014 pts/0    R+    0:00 ps -x

```

```

preuss@msctclinux:~> kill 4864
preuss@msctclinux:~> ps -x

```

preuss : bash

preuss : bash

File Edit View Scrollback Bookmarks Settings Help

```

4776 ?      s      0:00 klauncher
4778 ?      s      0:00 kded4
4817 ?      s      0:00 kwrapper4 ksmserver
4818 ?      sl     0:00 ksmserver
4820 ?      s      0:00 kwin -session 10145157cce2000126385451300000053340000_1265664264_611246
4826 ?      sl     0:02 /usr/bin/plasma
4827 ?      s      0:00 /usr/bin/knotify4
4832 ?      s      0:00 kdeinit4: kio_file [kdeinit] file local:/tmp/ksocket-preuss/klauncherMT4776.sl
4835 ?      sl     0:00 /usr/bin/nepomukserver
4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      sl     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmware
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      ssl    0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      sl     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      sl     0:00 /usr/bin/konsole
4984 pts/0    Rs     0:00 /bin/bash
5023 pts/0    R+    0:00 ps -x
preuss@msctclinux:~> /usr/bin/klipper
preuss@msctclinux:~> █

```

Klipper is gone.

preuss : bash

preuss : bash

File Edit View Scrollback Bookmarks Settings Help

```

4776 ?      s      0:00 klauncher
4778 ?      s      0:00 kded4
4817 ?      s      0:00 kwrapper4 ksmserver
4818 ?      sl     0:00 ksmserver
4820 ?      s      0:00 kwin -session 10145157cce2000126385451300000053340000_1265664264_611246
4826 ?      sl     0:02 /usr/bin/plasma
4827 ?      s      0:00 /usr/bin/knotify4
4832 ?      s      0:00 kdeinit4: kio_file [kdeinit] file local:/tmp/ksocket-preuss/klauncherMT4776.sl
4835 ?      sl     0:00 /usr/bin/nepomukserver
4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      sl     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmwar
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      ssl    0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      sl     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      sl     0:00 /usr/bin/konsole
4984 pts/0    ss     0:00 /bin/bash
5027 pts/0    s      0:00 /usr/bin/klipper
5032 pts/0    R+    0:00 ps -x

```

preuss@msctclinux:~>

We issued the command /usr/bin/klipper and klipper is back.

preuss : bash

preuss : bash

File Edit View Scrollback Bookmarks Settings Help

```

4776 ?      s      0:00 klauncher
4778 ?      s      0:00 kded4
4817 ?      s      0:00 kwrapper4 ksmserver
4818 ?      sl     0:00 ksmserver
4820 ?      s      0:00 kwin -session 10145157cce2000126385451300000053340000_1265664264_611246
4826 ?      sl     0:02 /usr/bin/plasma
4827 ?      s      0:00 /usr/bin/knotify4
4832 ?      s      0:00 kdeinit4: kio_file [kdeinit] file local:/tmp/ksocket-preuss/klauncherMT4776.sl
4835 ?      sl     0:00 /usr/bin/nepomukserver
4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      sl     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmware-user-loader --blockFd 3
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      ssl    0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      sl     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      sl     0:00 /usr/bin/konsole
4984 pts/0    ss     0:00 /bin/bash
5027 pts/0    s      0:00 /usr/bin/klipper
5032 pts/0    R+    0:00 ps -x

```

preuss@msctclinux:~> man bash

preuss : bash

preuss : bash

File Edit View Scrollback Bookmarks Settings Help

```

4778 ?      s      0:00 kded4
4817 ?      s      0:00 kwrapper4 ksmserver
4818 ?      s1     0:00 ksmserver
4820 ?      s      0:00 kwin -session 10145157cce2000126385451300000053340000_1265664264_611246
4826 ?      s1     0:02 /usr/bin/plasma
4827 ?      s      0:00 /usr/bin/knotify4
4832 ?      s      0:00 kdeinit4: kio_file [kdeinit] file local:/tmp/ksocket-preuss/klauncherMT4776.s1
4835 ?      s1     0:00 /usr/bin/nepomukserver
4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      s1     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-
4865 ?      s      0:00 /usr/bin/kupdate
4876 ?      s1     0:00 /usr/bin/pulseau
4899 ?      s      0:00 /usr/lib/gvfs/gv
4920 ?      s1     0:07 /usr/bin/ksysgud
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/li
4982 ?      s1     0:00 /usr/bin/konsole
4984 pts/0    ss     0:00 /bin/bash
5027 pts/0    s      0:00 /usr/bin/klipper
5032 pts/0    R+    0:00 ps -x

```

We will show the background, foreground and jobs commands.

```

preuss@msctclinux:~> man bash
preuss@msctclinux:~> bg %1

```

preuss : bash

```

preuss : bash
File Edit View Scrollback Bookmarks Settings Help
4826 ?      s1      0:02 /usr/bin/plasma
4827 ?      s       0:00 /usr/bin/knotify4
4832 ?      s       0:00 kdeinit4: kio_file [kdeinit] file local:/tmp/ksocket-preuss/klauncherMT4776.sl
4835 ?      s1      0:00 /usr/bin/nepomukserver
4836 ?      s       0:00 /usr/bin/krunner
4838 ?      s       0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      s1      0:00 kxkb
4843 ?      s       0:00 /usr/bin/kaccess
4851 ?      s       0:03 /usr/lib/vmware-tools/bin32/vmware-user-loader --blockFd 3
4865 ?      s       0:00 /usr/bin/kupdateapplet
4876 ?      ssl     0:00 /usr/bin/pulseaudio --start
4899 ?      s       0:00 /usr/lib/gvfs/gvfsd
4920 ?      s1      0:07 /usr/bin/ksysguard
4922 ?      s       0:00 ksysguardd
4939 ?      s       0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      s1      0:00 /usr/bin/konsole
4984 pts/0    ss      0:00 /bin/bash
5027 pts/0    s       0:00 /usr/bin/klipper
5032 pts/0    R+     0:00 ps -x
preuss@msctclinux:~> man bash
preuss@msctclinux:~> bg %1
[1]+ man bash &

[1]+  Stopped                  man bash
preuss@msctclinux:~> jobs

```

preuss : bash

```

preuss : bash
File Edit View Scrollback Bookmarks Settings Help
4832 ?      s      0:00 kdeinit4: kio_file [kdeinit] file local:/tmp/ksocket-preuss/klauncherMT4776.s1
4835 ?      s1     0:00 /usr/bin/nepomukserver
4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      s1     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmware-user-loader --blockFd 3
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      s1     0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      s1     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      s1     0:00 /usr/bin/konsole
4984 pts/0    ss     0:00 /bin/bash
5027 pts/0    s      0:00 /usr/bin/klipper
5032 pts/0    R+    0:00 ps -x
preuss@msctclinux:~> man bash
preuss@msctclinux:~> bg %1
[1]+ man bash &

[1]+  Stopped                  man bash
preuss@msctclinux:~> jobs
[1]+  Stopped                  man bash
preuss@msctclinux:~> fg 1

```

preuss : bash

preuss : bash

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```

4836 ?      s      0:00 /usr/bin/krunner
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      s1     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmware-user-loader --blockFd 3
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      s1     0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      s1     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      s1     0:00 /usr/bin/konsole
4984 pts/0    ss     0:00 /bin/bash
5027 pts/0    s      0:00 /usr/bin/klipper
5032 pts/0    R+    0:00 ps -x

```

```

preuss@msctclinux:~> man bash
preuss@msctclinux:~> bg %1
[1]+  man bash &

[1]+  Stopped                  man bash
preuss@msctclinux:~> jobs
[1]+  Stopped                  man bash
preuss@msctclinux:~> fg 1
man bash
preuss@msctclinux:~> █

```

preuss : bash

```

BASH(1)
NAME
    bash - GNU Bourne-Again Shell

SYNOPSIS
    bash [options] [file]

COPYRIGHT
    Bash is Copyright (C) 1989-2005 by the Free Software Foundation, Inc.

DESCRIPTION
    Bash is an sh-compatible command language interpreter that executes commands read from the standard input or from a file. Bash also incorporates useful features from the Korn and C shells (ksh and csh).

    Bash is intended to be a conformant implementation of the Shell and Utilities portion of the IEEE POSIX specification (IEEE Standard 1003.1). Bash can be configured to be POSIX-conformant by default.

OPTIONS
    In addition to the single-character shell options documented in the description of the set

Manual page bash(1) line 1

```

preuss : bash

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```
4838 ?      s      0:00 /usr/bin/nepomukservicestub nepomukstorage
4841 ?      s1     0:00 kxkb
4843 ?      s      0:00 /usr/bin/kaccess
4851 ?      s      0:03 /usr/lib/vmware-tools/bin32/vmware-user-loader --blockFd 3
4865 ?      s      0:00 /usr/bin/kupdateapplet
4876 ?      s1     0:00 /usr/bin/pulseaudio --start
4899 ?      s      0:00 /usr/lib/gvfs/gvfsd
4920 ?      s1     0:07 /usr/bin/ksysguard
4922 ?      s      0:00 ksysguardd
4939 ?      s      0:00 /usr/lib/kde4/libexec/kdesud
4982 ?      s1     0:00 /usr/bin/konsole
4984 pts/0    ss     0:00 /bin/bash
5027 pts/0    s      0:00 /usr/bin/klipper
5032 pts/0    R+    0:00 ps -x
```

```
preuss@msctclinux:~> man bash
preuss@msctclinux:~> bg %1
[1]+  man bash &

[1]+  Stopped                  man bash
preuss@msctclinux:~> jobs
[1]+  Stopped                  man bash
preuss@msctclinux:~> fg 1
man bash
preuss@msctclinux:~> man bash
preuss@msctclinux:~> md5sum /usr/bin/* > ~/md5sum.txt &
```

We want the md5sum command to run in the background.

preuss : bash

preuss : bash

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```

[1]+  Stopped                man bash
preuss@msctclinux:~> jobs
[1]+  Stopped                man bash
preuss@msctclinux:~> fg 1
man bash
preuss@msctclinux:~> man bash
preuss@msctclinux:~> md5sum /usr/bin/* > ~/md5sum.txt &
[1] 5099
preuss@msctclinux:~> md5sum: /usr/bin/aulastlog: Permission denied
md5sum: /usr/bin/gnome-passwd: Permission denied
man bmd5sum: /usr/bin/john: Permission denied
acmd5sum: /usr/bin/keygen: Permission denied
h
No manual entry for bach
preuss@msctclinux:~> man bahsmd5sum: /usr/bin/sperl5.10.0: Per
md5sum: /usr/bin/unafs: Permission denied
md5sum: /usr/bin/unique: Permission denied
md5sum: /usr/bin/unshadow: Permission denied
shmd5sum: /usr/bin/X: Permission denied
md5sum: /usr/bin/X11: Is a directory

No manual entry for bahsh
preuss@msctclinux:~> md5sum: /usr/bin/Xorg: Permission denied
man bash

```

We are running bash while running md5sum.

preuss : bash

preuss : bash

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```

preuss@msctclinux:~> jobs
[1]+  Stopped                  man bash
preuss@msctclinux:~> fg 1
man bash
preuss@msctclinux:~> man bash
preuss@msctclinux:~> md5sum /usr/bin/* > ~/md5sum.txt &
[1] 5099
preuss@msctclinux:~> md5sum: /usr/bin/aulastlog: Permission denied
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man bmd5sum: /usr/bin/john: Permission denied
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md5sum: /usr/bin/unshadow: Permission denied
shmd5sum: /usr/bin/X: Permission denied
md5sum: /usr/bin/X11: Is a directory

No manual entry for bahsh
preuss@msctclinux:~> md5sum: /usr/bin/Xorg: Permission denied
man bash
[1]+  Exit 1                  md5sum /usr/bin/* > ~/md5sum.txt
preuss@msctclinux:~> █

```

We exited bash man page.

preuss : bash

preuss : bash

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```

preuss@msctclinux:~> jobs
[1]+  Stopped                  man bash
preuss@msctclinux:~> fg 1
man bash
preuss@msctclinux:~> man bash
preuss@msctclinux:~> md5sum /usr/bin/* > ~/md5sum.txt &
[1] 5099
preuss@msctclinux:~> md5sum: /usr/bin/aulastlog: Permission denied
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No manual entry for bach
preuss@msctclinux:~> man bahsmd5sum: /usr/bin/sperl5.10.0: Perm
md5sum: /usr/bin/unafs: Permission denied
md5sum: /usr/bin/unique: Permission denied
md5sum: /usr/bin/unshadow: Permission denied
shmd5sum: /usr/bin/X: Permission denied
md5sum: /usr/bin/X11: Is a directory

No manual entry for bahsh
preuss@msctclinux:~> md5sum: /usr/bin/Xorg: Permission denied
man bash
[1]+  Exit 1                  md5sum /usr/bin/* > ~/md5sum.txt
preuss@msctclinux:~> less ~/md5sum.txt

```

We want to see the work done by md5sum.

preuss : bash

preuss : less

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```

e06aa69e3502abcd0d684158a39cfdd4 /usr/bin/l
40de5ed9f1b87ba97c5220c47584b314 /usr/bin/2to3
6da3f1c8af900415f1c93f5af9ce40a5 /usr/bin/4lltoppm
41e6753d7b62594e243c6a65cf716bb4 /usr/bin/a2p
fdd4e3b67eb1b6d8e3e8434daadd8707 /usr/bin/a2ps
6e313d5b06f36820b92406bad5bb9568 /usr/bin/aafire
f32b8a27055128419cd7d7d5d8799dd5 /usr/bin/aafliip
4e824eb0bb1816649c59d31e165d362b /usr/bin/aainfo
9b7ea490527c0d6f42367a088b3d99a5 /usr/bin/aasavefont
7a4a3bc43cf0bbab7e370d21b7495c64 /usr/bin/aatest
c2106c02f3dd472028090e19dbf001ac /usr/bin/aclocal
c2106c02f3dd472028090e19dbf001ac /usr/bin/aclocal-1.10
f73340e4426f97883d0a07678915ffd1 /usr/bin/aconnect
00aa483ef4334f861bf6e7bfbe0ad9c0 /usr/bin/acpi
32c627e34ec831f5972c4dec85e5c4e9 /usr/bin/acpiexec
142dc1459330ce4a471ec925c5987309 /usr/bin/acpi_listen
bb24dc90f81b6ae095ebca6beaa6c83a /usr/bin/acpixtract
38fc80d847635c4884f49cce62fecc8f /usr/bin/activation-client
4be108ea00aecb4f7961a343cefd04d /usr/bin/addftinfo
ab70ab11ab64a7f1ca8b7c19a156cd8d /usr/bin/addr2line
efc33151e6f0752ce2b40ae21ab49671 /usr/bin/addr2name.awk-4.3
f6dfb219a32f0be747f2745a75168aa8 /usr/bin/afmtodit
e0d48d8675cdd500dc32c008d169ecd4 /usr/bin/all_notes_off
8141b43bed40b24d6f69db90335ab381 /usr/bin/alsamixer

```

/home/preuss/md5sum.txt lines 1-24/1901 1%

preuss : less

preuss : bash

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```

preuss@msctclinux:~> fg 1
man bash
preuss@msctclinux:~> man bash
preuss@msctclinux:~> md5sum /usr/bin/* > ~/md5sum.txt &
[1] 5099
preuss@msctclinux:~> md5sum: /usr/bin/aulastlog: Permission denied
md5sum: /usr/bin/gnome-passwd: Permission denied
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No manual entry for bahsh
preuss@msctclinux:~> md5sum: /usr/bin/Xorg: Permission denied
man bash
[1]+  Exit 1          md5sum /usr/bin/* > ~/md5sum.txt
preuss@msctclinux:~> less ~/md5sum.txt
preuss@msctclinux:~> less ~/md5sum.txt
preuss@msctclinux:~> █

```

preuss : bash