



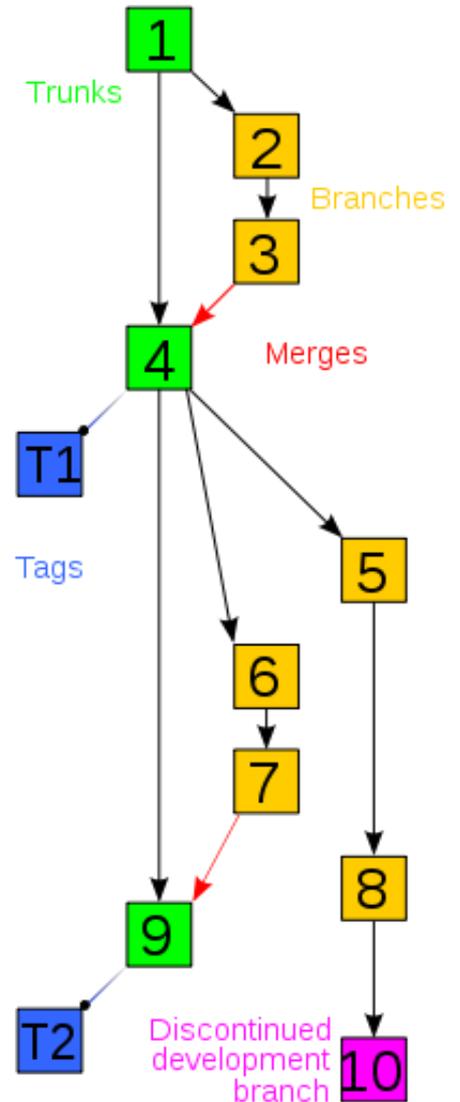
Configuración VCS con GIT + Repositorio Bitbucket

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:





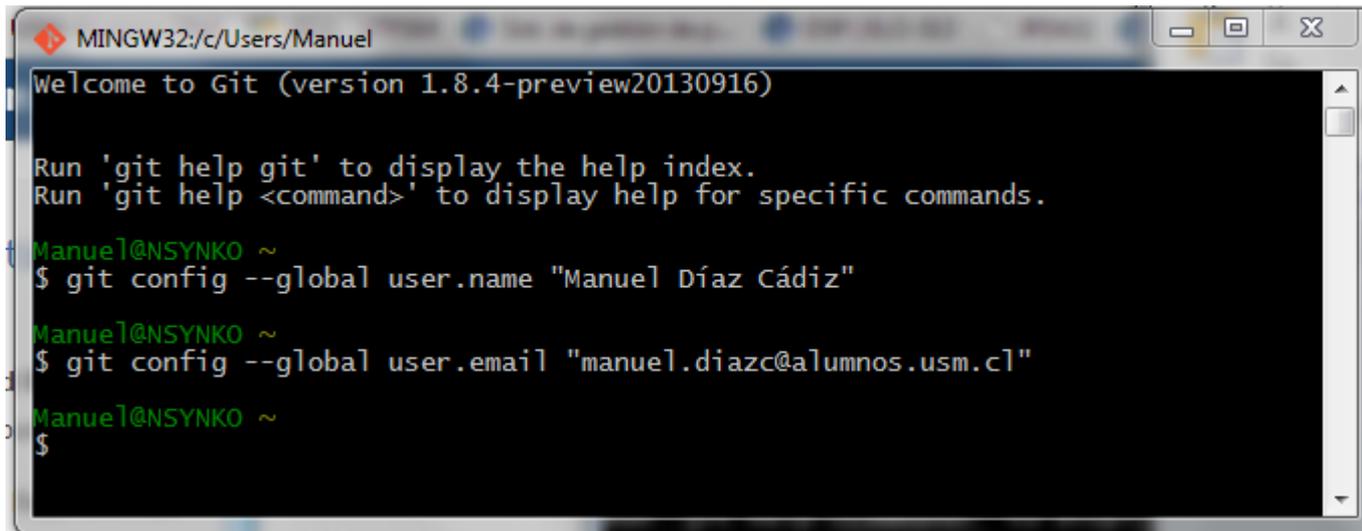
- Es uno de los softwares más conocidos para VCS.
- Características:
 - De código abierto.
 - Desarrollo no-lineal (branch, merge).
 - Gestión distribuida (copia local del repo -> clone).
 - Cifrado SSH.
- **Linux:** apt-get install git
- **Windows:** <http://git-scm.com/download/win>

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](#)



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

Bitbucket Repositories **Create**

Create a new repository

Name*

Description

Access level This is a private repository

Forking

Repository type Git
 Mercurial

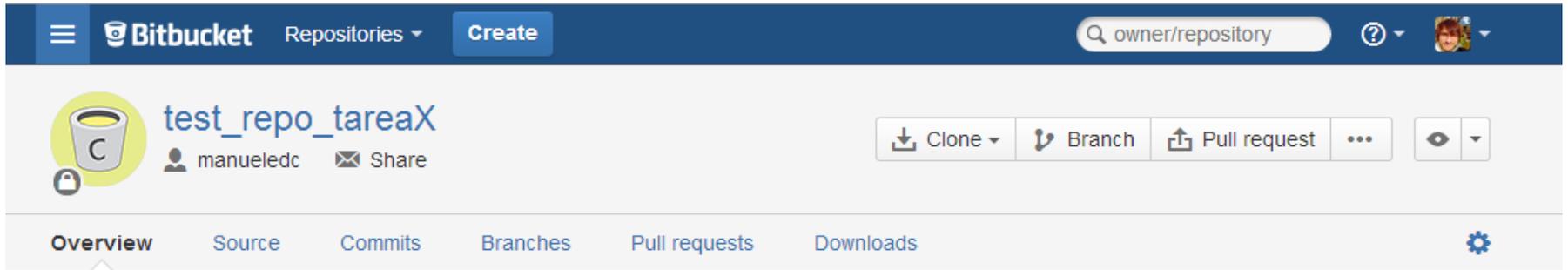
Project management Issue tracking
 Wiki

Language

Create repository Cancel

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- 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, a 'Share' button, and action buttons for 'Clone', 'Branch', 'Pull request', and a visibility dropdown. Below the header is a tabbed navigation menu with 'Overview' selected, and other tabs for 'Source', 'Commits', 'Branches', 'Pull requests', and 'Downloads'. A settings gear icon is visible on the right.



The screenshot shows the 'Add some code' section of the Bitbucket repository page. 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 AAAAB3NzaC1yc2EAAAABIwAAAQEazVqq9I9bb63Jhy3/zcs+tY+1nNeLzy447FOHcRJtUzDX
GI/mb373lX2AuNvlc8ydcUDqnyU6Y9uh7R9BNItDL2/nM8meDLA0oPL5H/XQKCRYIFz6G1pE+4XMepI8
+VXfbwzjx6gd2ZmSp+nnuqIOZlvdZWCueP5T+EZQRusf5ND3Kdc0onzhIJlARvRgh13rYgGem8V2paL0
56TmQGtGGAJEGpS7E1JYMDf5rmwOrVpGJFud1ifDmI0Rybm5hsh6yAz0761AIaHEsMoT5GGutDpC9RbX
MdomGBkwyplCFBvUySEnYAFBiS1hsUsNvhpt9MlSMAPbqYKcNKspdYT6zw== 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**:

The screenshot shows the Bitbucket 'Add SSH key' dialog box. The 'Label' field contains 'GIT test key'. The 'Key*' field contains a long SSH key string: 'ssh-rsa AAAAB3NzaC1yc2EAAAABIwAAAQEAzVqq9l9bb63Jhy3/zcs+tY+1nNeLzy447FOHcRJtUzDXGI/mb373lX2AuNvIc8ydcUDqnyU6Y9uh7R9BNltdL2/nM8meDLA0oPL5H/XQKC RYIFz6G1pE+4XMepI8+VXfbwzjx6gd2ZmSp+nnuqLOZlvdZWCueP5T+EZQRusf5ND3 Kdc0onzhJIARvRgh13rYgGem8V2paL056TmQGtGGAJEGpS7E1JYMDF5rmW0rVp GJFUd1ifDml0RybM5hsh6yAz0761AlaHEsMoT5GGutDpC9RbXMdomGBkWyplcFBvU ySEnYAfBiS1hsUsNvhpT9MISMAPbqYKcNKspdYT6zw== Manuel@NSYNKO'. Below the key field, there is a link 'Don't have a key yet?' and a link 'Read our help docs for creating keys.'. At the bottom right, there are 'Add key' and 'Cancel' buttons. The background shows the Bitbucket account settings page for 'Manuel Díaz Cádiz'.



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

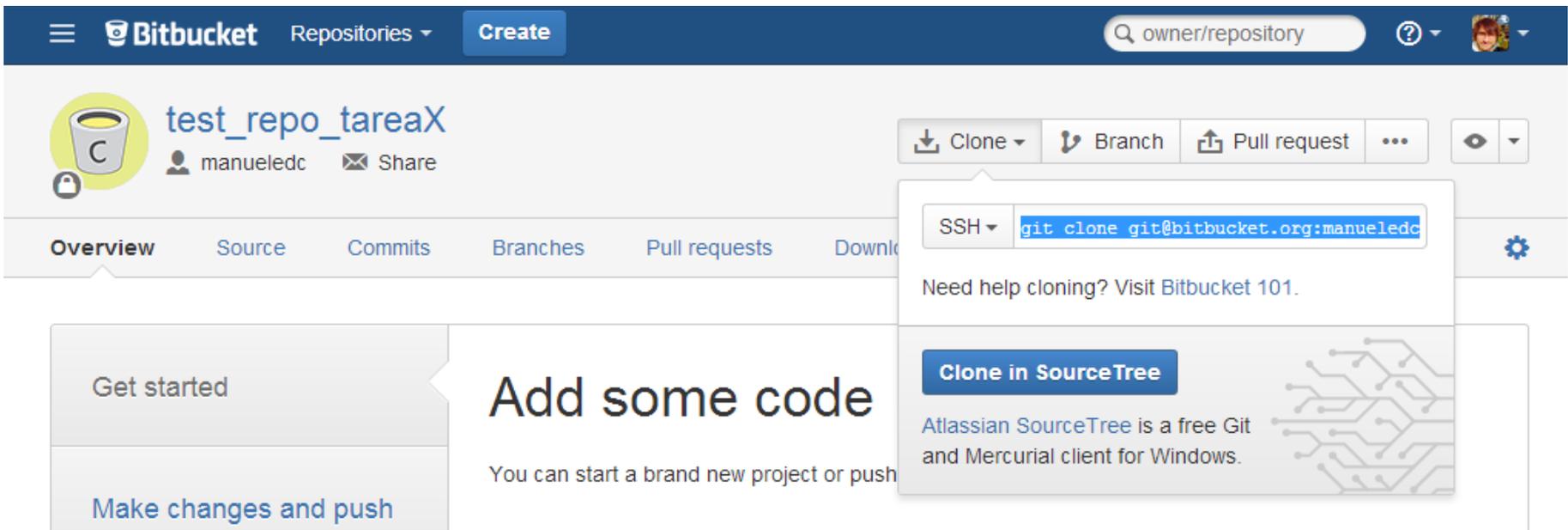
```
Manuel@NSYNKO ~  
$ ssh -T git@bitbucket.org  
Enter passphrase for key '/c/Users/Manuel/.ssh/bitbucket_key':  
logged in as manueledc.  
  
You can use git or hg to connect to Bitbucket. Shell access is disabled.
```

- 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.

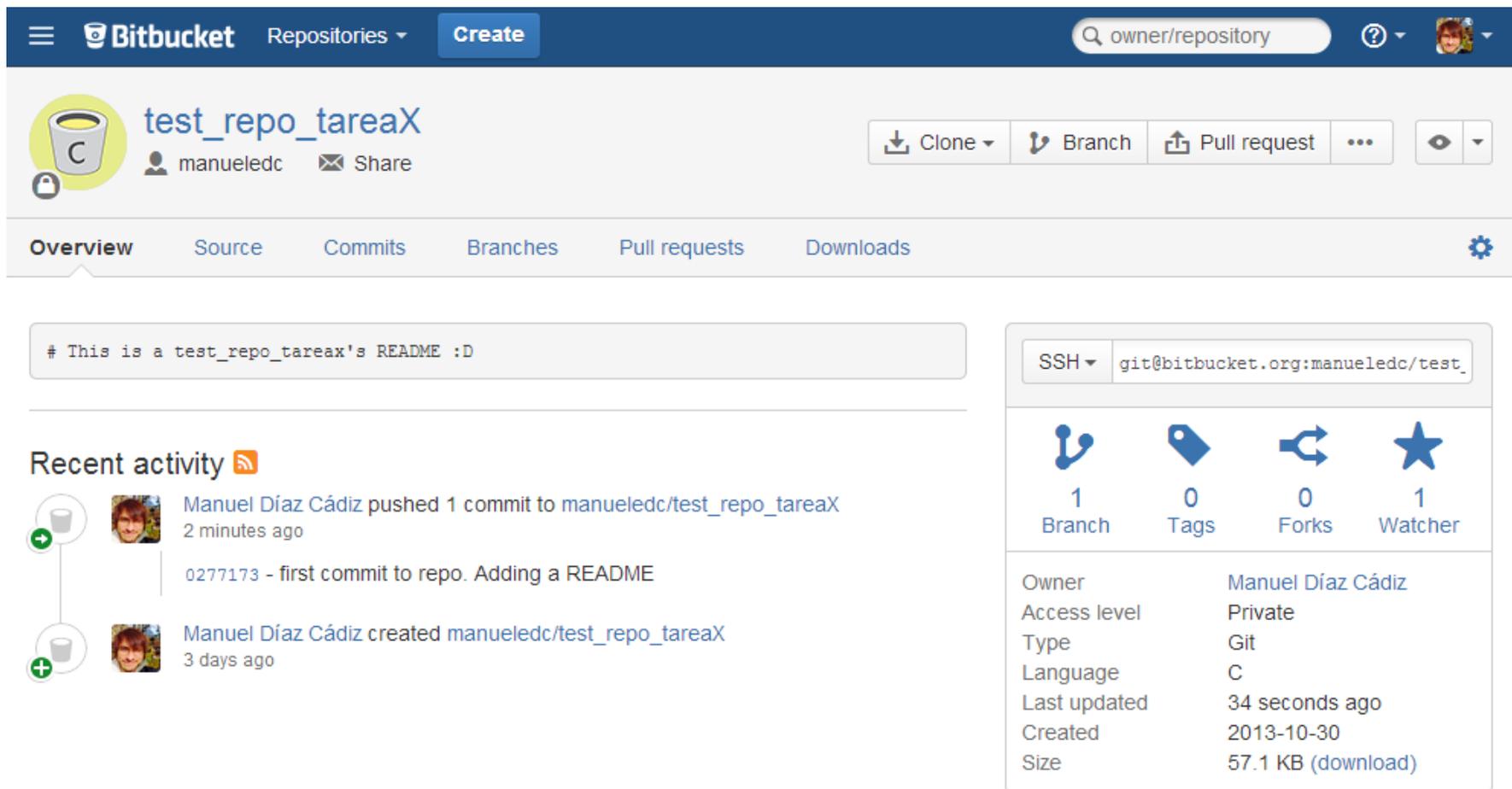
Manuel@NSYNKO /d/Git/Repositories/bitbucket_repos/test_repo_tareax (master)
$ git commit -m "first commit to repo. Adding a README"
[master (root-commit) 0277173] first commit to repo. Adding a README
warning: LF will be replaced by CRLF in README.
The file will have its original line endings in your 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 a push of 1 commit to the 'manueledc/test_repo_tareaX' repository 2 minutes ago, with the commit message '0277173 - first commit to repo. Adding a README'. Another activity shows the repository was created 3 days ago. The right sidebar displays repository statistics: 1 Branch, 0 Tags, 0 Forks, and 1 Watcher. Below these are the repository details: Owner (Manuel Díaz Cádiz), Access level (Private), Type (Git), Language (C), Last updated (34 seconds ago), Created (2013-10-30), and Size (57.1 KB (download)).

Bitbucket Repositories [Create](#) ? 

 **test_repo_tareaX**     

[Overview](#) [Source](#) [Commits](#) [Branches](#) [Pull requests](#) [Downloads](#) 

```
# This is a test_repo_tareaX's README :D
```

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

SSH

| | | | |
|---|---|---|---|
|  |  |  |  |
| 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>