Installing and using Git and GitHub on Ubuntu Linux: A beginner's guide

GitHub is a treasure trove of some of the world's best projects, built by the contributions of developers all across the globe. This simple, yet extremely powerful platform helps every individual interested in building or developing something big to contribute and get recognized in the open source community.

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This tutorial is a quick setup guide for installing and using GitHub and how to perform its various functions of creating a repository locally, connecting this repo to the remote host that contains your project (where everyone can see), committing the changes and finally pushing all the content in the local system to GitHub.

Please note that this tutorial assumes that you have a basic knowledge of the terms used in Git such as push, pull requests, commit, repository, etc. It also requires you to register to GitHub here and make a note of your GitHub username. So let's begin:

1 Installing Git for Linux

Download and install Git for Linux:

```
sudo apt-get install git
```

The above command is for Ubuntu and works on all Recent Ubuntu versions, tested from Ubuntu 16.04 to Ubuntu 18.04 LTS (Bionic Beaver) and it's likely to work the same way on future versions.

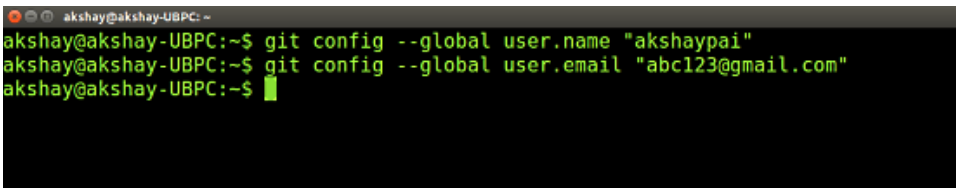
2 Configuring GitHub

Once the installation has successfully completed, the next thing to do is to set up the configuration details of the GitHub user. To do this use the following two commands by replacing "user_name" with your GitHub username and replacing "email_id" with your email-id you used to create your GitHub account.

```
git config --global user.name "user_name"
```

```
git config --global user.email "email_id"
```

The following image shows an example of my configuration with my "user_name" being "akshaypai" and my "email_id" being "abc123@gmail.com"



3 Creating a local repository

Create a folder on your system. This will serve as a local repository which will later be pushed onto the GitHub website. Use the following command:

```
git init Mytest
```

If the repository is created successfully, then you will get the following line:

```
Initialized empty Git repository in /home/akshay/Mytest/.git/
```

This line may vary depending on your system.

So here, Mytest is the folder that is created and "init" makes the folder a GitHub repository. Change the directory to this newly created folder:

```
cd Mytest
```

4 Creating a README file to describe the repository

Now create a README file and enter some text like "this is a git setup on Linux". The README file is generally used to describe what the repository contains or what the project is all about. Example:

```
gedit README
```

You can use any other text editors. I use gedit. The content of the README file will be:

```
This is a git repo
```

5 Adding repository files to an index

This is an important step. Here we add all the things that need to be pushed onto the website into an index. These things might be the text files or programs that you might add for the first time into the repository or it could be adding a file that already exists but with some changes (a newer version/updated version).

Here we already have the README file. So, let's create another file which contains a simple C program and call it sample.c. The contents of it will be:

```
#include<stdio.h>
int main()
{
printf("hello world");
return 0;
}
```

So, now that we have 2 files

```
README and sample.c
```

add it to the index by using the following 2 commands:

```
git add README
```

```
git add sample.c
```

Note that the "git add" command can be used to add any number of files and folders to the index. Here, when I say index, what I am referring to is a buffer like space that stores the files/folders that have to be added into the Git repository.

6 Committing changes made to the index

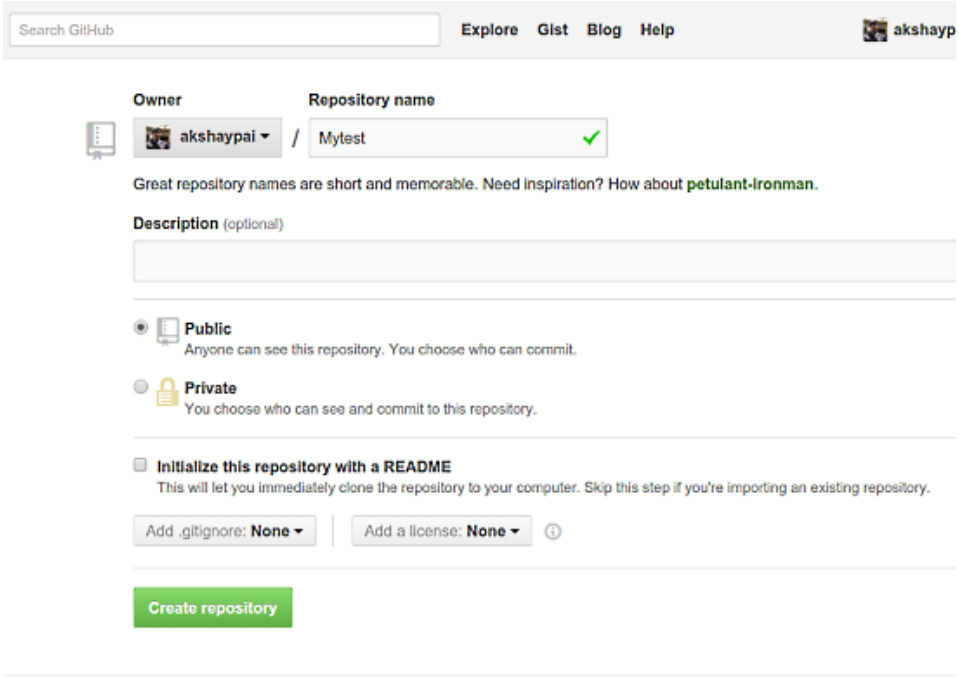
Once all the files are added, we can commit it. This means that we have finalized what additions and/or changes have to be made and they are now ready to be uploaded to our repository. Use the command :

```
git commit -m "some_message"
```

"some_message" in the above command can be any simple message like "my first commit" or "edit in readme", etc.

7 Creating a repository on GitHub

Create a repository on GitHub. Notice that the name of the repository should be the same as the repository's on the local system. In this case, it will be "Mytest". To do this login to your account on https://github.com. Then click on the "plus(+)" symbol at the top right corner of the page and select "create new repository". Fill the details as shown in the image below and click on "create repository" button.



Once this is created, we can push the contents of the local repository onto the GitHub repository in your profile. Connect to the repository on GitHub using the command:

Important Note: Make sure you replace 'user_name' and 'Mytest' in the path with your Github username and folder before running the command!

```
git remote add origin https://github.com/user_name/Mytest.git
```

8 Pushing files in local repository to GitHub repository

The final step is to push the local repository contents into the remote host repository (GitHub), by using the command:

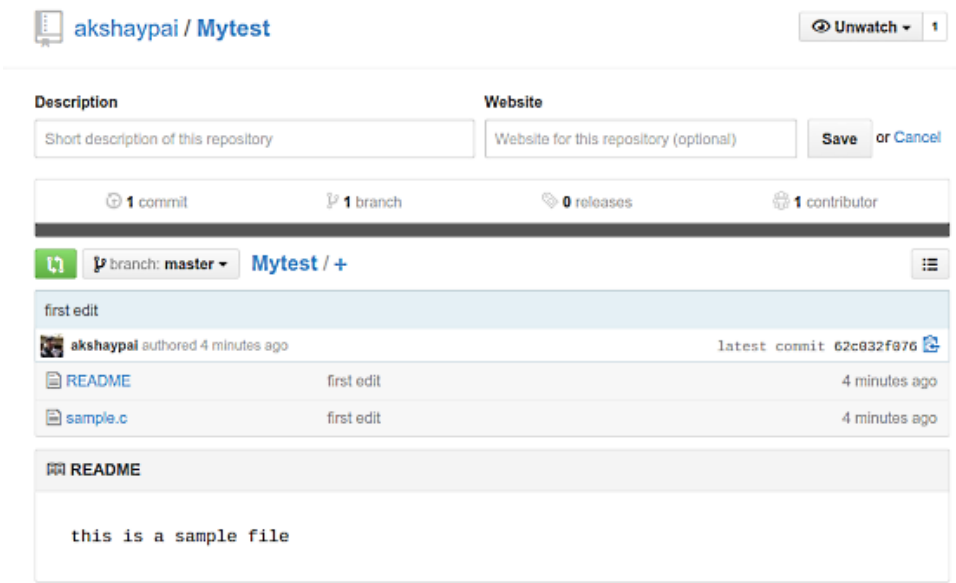
```
git push origin master
```

Enter the login credentials [user_name and password].

The following image shows the procedure from step 5 to step 8

```
akshay@akshay-UBPC: ~/Mytest
akshay@akshay-UBPC:~/Mytest$ git add README
akshay@akshay-UBPC:~/Mytest$ git add sample.c
akshay@akshay-UBPC:~/Mytest$ git commit -m "first edit"
[master (root-commit) 62c032f] first edit
 2 files changed, 7 insertions(+)
 create mode 100644 README
 create mode 100644 sample.c
akshay@akshay-UBPC:~/Mytest$ git remote add origin https://github.com/akshaypai/
Mytest.git
akshay@akshay-UBPC:~/Mytest$ git push origin master
Username for 'https://github.com': akshaypai
Password for 'https://akshaypai@github.com':
Counting objects: 4, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 337 bytes | 0 bytes/s, done.
Total 4 (delta 0), reused 0 (delta 0)
To https://github.com/akshaypai/Mytest.git
 * [new branch]      master -> master
akshay@akshay-UBPC:~/Mytest$
```

So this adds all the contents of the 'Mytest' folder (my local repository) to GitHub. For subsequent projects or for creating repositories, you can start off with step 3 directly. Finally, if you log in to your GitHub account and click on your Mytest repository, you can see that the 2 files README and sample.c have been uploaded and are visible to all as shown in the following image.



Links

- Git - Source Version Control System
- Github

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Comments

By: nwnpallewela **at:** *2015-02-19 05:24:43* Reply

This is great... Thanks for your help :)

By: Feragon **at:** *2015-04-01 15:37:52* Reply

Thanks a LOT!!! Very usefull tuto, and very simple. Thanks again.

By: Deepak Kanavikar **at:** *2015-04-03 18:06:59* Reply

This was precisely what i was looking for... Thanks

By: ashutoshh **at:** *2015-04-13 04:01:17* Reply

thanks a lot

By: honlulu **at:** *2015-04-15 15:51:50* Reply

<h1> very helpful xD Thanks a lot </h1>

By: karan **at:** *2015-05-11 13:03:31* Reply

awesome , thank you

By: Chris **at:** *2015-05-21 08:42:31* Reply

Thank you!

By: auchomage **at:** *2015-06-05 12:58:16* Reply

Thanks for this, it is very clear and helpful.

By: vartika **at:** *2015-07-16 07:13:07* Reply

thank you very much for such a clear and concise tutorial! :)

By: saurabh **at:** *2015-08-04 12:56:46* Reply

Thanks a lot, really very helpful.

By: Rajani **at:** *2015-08-17 05:34:44* Reply

Very helpful. Thank you very much

By: Kishor **at:** *2015-08-24 06:49:59* Reply

Best..

By: goldie **at:** *2015-09-18 09:08:06* Reply

awesome... spent so much time but did not get... but with this tutorial... its really easy.. thank u

By: jeet **at:** *2015-10-01 05:51:01* Reply

awesome easy to understand.....

By: swayne **at:** *2015-10-15 20:48:52* Reply

Very nice, concise beginners tutorial! FYI... one little typo found... In section 5: git add smaple.c (should be "sample.c")

By: maitreyee **at:** *2015-11-03 06:03:47* Reply

Extremely helpful. I followed it step by step and I got exactly what I wanted

By: Jerry **at:** *2015-12-04 08:22:32* Reply

Bravo!!!

By: neil **at:** *2015-12-09 07:05:10* Reply

Awesome

By: Bilal **at:** *2015-12-09 12:21:37* Reply

Thank you so much

By: Bilal **at:** *2015-12-09 12:26:25* Reply

one more thing friends, suppose someone get any issue in git push origin master
please use this git push origin master --force its work for me

By: jorge8979787 **at:** *2016-01-21 22:01:40* Reply

thanks!

By: Luna Das **at:** *2016-02-05 08:09:57* Reply

nice article that what I was looking for :)

By: Murat Ersin **at:** *2016-02-14 16:51:32* Reply

It's work so great.Thanks for this tutorial.

By: om **at:** *2016-03-02 04:37:53* Reply

This is very cool tuto, love it.

By: Chichio **at:** *2016-03-16 10:38:10* Reply

Thanks. But i must run command: git pull origin master before git push origin masterI'm newbie

By: Chatchai Saratakij **at:** *2016-04-06 15:42:32* Reply

Wow, Thank you^_^

By: luan **at:** *2016-04-07 22:48:23* Reply

how to integrate postgresql to github?

By: Shradha **at:** *2016-04-11 11:26:38* Reply

Thank you so much..This is the most precisely explained tutorial...:)

By: Kautsya Kanu **at:** *2016-04-20 07:14:09* Reply

Best Tutorial that I found.. Thanks a lot!! :) You are really great..

By: yohannes **at:** *2016-04-20 07:57:22* Reply

Thanks that will help for starters like me.

By: Jacob **at:** *2016-04-28 15:08:57* Reply

This was great, but I initially received a error when I tried the git push origin master.
The error looks something like this: fatal: unable to access 'https://github.gatech.edu/jc89x0/SevFiewk.git/': server certificate verification failed. CAfile: /etc/ssl/certs/ca-certificates.crt CRLfile: none
I believe it is a certificate trust issue, but the fix for me was to enter the following commands (ref: http://stackoverflow.com/questions/21181231/server-certificate-verification-failed-cafile-etc-ssl-certs-ca-certificates-c)
export GIT_SSL_NO_VERIFY=1 #or git config --global http.sslverify falseAfterwards, I am presented with an option to provide my username and password.

By: Shashikant Singh **at:** *2016-05-25 09:59:49* Reply

Very good tutorial . Very clean explaination.

By: Devashish Kumar Jaiswal **at:** *2016-06-28 11:01:07* Reply

Thanks a lot..This is very helpful for everyone

By: Tingu **at:** *2016-08-06 05:24:54* Reply

Nice One Article

By: Tingu **at:** *2016-08-06 05:26:04* Reply

Masaalla article

By: Zakki **at:** *2016-08-07 13:54:24* Reply

Excellent tuto!

By: Graham Newman **at:** *2016-08-29 15:14:45* Reply

Brilliant - many thanks!

By: Ravi Kumar **at:** *2016-09-05 06:57:45* Reply

That's great...Thankyou sir

By: Ishadi **at:** *2016-09-06 23:54:53* Reply

Thanks a lot!

By: subhajyoti **at:** *2016-09-15 20:18:23* Reply

too good

By: Nisal **at:** *2016-09-21 10:33:47* Reply

This is great... Thanks for your help :)

By: Kevin **at:** *2016-09-24 20:31:47* Reply

That's amazing. The best hands on beginner's guide to git. It isn't much of a big deal. Thanks

By: Nikhil Chavda **at:** *2016-09-25 07:44:03* Reply

this tutorial is very usefull for me thank you so much.

By: ahahah **at:** *2016-10-01 09:21:02* Reply

This was soooo helpfull. Thank you soooo much. :))

By: Victor **at:** *2016-10-11 17:12:18* Reply

Thanks for this , I never thought it was so simple, you helpme so much

By: WRONG! **at:** *2016-10-15 01:21:21* Reply

remote add orgin, not add remote origin

By: Irishologram **at:** *2016-10-26 12:02:34* Reply

I just followed this tutorial and create a new github repository, thank you!

By: KC **at:** *2016-11-25 20:13:05* Reply

Thank You! This has been of real help.

By: murali **at:** *2016-12-05 15:56:47* Reply

Thanks for the usefull information....

By: Shrikrishna **at:** *2016-12-09 15:05:39* Reply

Thanks mate exellent article.

By: Eslam Ezzatneshan **at:** *2016-12-13 10:34:49* Reply

Hi,
Thanks for this helpful article.
I am trying to install the following open-source package on my virtual-box Ubuntu:https://github.com/Par4All/par4allTo be honest, I am almost new in Ubuntu and don't know so much about git etc.Could you please help me what should I do step-by-step to install that package? Really appreciate your time. Cheers
Eslam

By: Shivam **at:** *2016-12-20 03:14:33* Reply

This is simply helpful.. Can you also cover for rest ??

By: nullbyte **at:** *2016-12-25 17:45:58* Reply

Thanks a lot.

By: annie **at:** *2016-12-26 16:05:00* Reply

Too good!

By: Sagar PAtil **at:** *2017-01-06 04:36:15* Reply

Great man cool article. Very easy and clear steps provided.

By: Zachary **at:** *2017-01-09 01:09:04* Reply

Basic but very important! Great!

By: Alok Patra **at:** *2017-01-09 18:33:54* Reply

Great detailed explanation. Helped a lot. Thanks

By: martineskobg **at:** *2017-01-11 14:33:03* Reply

Cool Thanks !! :)

By: p81061473525 **at:** *2017-01-28 15:13:25* Reply

This is great...

By: Jona **at:** *2017-02-06 04:50:02* Reply

SO EASY!!!!!!

By: Antz411 **at:** *2017-03-01 19:28:56* Reply

Excellent work!

By: Umer **at:** *2017-03-27 18:53:12* Reply

Many thanks for this wonderful how-to...cheers :)

By: Manjesh **at:** *2017-04-03 15:29:48* Reply

Dude, Your Tutorials are Awesome .

By: Ajay **at:** *2017-06-12 07:06:01* Reply

Thanks
Steps is fine but if some one want to add all directory can use
git add .
command
before doing this change mode of file if required

Thanks

By: Wayne B **at:** *2017-06-22 19:09:55* Reply

Hello, very easy and simple instructions for us noobs. Thank You very much for this simple and easy to understand tutorial!

By: vishnu **at:** *2017-06-23 06:09:59* Reply

Thanks very useful

By: anvesh **at:** *2017-06-24 07:25:32* Reply

Thanks bro

By: MX1 **at:** *2017-07-26 08:08:42* Reply

Verry cool. Thanks for the awesome tutorial. Helps me get a jump start on installing the new Cuda tool kit on all my machines. Thanks again awesome!

By: prasad **at:** *2017-08-04 03:01:17* Reply

very good.

By: pk **at:** *2017-08-16 14:02:55* Reply

This is great help! thanks

By: John **at:** *2017-08-24 08:09:37* Reply

Great teaching.

By: dhanyesh **at:** *2017-09-16 04:22:45* Reply

Its very useful and effective. Easy to use it

By: rano **at:** *2017-09-26 12:19:19* Reply

Unable to push. NO enter login credentials prompted after running git push origin master. fatal: unable to access 'https://github.com/myusername/myproject.git/': Failed to connect to 127.0.0.1 port 8888: Connection refused

By: bluescreen777 **at:** *2017-09-26 20:00:04* Reply

Thank you for the help!

By: Sravan Chithari **at:** *2017-09-28 09:51:11* Reply

Best article and very helpful :)

By: Mike Paget **at:** *2017-09-28 10:29:06* Reply

Good job! i like it

By: mikesmith123456 **at:** *2017-10-02 04:37:58* Reply

thank you, thank you thank you.

By: Tasos **at:** *2017-10-18 17:06:42* Reply

Dude, you are the only one who managed to put an actual useful guide for first time users. Thanks a lot!

By: Brandon **at:** *2017-11-10 05:06:19* Reply

Perfect tutorial, thank you so much!

By: Freddy Camacho **at:** *2017-12-20 21:06:11* Reply

Hi, Do you have a tutorial on how to install FROM GitHub via terminal? Thank you

By: Ravi yadav **at:** *2017-12-30 16:03:28* Reply

Thanks.....this is a great guide for beginners :)))

By: Darichy **at:** *2018-01-09 02:46:34* Reply

Thats awesome, thanks

By: Ceero **at:** *2018-02-28 15:52:59* Reply

Thanks for this. It was truly helpful

By: Thanku **at:** *2018-03-07 05:34:15* Reply

Thank you so much bro

By: musaah **at:** *2018-03-18 14:36:19* Reply

hello anyone here please i need help

By: Froot **at:** *2018-03-19 01:07:42* Reply

Yes this is ok, Thanks.

By: Zac **at:** *2018-03-28 00:32:54* Reply

Thank you so much. OMFG

By: gaurav agarwal **at:** *2018-05-01 18:34:07* Reply

Reading package lists... Done Building dependency tree Reading state information... Done Package git is not available, but is referred to by another package. This may mean that the package is missing, has been obsoleted, or is only available from another source E: Package 'git' has no installation candidate this is the result what should il do ?

By: Ludwig **at:** *2018-05-03 05:28:21* Reply

Great guide! Thank you very much!

By: Anon **at:** *2018-06-05 22:15:09* Reply

Very useful, thanks.

By: dnah **at:** *2018-06-30 01:36:35* Reply

thank you a lot

By: Vikram Chaudhary **at:** *2018-09-13 10:02:20* Reply

Thank you the detailed explanation. It really helped.

By: Abhishek Sharma **at:** *2018-11-24 12:04:52* Reply

fatal: remote origin already exists.
this is what i get after
git remote add origin https://github.com/Abhishek-Shr/Mytest.git
this
what shoud i do?

By: Abhishek Sharma **at:** *2018-11-24 12:25:57* Reply

error: src refspec master does not match any.
error: failed to push some refs to 'https://github.com/Abhishek-Shr/Mytest.git'
What is this?

By: Kumar Vivek **at:** *2018-11-27 04:31:33* Reply

Hi I did all the steps but after step 8th "git push origin master" and after adding this command, it is showing
Below Error

fatal: The current branch master has no upstream branch.
To push the current branch and set the remote as upstream, use
git push --set-upstream origin master
Please help.

By: eve **at:** *2018-12-16 06:55:42* Reply

Unable to push - I guess its because I have activated the 2 -step security
it ask for username and password. But said it fails:
remote: Invalid username or password.
fatal: Authentication failed for 'https://github.com/evezeyl/personal.git/'
But it never ask for the second step of the authentification. Any solution?
Best regards, great guide. Thanks!

By: sasnasteve **at:** *2019-01-01 13:57:27* Reply

Excellent, thanks!!

By: sm1km **at:** *2019-01-10 21:30:51* Reply

The git push command doesn't work if you have 2FA enabled. If you have it, you have to disable two-factor authentication or create a Personal Access Token (see https://stackoverflow.com/questions/29297154/github-invalid-username-or-password)
Great guide btw!

By: Karthikeyan **at:** *2019-03-18 07:13:39* Reply

Thanks for your tutorial..Great help for me..

By: ekowahyudisetiawan **at:** *2019-04-22 04:42:43* Reply

thank you, amazing

By: Ethan **at:** *2019-05-17 15:46:22* Reply

Great tutorial, minor typo in 'git add smaple.c'

> **By:** till **at:** *2019-05-17 16:18:48* Reply
>
> Fixed the typo. Thank you for the hint.

By: Mohammad **at:** *2019-05-28 00:06:10* Reply

very nice, worked for me. Thanks.

By: Aravind **at:** *2019-06-04 20:46:31* Reply

very helpful

By: Gautam Helange **at:** *2019-06-28 16:29:27* Reply

Thank you so much.

By: Moses **at:** *2019-07-13 14:40:45* Reply

Thanks alot, this really helped...

By: Lamu **at:** *2019-07-22 13:30:16* Reply

This has been my first ever successful git commit I've done without a third person..ONLY you and me

By: Raj **at:** *2019-09-21 04:36:28* Reply

Quick and useful intro to using git. Thanks.

By: vijay kumar **at:** *2019-09-25 14:48:46* Reply

you are awesome for explaining step by step for beginners.

By: Shasank **at:** *2019-11-01 04:37:55* Reply

Too good tutorial. Had just to follow steps and then we are done. Thank you very much for this tutorial.

By: dingdong69 **at:** *2019-12-09 07:51:00* Reply

starting with web dev;
thanks 4 d tutorial;
gr8 n very helpful;

By: Jhon Gesell Villanueva Portella **at:** *2020-02-19 17:41:21* Reply

Gracias por compartir la presente entrada, me ha gustado mucho la explicación que han compartido, muy claro todo, saludos desde Lima-Perú.

Home **Installing and using Git and GitHub on Ubuntu Linux: ...**

Tutorial Info

Author:	Akshay Pai
Last updated:	May 17, 2019
Tags:	linux, programming, ubuntu

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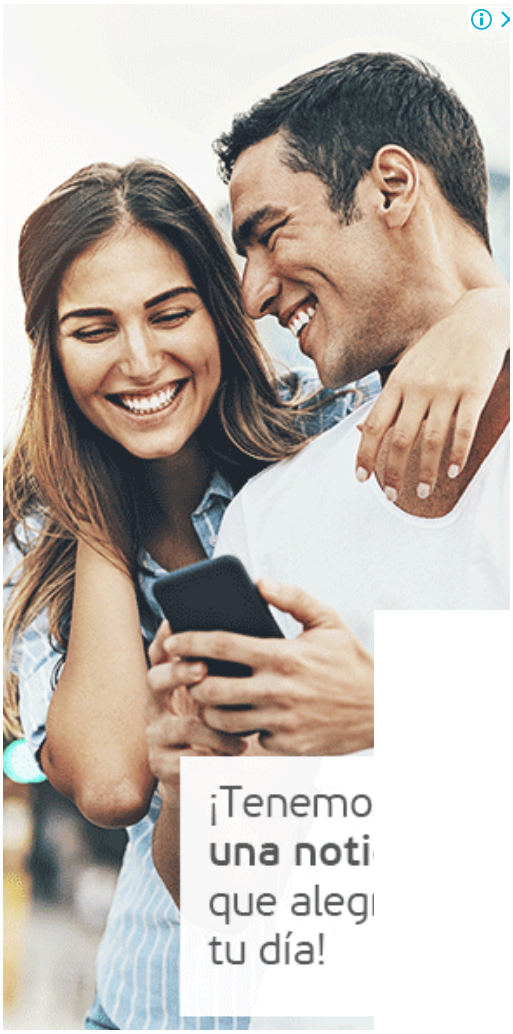

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