IT Академія
від stfalcon.com

Python

Version Control

Tuple

```python
testTuple = ("apple", "banana", "cherry")
print(testTuple) #('apple', 'banana', 'cherry')
print(testTuple[1]) #banana

tmp = list(testTuple)
tmp[1] = "kiwi"
testTuple = tuple(tmp)
print(testTuple) #('apple', 'kiwi', 'cherry')

#thistuple[3] = "orange" # This will raise an error

thistuple = ("apple",)
print(type(thistuple)) #<class 'tuple'>

#NOT a tuple
thistuple = ("apple")
print(type(thistuple)) #<class 'str'>
```

Tuple

```python
#testTuple = tuple("apple", "banana", "cherry")
#TypeError: tuple expected at most 1 argument, got 3

testTuple = tuple(("apple", "banana", "cherry"))
print(type(testTuple)) #<class 'tuple'>

tuple1 = (1, 2, 3)

tuple3 = tuple1 + testTuple
print(tuple3) #(1, 2, 3, 'apple', 'banana', 'cherry')

print(tuple3.count("apple")) #1
```

Command Line Arguments

```
python -h
usage: python [option] ... [-c cmd | -m mod | file | -] [arg] ...
Options and arguments (and corresponding environment variables):
-c cmd : program passed in as string (terminates option list)
-d     : debug output from parser (also PYTHONDEBUG=x)
-E     : ignore environment variables (such as PYTHONPATH)
-h     : print this help message and exit

[ etc. ]
```

Command Line Arguments

```
python test.py arg1 arg2 arg3
```

IT Академія
від stfalcon.com

Command Line Arguments

```python
import sys

print('Number of arguments: ')
print(len(sys.argv))
print('Argument List: ' + str(sys.argv))

#Number of arguments:
#1
#Argument List: ['d:/01. hello world/helloWorld.py']
```

Command Line Arguments

```python
import sys

print('Number of arguments: ')
print(len(sys.argv))
print('Argument List: ' + str(sys.argv))

#Number of arguments:
#1
#Argument List: ['d:/01. hello world/helloWorld.py']
```

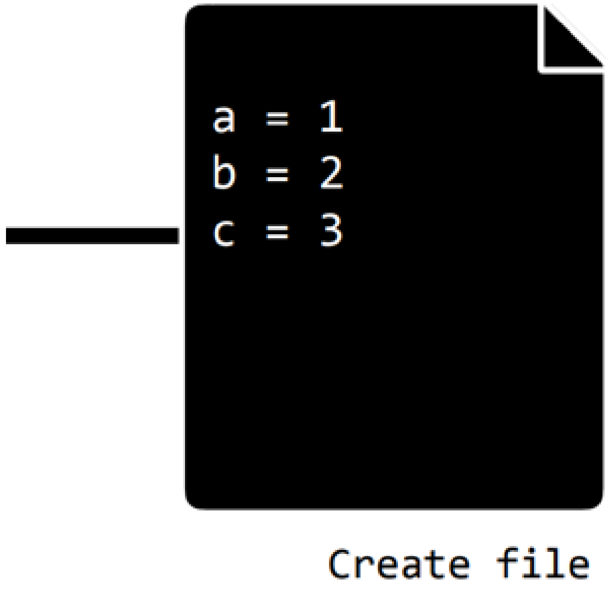
IT Академія
від stfalcon.com

Command Line Arguments

```python
import argparse

ap = argparse.ArgumentParser()
ap.add_argument('-n', '--name', required=False, help="some description")

params, tmp = ap.parse_known_args()
print(tmp)
print(params.m)
```

IT Академія
від stfalcon.com

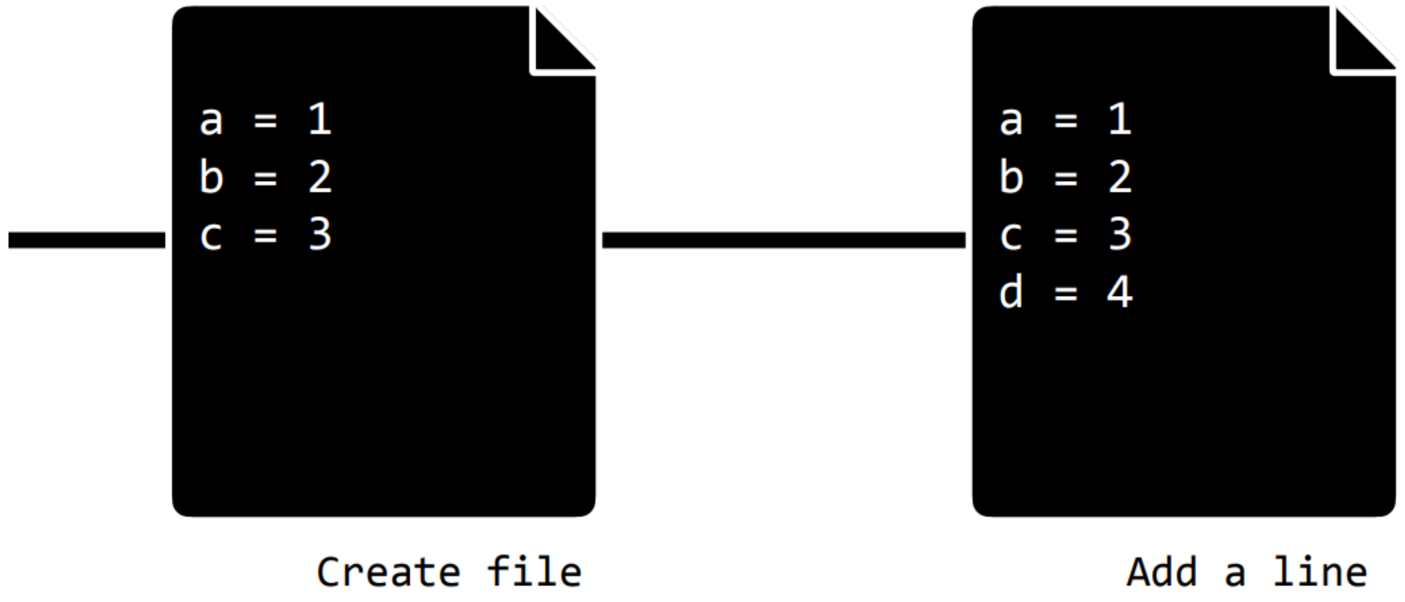
Keep track of changes to code



```
a = 1
b = 2
c = 3
```

IT Академія
від stfalcon.com

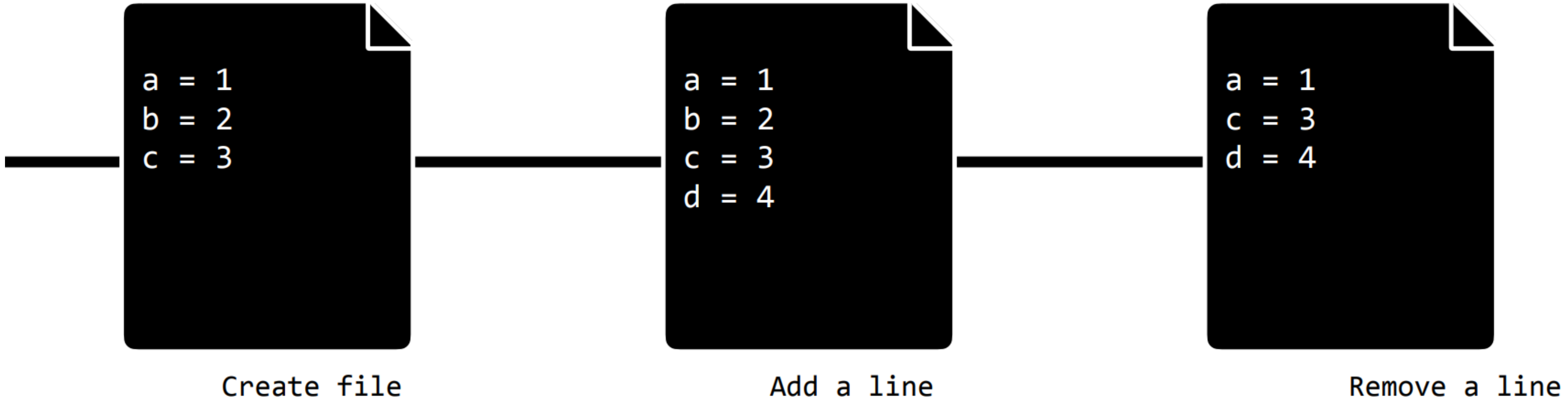
Keep track of changes to code



```
a = 1
b = 2
c = 3
```

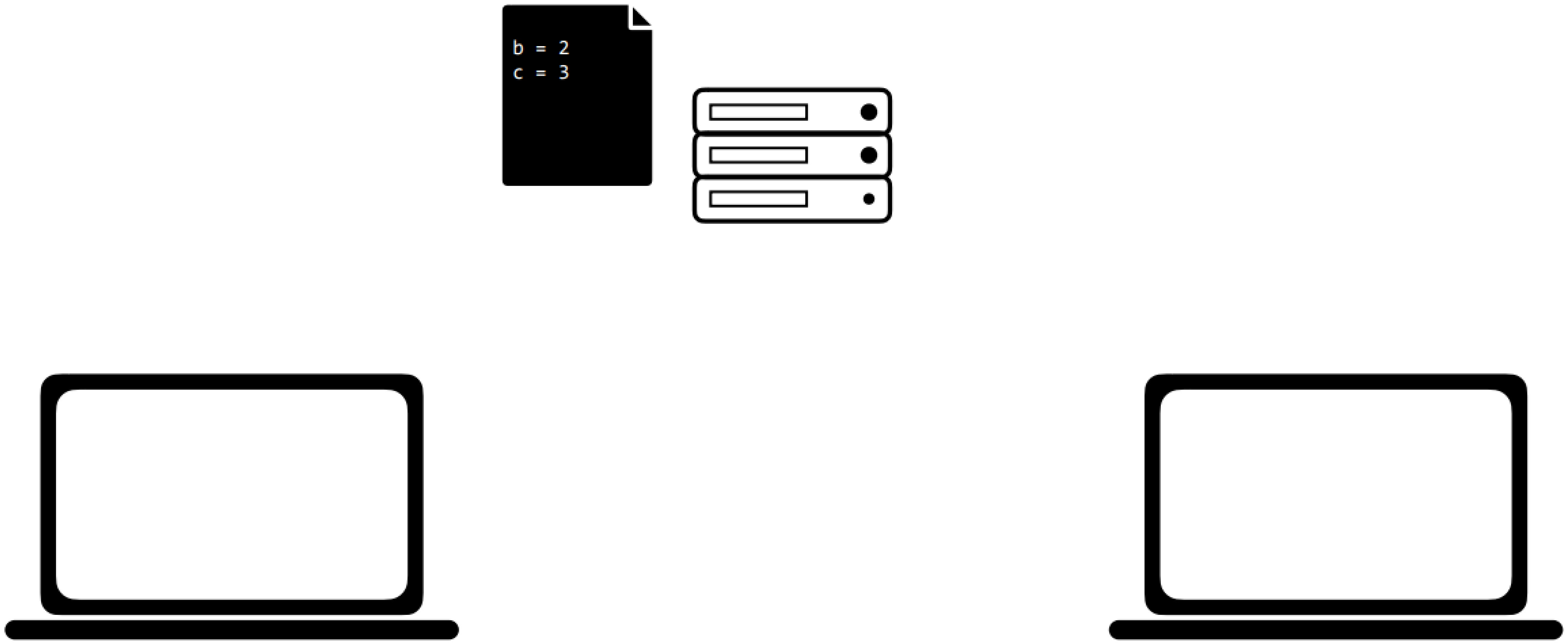
```
a = 1
b = 2
c = 3
d = 4
```

Keep track of changes to code



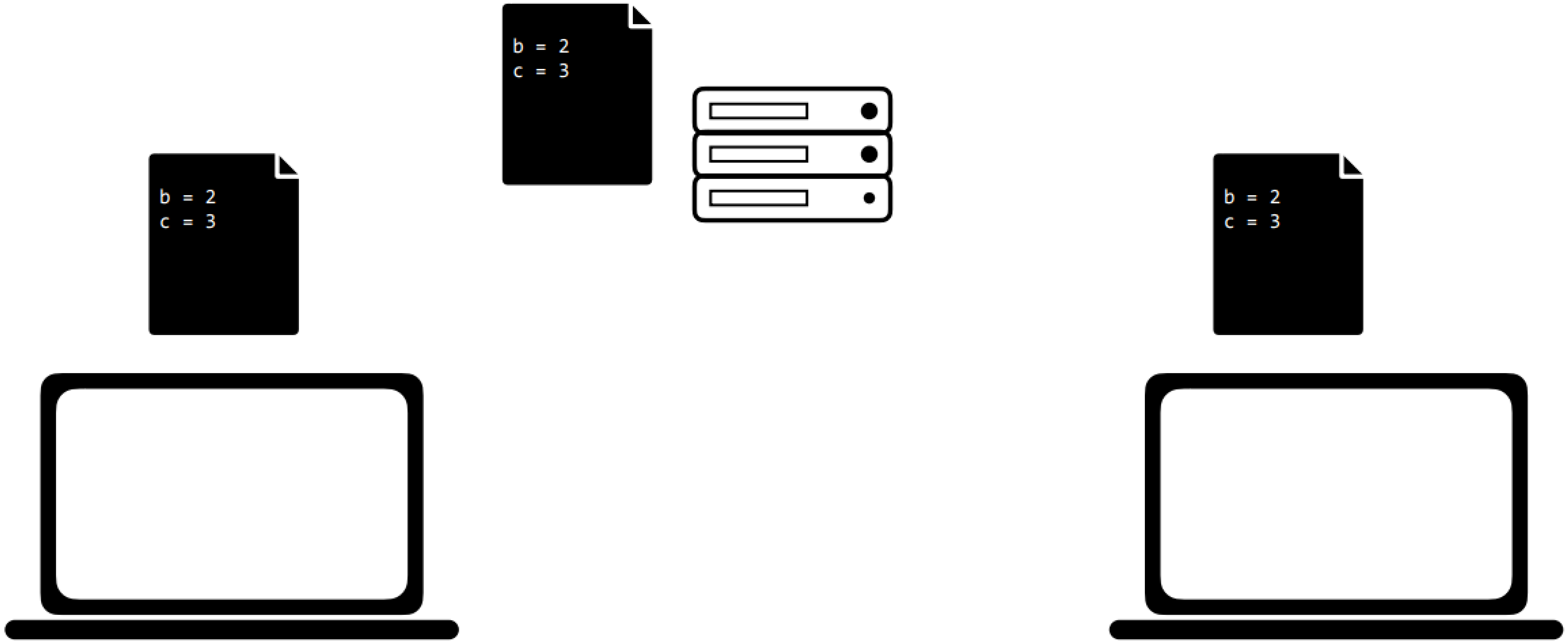
IT Академія
від stfalcon.com

Synchronizes code between different people

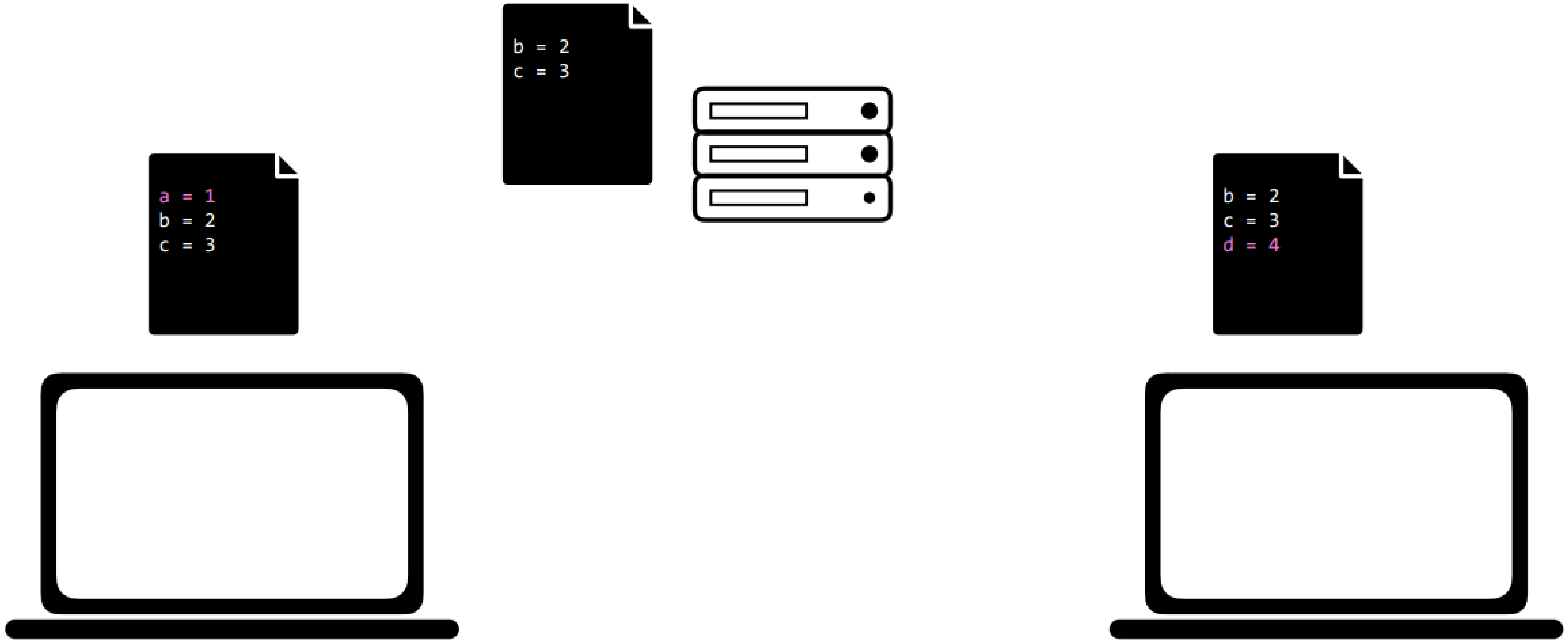


IT Академія
від stfalcon.com

Synchronizes code between different people

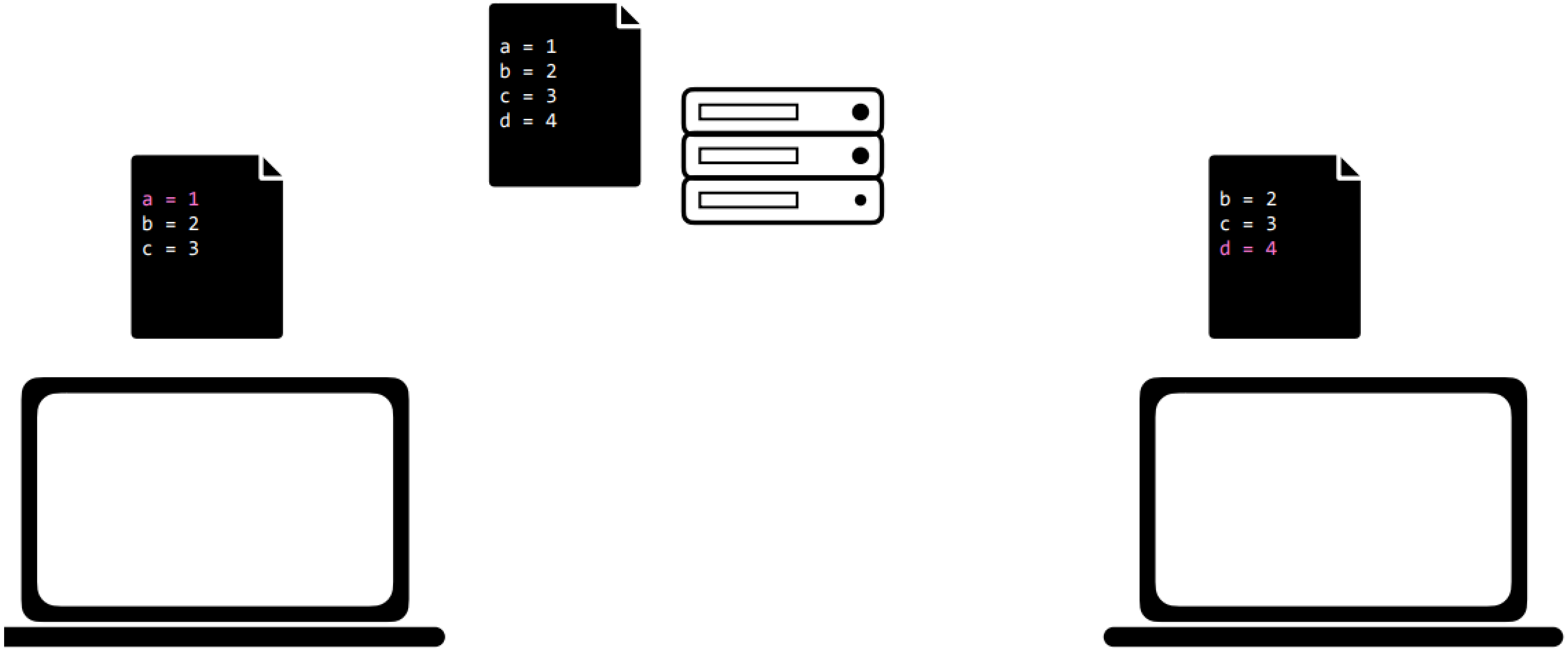


Synchronizes code between different people

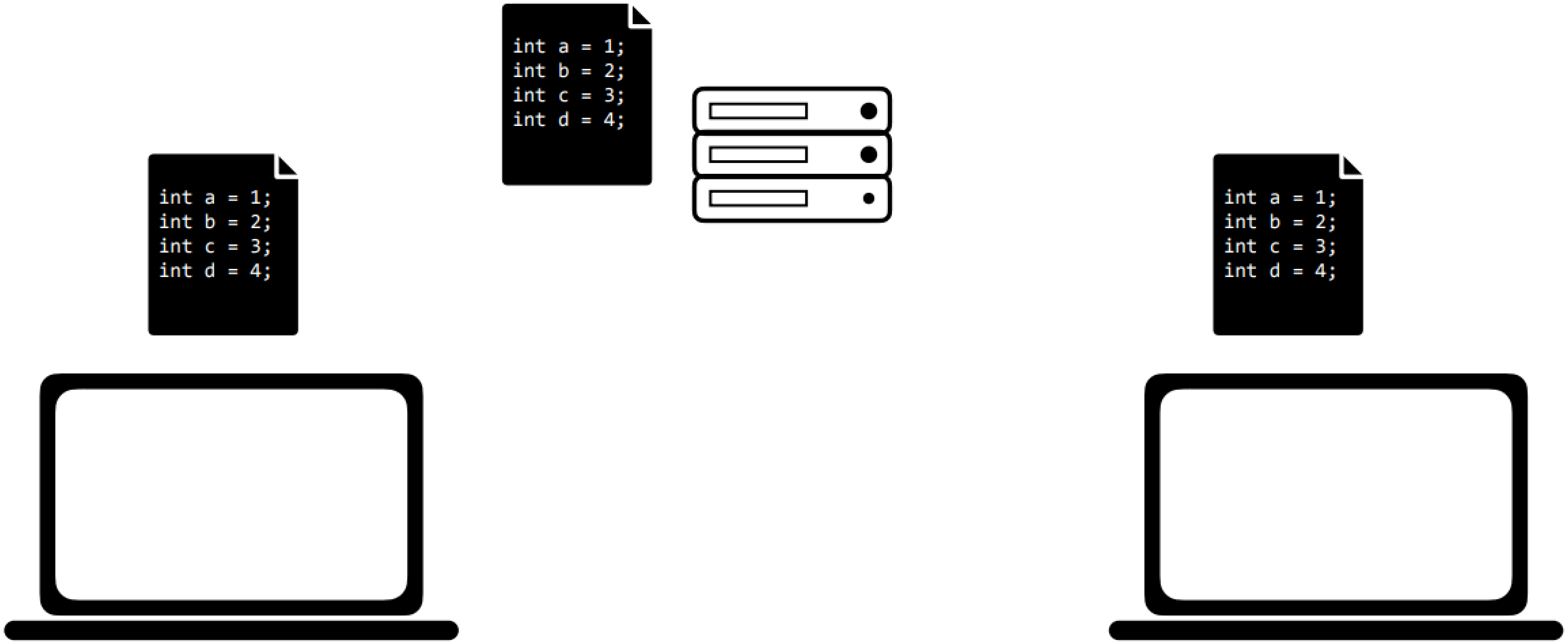


IT Академія
від stfalcon.com

Synchronizes code between different people



Synchronizes code between different people

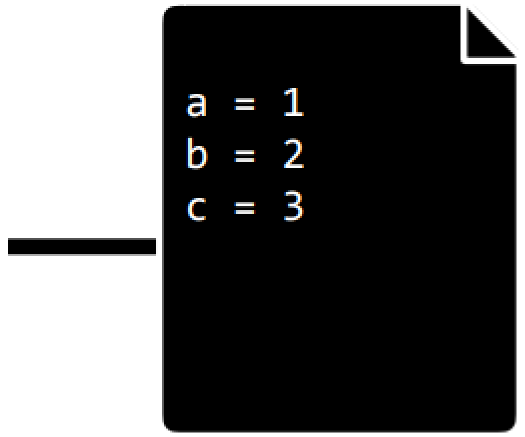


```
int a = 1;
int b = 2;
int c = 3;
int d = 4;
```

```
int a = 1;
int b = 2;
int c = 3;
int d = 4;
```

```
int a = 1;
int b = 2;
int c = 3;
int d = 4;
```

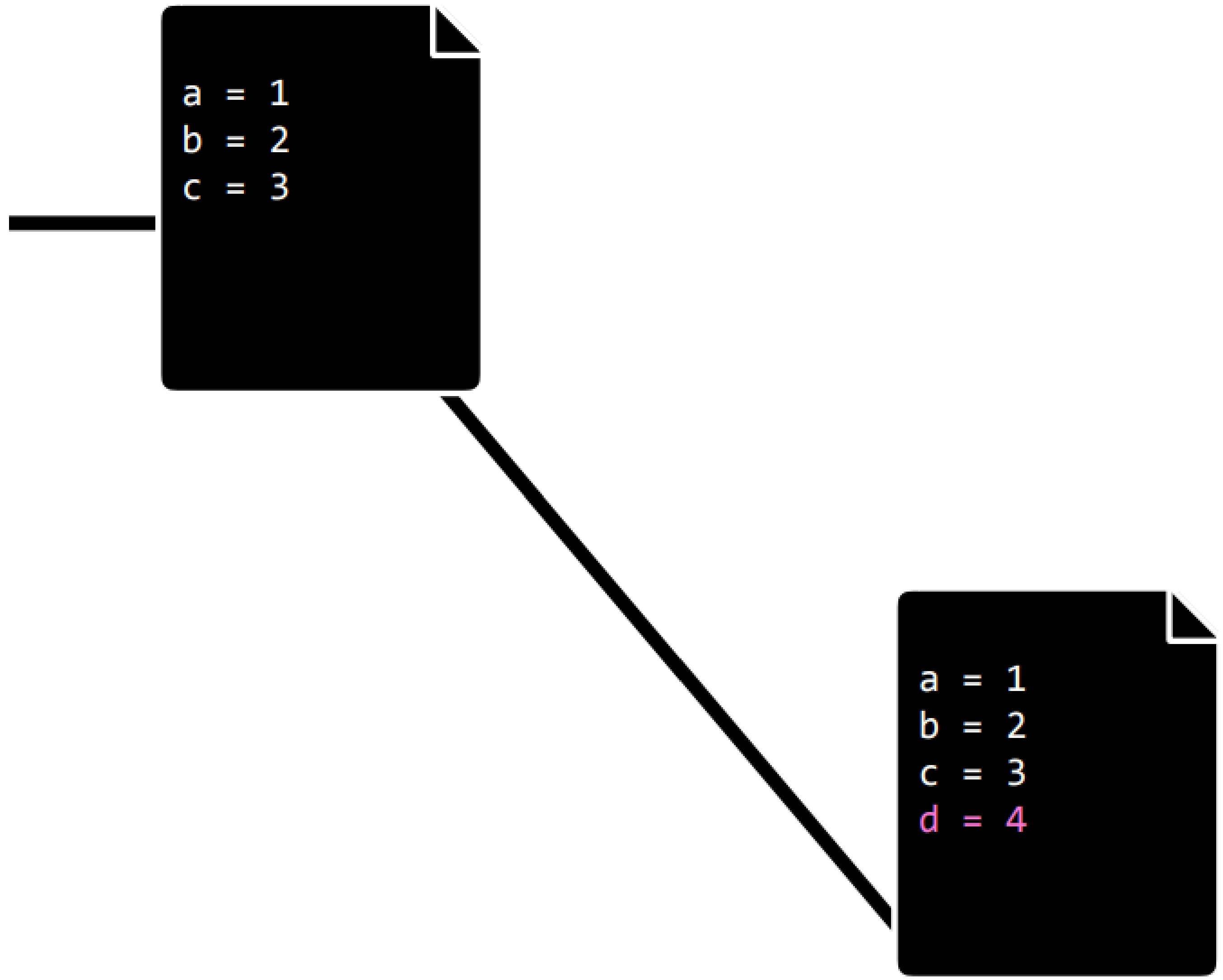
Test changes to code without losing the original.



```
a = 1
b = 2
c = 3
```

IT Академія
від stfalcon.com

Test changes to code without losing the original.

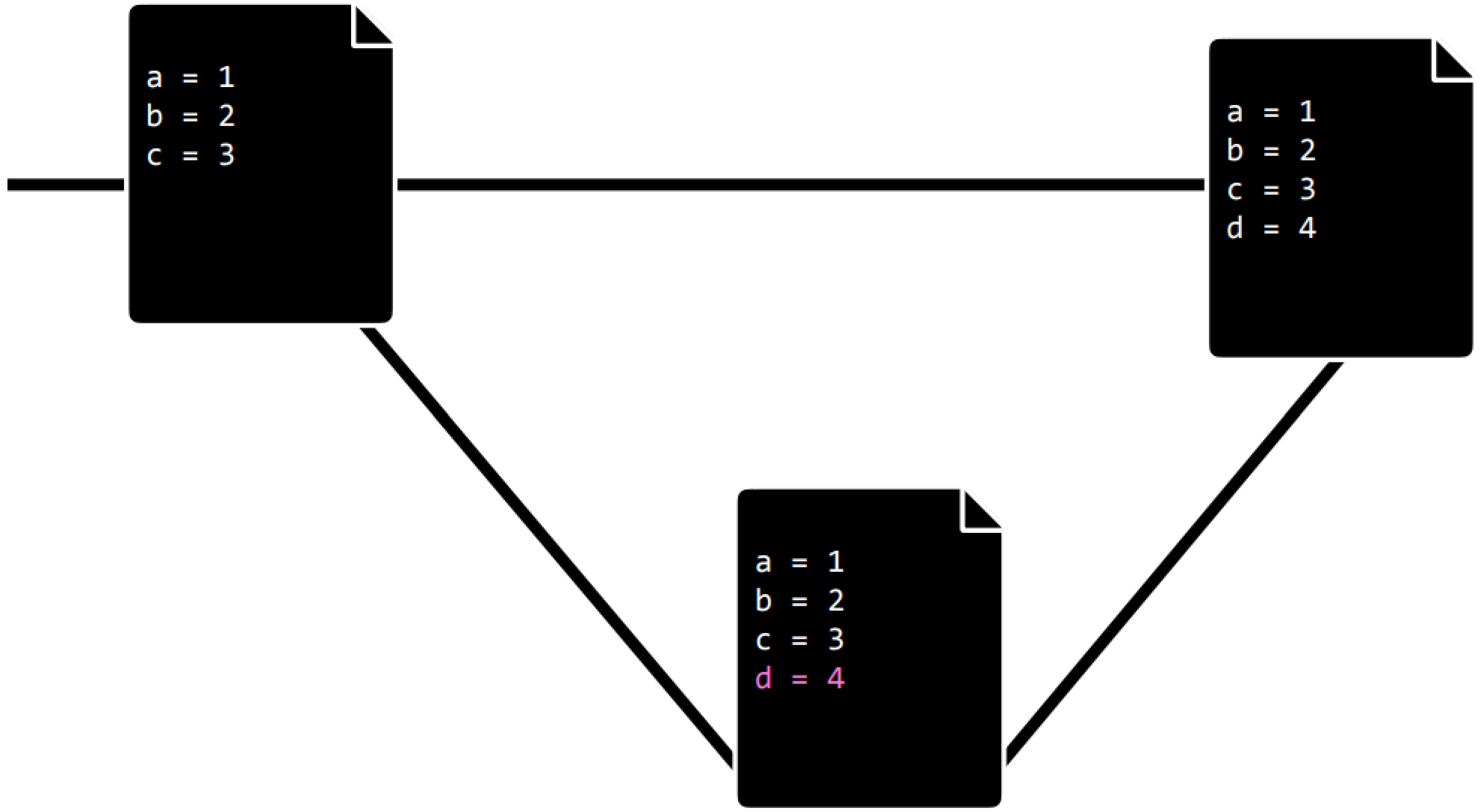


```
a = 1
b = 2
c = 3
```

```
a = 1
b = 2
c = 3
d = 4
```

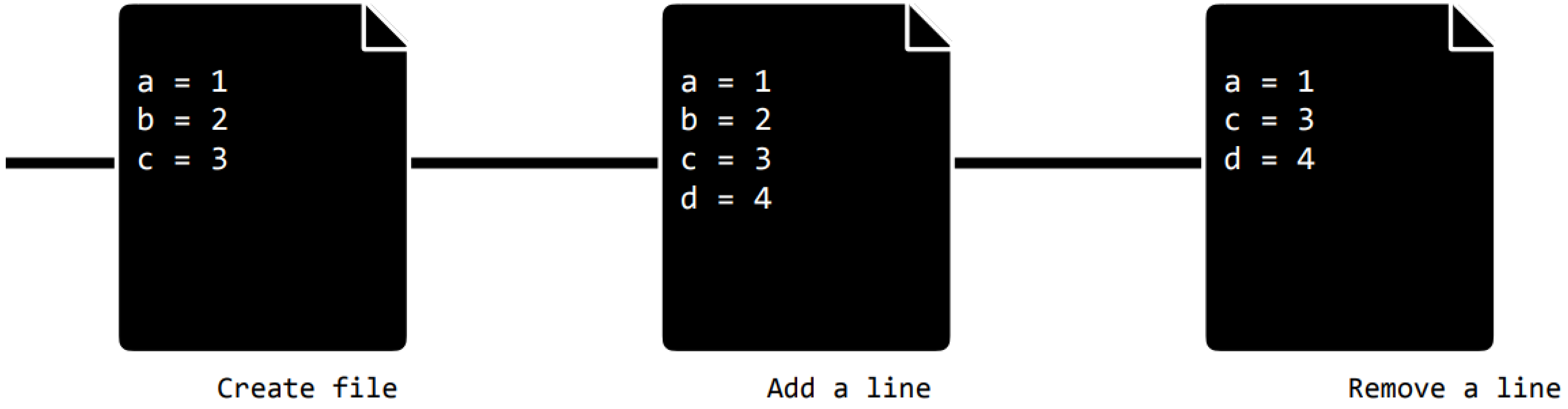
IT Академія
від stfalcon.com

Test changes to code without losing the original.

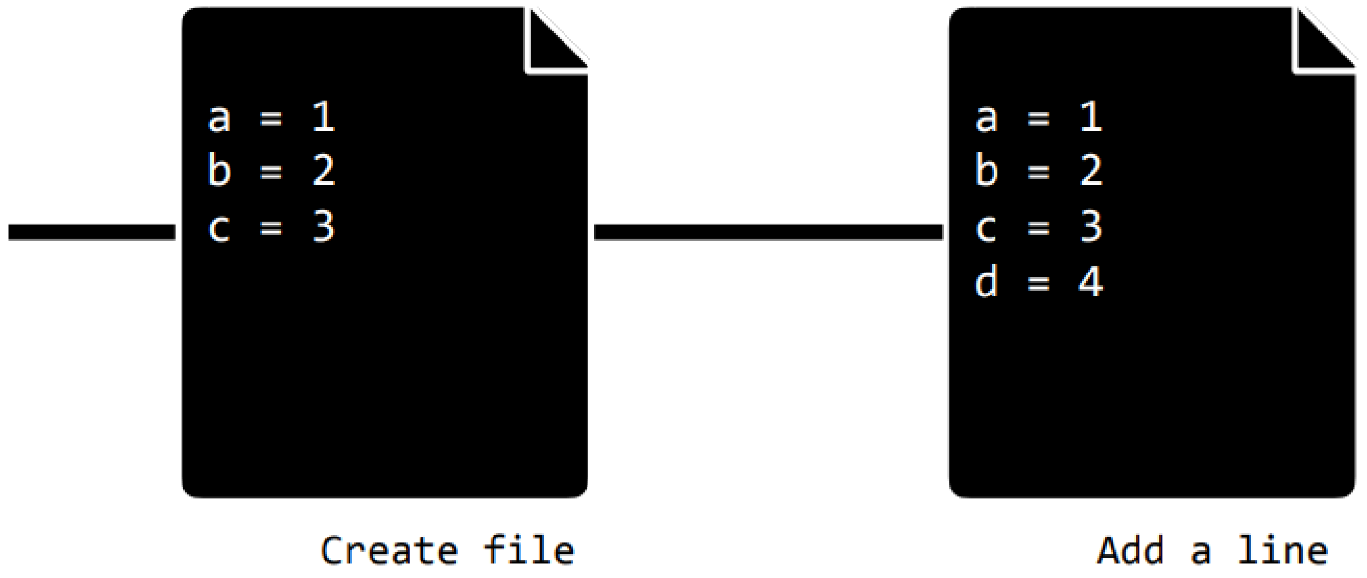


IT Академія
від stfalcon.com

Revert back to old versions of code



Revert back to old versions of code


```
a = 1
b = 2
c = 3
```
```
a = 1
b = 2
c = 3
d = 4
```

IT Академія
від stfalcon.com

GitHub

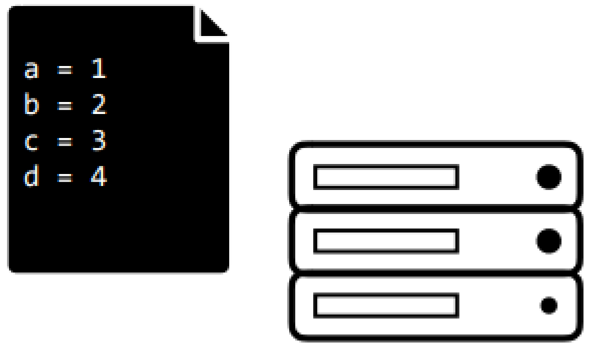
https://git-scm.com/

https://github.com/

https://help.github.com/en/github/getting-started-with-github

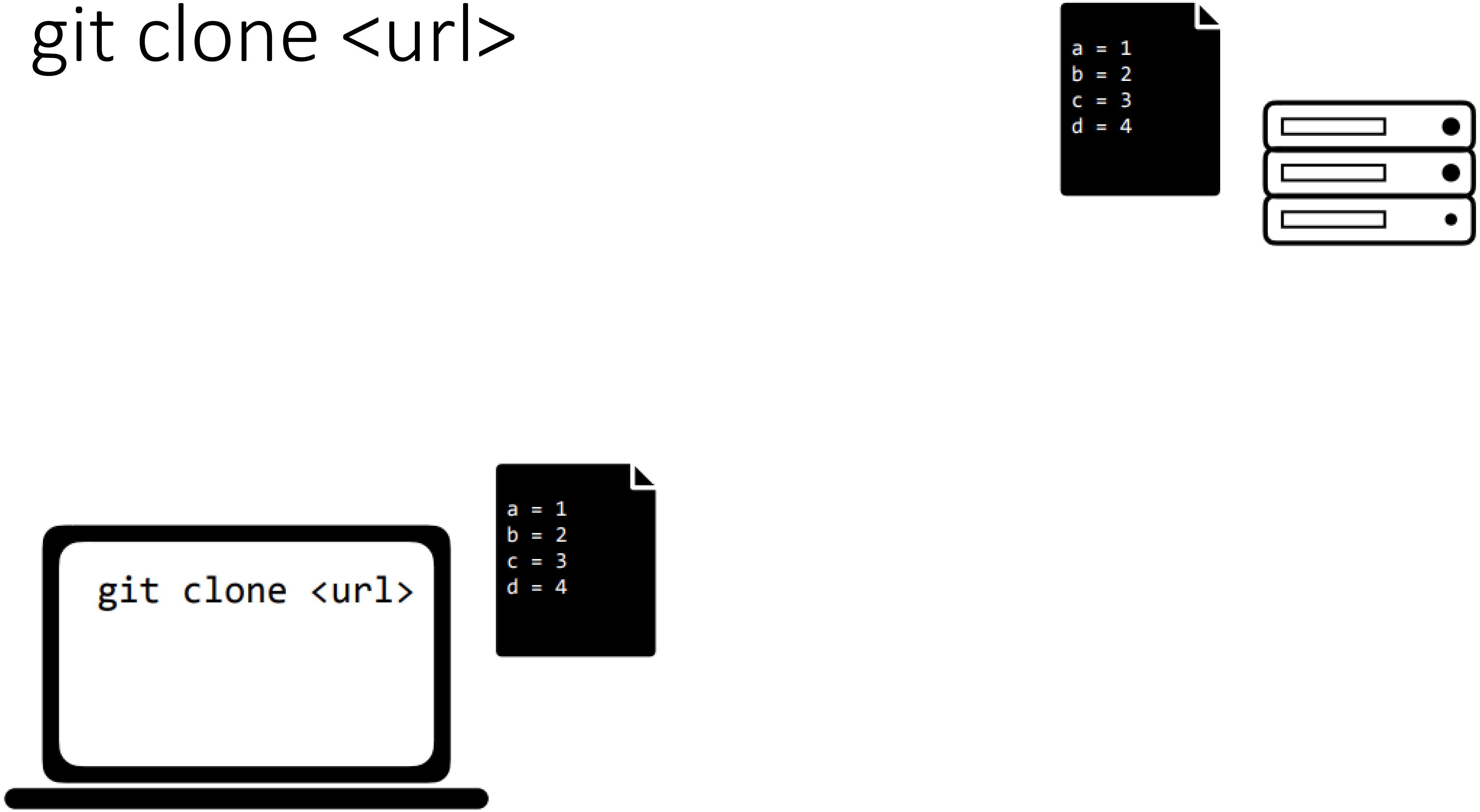
git clone

git clone <url>



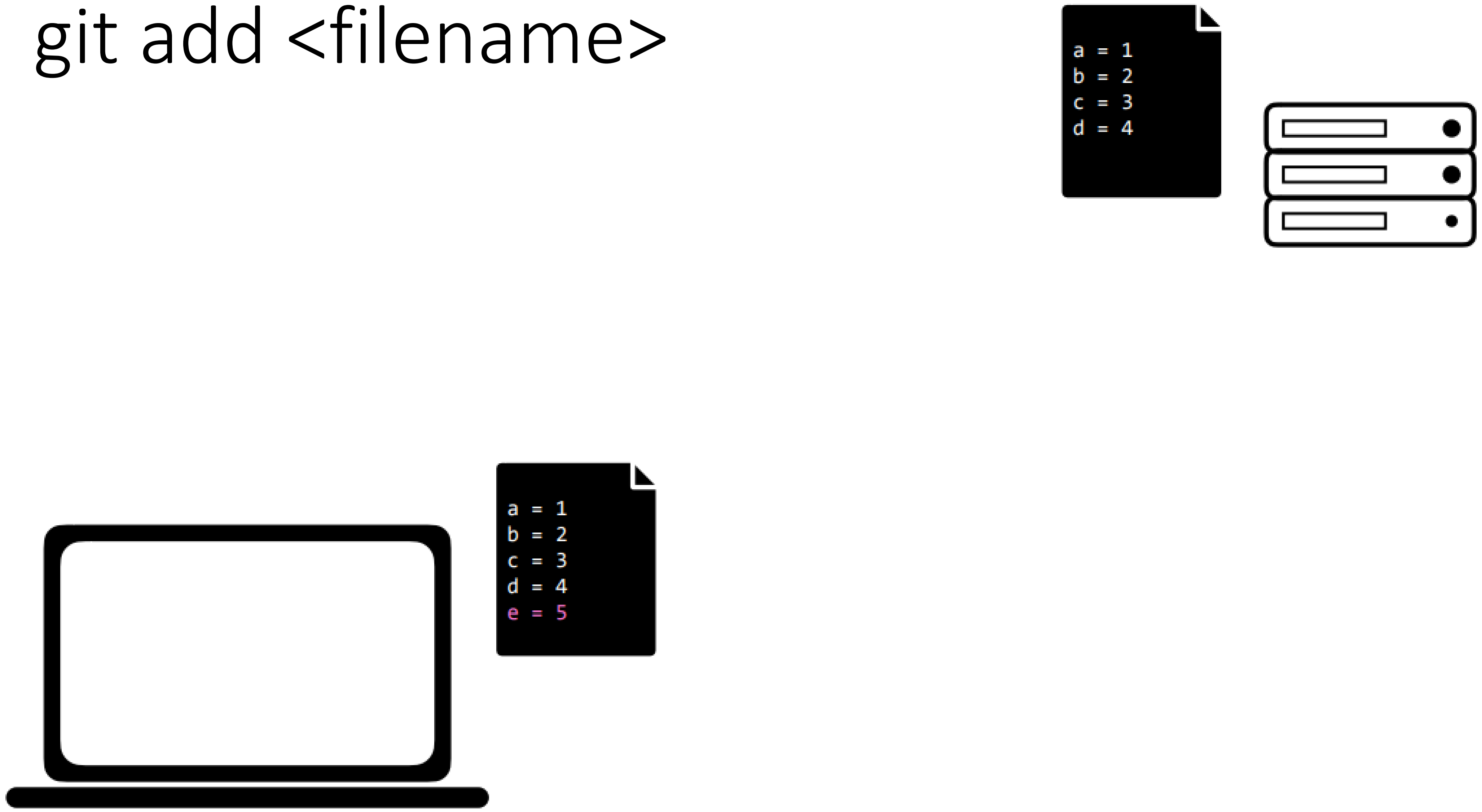
IT Академія
від stfalcon.com

git clone <url>



git add

git add <filename>

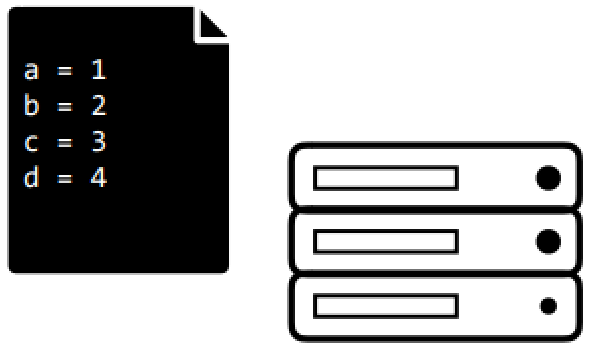


```
a = 1
b = 2
c = 3
d = 4
```

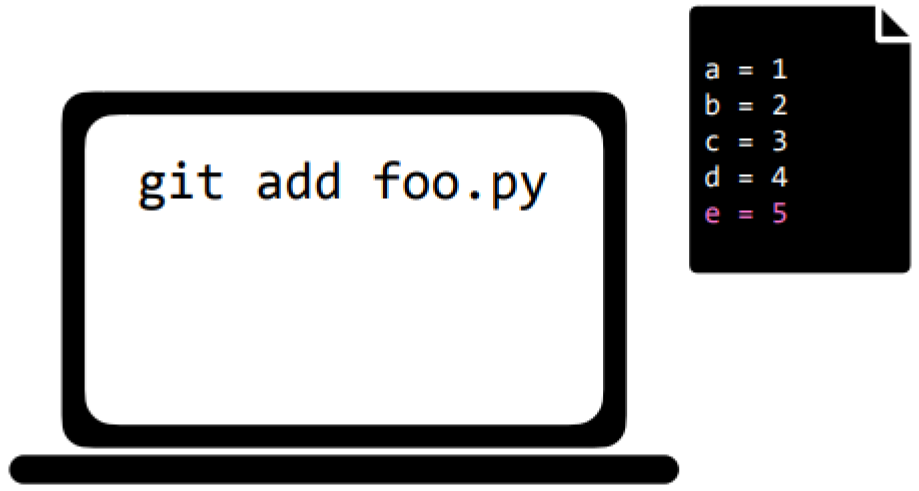
```
a = 1
b = 2
c = 3
d = 4
e = 5
```

IT Академія
від stfalcon.com

git add <filename>



```
a = 1
b = 2
c = 3
d = 4
```



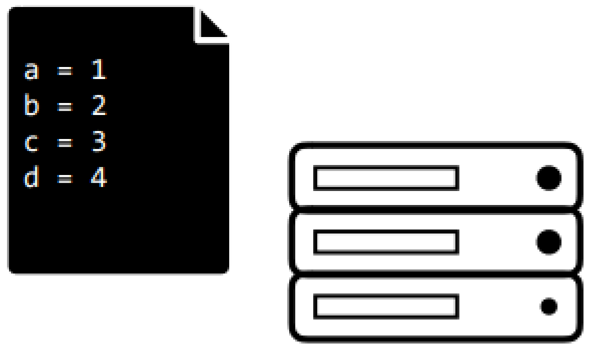
```
git add foo.py
```

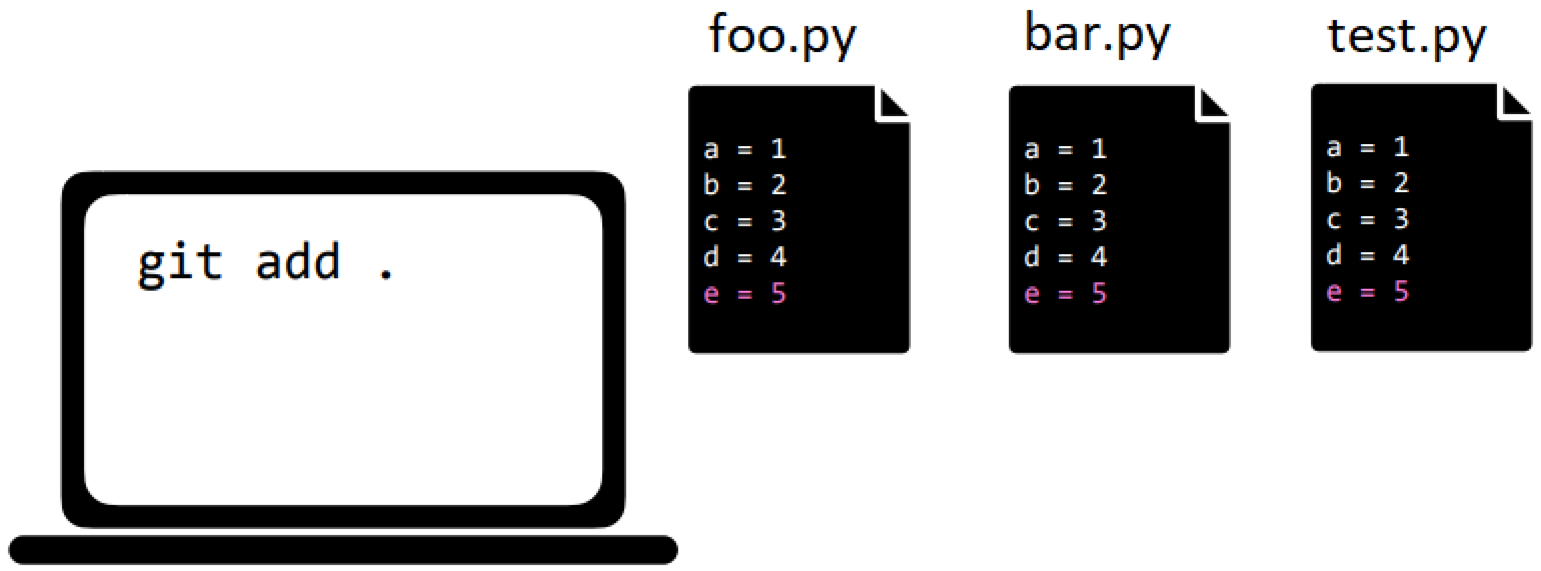
```
a = 1
b = 2
c = 3
d = 4
e = 5
```

Changes to be commited:

Modified: foo.py

git add <filename>



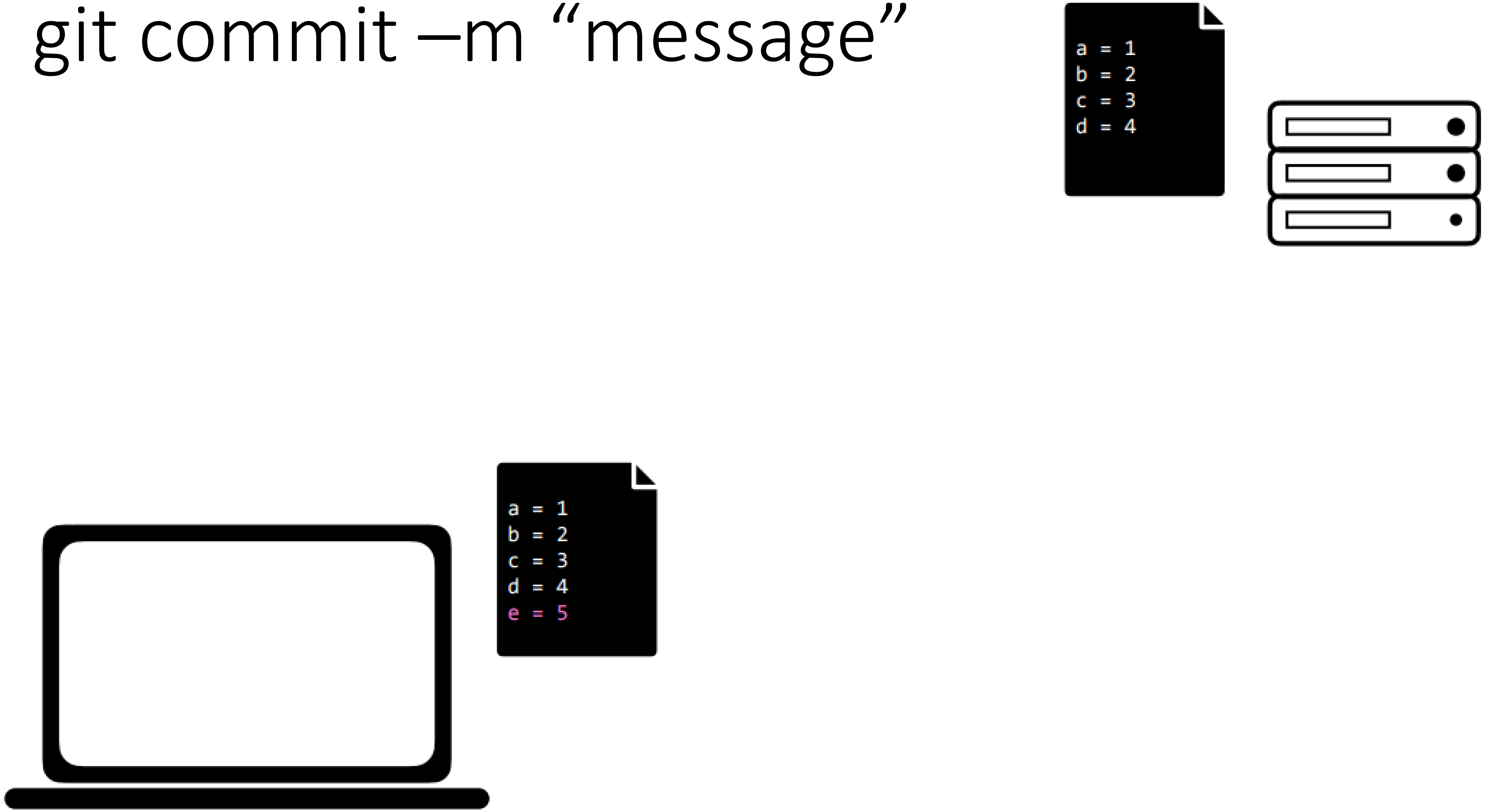


Changes to be commited:

Modified: foo.py
Created: bar.py
Created: test.py

git commit

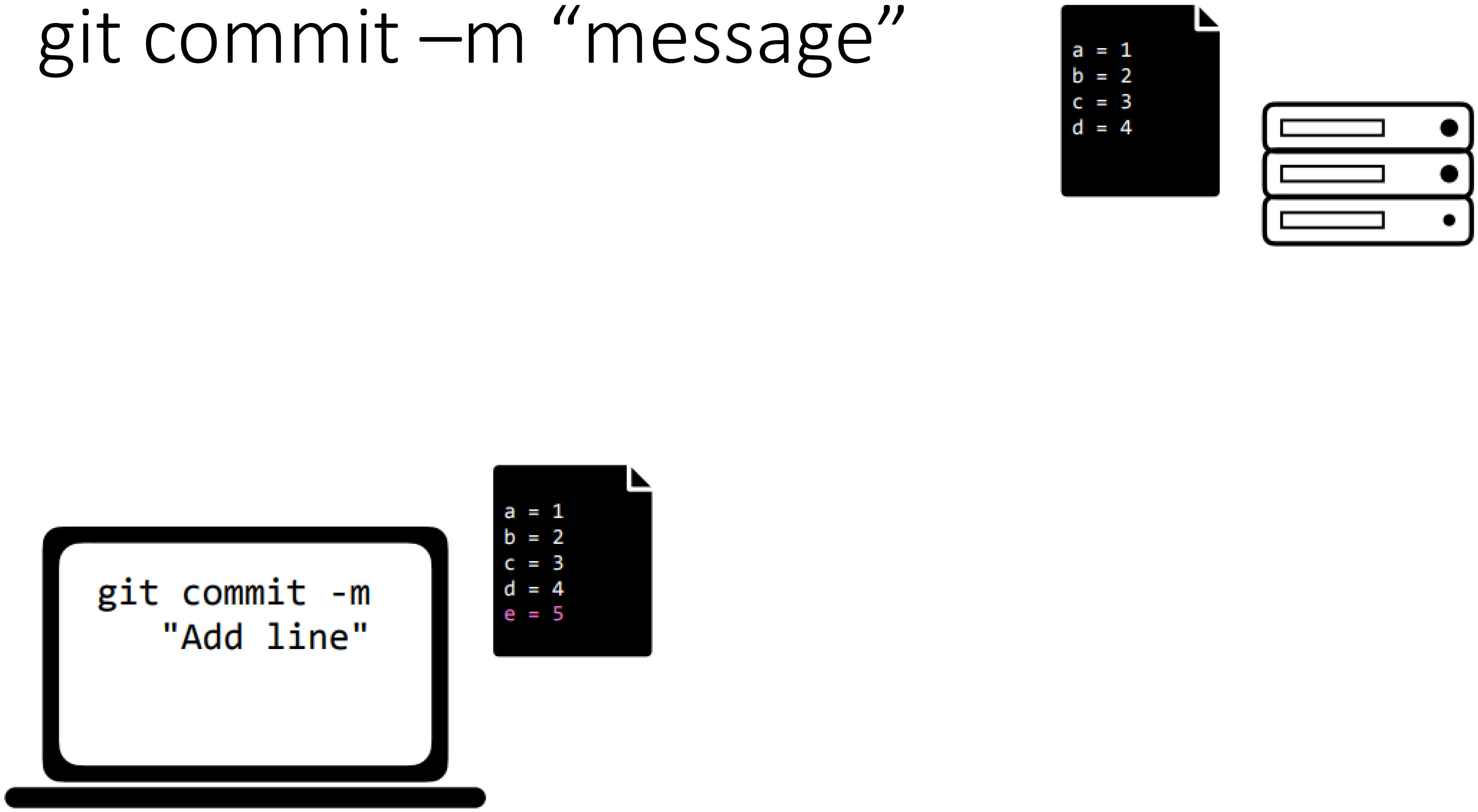
git commit –m “message”



```
a = 1
b = 2
c = 3
d = 4
```

```
a = 1
b = 2
c = 3
d = 4
e = 5
```

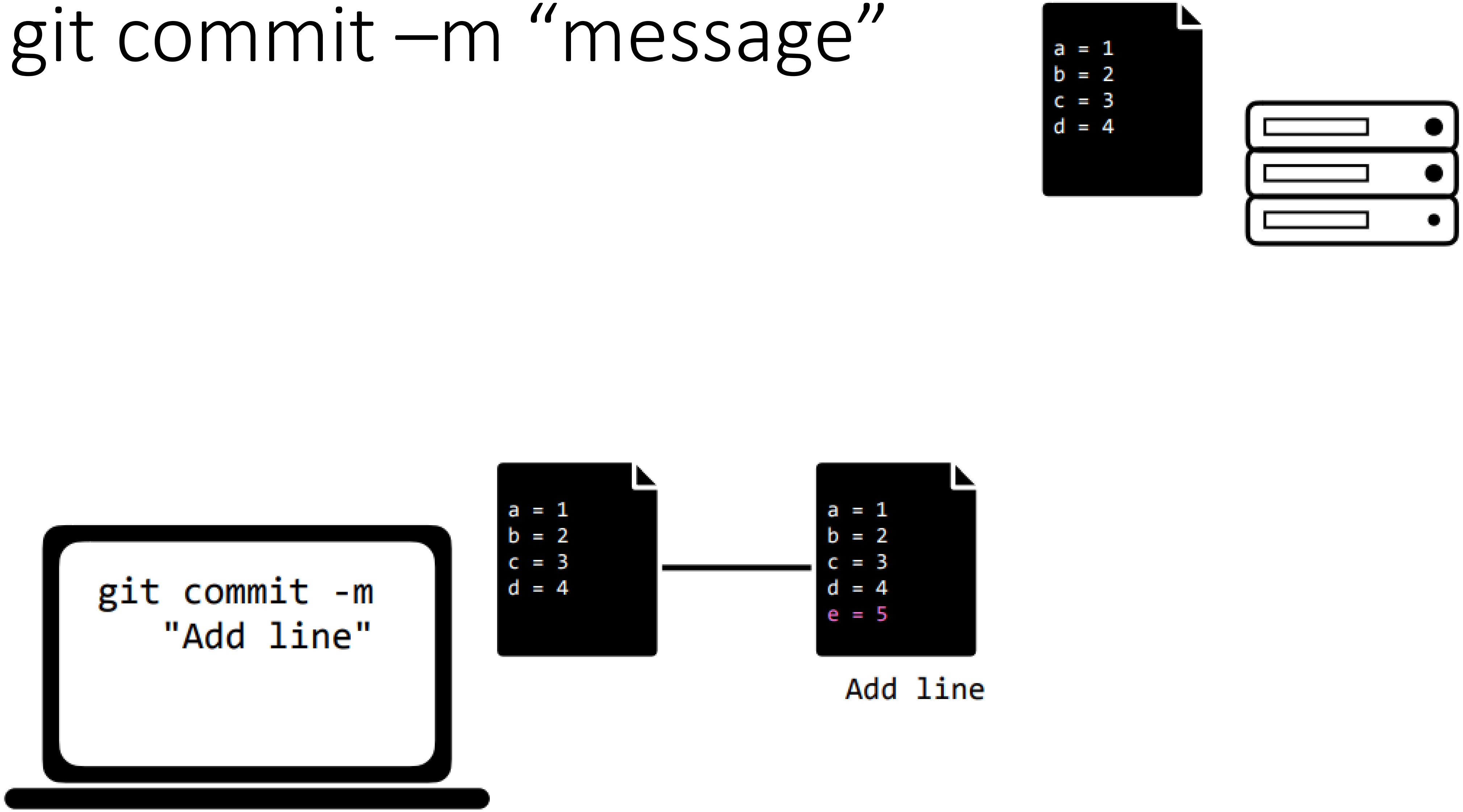
git commit –m “message”


```
a = 1
b = 2
c = 3
d = 4
```

```
git commit -m
   "Add line"
```

```
a = 1
b = 2
c = 3
d = 4
e = 5
```

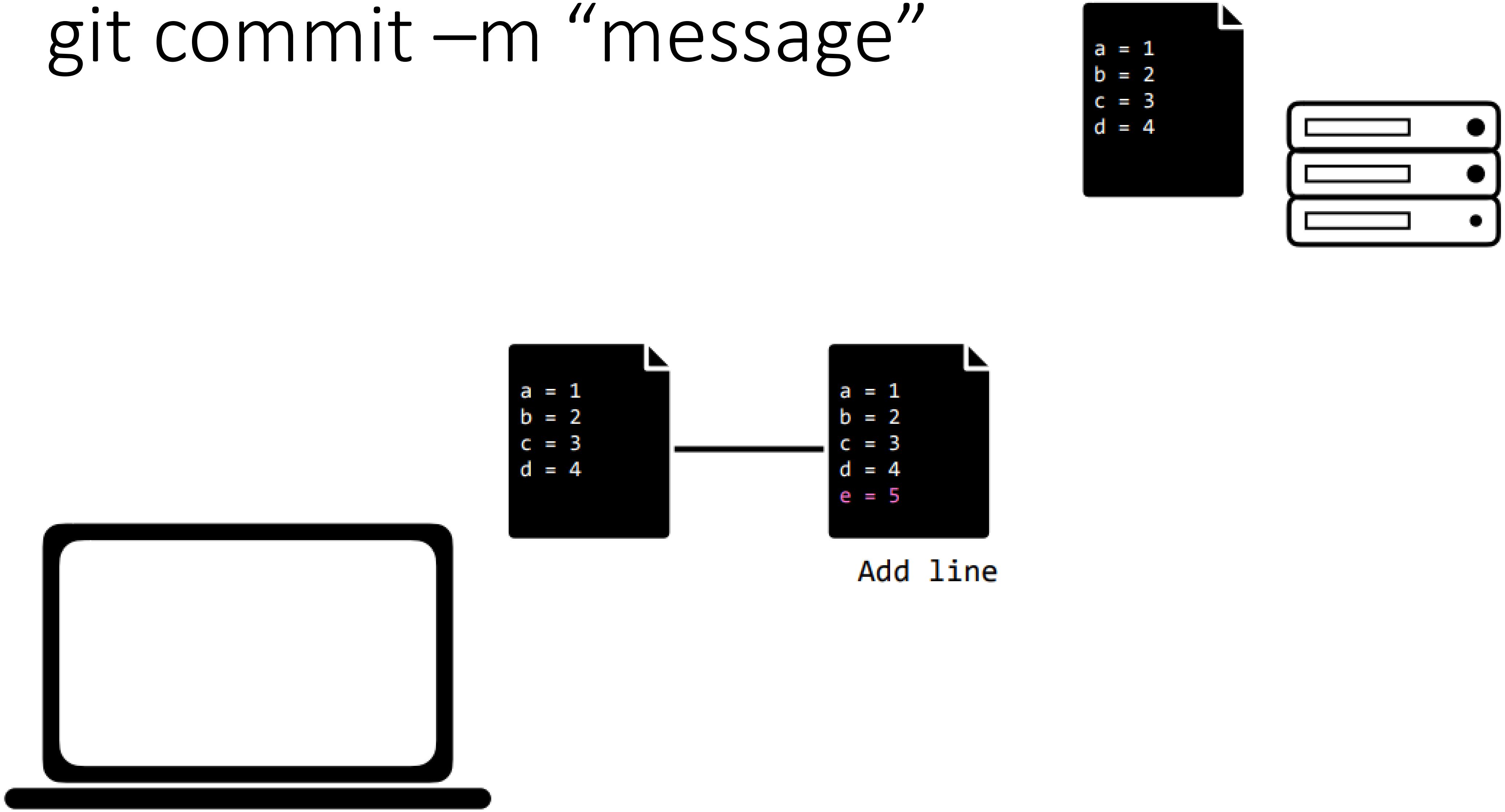
git commit –m “message”



IT Академія
від stfalcon.com

git status

git commit –m “message”

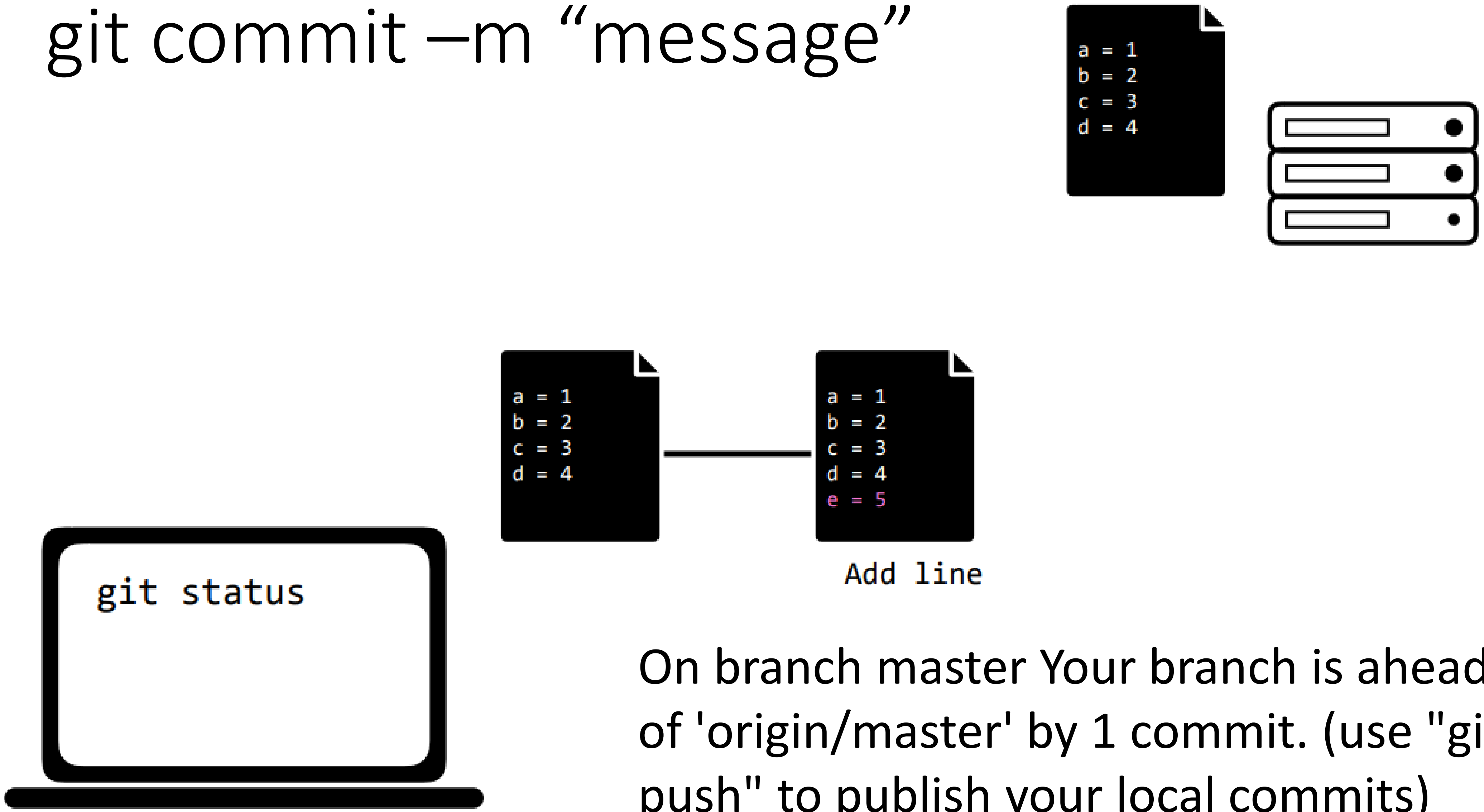


```
a = 1
b = 2
c = 3
d = 4
```

```
a = 1
b = 2
c = 3
d = 4
```

```
a = 1
b = 2
c = 3
d = 4
e = 5
```

git commit –m “message”

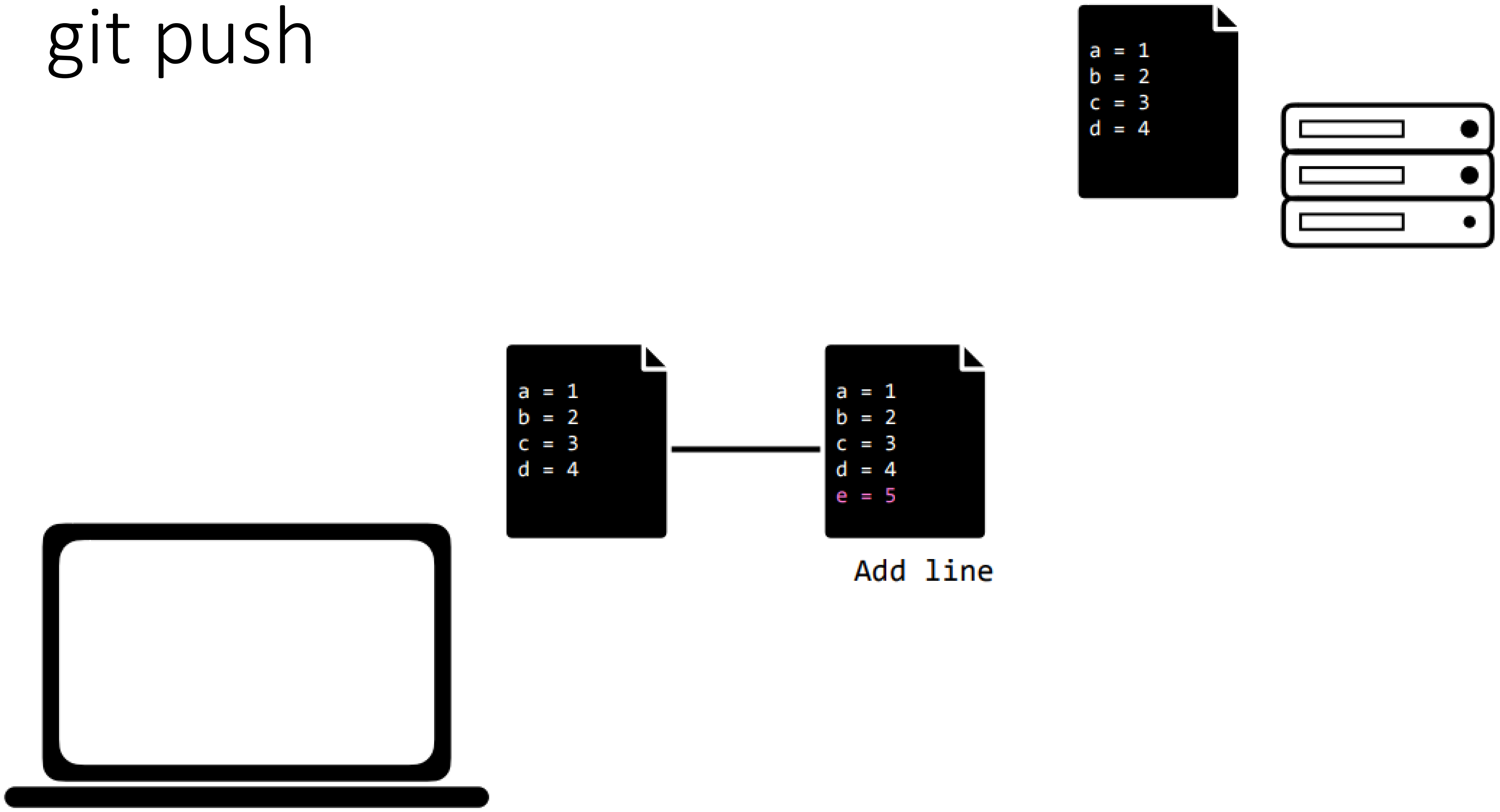


On branch master Your branch is ahead of 'origin/master' by 1 commit. (use "git push" to publish your local commits)

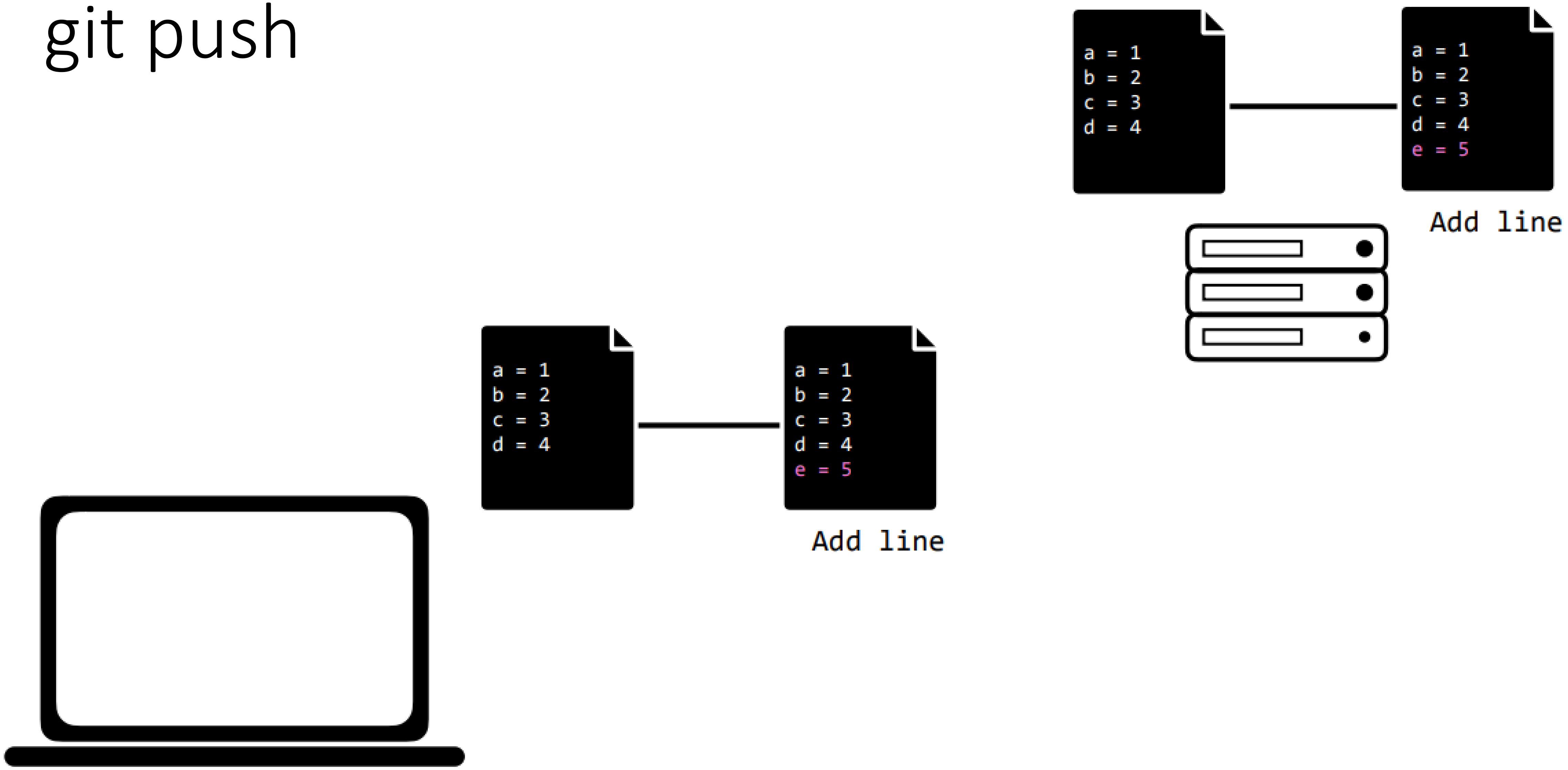
IT Академія
від stfalcon.com

git push

git push

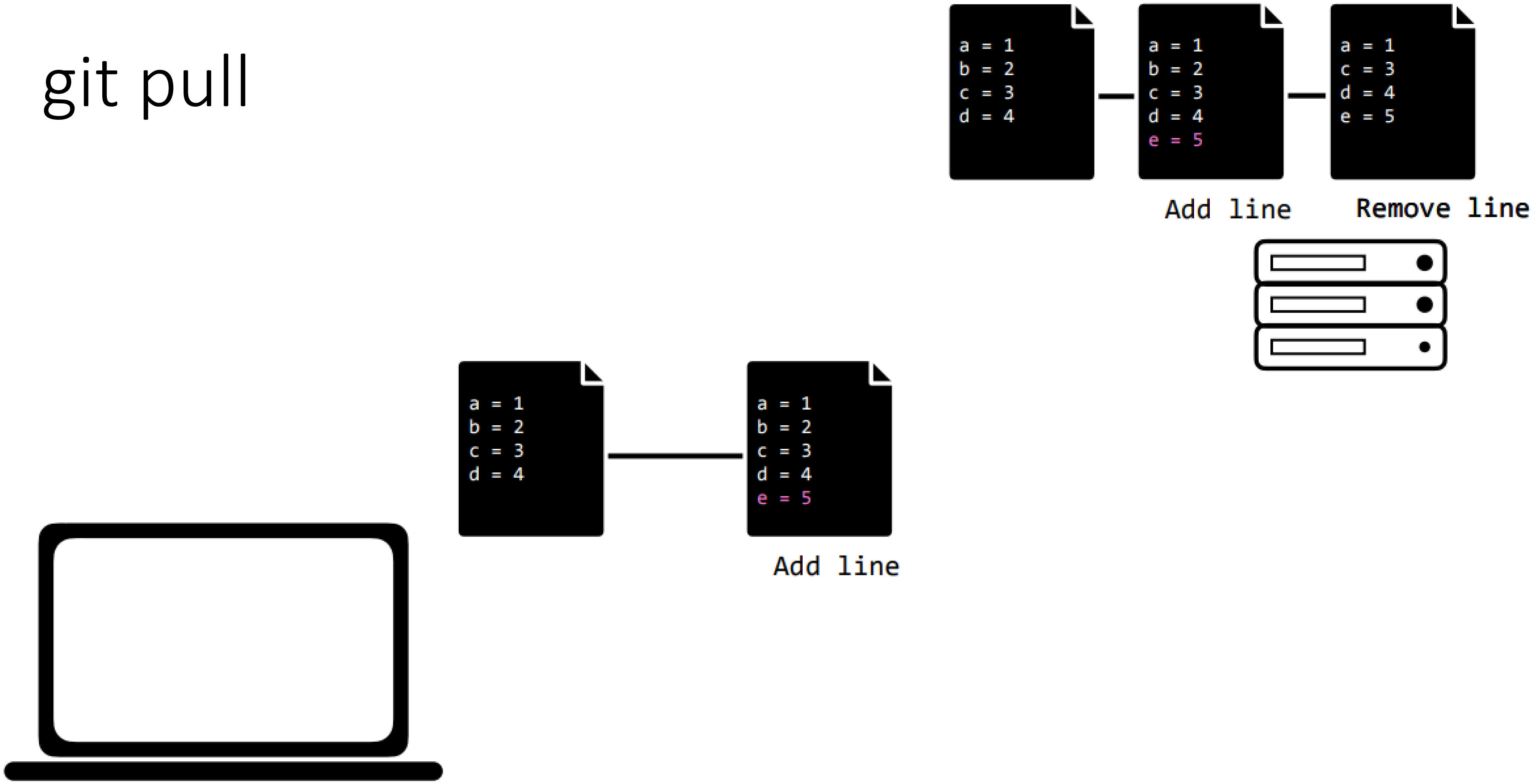


git push


a = 1
b = 2
c = 3
d = 4
a = 1
b = 2
c = 3
d = 4
e = 5
Add line
a = 1
b = 2
c = 3
d = 4
a = 1
b = 2
c = 3
d = 4
e = 5
Add line

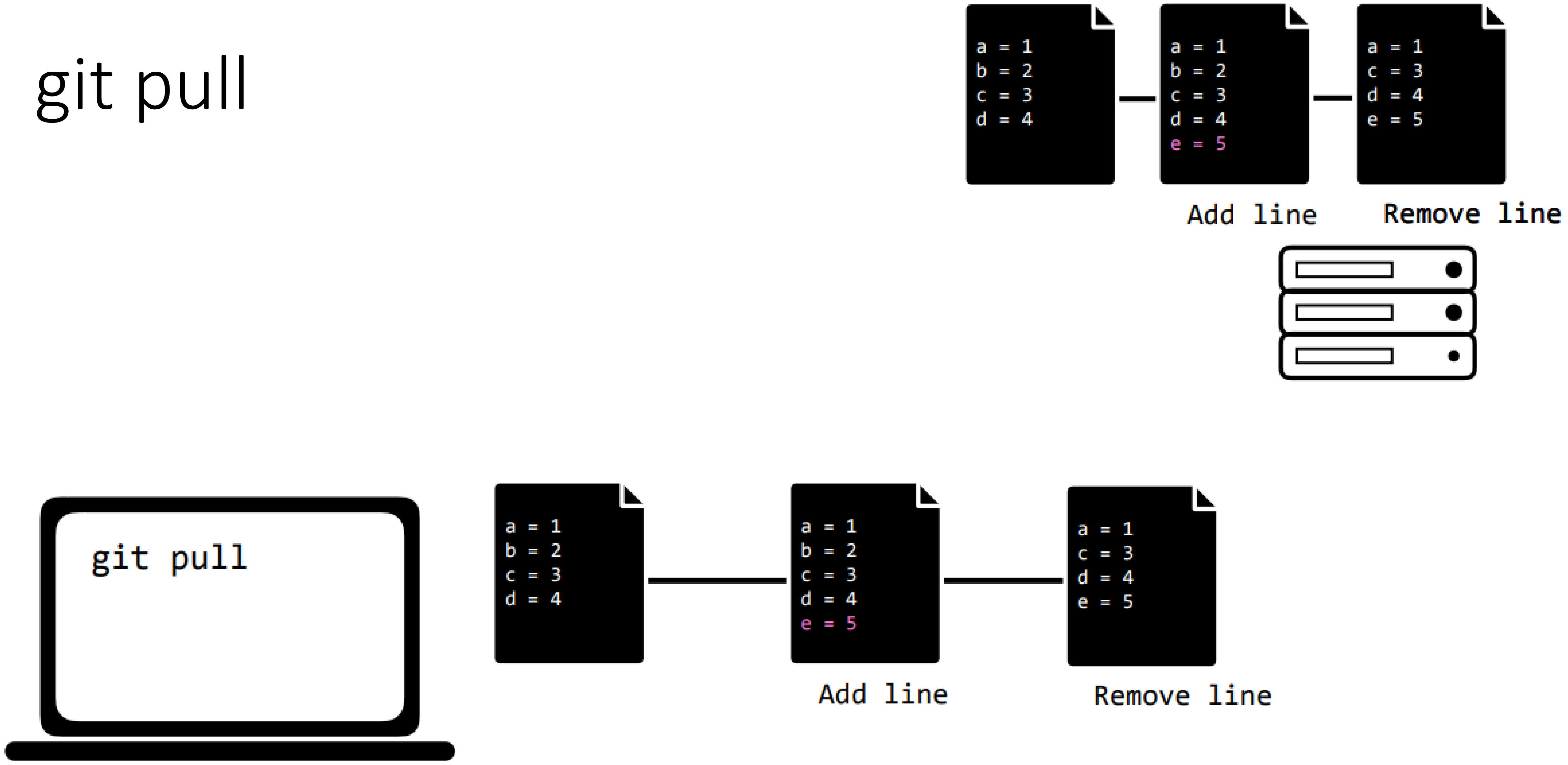
git pull

git pull



IT Академія
від stfalcon.com

git pull

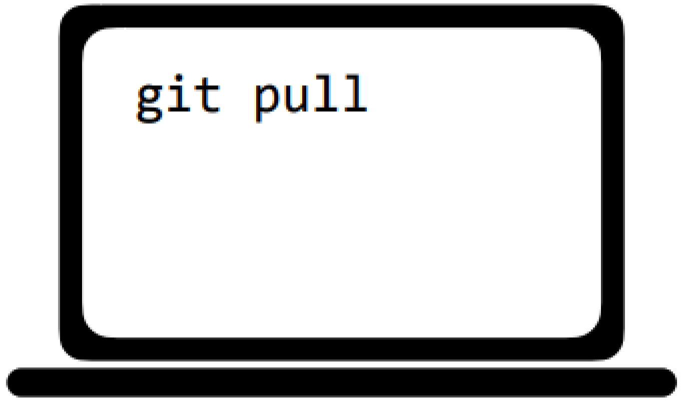


IT Академія
від stfalcon.com

Merge conflicts

Merge conflicts

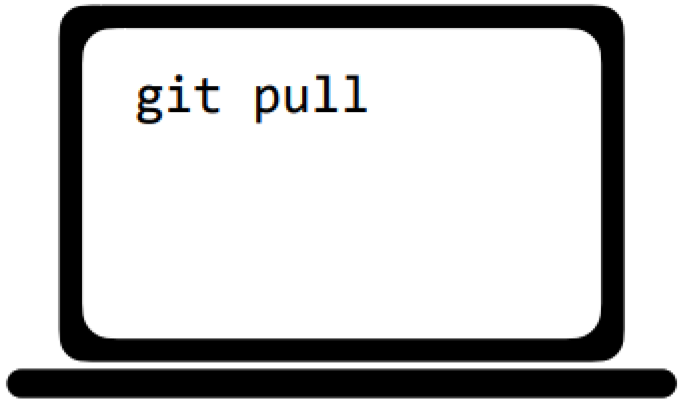
Merge conflicts



```
git pull
```

CONFLICT (content): Merge conflict in foo.py Automatic merge failed; fix conflicts and then commit the result.

Merge conflicts

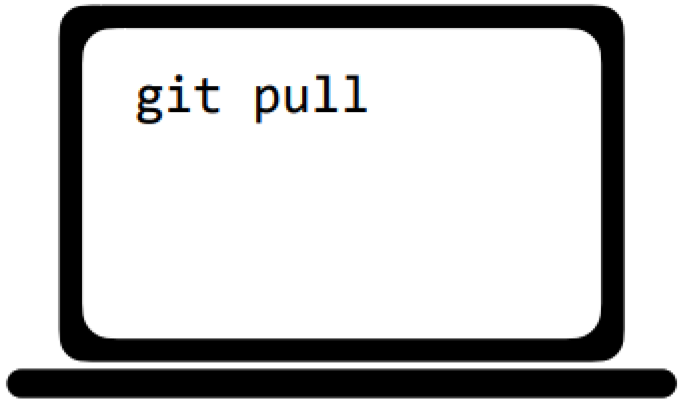


```
git pull
```

```
a = 1
<<<<< HEAD
b = 2
=====
b = 0
>>>>>
57656c636f6d6520746f20576562
c = 3
d = 4
 e = 5
```

IT Академія
від stfalcon.com

Merge conflicts



```
git pull
```

Your changes

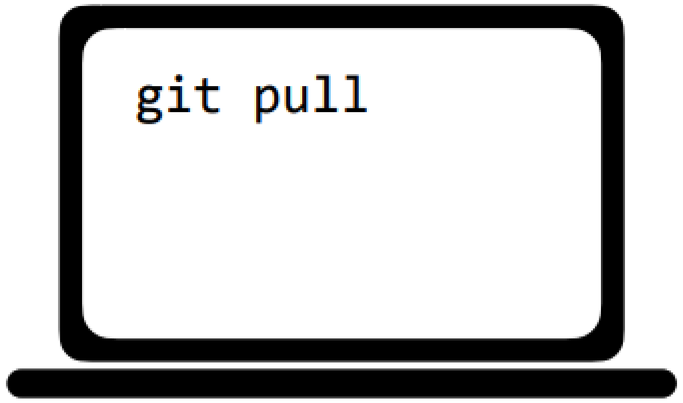
Remote changes

conflicting commit

```
a = 1
<<<<< HEAD
b = 2
=====
b = 0
>>>>>
57656c636f6d6520746f20576562
c = 3
d = 4
 e = 5
```

IT Академія
від stfalcon.com

Merge conflicts



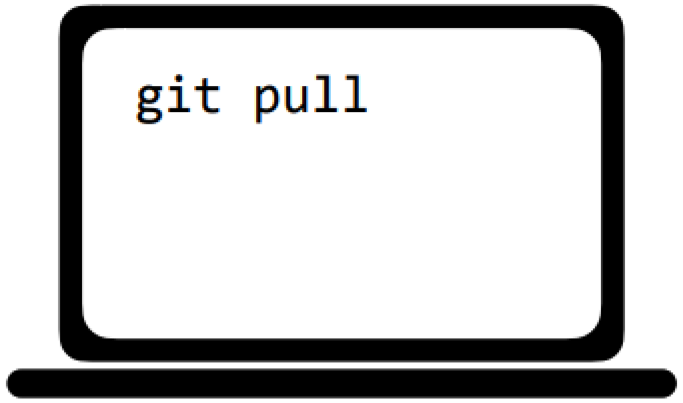
```
git pull
```

```
a = 1

b = 2




c = 3
d = 4
 e = 5
```

IT Академія
від stfalcon.com

Merge conflicts

```
a = 1
b = 2
c = 3
d = 4
 e = 5
```

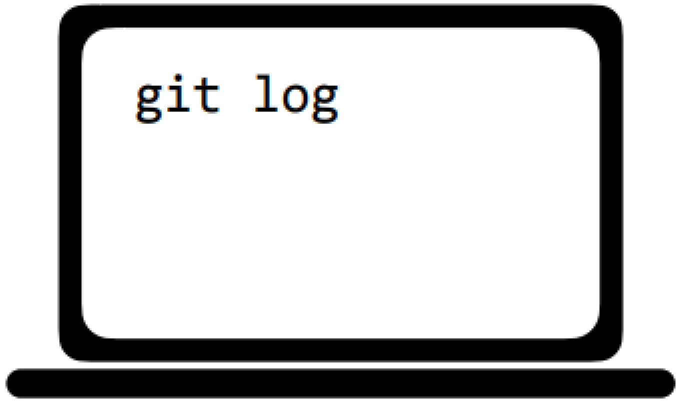


```
git pull
```

IT Академія
від stfalcon.com

git log

git log


```
git log
```

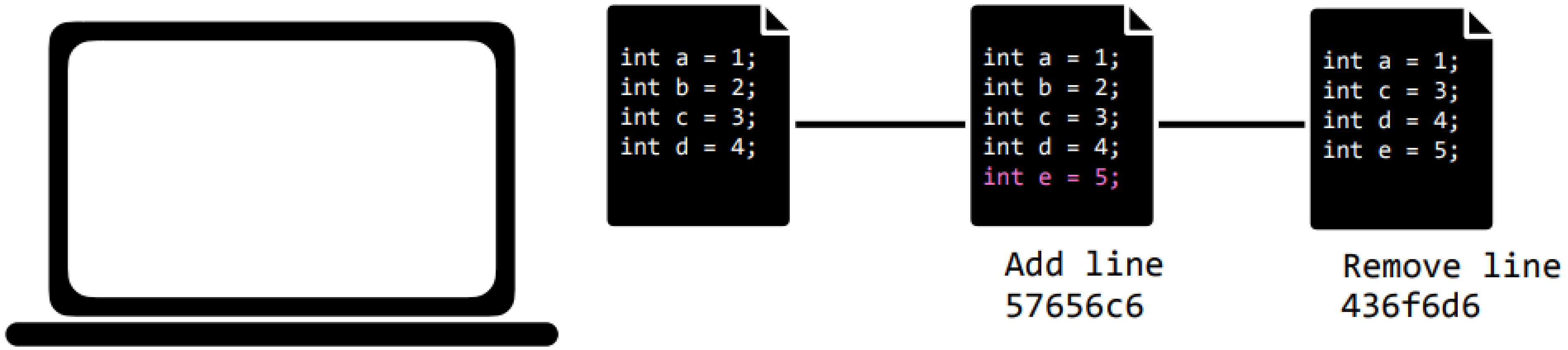
```
commit
436f6d6974204d73672048657265
Author: Vhal
Date: Mon Jan 22 14:06:28 2018 -0400

Remove a line commit

57656c636f6d6520746f20576562
Author: Vhal:
Mon Jan 22 14:05:28 2018 -0400

Add a line
```

IT Академія
від stfalcon.com

git reset

git reset

- git reset –hard <commit>
- git reset –hard origin/master



```
int a = 1;
int b = 2;
int c = 3;
int d = 4;
```

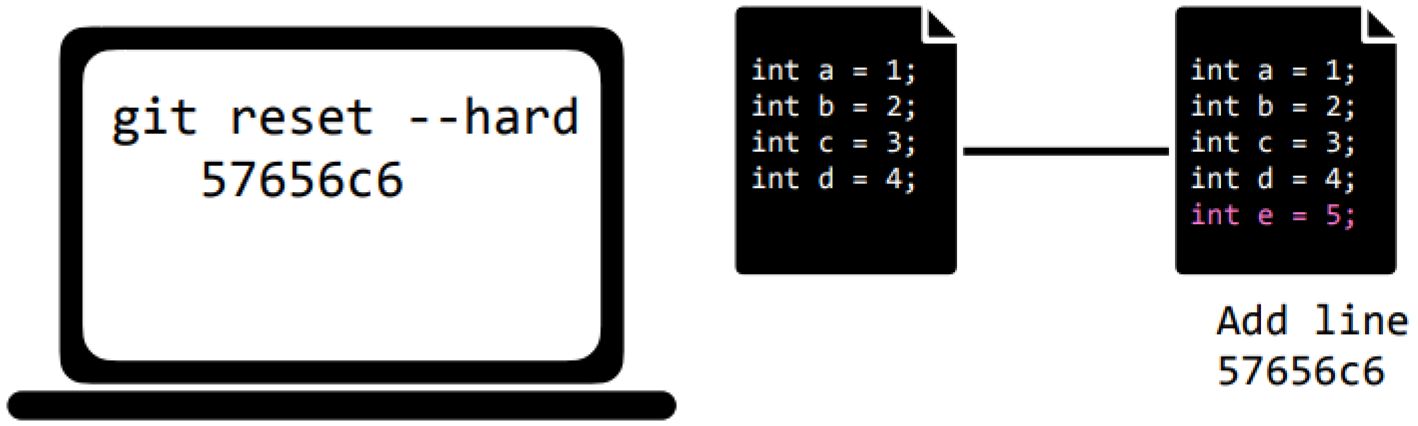
```
int a = 1;
int b = 2;
int c = 3;
int d = 4;
int e = 5;
```

```
int a = 1;
int c = 3;
int d = 4;
int e = 5;
```

IT Академія
від stfalcon.com

git reset

- git reset –hard <commit>
- git reset –hard origin/master


```
git reset --hard
   57656c6
```

```
int a = 1;
int b = 2;
int c = 3;
int d = 4;
```

```
int a = 1;
int b = 2;
int c = 3;
int d = 4;
int e = 5;
```

```
Add line
57656c6
```

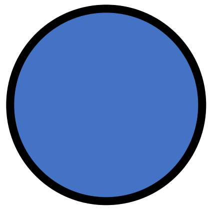
IT Академія
від stfalcon.com

Branching

Branching

- git branch
- git checkout
- git merge

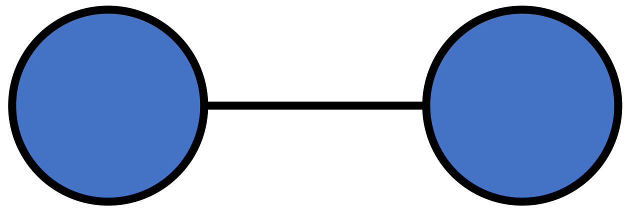
Branching



first commit

IT Академія
від stfalcon.com

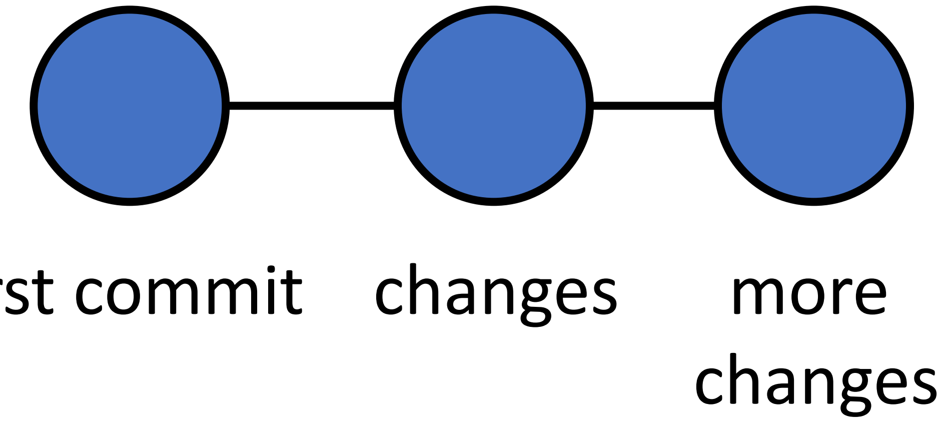
Branching



first commit changes

IT Академія
від stfalcon.com

Branching

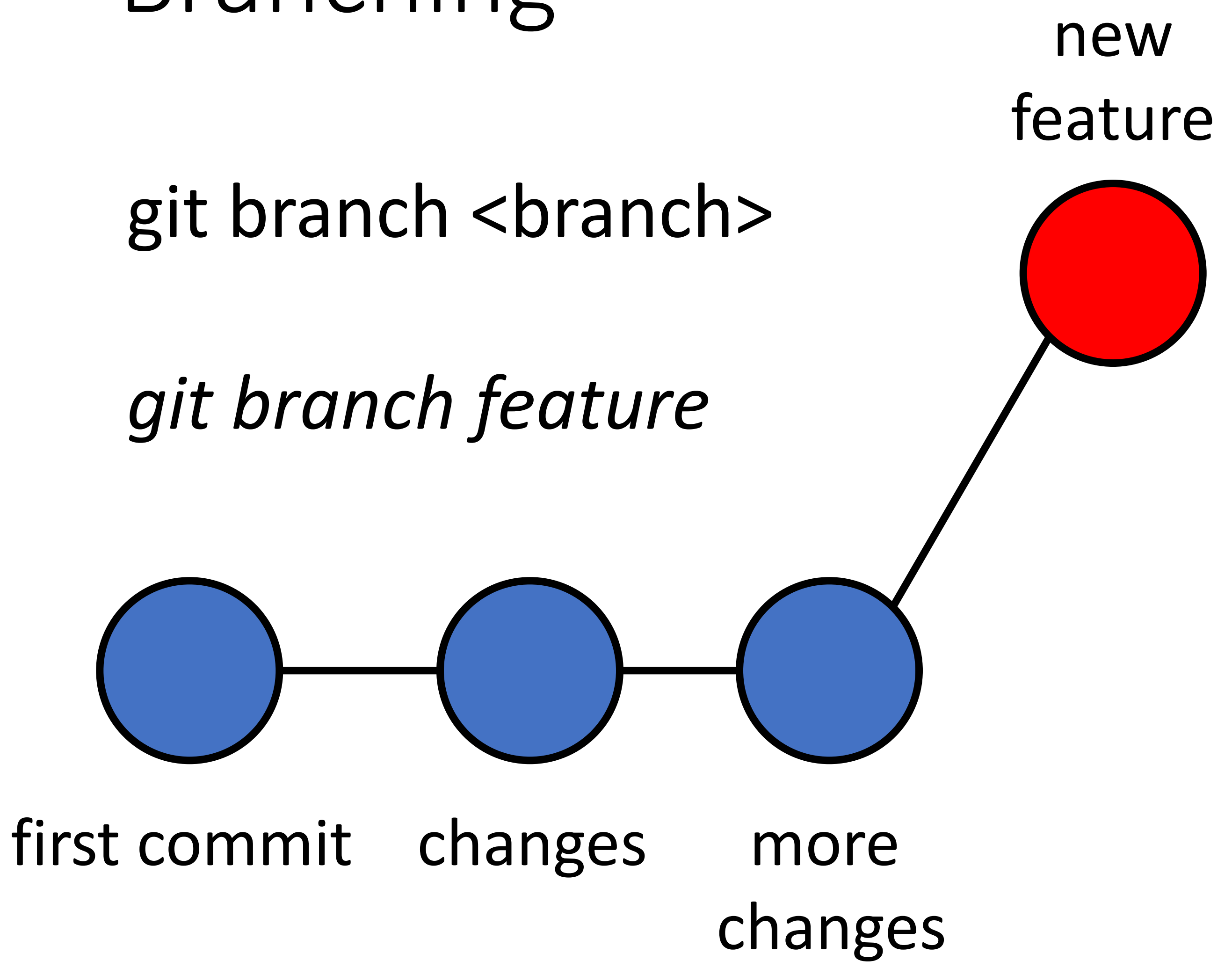


IT Академія
від stfalcon.com

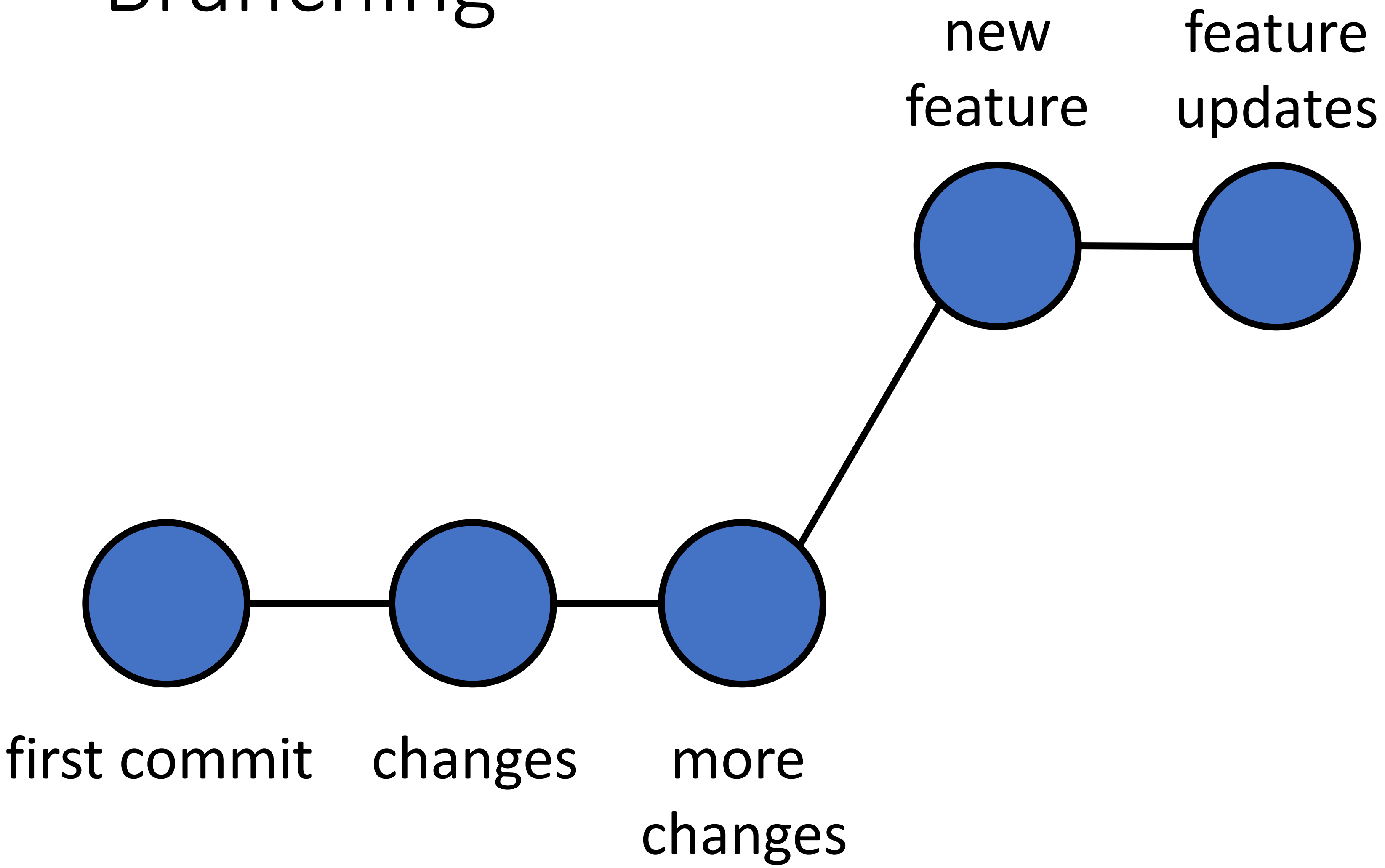
Branching

git branch <branch>

git branch feature



Branching

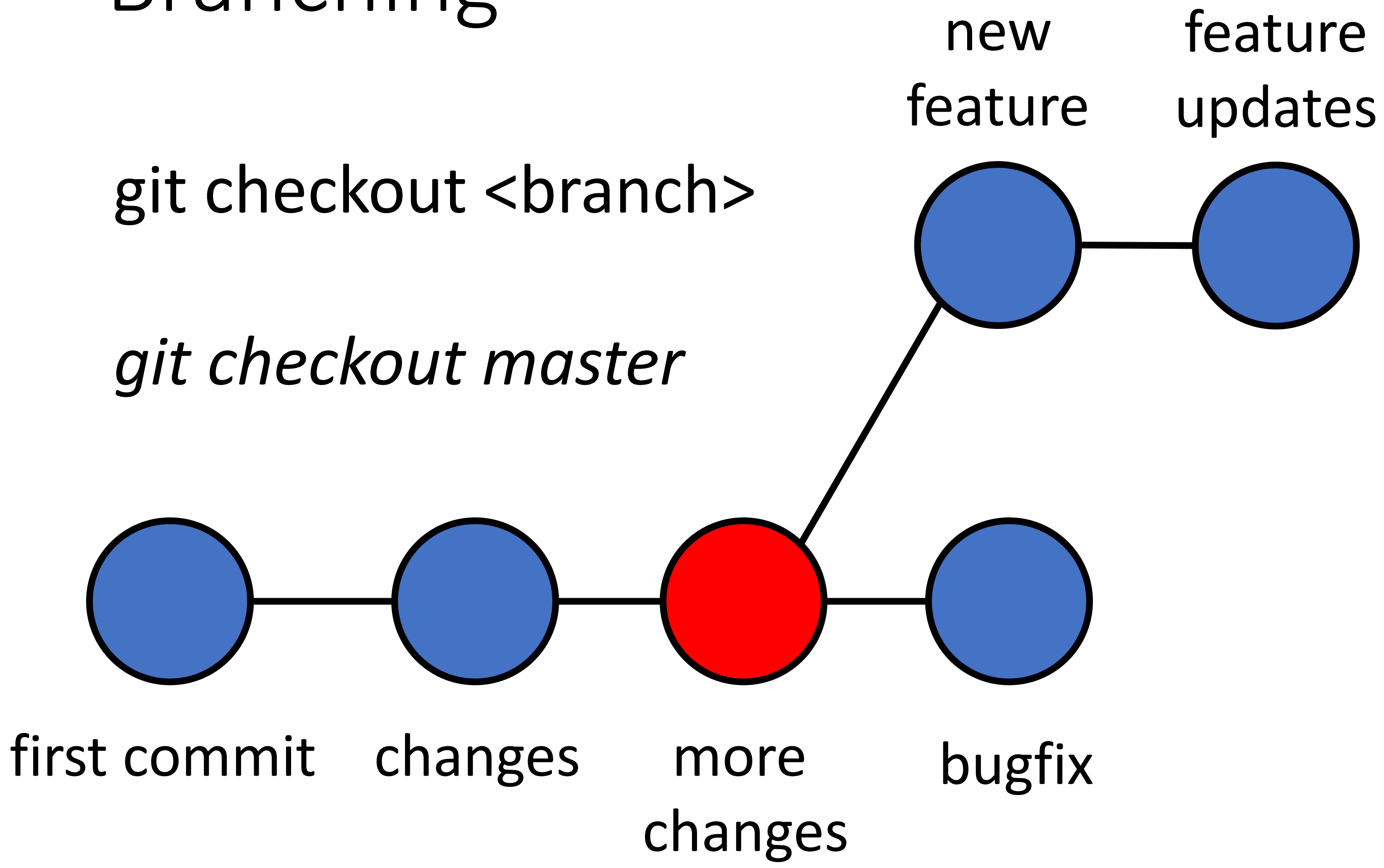


IT Академія
від stfalcon.com

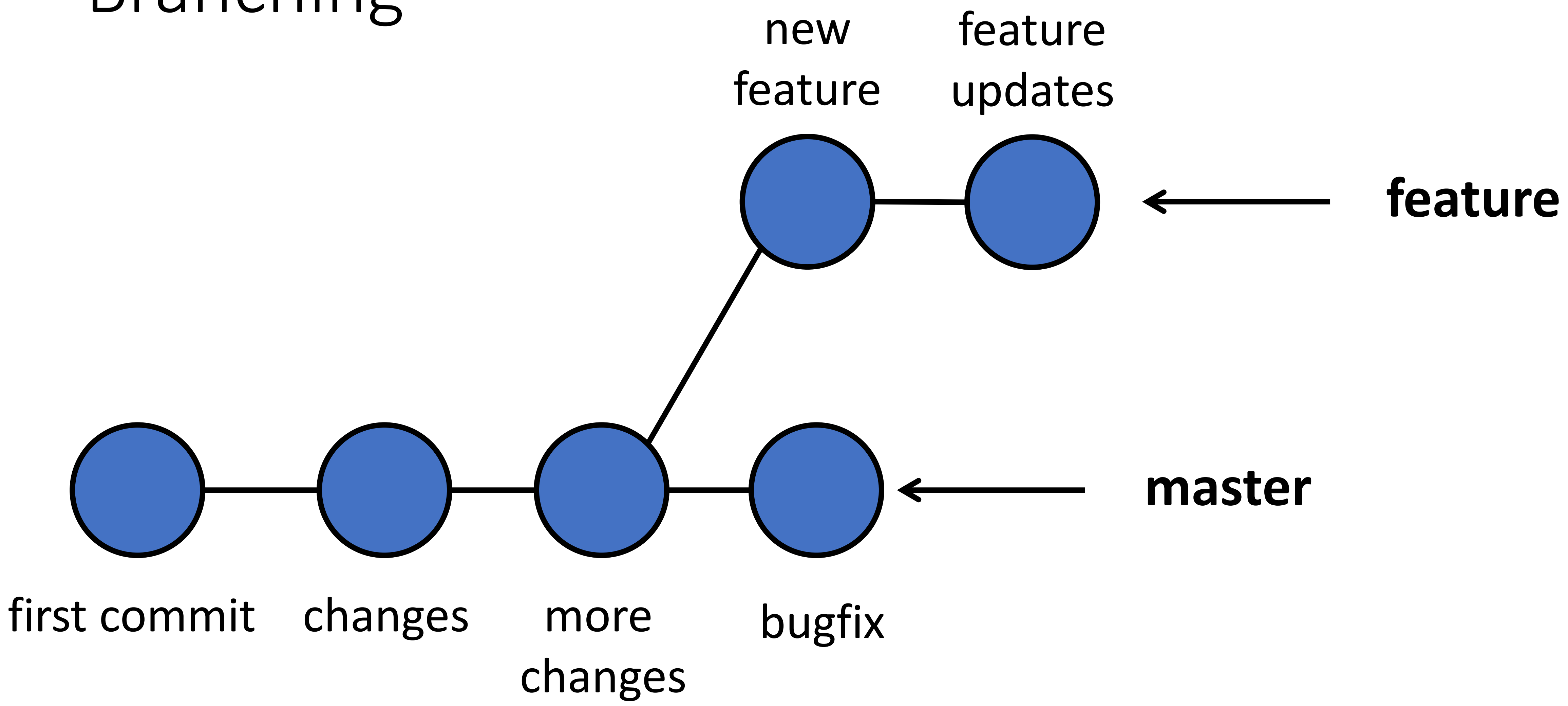
Branching

git checkout <branch>

git checkout master



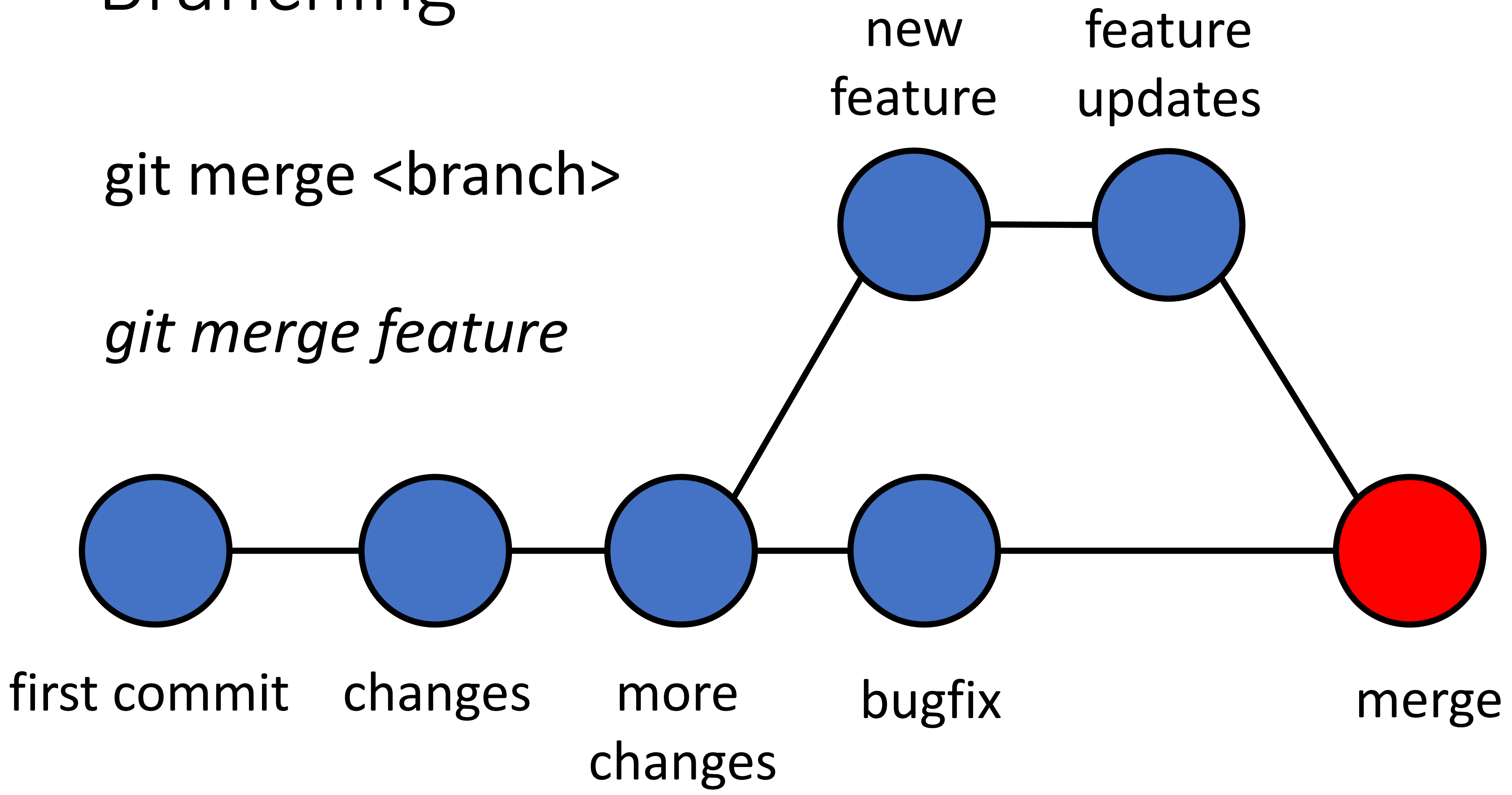
Branching


new feature
feature updates
feature
master
first commit
changes
more changes
bugfix

Branching

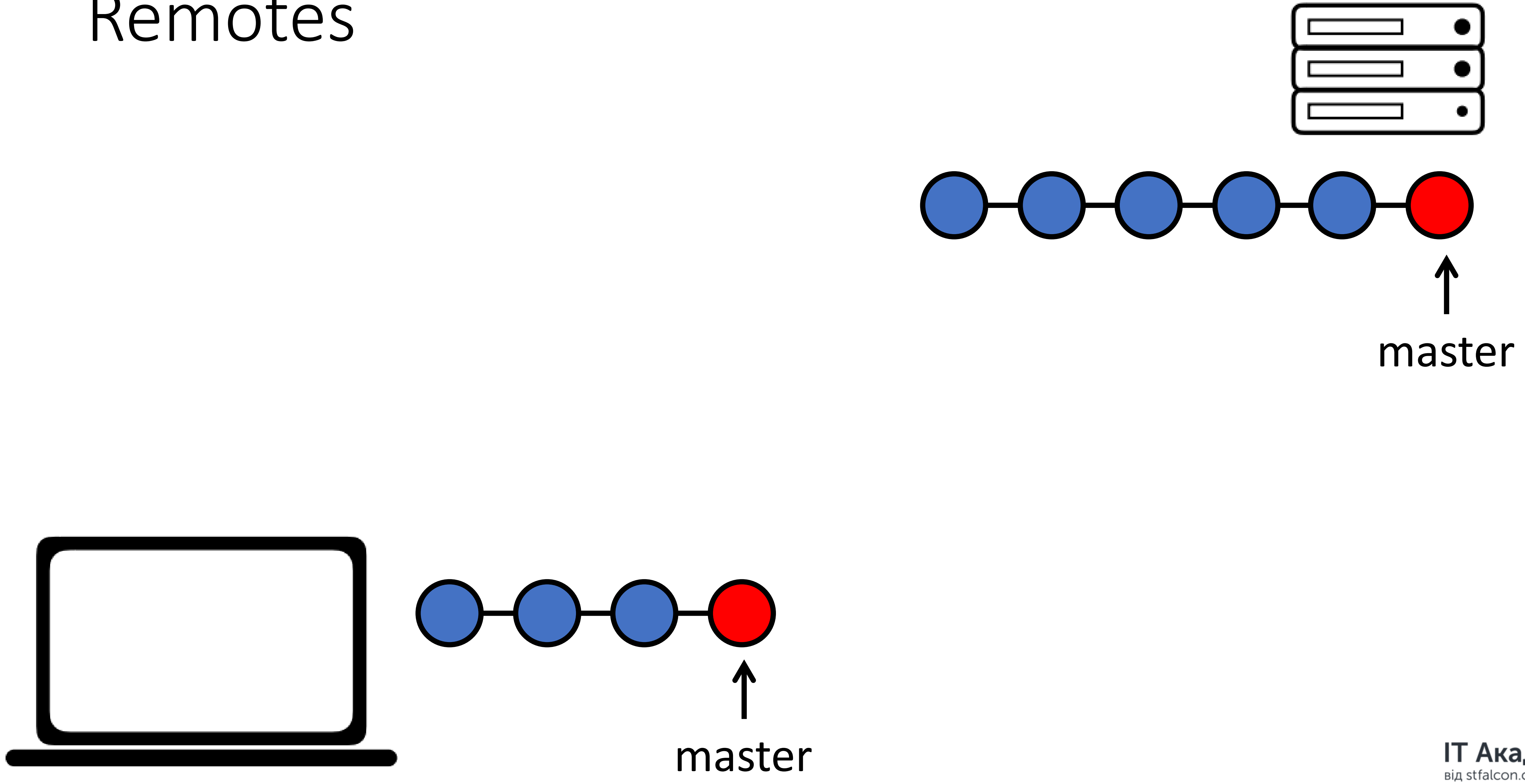
git merge <branch>

git merge feature



Remotes

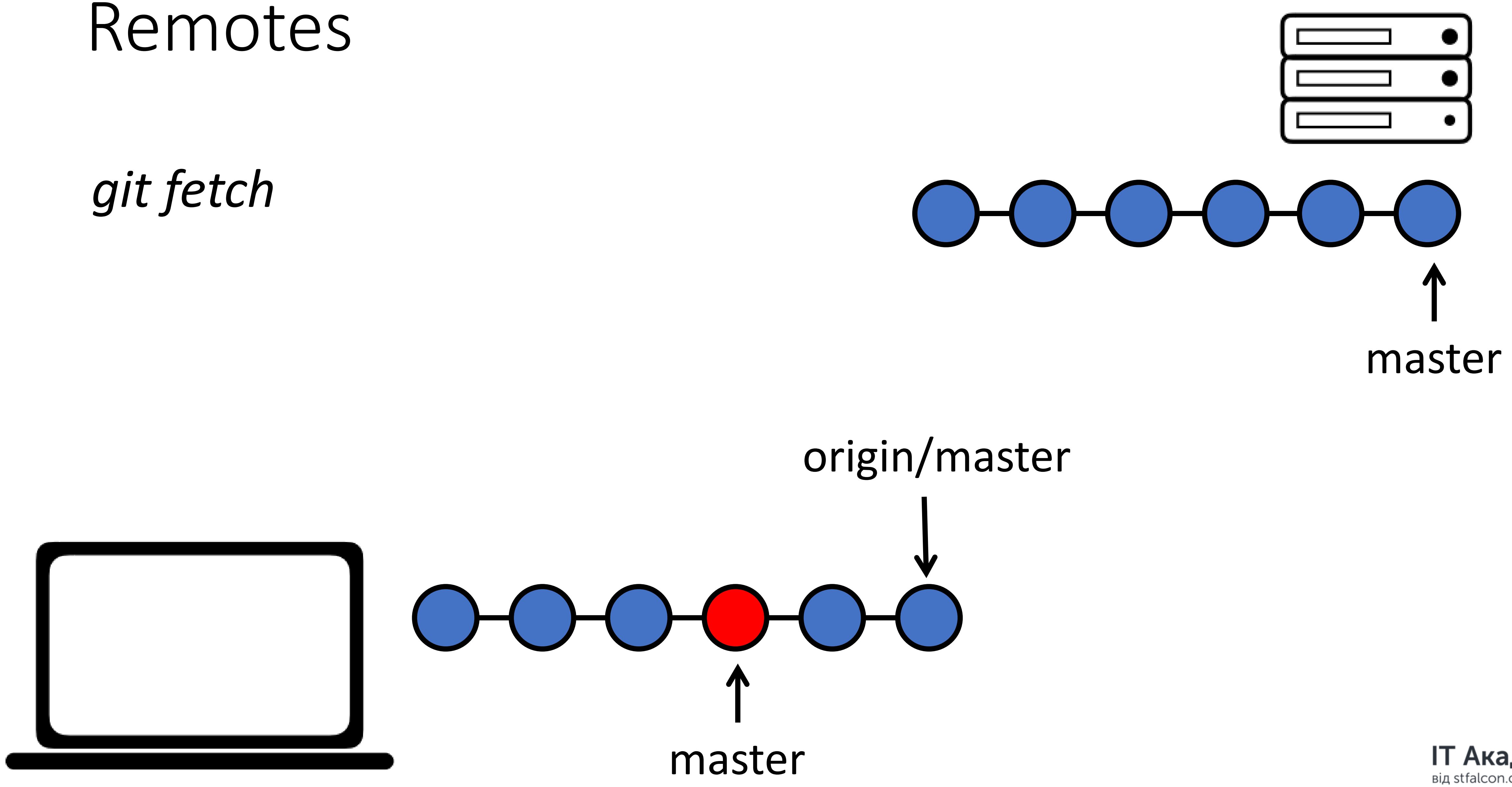
Remotes



IT Академія
від stfalcon.com

Remotes

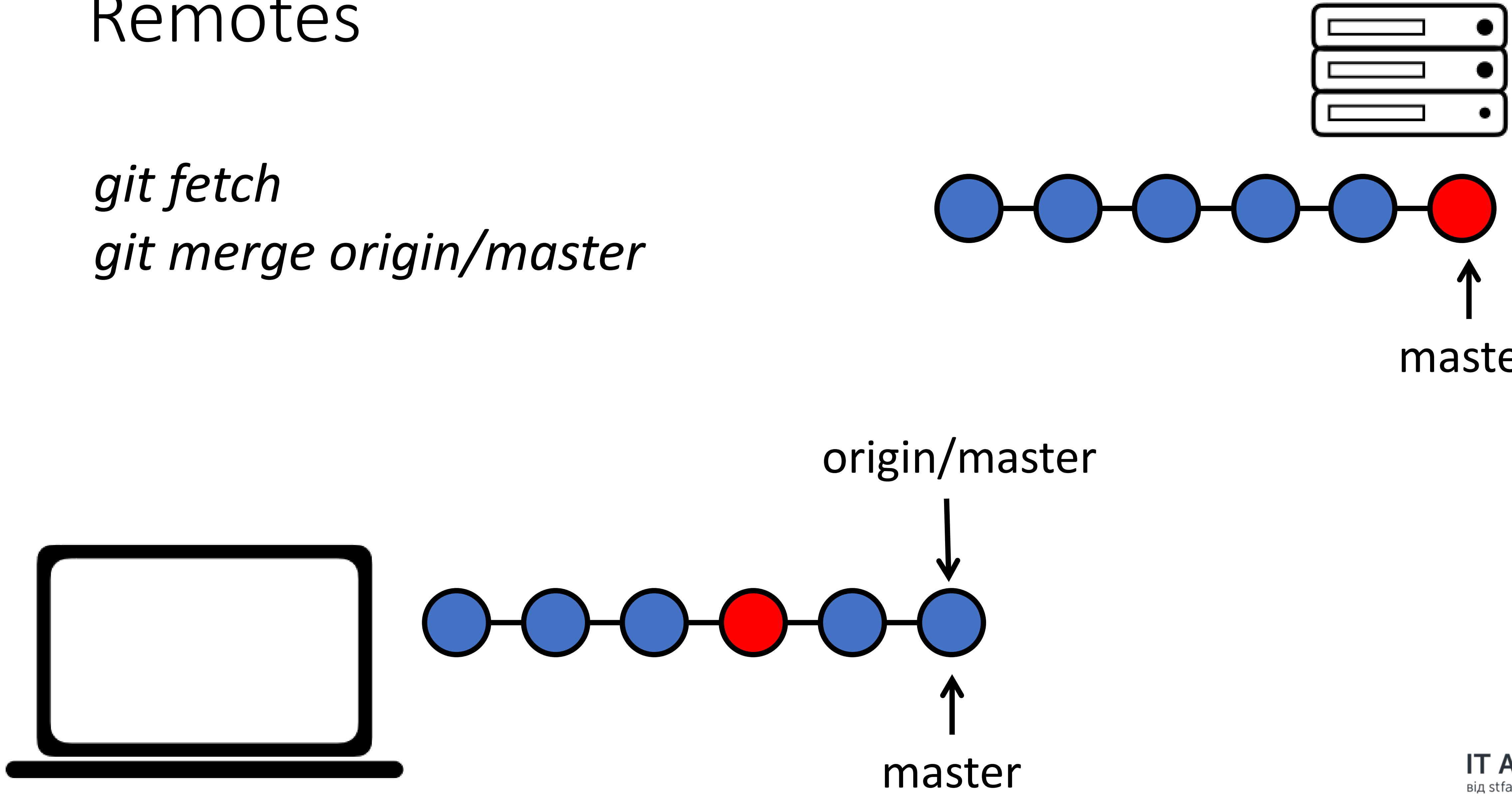
git fetch



IT Академія
від stfalcon.com

Remotes

git fetch
git merge origin/master

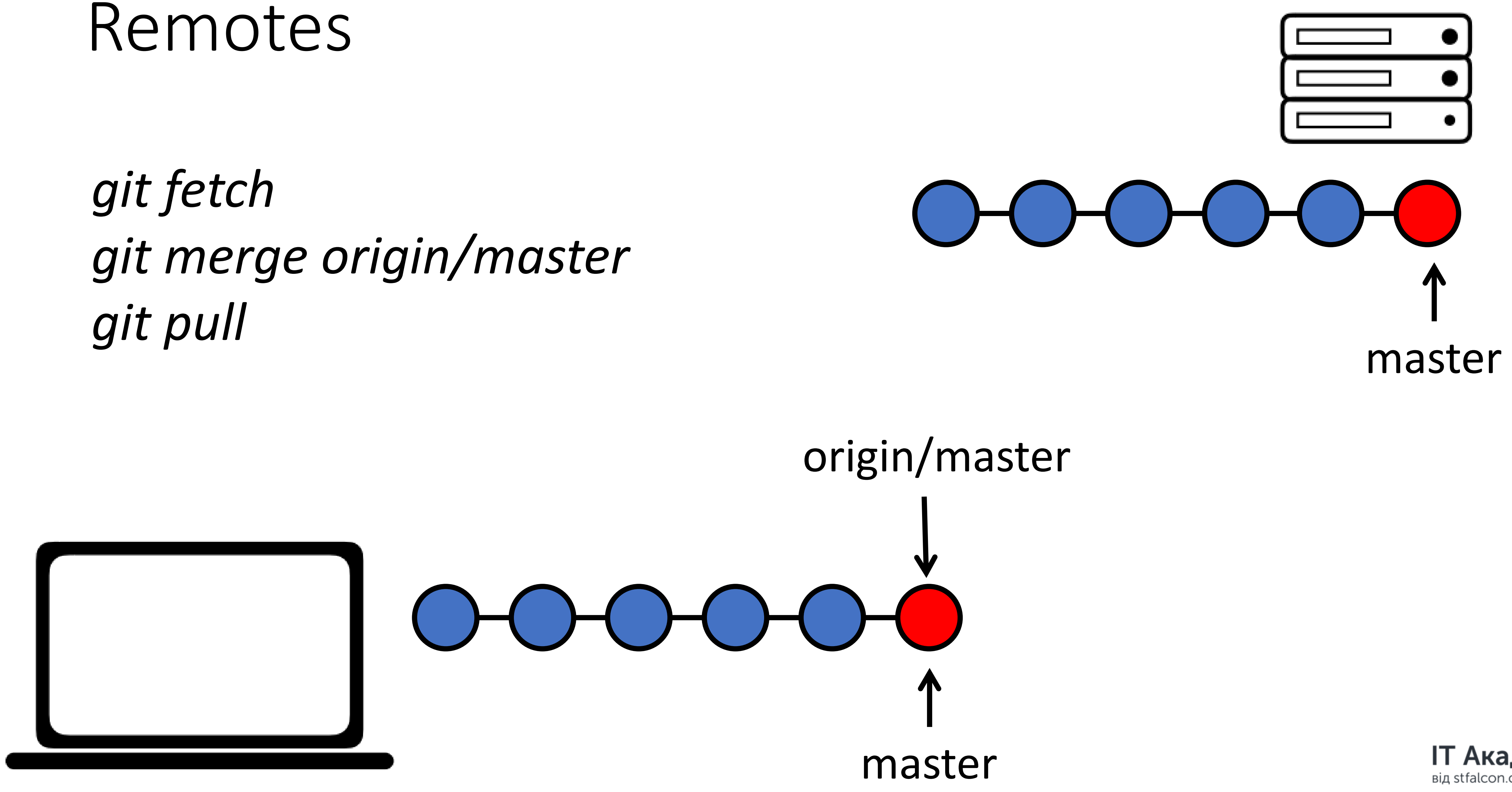


Remotes

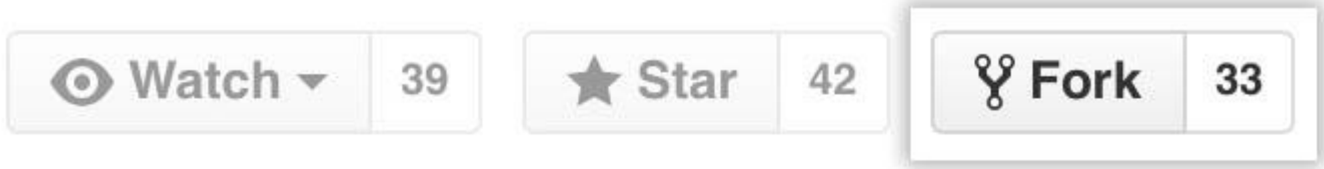
git fetch

git merge origin/master

git pull



Forks



Pull Requests

IT Академія
від stfalcon.com