



Cloud Native Academy





DEVOPS Y DEVSECOPS

SESIÓN 02





01 Introducción a Git

02 Gestión de repositorios

03 Estrategias de Branching

04 Pull Request y Políticas

05 Seguridad en Azure Repos

06 Laboratorios





INTRODUCCIÓN A GIT



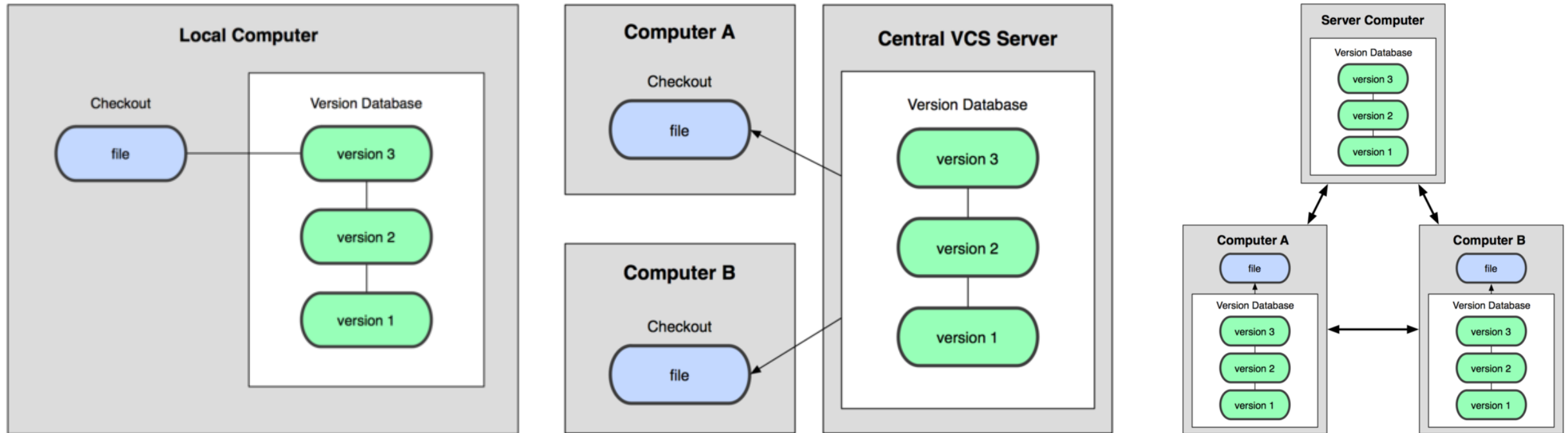


CONTROL DE VERSIONES

El control de versiones, también conocido como "control de código fuente", es la práctica de rastrear y gestionar los cambios en el código de software.

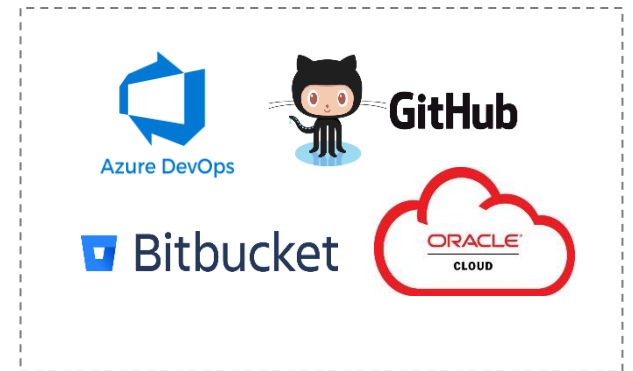
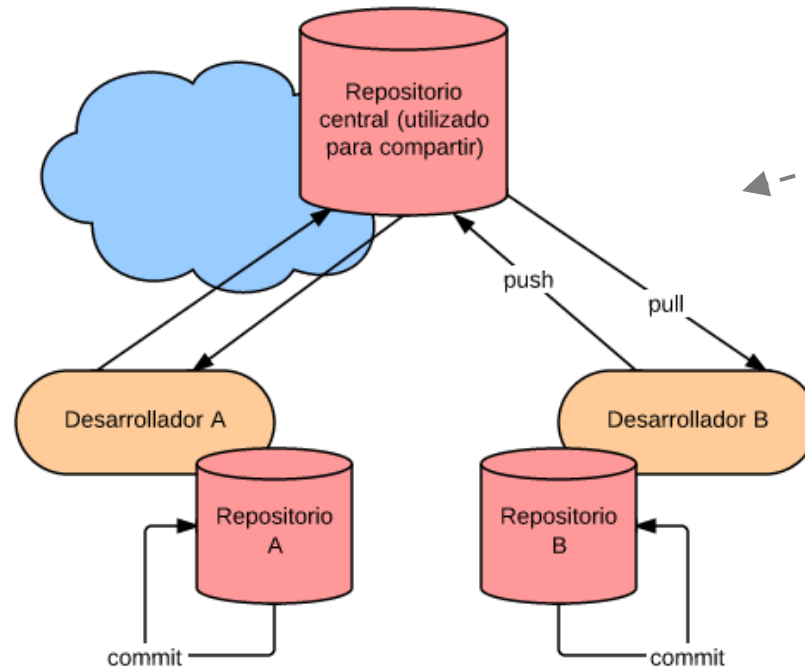


TIPOS DE CONTROL DE VERSIONES



CONTROL DE VERSIONES

- Es un sistema de control de versiones distribuido que facilita el trabajo en equipo.





VENTAS VS. DESVENTAJAS

Ventajas

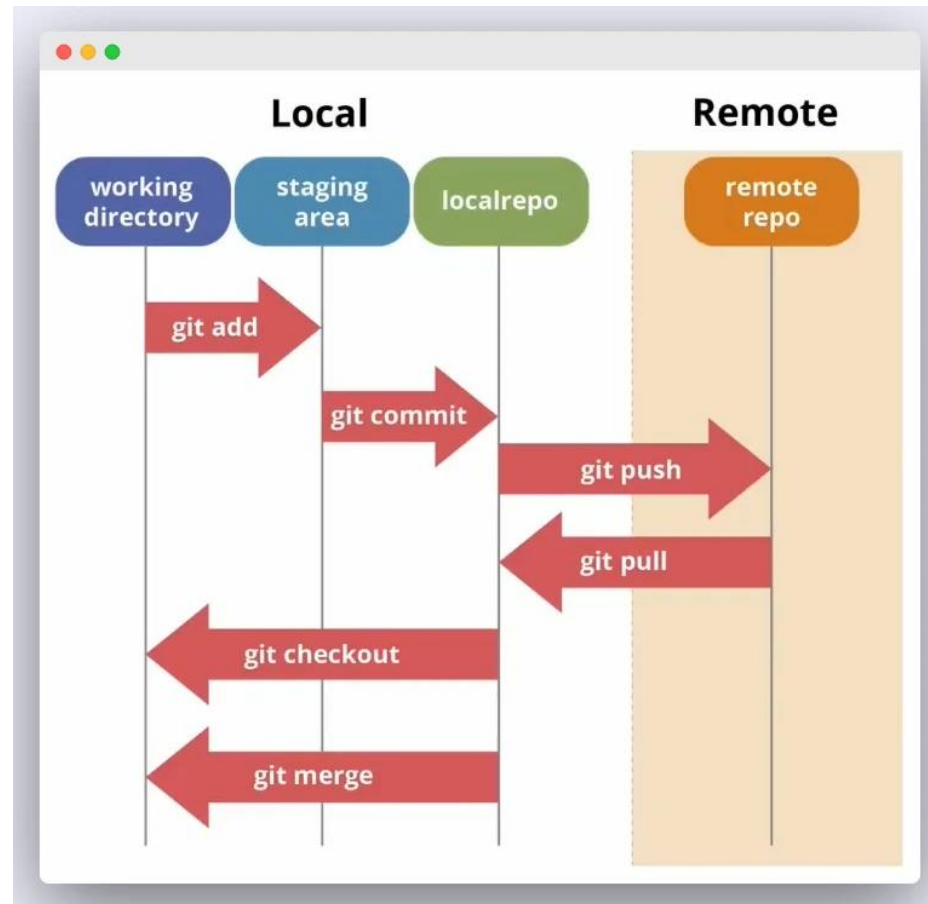
- Auditoría de código
- Control de cambios en el tiempo
- Uso de etiquetas para versionar
- Trabajo en equipo

Desventajas

- Curva de aprendizaje



WORKFLOW





GIT COMMANDS

- `git config --global user.name "<username>"`: Comando para configurar username.

```
s87043@P01MP00273WS02 MINGW64 ~  
$ git config --global user.name "Aldo Trucios Cornejo"
```

- `git config --global user.email "<email>"`: Comando para configurar email.

```
s87043@P01MP00273WS02 MINGW64 ~  
$ git config --global user.email "jtrucios@prima.com.pe"
```

```
s87043@P01MP00273WS02 MINGW64 ~  
$ git config --global -l  
user.name=Aldo Trucios Cornejo  
user.email=jtrucios@prima.com.pe
```



GIT COMMANDS

- **git init:** Comando para inicializar un repositorio git por primera vez

```
MINGW64:/d/capacitacion01

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01
$ git init
Initialized empty Git repository in D:/capacitacion01/.git/

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ |
```

- **git status:** Comando para el estatus de los archivos agregados o modificados

```
MINGW64:/d/capacitacion01

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master

No commits yet

nothing to commit (create/copy files and use "git add" to track)
```

```
MINGW64:/d/capacitacion01

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master

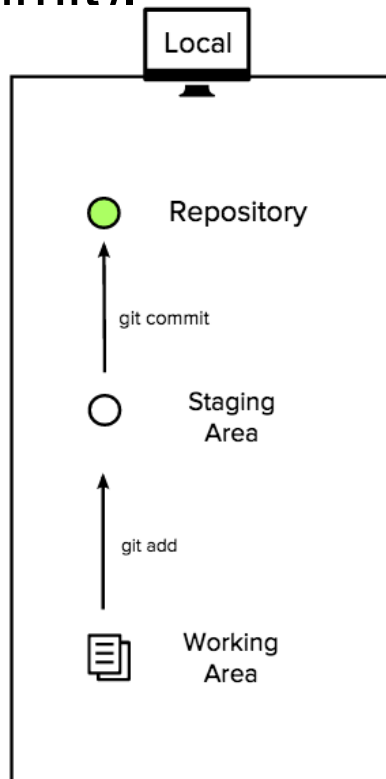
No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
  texto1.txt

nothing added to commit but untracked files present (use "git add" to track)
```

GIT COMMANDS

- `git add <directory> o <file>`: Comando para añadir los cambios en el repositorio local que posteriormente se convertirán en una confirmación (commit).



MINGW64:/d/capacitacion01

```
josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        texto1.txt

nothing added to commit but untracked files present (use "git add" to track)

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git add .

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   texto1.txt
```

GIT COMMANDS

- `git rm --cached <file>`: Comando para descartar cambios agregados a la zona staging (por confirmar).

```
MINGW64:/d/capacitacion01

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git rm --cached texto1.txt
rm 'texto1.txt'

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    texto1.txt

nothing added to commit but untracked files present (use "git add" to track)
```

```
MINGW64:/d/capacitacion01

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   texto1.txt
    new file:   texto2.txt
    new file:   texto3.txt

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git rm --cached texto1.txt
rm 'texto1.txt'

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   texto2.txt
    new file:   texto3.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    texto1.txt
```

GIT COMMANDS

- `git commit -m "breve descripción del cambio #numeroWorkItemHU"`:
Comando para confirmar los cambios.

```
MINGW64:/d/capacitacion01

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   texto2.txt
        new file:   texto3.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        texto1.txt

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git commit -m "Descripción del cambio #N°WorkItem(HU)"
[master (root-commit) b6b1e19] Descripción del cambio #N°WorkItem(HU)
 2 files changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 texto2.txt
 create mode 100644 texto3.txt

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git status
On branch master
Untracked files:
```



GIT COMMANDS

- `git log`: Comando para ver el historial de cambios.

MINGW64:/d/capacitacion01

```
josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git log
commit 8492f1940383ebe139c57f6bbc10e48446ada13f (HEAD -> master)
Author: Aldo Trucios Cornejo <jtrucios@prima.com.pe>
Date: Mon Aug 24 10:09:37 2020 -0500

    descripción modificada

commit b6b1e19cdc4c2547c105eb31ce69d3c2e288902d
Author: Aldo Trucios Cornejo <jtrucios@prima.com.pe>
Date: Sun Aug 23 23:53:01 2020 -0500

    Descripción del cambio #N°WorkItem(HU)
```



GIT COMMANDS

- `git commit --amend -m "descripción modificada"`: Comando para modificar la descripción del ultimo cambio.

```
josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git commit --amend -m "descripción modificada"
[master 8492f19] descripción modificada
Date: Mon Aug 24 10:09:37 2020 -0500
2 files changed, 1 insertion(+)
create mode 100644 texto1.txt

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git log
commit 8492f1940383ebe139c57f6bbc10e48446ada13f (HEAD -> master)
Author: Aldo Trucios Cornejo <jtrucios@prima.com.pe>
Date: Mon Aug 24 10:09:37 2020 -0500

    descripción modificada

commit b6b1e19cdc4c2547c105eb31ce69d3c2e288902d
Author: Aldo Trucios Cornejo <jtrucios@prima.com.pe>
Date: Sun Aug 23 23:53:01 2020 -0500

    Descripción del cambio #N°WorkItem(HU)

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$
```



GIT COMMANDS

- `git reset --hard <commit>`: Comando para regresar a un cambio anterior específico.

```
MINGW64:/d/capacitacion01

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git log
commit 8492f1940383ebe139c57f6bbc10e48446ada13f (HEAD -> master)
Author: Aldo Trucios Cornejo <jtrucios@prima.com.pe>
Date: Mon Aug 24 10:09:37 2020 -0500

    descripción modificada

commit b6b1e19cdc4c2547c105eb31ce69d3c2e288902d
Author: Aldo Trucios Cornejo <jtrucios@prima.com.pe>
Date: Sun Aug 23 23:53:01 2020 -0500

    Descripción del cambio #N°WorkItem(HU)

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git reset --hard b6b1e19cdc4c2547c105eb31ce69d3c2e288902d
HEAD is now at b6b1e19 Descripción del cambio #N°WorkItem(HU)

josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git log
commit b6b1e19cdc4c2547c105eb31ce69d3c2e288902d (HEAD -> master)
Author: Aldo Trucios Cornejo <jtrucios@prima.com.pe>
Date: Sun Aug 23 23:53:01 2020 -0500

    Descripción del cambio #N°WorkItem(HU)
```



GIT COMMANDS

- **git reflog**: Comando para visualizar todos los cambios, inclusive si se regresó a una versión anterior.

MINGW64:/d/capacitacion01

```
josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ git reflog
b6b1e19 (HEAD -> master) HEAD@{0}: reset: moving to b6b1e19cdc4c2547c105eb31ce69d3c2e288902d
8492f19 HEAD@{1}: commit (amend): descripción modificada
d7ca395 HEAD@{2}: reset: moving to d7ca395
b6b1e19 (HEAD -> master) HEAD@{3}: reset: moving to b6b1e19cdc4c2547c105eb31ce69d3c2e288902d
d7ca395 HEAD@{4}: commit (amend): nuevo mensaje
ecf6c52 HEAD@{5}: commit: Modificación de texto2
b6b1e19 (HEAD -> master) HEAD@{6}: commit (initial): Descripción del cambio #N°WorkItem(HU)

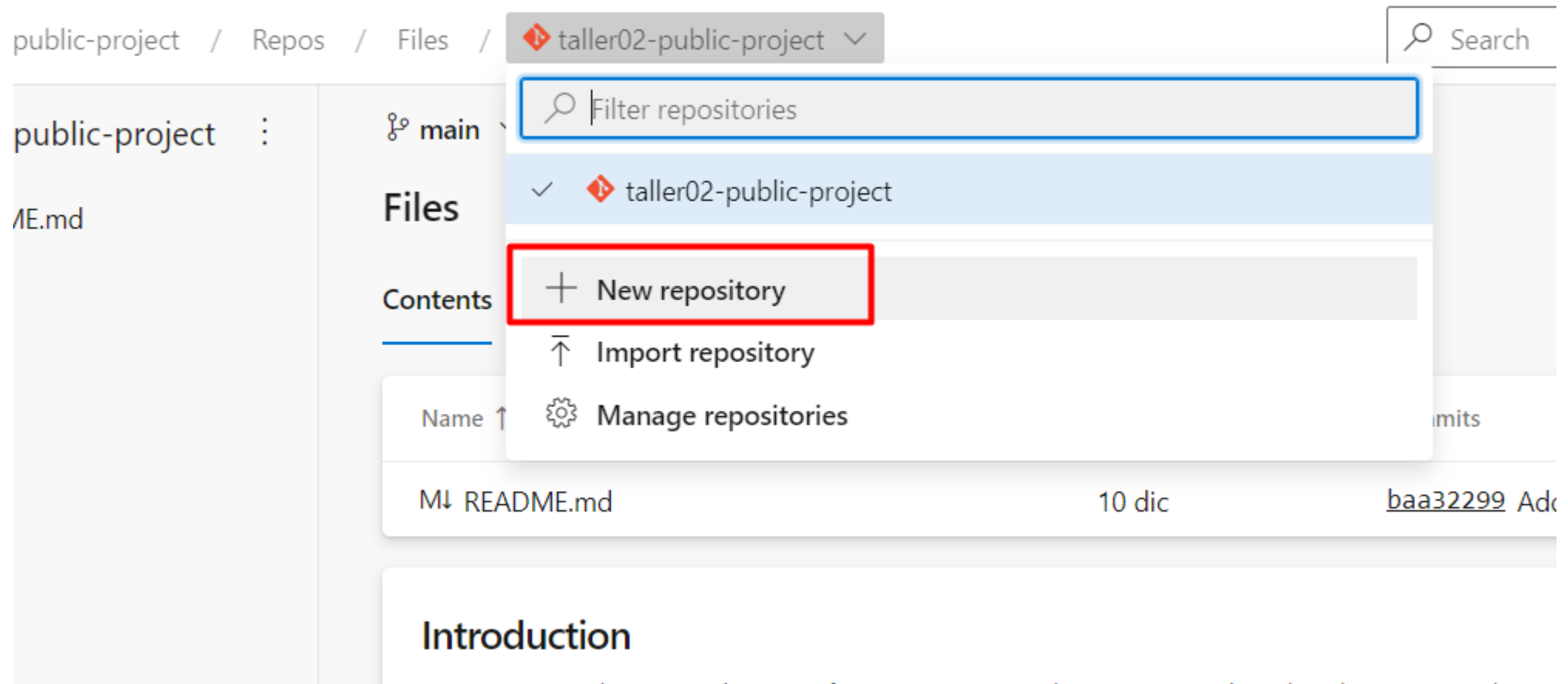
josea@DESKTOP-3PVKBDN MINGW64 /d/capacitacion01 (master)
$ |
```



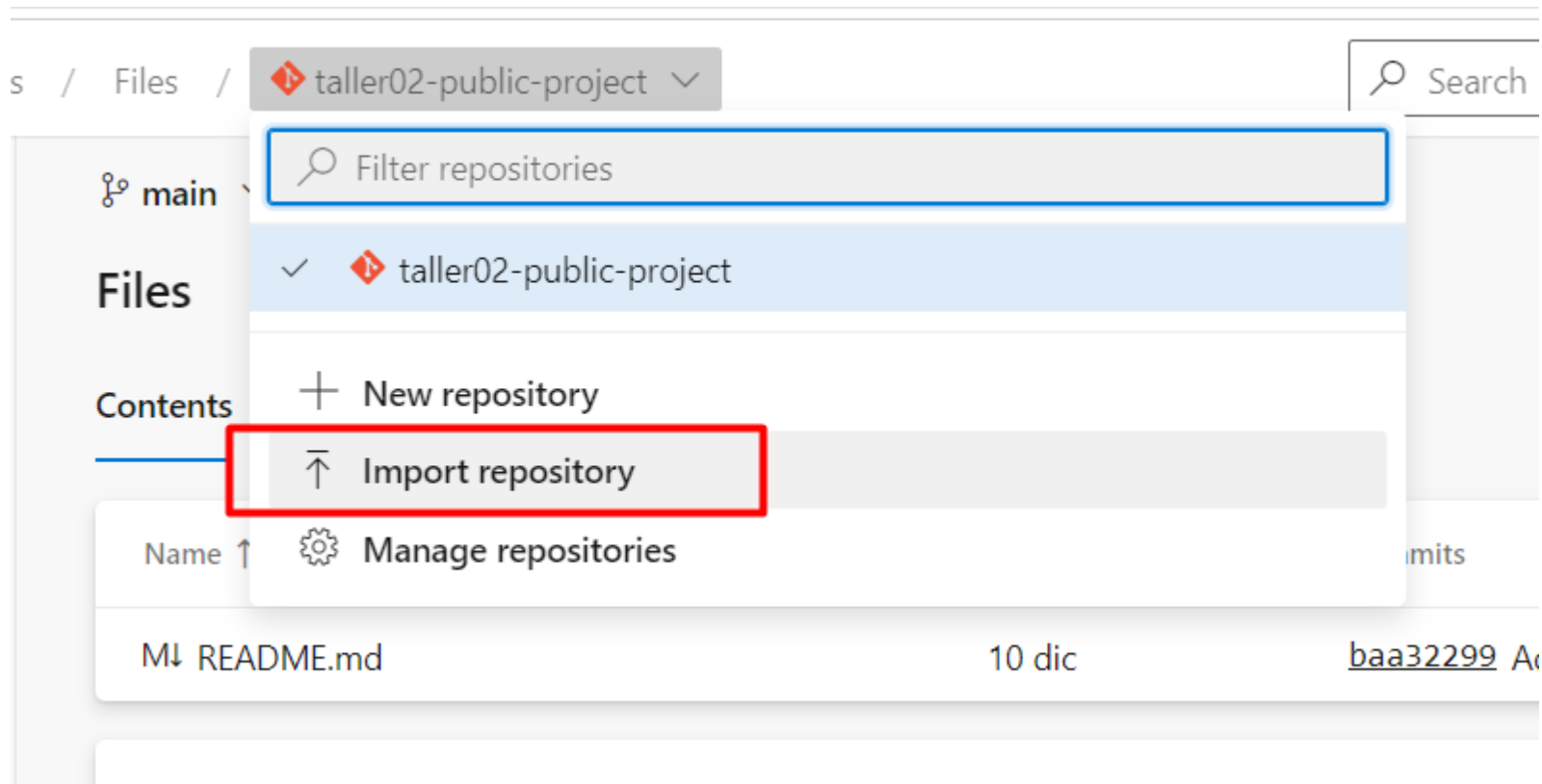
GESTIÓN DE REPOSITARIOS



CREAR REPOSITORIOS GIT



IMPORTAR REPOSITORIOS GIT





NOMENCLATURAS DE REPOSITARIOS

- La creación de repositorios se debe hacer de acuerdo a la siguiente nomenclatura:

empresa-tipo-nombreakplicacion/servicio

Ejemplos:

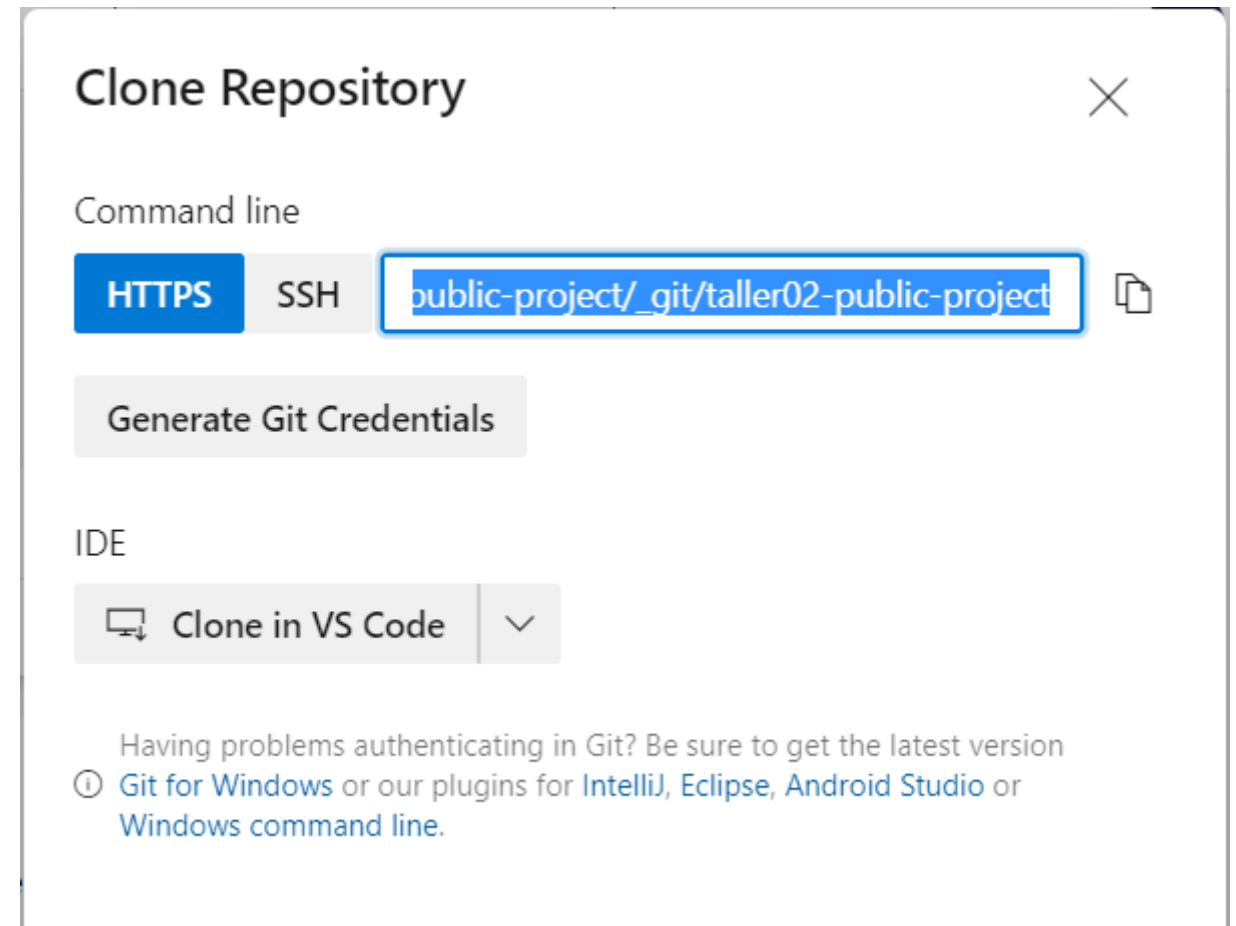
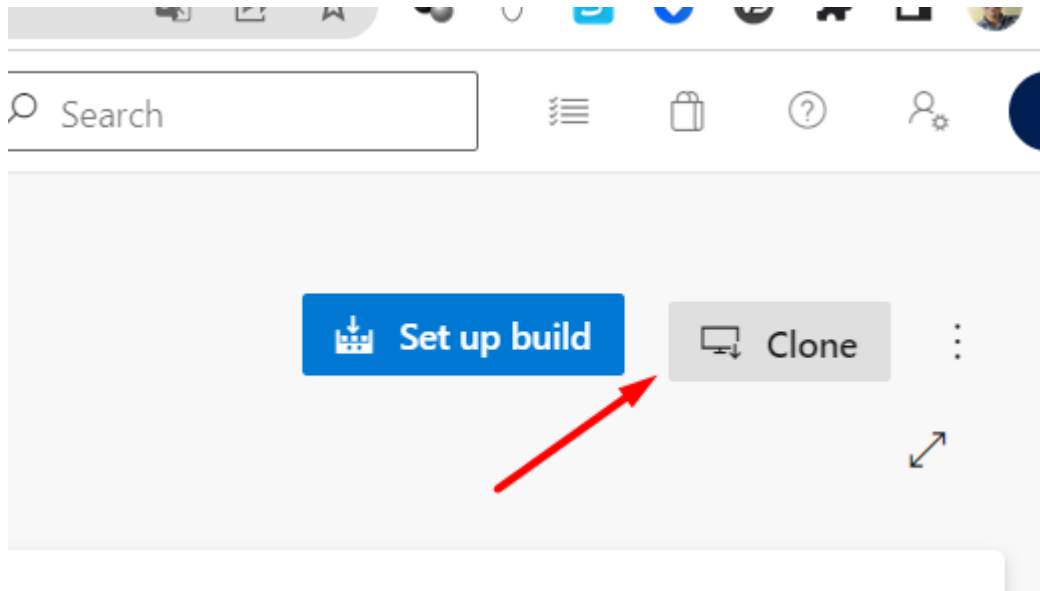
bcp-app-gestion-judicial

interbank-service-consulta-afiliado

prima-bd-tesoreria

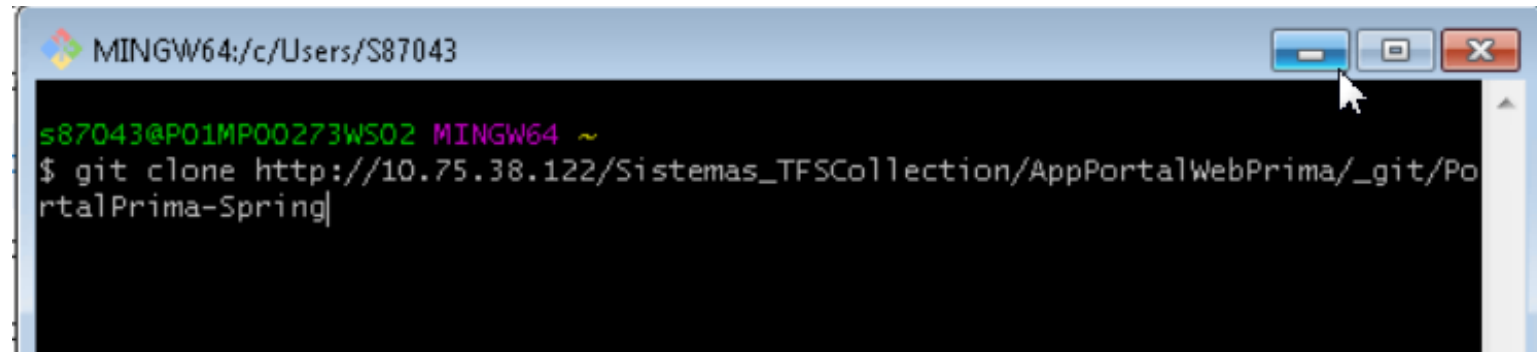


CLONAR REPOSITARIOS GIT



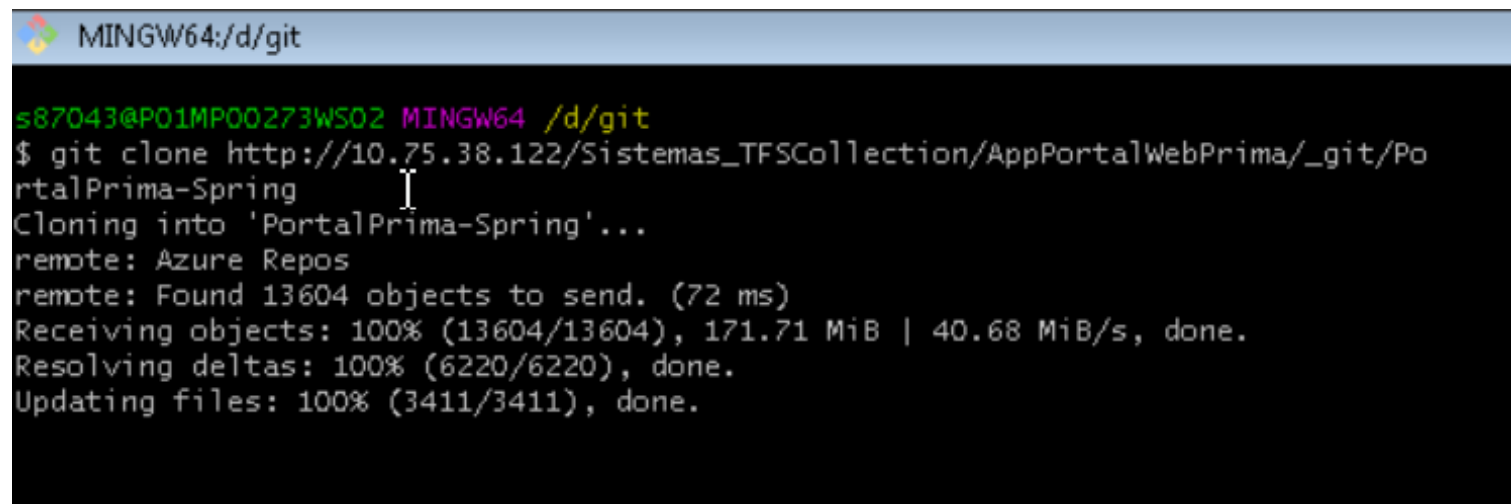
CLONAR REPOSITORIOS GIT

- `git clone <url_repo>`: Comando para clonar un repositorio.



```
MINGW64:/c/Users/S87043

s87043@P01MP00273WS02 MINGW64 ~
$ git clone http://10.75.38.122/Sistemas_TFSCollection/AppPortalWebPrima/_git/PortalPrima-Spring
```

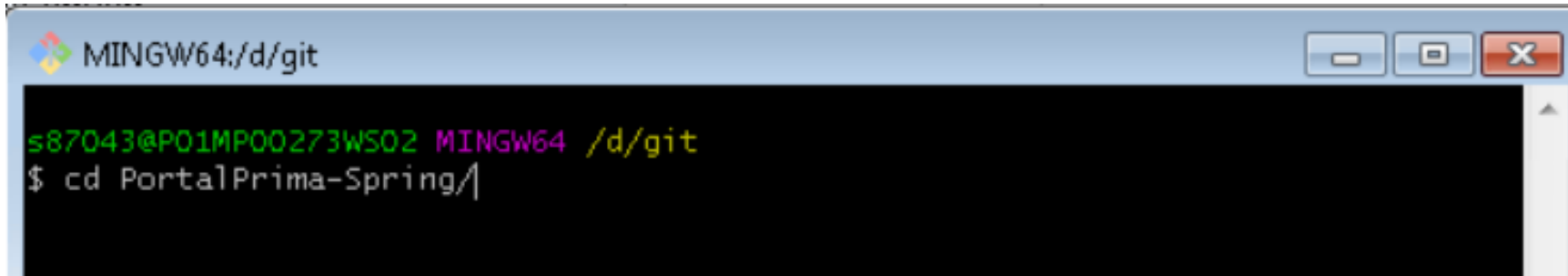


```
MINGW64:/d/git

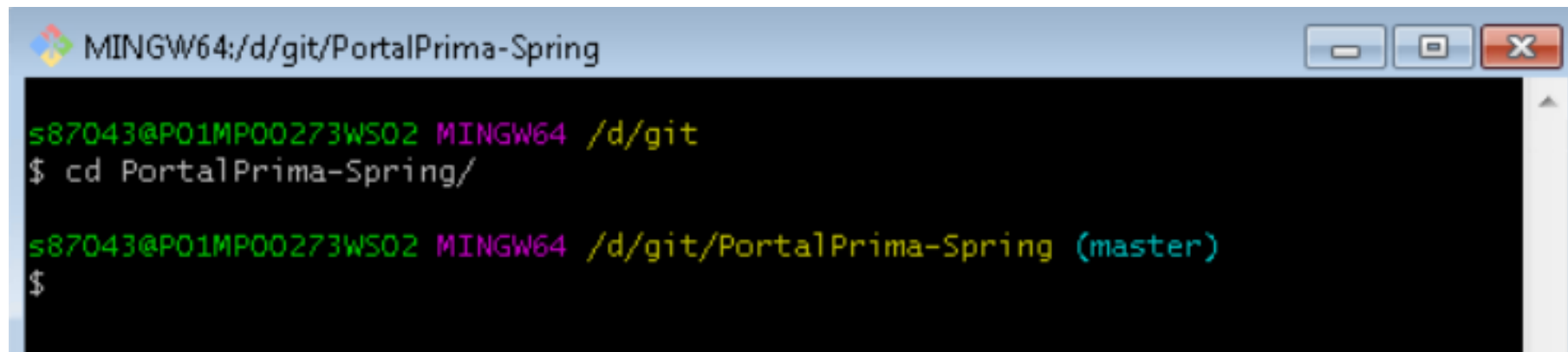
s87043@P01MP00273WS02 MINGW64 /d/git
$ git clone http://10.75.38.122/Sistemas_TFSCollection/AppPortalWebPrima/_git/PortalPrima-Spring
Cloning into 'PortalPrima-Spring'...
remote: Azure Repos
remote: Found 13604 objects to send. (72 ms)
Receiving objects: 100% (13604/13604), 171.71 MiB | 40.68 MiB/s, done.
Resolving deltas: 100% (6220/6220), done.
Updating files: 100% (3411/3411), done.
```



CLONAR REPOSITARIOS GIT



```
MINGW64:/d/git  
s87043@P01MP00273WS02 MINGW64 /d/git  
$ cd PortalPrima-Spring/
```



```
MINGW64:/d/git/PortalPrima-Spring  
s87043@P01MP00273WS02 MINGW64 /d/git  
$ cd PortalPrima-Spring/  
s87043@P01MP00273WS02 MINGW64 /d/git/PortalPrima-Spring (master)  
$
```



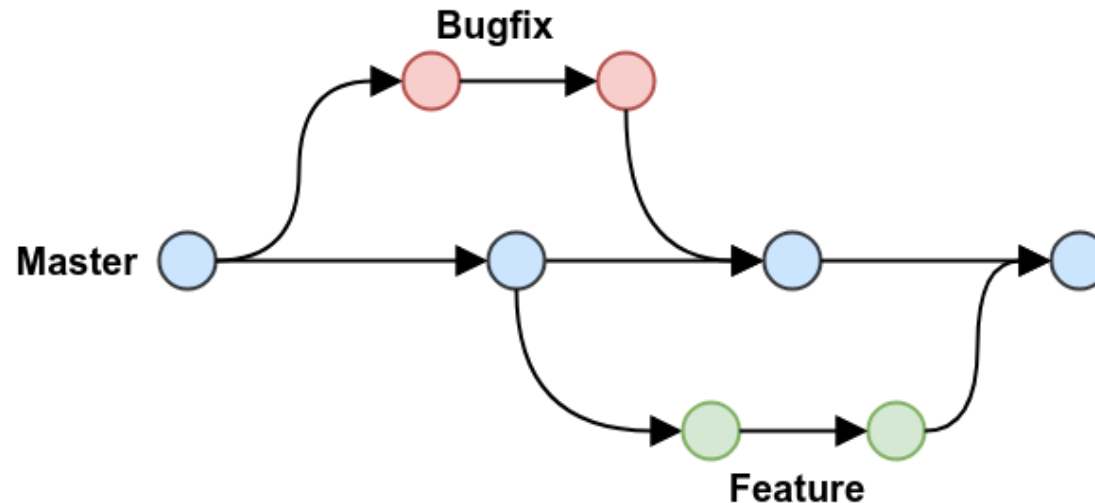


ESTRATEGIAS DE BRANCHING

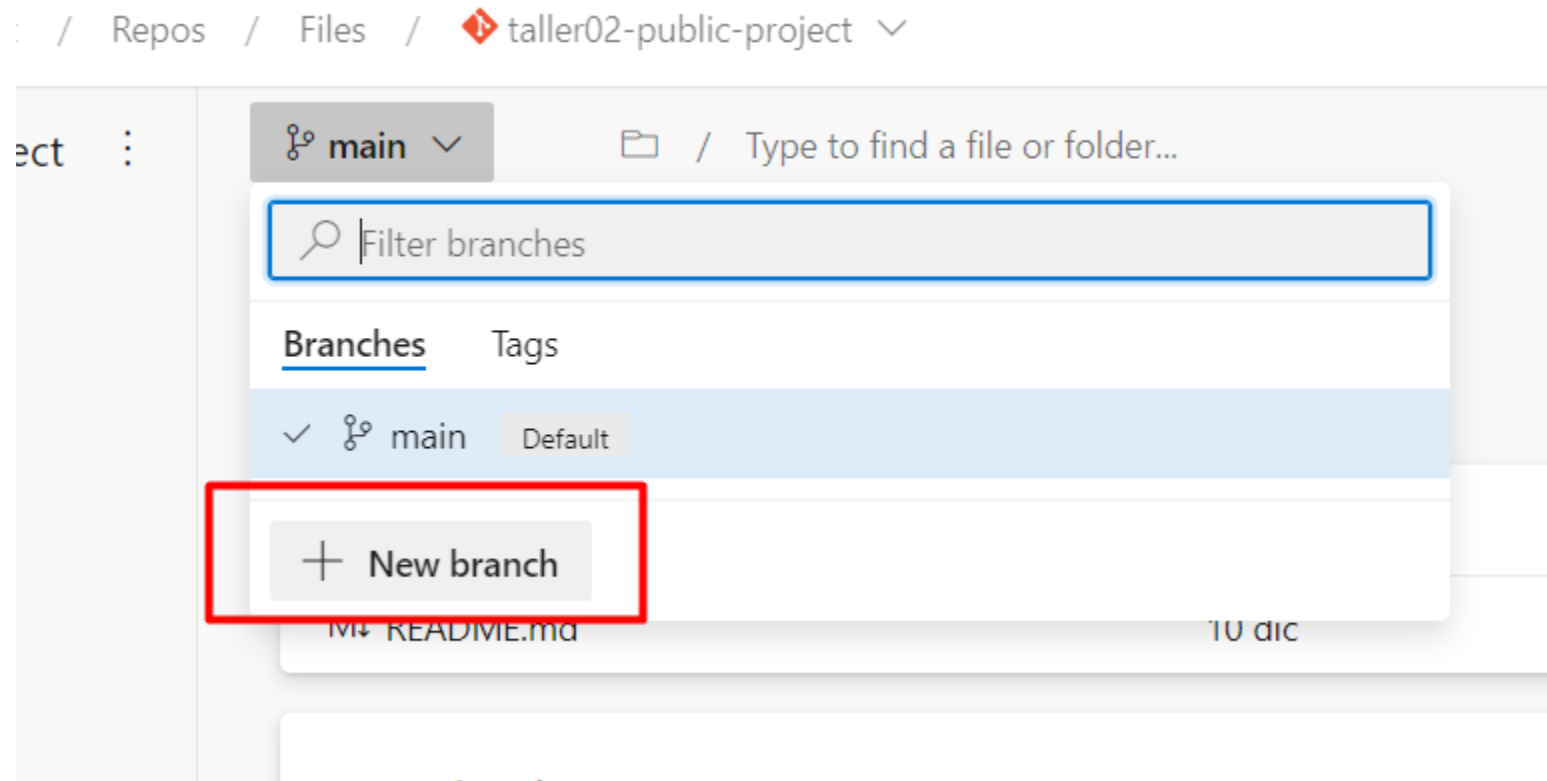


RAMAS

- Una **rama Git** es simplemente un apuntador móvil apuntando a una de esas confirmaciones. La **rama** por defecto de **Git** es la **rama** main/master . Con la primera confirmación de cambios que realicemos, se creará esta **rama** principal apuntando a dicha confirmación.



CREACIÓN DE RAMAS





NOMENCLATURAS DE RAMAS

- La creación de ramas se debe hacer de acuerdo a la siguiente nomenclatura:

feature/*

develop

Release/1.0.0

main/master

hotfix/*

bugfix/*

Ejemplos:

feature/dev-cambiofondo-release-1

hotfix/hotfix-estimadorpension



VISUALIZACIÓN DE RAMAS

- `git branch`: Comando para visualizar ramas locales.

```
MINGW64:/d/prima-app-gestion-judicial

josea@DESKTOP-3PVKBDN MINGW64 /d
$ cd prima-app-gestion-judicial/

josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (master)
$ git branch
* master
```

- `git branch -a`: Comando para visualizar ramas locales y remotas.

```
josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (master)
$ git branch -a
* master
remotes/origin/HEAD -> origin/master
remotes/origin/dev-nombreproyecto-rl
remotes/origin/hotfix/hotfix-estimadorpension
remotes/origin/master
```



RAMAS REMOTAS

- `git checkout <rama-remota>`: Comando para bajar ramas remotas a ambientes locales y también para moverse a otra rama.

```
MINGW64:/d/prima-app-gestion-judicial

josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (hotfix/hotfix-estimadorpension)
$ git branch -a
* hotfix/hotfix-estimadorpension
master
remotes/origin/HEAD -> origin/master
remotes/origin/dev-nombreproyecto-r1
remotes/origin/hotfix/hotfix-estimadorpension
remotes/origin/master

josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (hotfix/hotfix-estimadorpension)
$ git checkout dev-nombreproyecto-r1
Switched to a new branch 'dev-nombreproyecto-r1'
Branch 'dev-nombreproyecto-r1' set up to track remote branch 'dev-nombreproyecto-r1' from 'origin'.

josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (dev-nombreproyecto-r1)
$
```

SUBIR CAMBIOS

- **git push:** Comando para subir cambios confirmados al repositorio remoto.

```
josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (hotfix/hotfix-estimadorpension)
$ git add .

josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (hotfix/hotfix-estimadorpension)
$ git commit -m "descripcion del cambio"
[hotfix/hotfix-estimadorpension 96e9e5b] descripcion del cambio
1 file changed, 1 insertion(+)

josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (hotfix/hotfix-estimadorpension)
$ git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 275 bytes | 275.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Analyzing objects... (3/3) (118 ms)
remote: Storing packfile... done (191 ms)
remote: Storing index... done (94 ms)
To https://dev.azure.com/PrimaAFETeam/Demo01/_git/prima-app-gestion-judicial
```



DESCARGAR CAMBOS

- **git pull:** Comando para bajar cambios del repositorio remoto.

 MINGW64:/d/prima-app-gestion-judicial

```
josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (hotfix/hotfix-estimadorpension)
$ git pull
remote: Azure Repos
remote: Found 3 objects to send. (156 ms)
Unpacking objects: 100% (3/3), 453 bytes | 45.00 KiB/s, done.
From https://dev.azure.com/PrimaAFPTeam/Demo01/_git/prima-app-gestion-judicial
    96e9e5b..1c1fdd7 hotfix/hotfix-estimadorpension -> origin/hotfix/hotfix-estimadorpension
Updating 96e9e5b..1c1fdd7
Fast-forward
 text01.txt | 2 +-
1 file changed, 1 insertion(+), 1 deletion(-)

josea@DESKTOP-3PVKBDN MINGW64 /d/prima-app-gestion-judicial (hotfix/hotfix-estimadorpension)
$ |
```





COMMITTS

02 / taller02-public-project / Repos / Commits / taller02-public-project ▾

🔗 main ▾

Commits

Graph

Commit



Added README.md

baa32299  josealdotrucios 10 dic at 13:56





trios0682 / taller02-public-project / Repos / Pushes /  taller02-public-project ▾

+

 main ▾

Pushes

10/12/2022 (1 update)

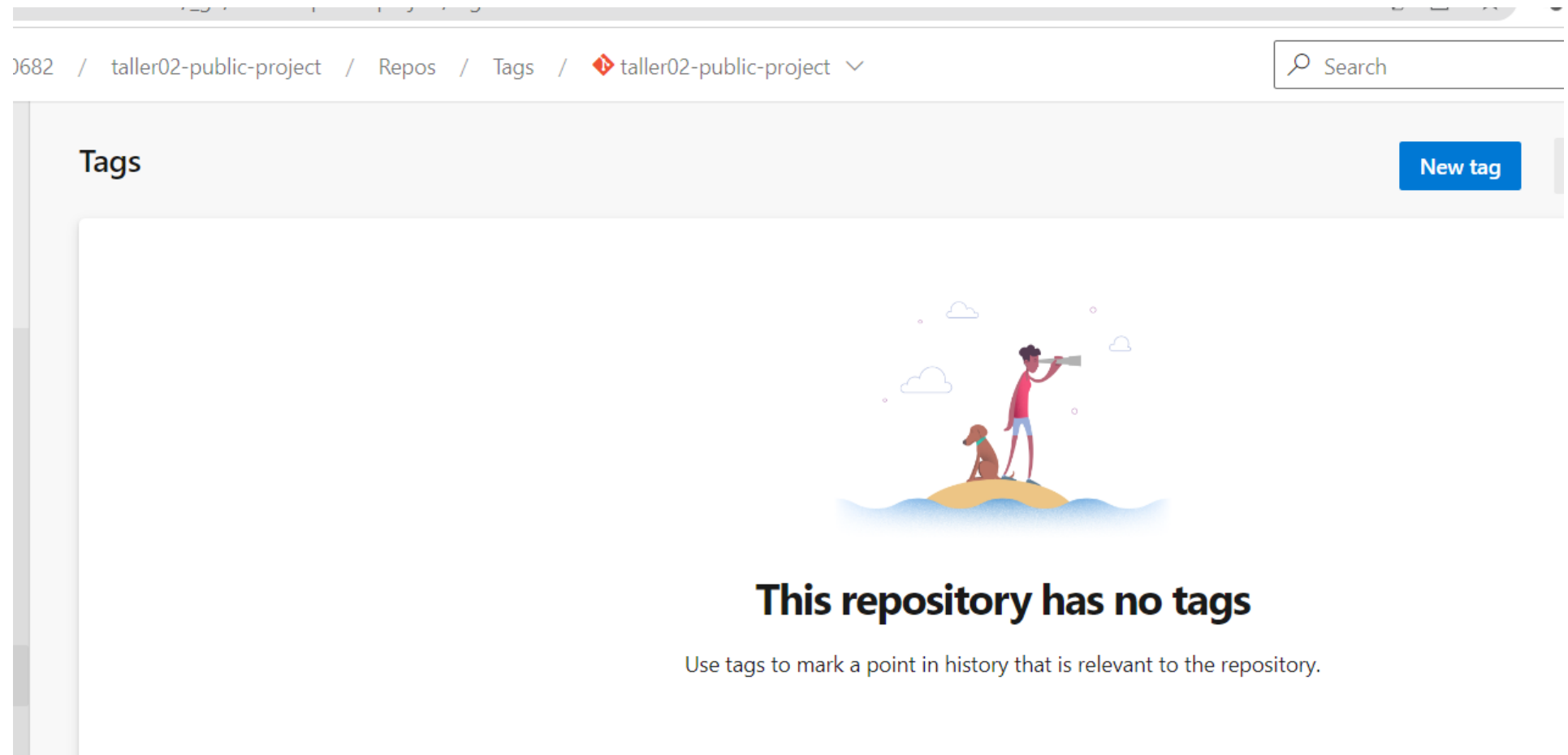
>



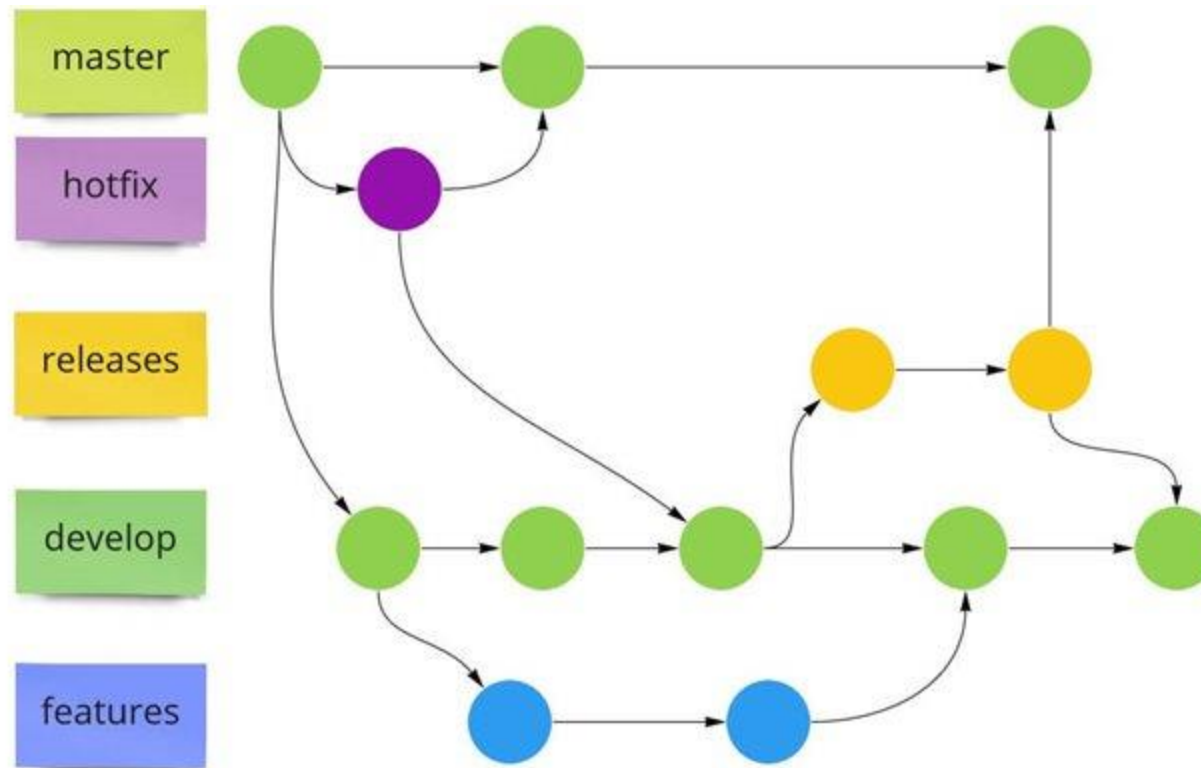
Created at baa32299: Added README.md

baa32299 josealdotrucios 10 dic at 13:56



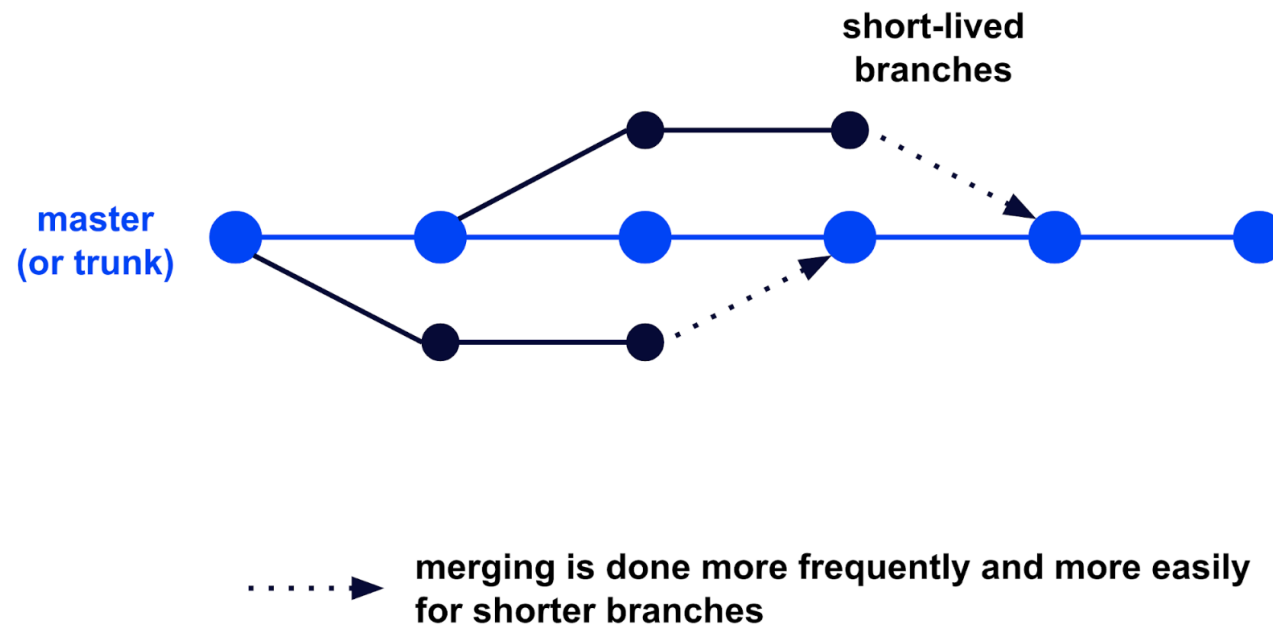


GITFLOW



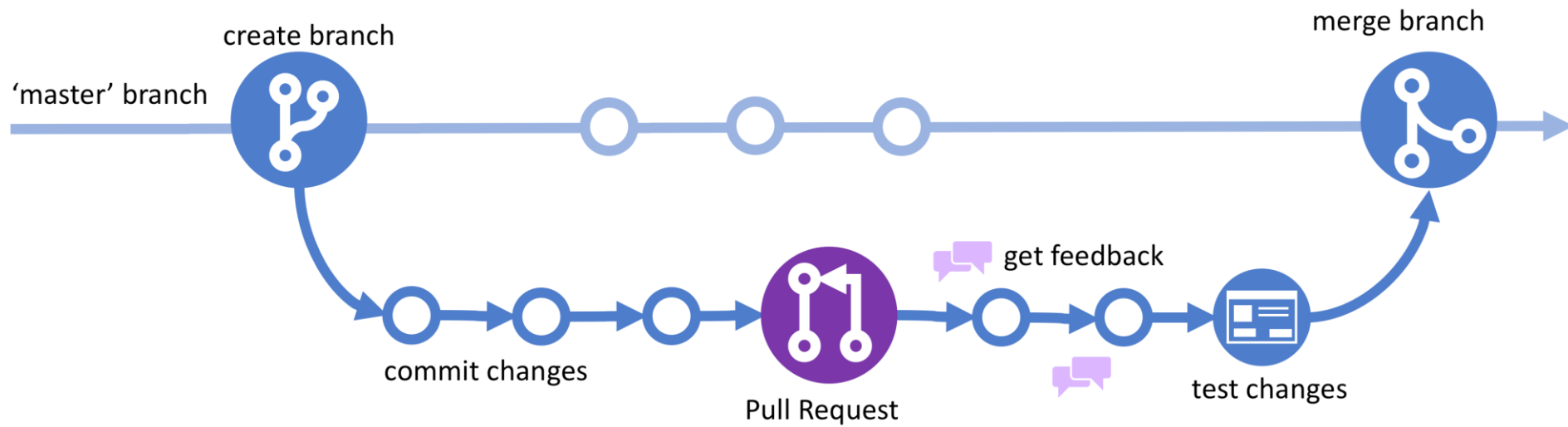
TRUNK BASED DEVELOPMENT

Trunk-based development



GITHUB FLOW

GitHub Flow



Copyright © 2018 Build Azure LLC

<http://buildazure.com>



PULL REQUEST Y POLICES



PULL REQUEST

New pull request

🔗 feature/funcionalidad1 ▾ into 🔗 main ▾ ⇅

Overview Files 1 Commits 1

Title

Updated README.md

Description

Updated README.md

🔗 [Markdown supported](#). Drag & drop, paste, or select files to insert.

🔗 [Link work items](#).

@ # 🔗 📎 ✎ ▾ **B** *I* </> 🔗 ☰ ☷ ☸

Updated README.md

Reviewers

Add required reviewers

🔍 Search users and groups to add as reviewers

Work items to link

Search work items by ID or title ▾

Tabs

POLICES

02-public-project / Settings / Repositories

Search

Filter by keywords

main Default Compare

main

Branch Policies

Note: If any required policy is enabled, this branch cannot be deleted and changes must be made via pull request.

☒ On

Require a minimum number of reviewers
Require approval from a specified number of reviewers on pull requests.

Minimum number of reviewers

2

☐ Allow requestors to approve their own changes
☐ Prohibit the most recent pusher from approving their own changes
☐ Allow completion even if some reviewers vote to wait or reject
☐ When new changes are pushed:

☐ Off

Check for linked work items
Encourage traceability by checking for linked work items on pull requests.

☐ Off

Check for comment resolution
Check to see that all comments have been resolved on pull requests.

☐ Off

Limit merge times



AZURE REPOS SECURITY



PERMISOS EN AZURE REPOS

Repositories Settings Policies **Security**

User permissions [Download detailed report](#)

☒ Inheritance ⓘ

▼ Azure DevOps Groups

- BA Build Administrators
- C Contributors
- PA Project Administrators
- R Readers
- PA Project Collection Administrators
- PA Project Collection Build Service Accounts
- PA Project Collection Service Accounts

▼ Users

- BS 02_PROJECT_SESSION_01 Build Service (cna-aldo-trucios)

[02_PROJECT_SESSION_01]\Build Administrators

Advanced Security: manage and dismiss alerts	Not set
Advanced Security: manage settings	Not set
Advanced Security: view alerts	Allow
Bypass policies when completing pull requests	Not set
Bypass policies when pushing	Not set
Contribute	Allow
Contribute to pull requests	Allow
Create branch	Allow
Create repository	Not set
Create tag	Allow
Delete or disable repository	Not set
Edit policies	Not set
Force push (rewrite history, delete branches and tags)	Not set



LABS



GRACIAS!!

