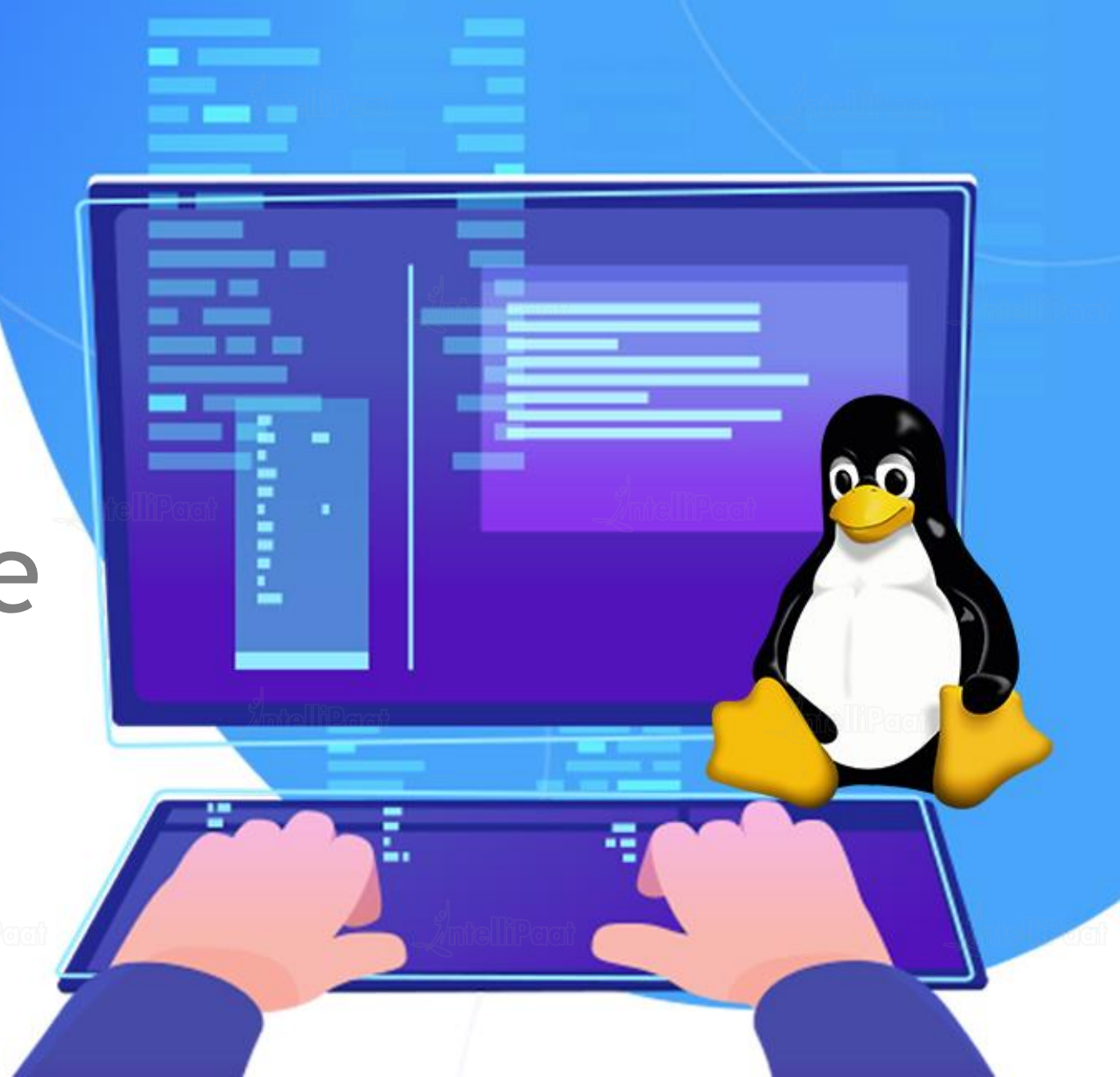




# UNIX/Linux Course

Scheduling Tasks in Linux



# Agenda

01

What are daemons?

02

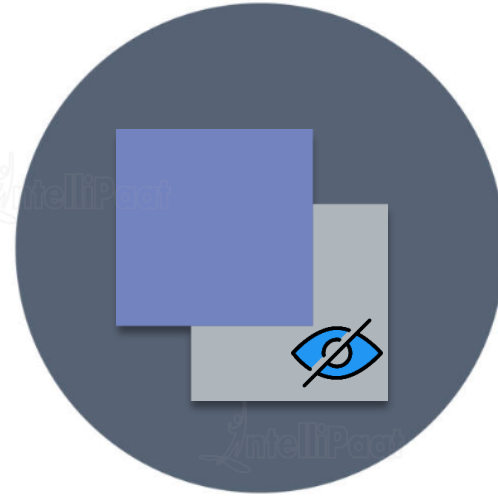
Scheduling task in Linux

03

Cron and crontab

04

Using at command



# What are Daemons?

# What are Daemons?

A daemon is a long-running background process, that neither has to be controlled directly by an user or to need to wait to get activated by the occurrence of a specific event or condition.

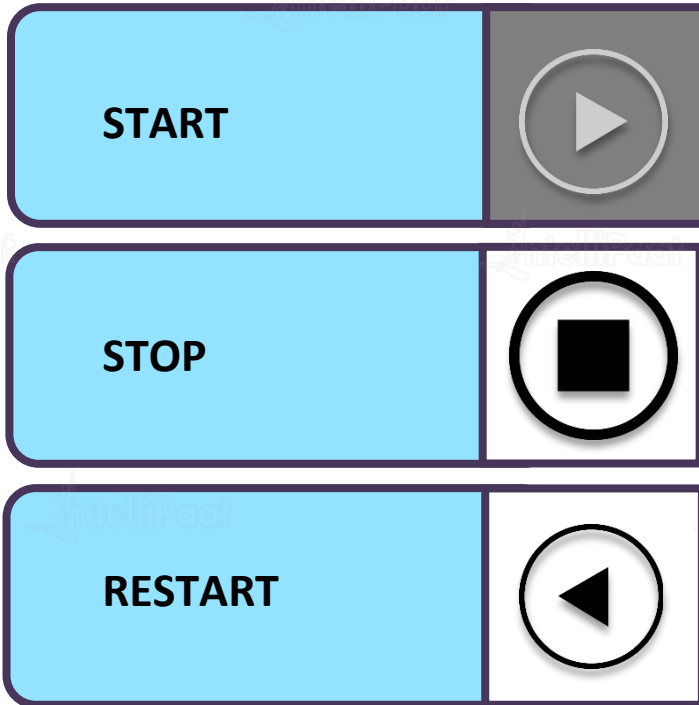
In Unix, the names of daemons conventionally end in "d".

Some examples include

**inetd** (internet service daemon),  
**httpd** (Hypertext Transfer Protocol daemon),  
**ftpd** (FTP Server Daemon),  
**crond** (Cron Daemon), etc

# Start / Stop / Restart Daemons

```
service [daemon-name-here] start
```



**Example: To start httpd service**

```
File Edit View Search Terminal Help
[intellipaate@localhost ~]$ service httpd start
Redirecting to /bin/systemctl start httpd.service
[intellipaate@localhost ~]$
```

# Start / Stop / Restart Daemons

```
service [daemon-name-here] stop
```

Example:

```
File Edit View Search Terminal Help
[intellipaat@localhost ~]$ service httpd stop
Redirecting to /bin/systemctl stop httpd.service
[intellipaat@localhost ~]$
```

# Start / Stop / Restart Daemons

```
service [daemon-name-here] restart
```

Example:

```
File Edit View Search Terminal Help
[intellipaate@localhost ~]$ service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[intellipaate@localhost ~]$
```



# Scheduling Tasks in Linux



**Job scheduling is a feature that allows a user to submit a command or program for execution at a specified time in future**

To run a maintenance script on 1st day of every month or to perform a backup of a database midnight everyday; you don't have to get up and sit in front of computer waiting for the clock to hit the right time to perform these tasks. That is when scheduling tasks comes in handy.

**cron and at services allows system admins to schedule tasks to run at a specific time.**

It can be a one-time task which runs at a certain time once, on the other hand we can have a task that needs to be performed on a repetitive basis, daily, weekly, or monthly

**at** service is used for one-time tasks

**cron** service is used for repetitive tasks

# Cron and Crontab

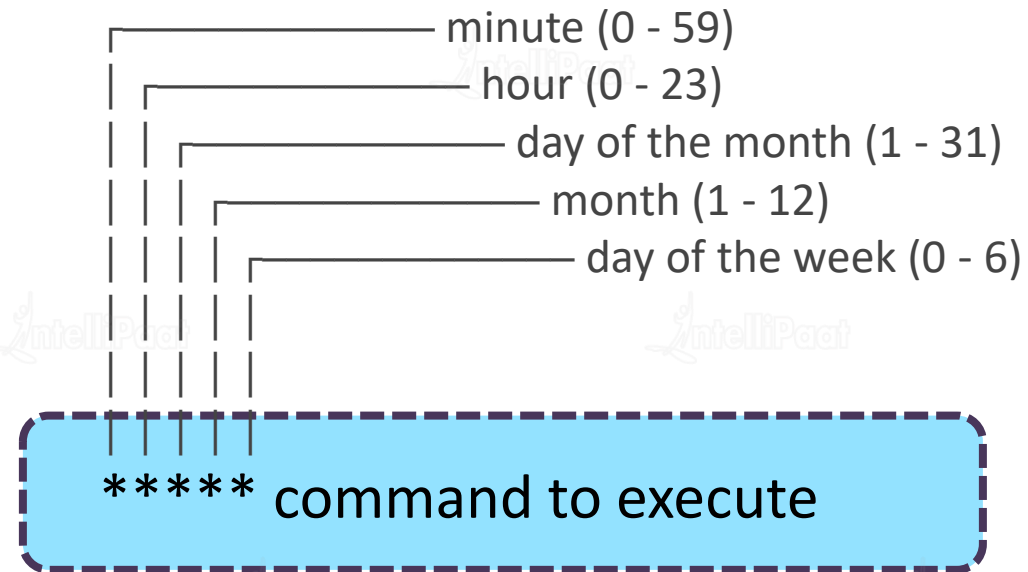
**Cron daemon is a long-running process that executes commands at specific dates and times. We can use this to schedule activities, either as one-time events or as recurring tasks.**

Cron is a daemon used for task scheduling  
crontab is command that is used to create a crontab file  
containing commands and instructions for the cron daemon to  
execute.

**The cron service checks for files in the `/var/spool/cron` and `/etc/cron.d` directories. The contents of these files define cron jobs that are to be run at various intervals. The individual user cron files are located in `/var/spool/cron`, and system services and applications generally add cron job files in the `/etc/cron.d` directory.**

# How to Use Cron?

Here's what the cron job definition looks like



# Hands-on: Scheduling task using cron

# Using at Command in Linux



# Using at Command in Linux

**Job scheduling is a feature that allows a user to submit a command or program for execution at a specified time in future**

To run a maintenance script on 1st day of every month or to perform a backup of a database midnight everyday; you don't have to get up and sit in front of computer waiting for the clock to hit the right time to perform these tasks. That is when scheduling tasks comes in handy.

**cron and at services allows system admins to schedule tasks to run at a specific time.**

# Listing scheduled tasks using atq

atq command can be used to look at the scheduled tasks

```
intellipa@localhost:~  
File Edit View Search Terminal Help  
[intellipa@localhost ~]$ atq  
[intellipa@localhost ~]$ ls  
'\''      awk-command      data.csv      Documents  Hello      here_doc      Music  
animals.txt cron1.sh      dead.letter  Downloads  hello_script.sh in_script.sh  myscript.sh  
awk-1      cron_stat.txt Desktop      hello      hello_status.txt mail.txt      new_file.txt  
[intellipa@localhost ~]$ rm hello_status.txt  
[intellipa@localhost ~]$ ls  
'\''      awk-command      data.csv      Documents  Hello      in_script.sh  myscript.sh  
animals.txt cron1.sh      dead.letter  Downloads  hello_script.sh mail.txt      new_file.txt  
awk-1      cron_stat.txt Desktop      hello      here_doc      Music      new.txt  
[intellipa@localhost ~]$ at now +3 minute -f cron1.sh  
warning: commands will be executed using /bin/sh  
job 22 at Wed Dec  4 04:28:00 2019  
[intellipa@localhost ~]$ ls  
'\''      awk-command      data.csv      Documents  Hello      in_script.sh  myscript.sh  
animals.txt cron1.sh      dead.letter  Downloads  hello_script.sh mail.txt      new_file.txt  
awk-1      cron_stat.txt Desktop      hello      here_doc      Music      new.txt  
[intellipa@localhost ~]$ atq  
22      Wed Dec  4 04:28:00 2019 a intellipa  
[intellipa@localhost ~]$ at now +6 minute -f hello_script.sh  
warning: commands will be executed using /bin/sh  
job 23 at Wed Dec  4 04:31:00 2019  
[intellipa@localhost ~]$ atq  
22      Wed Dec  4 04:28:00 2019 a intellipa  
23      Wed Dec  4 04:31:00 2019 a intellipa  
[intellipa@localhost ~]$ atrm 22  
[intellipa@localhost ~]$ atq  
23      Wed Dec  4 04:31:00 2019 a intellipa  
[intellipa@localhost ~]$
```

# Hands-on: Scheduling task using atq



# Quiz

## 1. What is a Daemon in Linux?

A. an application

B. a background process

C. a foreground process

D. a scheduled task



## 1. What is a Daemon in Linux?

A. an application

B. a background process

C. a foreground process

D. a scheduled task



**2. The command "at" is used for repetitive tasks.**

A. True

B. False



**2. The command "at" is used for repetitive tasks.**

A. True

B. False





## 3. What option is the middle asterick in a cron job command?

A. minute

B. month

C. day of the week

D. day of the month



## 3. What option is the middle asterick in a cron job command?

A. minute

B. month

C. day of the week

D. day of the month



## 4. Command to view scheduled tasks?

A. atq

B. atm

C. atrm

D. None of the above



## 4. Command to view scheduled tasks?

A. atq

B. atm

C. atrm

D. None of the above





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