



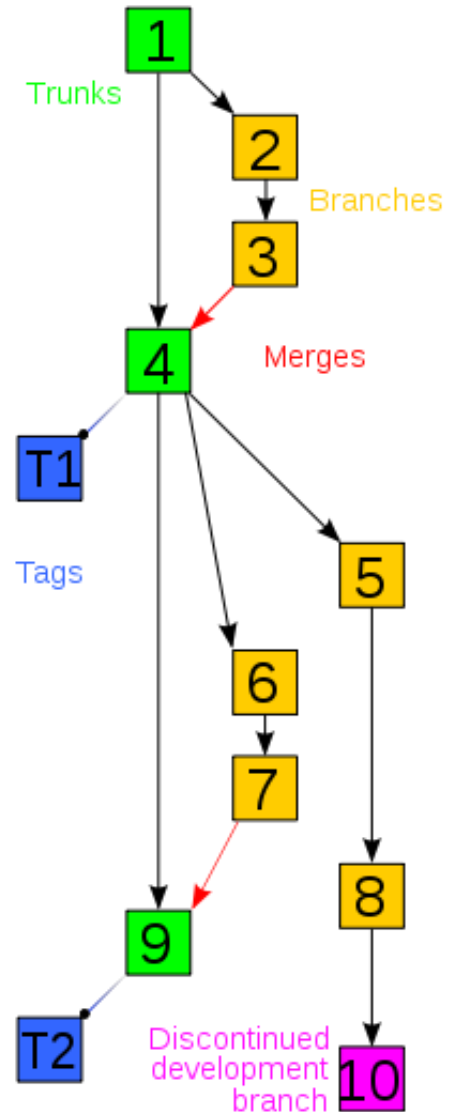
# Configuración VCS con GIT + Repositorio Bitbucket

Guía Rápida



# VCS: Version Control System

- Los VCS son sistemas de gestión de versiones que controlan y mantienen un historial de los cambios realizados sobre un proyecto (Código fuente).
- Básicamente se basa en mantener líneas de desarrollo.



# Repositorios

- Para montar un VCS es necesario contar con un *Repositorio* para almacenar los datos actualizados, históricos y otros cambios.
- Algunos servicios web de hosting para GIT:





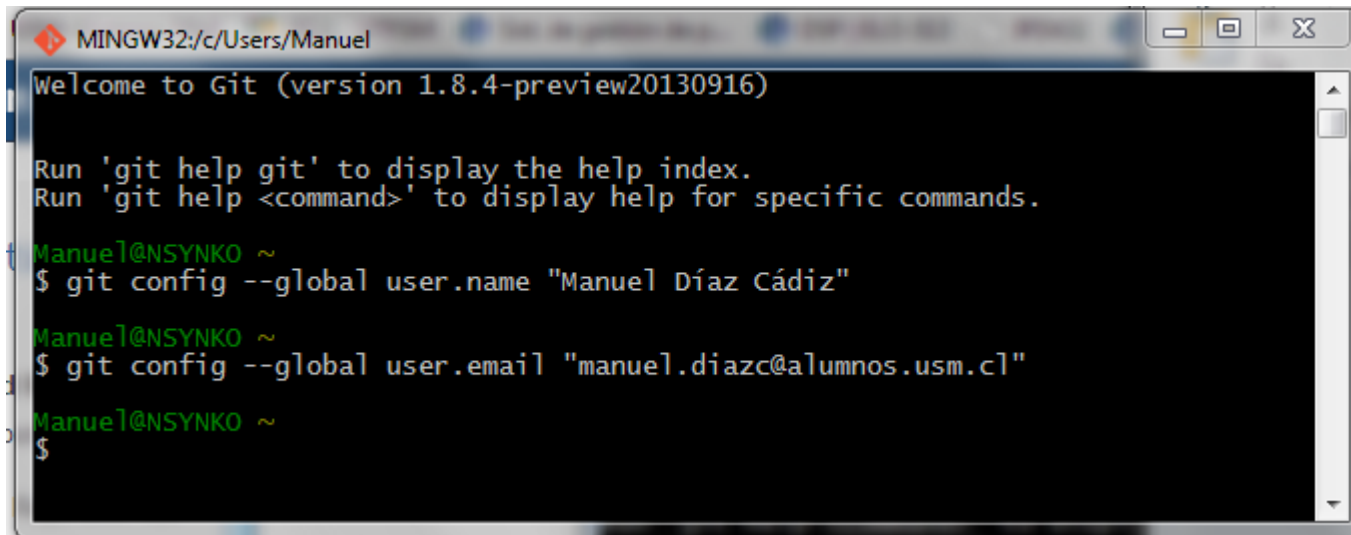
- Es uno de los softwares más conocidos para VCS.
- Características:
  - De código abierto.
  - Desarrollo no-lineal (branch, merge).
  - Gestión distribuida (copia local del repo -> clone).
  - Cifrado SSH.
- **Linux:** apt-get install git
- **Windows:** <http://git-scm.com/download/win>

# git + Bitbucket

- Descargue/Instale GIT en su S.O.
- Abra una consola Bash (en Windows abrir: **Start > All Programs > Git > Git Bash**).
- Configure su nombre de usuario y su dirección email

```
user@userPC~ $ git config --global user.name "FIRST_NAME LAST_NAME"
```

```
user@userPC~ $ git config --global user.email "MY_NAME@example.com"
```



```
MINGW32:/c/Users/Manuel
Welcome to Git (version 1.8.4-preview20130916)

Run 'git help git' to display the help index.
Run 'git help <command>' to display help for specific commands.

Manuel@NSYNKO ~
$ git config --global user.name "Manuel Díaz Cádiz"

Manuel@NSYNKO ~
$ git config --global user.email "manuel.diazc@alumnos.usm.cl"

Manuel@NSYNKO ~
$
```



- Ingrese a bitbucket.org y cree una cuenta (conserve email y nombre anterior, el username es arbitrario)

Atlassian  
**Bitbucket**

Features Pricing Log in [Sign up](#)

# Unlimited private code repositories

FREE FOR 5 USERS + GIT OR MERCURIAL + LIGHTWEIGHT CODE REVIEW + MAC AND WINDOWS CLIENT

That username already exists

That address is already in use

[Sign up for free](#)



git

+

Bitbucket

- Acceda y cree un repositorio con el botón **Create**:

Bitbucket Repositories **Create**

Create a new repository

Name\* test\_repo\_tareaX

Description repositorio de prueba para tarea X

Access level  This is a private repository

Forking Allow only private forks

Repository type  Git  Mercurial

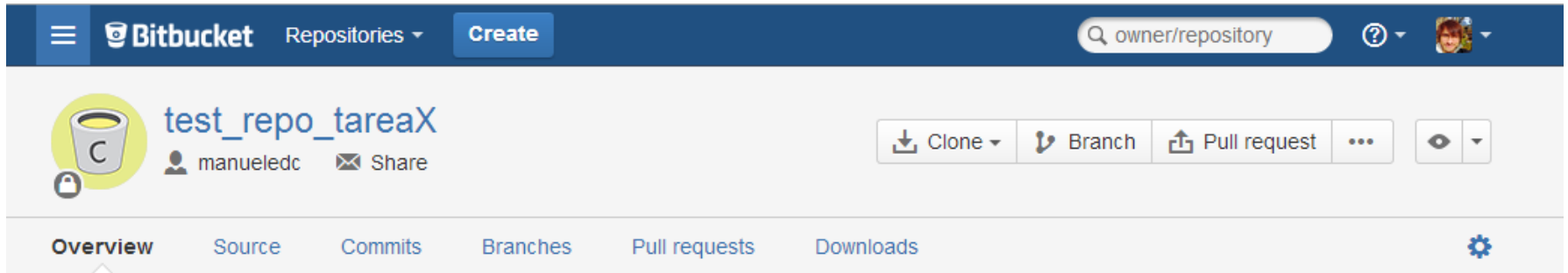
Project management  Issue tracking  Wiki

Language C


**Create repository** Cancel

# git + Bitbucket

- Con esto, hemos creado un repo vacío:



The screenshot shows the Bitbucket interface for a repository named 'test\_repo\_tareaX' owned by 'manueledc'. The top navigation bar includes the Bitbucket logo, 'Repositories' dropdown, a 'Create' button, a search bar with 'owner/repository', and a user profile icon. The repository header features a bucket icon with a 'C', the repository name, owner name, and a 'Share' button. Action buttons for 'Clone', 'Branch', 'Pull request', and a settings menu are visible. Below the header is a tabbed navigation system with 'Overview' selected, and other tabs for 'Source', 'Commits', 'Branches', 'Pull requests', and 'Downloads'. A settings gear icon is located on the right side of the navigation bar.



The screenshot displays the 'Add some code' section of the repository. On the left is a sidebar with four menu items: 'Get started', 'Make changes and push', 'Invite your friends', and 'Get to work'. The main content area has the heading 'Add some code' and the text 'You can start a brand new project or push up an existing repo to Bitbucket. What are you doing?'. Below this text are two blue links: 'I'm starting from scratch' and 'I have an existing project to push up'.



# git + Bitbucket

Ahora configuramos el acceso al repositorio recién creado vía GIT usando una llave SSH (también es posible vía HTTPS). En una consola bash:

- Verificar que el cliente ssh esta disponible: `$ ssh -v` (si no esta: `apt-get install openssh-client`)

```
Manuel@NSYNKO ~
$ ssh -v
OpenSSH_4.6p1, OpenSSL 0.9.8e 23 Feb 2007
usage: ssh [-1246AaCfGkMNnqsTtVvXxY] [-b bind_address] [-c cipher_spec]
          [-D [bind_address:]port] [-e escape_char] [-F configfile]
          [-i identity_file] [-L [bind_address:]port:host:hostport]
          [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
          [-R [bind_address:]port:host:hostport] [-S ctl_path]
          [-w local_tun[:remote_tun]] [user@]hostname [command]
```

- Las llaves SSH del sistema están en `~/.ssh`, verifique el directorio: `$ ls -al ~/.ssh`

```
Manuel@NSYNKO ~
$ ls -al ~/.ssh
total 14
drwxr-xr-x  8 Manuel Administ  4096 Oct 26 03:06 .
drwxr-xr-x  1 Manuel Administ 16384 Oct 30 16:28 ..
-rw-r--r--  1 Manuel Administ  1743 Oct 26 03:02 bitbucket_key
-rw-r--r--  1 Manuel Administ   395 Oct 26 03:02 bitbucket_key.pub
-rw-r--r--  1 Manuel Administ    56 Oct 26 03:01 config
-rw-r--r--  1 Manuel Administ  1675 Oct 26 02:55 id_rsa
-rw-r--r--  1 Manuel Administ   395 Oct 26 02:55 id_rsa.pub
-rw-r--r--  1 Manuel Administ   806 Oct 26 12:08 known_hosts
```

# git + Bitbucket

El par de llaves SSH, privada (<key\_name>) y publica (<key\_name>.pub) es único y no es posible utilizarlo en más de una cuenta, lo recomendado es generar un nuevo par y asociar la llave publica a la cuenta bitbucket:

- Ir al directorio: `$ cd ~/.ssh`
- Generar par llaves SSH con codificación RSA: `$ ssh-keygen`

```
Manuel@NSYNKO ~/.ssh
$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/Manuel/.ssh/id_rsa): testkey
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in testkey.
Your public key has been saved in testkey.pub.
The key fingerprint is:
ec:94:1c:8b:4d:08:db:53:fc:a2:b4:52:c6:cc:b8:02 Manuel@NSYNKO

Manuel@NSYNKO ~/.ssh
$ ls -al
total 16
drwxr-xr-x 10 Manuel Administ 4096 Oct 30 18:12 .
drwxr-xr-x  1 Manuel Administ 16384 Oct 30 18:06 ..
-rw-r--r--  1 Manuel Administ 1743 Oct 26 03:02 bitbucket_key
-rw-r--r--  1 Manuel Administ  395 Oct 26 03:02 bitbucket_key.pub
-rw-r--r--  1 Manuel Administ   56 Oct 26 03:01 config
-rw-r--r--  1 Manuel Administ 1675 Oct 26 02:55 id_rsa
-rw-r--r--  1 Manuel Administ  395 Oct 26 02:55 id_rsa.pub
-rw-r--r--  1 Manuel Administ  806 Oct 26 12:08 known_hosts
-rw-r--r--  1 Manuel Administ 1743 Oct 30 18:12 testkey
-rw-r--r--  1 Manuel Administ  395 Oct 30 18:12 testkey.pub
```

RECUERDE el pass-phrase usado, esta será su «clave» para subir/bajar/modificar contenido en el repositorio

# git + Bitbucket

- Crear un archivo en el mismo directorio llamado «config» y editarlo para agregar las siguientes líneas:

Host bitbucket.org

IdentityFile ~/.ssh/<key\_name> # ojo, esta tabulado con un solo espacio

- Guardar cambios y reiniciar el terminal.
- Ir a la llave publica <key\_name>.pub y copiarla en el portapapeles:

```
Manuel@NSYNKO ~/.ssh
$ cat testkey.pub
ssh-rsa AAAAB3NzaC1yc2EAAAABIwAAAQEAzVqq919bb63Jhy3/zcs+tY+1nNeLzy447FOHcRJtUzDX
GI/mb3731X2AuNvlc8ydcUDqnyU6Y9uh7R9BNItDL2/nM8meDLA0oPL5H/XQKCRYIFz6G1pE+4XMepI8
+VXfbwzjx6gd2ZmSp+nnuqIOZlvdZWCueP5T+EZQRusf5ND3Kdc0onzhIJlARvRgh13rYgGem8V2paL0
56TmQGtGGAJEGpS7E1JYMDf5rmwOrVpGJFud1ifDmI0Rybm5hsh6yAz0761AIaHEsMoT5GGutDpC9RbX
MdomGBkwyp1cFBvUySEnYAFBiS1hsUsNvhpt9MlSMAPbqYKcNKspdYT6zw== Manuel@NSYNKO
```



- Ahora habilitamos el acceso con esta llave en la cuenta de bitbucket.org, ingrese a su cuenta y diríjase a **<avatar\_perfil>/Manage Account/SSH keys**, y agregue una nueva llave con el botón **Add key**:

Account Manuel Díaz Cádiz

Account settings  
Groups  
Notifications  
Email addresses  
**SSH keys**  
Custom domains  
Plans and billing  
Integrated applications  
Connected accounts  
Change password  
Change username  
Sessions  
Audit log  
Delete account

### Add SSH key

Label

Key\*

**Don't have a key yet?**  
Read our help docs for creating keys.

**Already have a key?**



- Verifique que el acceso esta configurado correctamente usando: `$ ssh -T git@bitbucket.org`

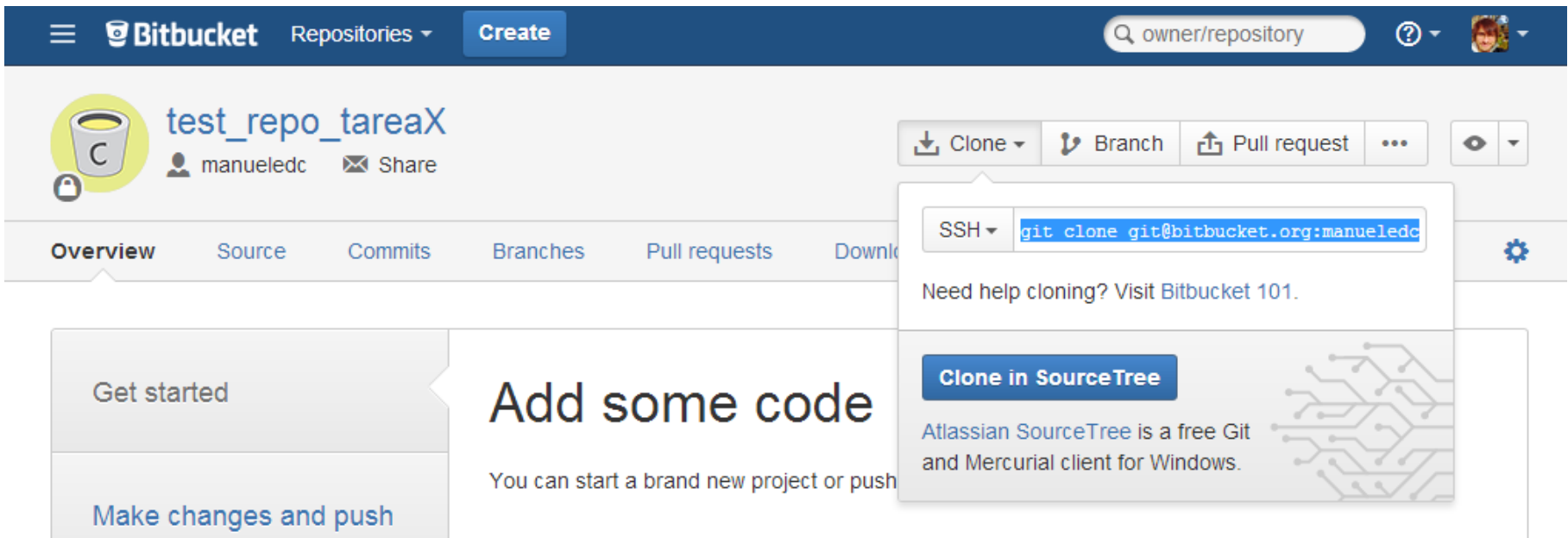
```
Manuel@NSYNKO ~  
$ ssh -T git@bitbucket.org  
Enter passphrase for key '/c/Users/Manuel/.ssh/bitbucket_key':  
logged in as manueledc.  
  
You can use git or hg to connect to Bitbucket. Shell access is disabled.
```

- Si el comando responde con el nombre de la cuenta, el acceso con GIT al repositorio esta configurado exitosamente

# git + Bitbucket

Por último, descargaremos una copia local al disco duro del repositorio (vacío) recién creado.

- Diríjase a su cuenta y presione el botón Clone, seleccione el protocolo SSH y copie el comando entregado para clonar el repo:



The screenshot shows the Bitbucket web interface. At the top, there's a navigation bar with the Bitbucket logo, 'Repositories' dropdown, a 'Create' button, a search bar containing 'owner/repository', and a user profile icon. Below this, the repository page for 'test\_repo\_tareaX' is visible, owned by 'manueledc'. A 'Clone' button is highlighted, and a dropdown menu is open, showing 'SSH' selected. The SSH command 'git clone git@bitbucket.org:manueledc' is displayed in a text box. Below the dropdown, there's a link 'Need help cloning? Visit Bitbucket 101.' and a 'Clone in SourceTree' button. A tooltip for SourceTree is also visible, stating 'Atlassian SourceTree is a free Git and Mercurial client for Windows.' The main content area shows 'Add some code' and 'Make changes and push' buttons.

# git + Bitbucket

- En la ubicación que estime conveniente en disco, aplique el comando copiado mediante la terminal (formato comando `$ git clone git@bitbucket.org:<username>/<repo_name>.git`):

```
Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos
$ ls -al
total 2
drwxr-xr-x  3 Manuel  Administ    0 Oct 26 02:30 .
drwxr-xr-x  4 Manuel  Administ  4096 Nov  2 16:17 ..
drwxr-xr-x  1 Manuel  Administ    0 Oct 26 12:57 bitbucket_test_proyect

Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos
$ git clone git@bitbucket.org:manueledc/test_repo_tareax.git
Cloning into 'test_repo_tareax'...
Enter passphrase for key '/c/Users/Manuel/.ssh/bitbucket_key':
warning: You appear to have cloned an empty repository.
Checking connectivity... done

Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos
$ ls -al
total 4
drwxr-xr-x  4 Manuel  Administ    0 Nov  2 16:18 .
drwxr-xr-x  4 Manuel  Administ  4096 Nov  2 16:17 ..
drwxr-xr-x  1 Manuel  Administ  4096 Oct 26 12:57 bitbucket_test_proyect
drwxr-xr-x  1 Manuel  Administ    0 Nov  2 16:18 test_repo_tareax
```



Ahora publicaremos el primer archivo del proyecto, el README:

```
Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos
$ cd test_repo_tareax/

Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos/test_repo_tareax (master)
$ echo "# This is a test_repo_tareax's README :D" >> README

Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos/test_repo_tareax (master)
$ git add README
warning: LF will be replaced by CRLF in README.
The file will have its original line endings in your working directory.

Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos/test_repo_tareax (master)
$ git commit -m "first commit to repo. Adding a README"
[master (root-commit) 0277173] first commit to repo. Adding a README
warning: LF will be replaced by CRLF in README.
The file will have its original line endings in your working directory.
1 file changed, 1 insertion(+)
create mode 100644 README

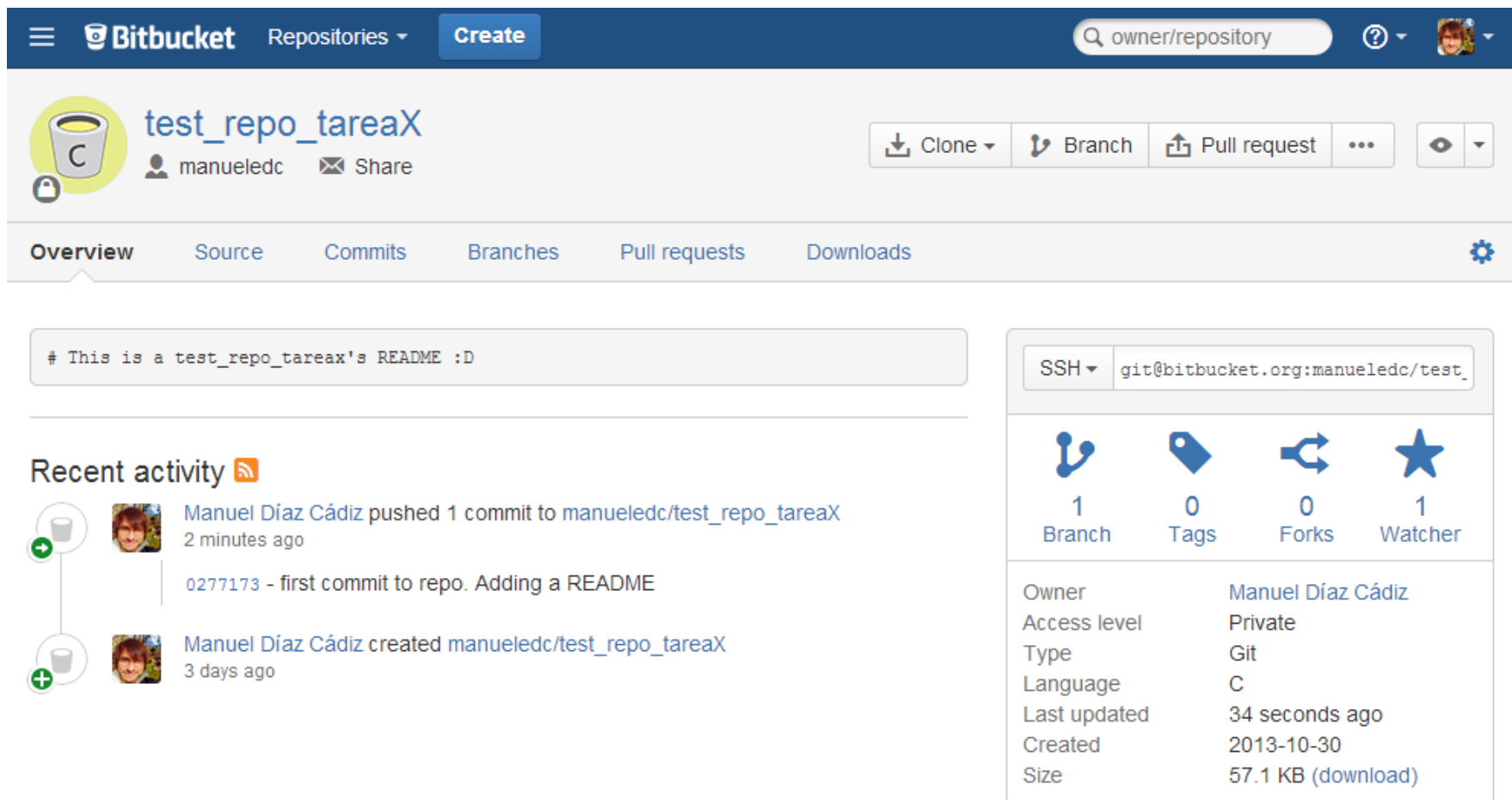
Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos/test_repo_tareax (master)
$ git push origin master
Enter passphrase for key '/c/Users/Manuel/.ssh/bitbucket_key':
Counting objects: 3, done.
Writing objects: 100% (3/3), 287 bytes | 0 bytes/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To git@bitbucket.org:manueledc/test_repo_tareax.git
 * [new branch]      master -> master

Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos/test_repo_tareax (master)
$
```



# git + Bitbucket

El cual aparece en nuestra cuenta una vez realizado el **push**:



The screenshot shows the Bitbucket interface for a repository named 'test\_repo\_tareaX' owned by 'manueledc'. The repository is private and contains a README file. The 'Recent activity' section shows two events: a push of 1 commit to the 'manueledc/test\_repo\_tareaX' repository 2 minutes ago, and the creation of the repository 3 days ago. The repository details on the right show it has 1 branch, 0 tags, 0 forks, and 1 watcher. The repository was created on 2013-10-30 and has a size of 57.1 KB.





**Repository Overview:**

- Repository: test\_repo\_tareaX
- Owner: manueledc
- Clone: [Clone](#)
- Branch: [Branch](#)
- Pull request: [Pull request](#)
- Visibility: [Public](#)

**Recent activity:**

- Manuel Díaz Cádiz pushed 1 commit to manueledc/test\_repo\_tareaX 2 minutes ago
  - 0277173 - first commit to repo. Adding a README
- Manuel Díaz Cádiz created manueledc/test\_repo\_tareaX 3 days ago

**Repository Details:**

SSH	git@bitbucket.org:manueledc/test_		
			
1 Branch	0 Tags	0 Forks	1 Watcher
Owner	Manuel Díaz Cádiz		
Access level	Private		
Type	Git		
Language	C		
Last updated	34 seconds ago		
Created	2013-10-30		
Size	57.1 KB (download)		



- Para mayor información sobre el uso de GIT:
  - Ver documentación/video de Fabrizio Cabaleiro sobre GIT (disponible en la pag. del ramo):  
<https://docs.google.com/a/alumnos.usm.cl/file/d/0B3pedfXT9WLHR3F5S2VGVE80Zjg/edit?pli=1>
  - Ver la *CheatSheet* para GIT (recomendado):  
<http://www.cheat-sheets.org/saved-copy/git-cheat-sheet.pdf>
  - Ver documentación y ayuda de Bitbucket:  
<https://confluence.atlassian.com/display/BITBUCKET/Bitbucket+Documentation+Home>  
<https://confluence.atlassian.com/display/BITBUCKET/Use+your+repository>