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→ introduction about git hub:

git is a **version control system** **فی جیت کن کن**
 git is a **multiple snapshot** **فی جیت کن کن** **فی جیت کن کن**

git is a **distributed system** **فی جیت کن کن**

repo **history** **یعنی جیت کن کن** **یعنی جیت کن کن**
 repo **github** **یعنی جیت کن کن** **یعنی جیت کن کن**

git repo **synchronization** **یعنی جیت کن کن** **یعنی جیت کن کن**
 with **server** **یعنی جیت کن کن**

→ type of encryption:

1. Symmetric encryption

here we only have **one key**

Encryption **one key** **one key** **one key**

Share **one key** **one key** **one key** **one key** **one key**

Share **one key** **one key** **one key** **one key** **one key**

key **one key** **one key** **one key** **one key** **one key**

Implementation **Simple** **Simple** **Simple** **Simple** **Simple**

fast



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2) Asymmetric Encryption

here we have "two keys" one for encryption and one for decryption "Public and Private"

for encryption John's key \rightarrow $\text{John} \rightarrow \text{Public Key}$

Share John's public key \rightarrow $\text{John} \rightarrow \text{Decryption Key}$

Secure channel \rightarrow $\text{John} \rightarrow \text{Public Key}$

no one can \rightarrow hacker \rightarrow $\text{John} \rightarrow \text{Public Key}$

also John's private key \rightarrow $\text{John} \rightarrow \text{Decryption Key}$

John's private key \rightarrow $\text{John} \rightarrow \text{Share}$

easy implement \rightarrow $\text{John} \rightarrow \text{Share}$

private key will be mix \rightarrow $\text{John} \rightarrow \text{Mix}$

public key will be mix \rightarrow $\text{John} \rightarrow \text{Mix}$

→ How to generate a SSH key in Git:

→ using the following commands

```
# SSH-key Gen
```

```
# cd ~/.ssh/
```

```
# ls -la
```

```
# CP id_rsa.pub ~/win_Shared
```

```
# Cat ~/.ssh/id_rsa.pub
```

→ Paste using copy and paste \rightarrow $\text{John} \rightarrow$ Generate Key in git hub

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#git clone "SSH Link" ↳ go copy original repo

↳ this is the copied repo in c:\j\li\q\o\g\ download (or) clone

#ls

#cd "repo name" in the copied repo

#ls repo files inside copied

#pwd → /home/reem/.ssh/repo name

copy this to your local

→ How to debug a Program:

#gdb → the GNU debugger

· debug section in .pid file

#gcc -g myProg.c ← elf file

↳ will generate the debug section

#gdb ./myProg → Start debugging the Prog

↳ Some commands in gdb

#run → to run the program

→ Ctrl + C to return to gdb again



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2) bt or backtrace \rightarrow giving coordinates

عمل إلى عمل قبل الرغبة في

3) C or Continue

4) info args → give information on the function arguments

5) info locals → get the local variable of a function

6) Frame 3 → ~~Frame 10~~ ~~Frame 11~~ ~~Frame 12~~

Frame II (جیلی) معلوماتی info (دیتائیل) کو اکٹھا کرے گا

7) Print var. → Print a certain variable (e.g.

8) `break` filename : line no. → Create a
breakPoint at
this line

copy info break points

10) break Function Name → use class
also function

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III) delete breakPoint no. → breakPointII

(go to line 0) ← Info breakPointII

Some tricks

→ :set nu → codeII (3 lines) flö, gön, ünle

→ dd → delete a certain line

→ 5dd → delete 5 consecutive lines

→ U → undo "but must be in Command mode
not insert mode"

→ yy → copy

→ 5yy → copy 5 consecutive lines

→ P → Paste

#Process Creation

execve() → is a System Call Function

execution for i file in kernel will get another I execute for bash file will be as if prog. zg i bash file will be as if csj

→ its arguments `sargs` → the **Path** of the **elf** file of the required process

→ arg2 → it's the argument

the first element of the argv array

arg3 → is the array

~~#these arrays must be global~~ Variable

be terminated with **NULL**.

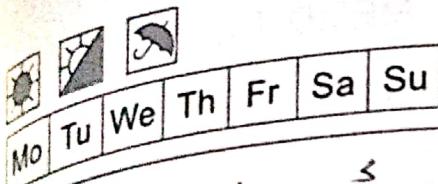
میتوانیم Path Ji ایجاد کنیم اگر Ji (j₁, j₂, ..., j_n)

With a file in the bin directory, the file is an executable.

→ ex: • exécuter /usr/bin / ls

1965. 2. 2. 1965. 2. 2.

→ el Path Kamel



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Some Commands:-

~~ELLY~~ → give the file location of this terminal

→ Ex 1 dev / pts / 0

Sudo \checkmark \rightarrow terminal No.

terminal

~~is being used as terminal 1's satellite~~

PS - t → Give the process that

Working on the terminal

#PS -t /Dev/pts/2 → في الموجة 2 terminal → process

PS -U → long format إلخ (أمثلة)
Process JS إلخ PPID 9 PID 11

Parent Process ID

→ the bash is the Parent of PS

Ps tree → observe the Processes in
tree Format إلخ (أمثلة)

Process 0 → init Process 1 إلخ (أمثلة)
kernel إلخ (أمثلة)

Process Creation:

fork() → System Call Function

Childs → Create → While Parent PID

→ Parent → Duplicate Job → Child Job

→ bash إلخ (أمثلة) child إلخ
→ Child Content → identical

وأيضاً fork → Parent → child

→ fork → own unique PID إلخ

→ child same job different PID إلخ

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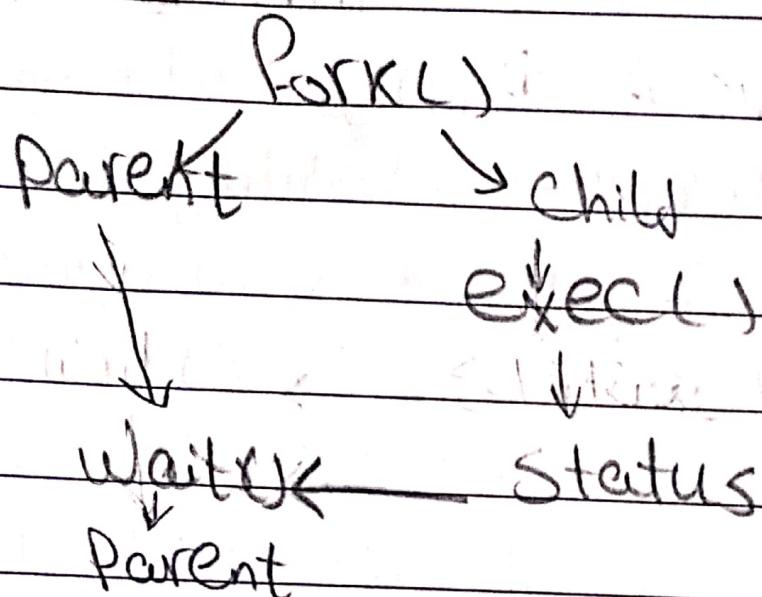
je (or my child) like this (or all
Parents) we overwrite Je's
#forks) → take no arguments

~~#Parent and Child running Concurrently~~

Get Pid → return the PID of the Process

Get PPid → return the PID of the Parent Process

→ How to make a Shell:



|| child → fork child will overwrite parent's child
|| (فـ) child's parent is child
|| child will overwrite parent's child
exec will overwrite child's child
Parent's child will overwrite child's child
Parent's child will overwrite child's child



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wait() → System Call Function called at the Parent

जैसे यदि पारेंट ने बेटे को जारी किया है तो पारेंट ने बेटे को नियंत्रित करता है और बेटे ने पारेंट को नियंत्रित करता है।

terminates (जैसे)

#which LS → give the Path of the Executable File of this command

जैसे built-in नहीं हैं तो Shell ने उनकी Command परिवर्तन की है।

built-in नहीं हैं तो Command का Path दिया जाता है।

→ Some Commands

#man Procs → State of the Processes
↳ Sleep / Stop / Running

Killed LS (किए गए)

#jobs → give the Processes State working on the bash and its States

~~#gedit &~~ → background

~~#Fd~~ → Foreground

الخطأ في التفاصيل (الخطأ في التفاصيل)

~~#Kill -g gedit ID~~ →

gedit ॥ ५०

State II دیگر قاتل
killed گزینی