

Git與SourceTree 基礎教學

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大綱

- ❖ Git與SourceTree介紹
- ❖ Git指令介紹
- ❖ Git Flow介紹
- ❖ 實機操作
- ❖ 參考資料

為何要版本控管？？

版本控管可以吃嗎？？

Git是啥？？？

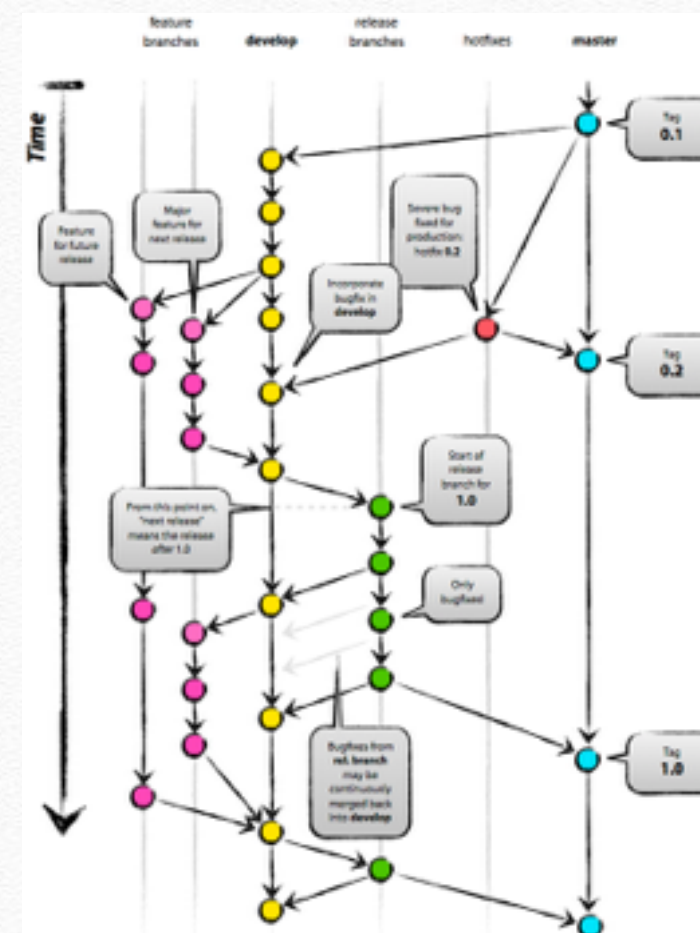
Git與SVN有啥差別？？？

Git介紹

❖ Git是一個分布式版本控制／軟體配置管理軟體，原是Linux核心開發者Linus Torvalds為更好地管理Linux核心開發而設計。

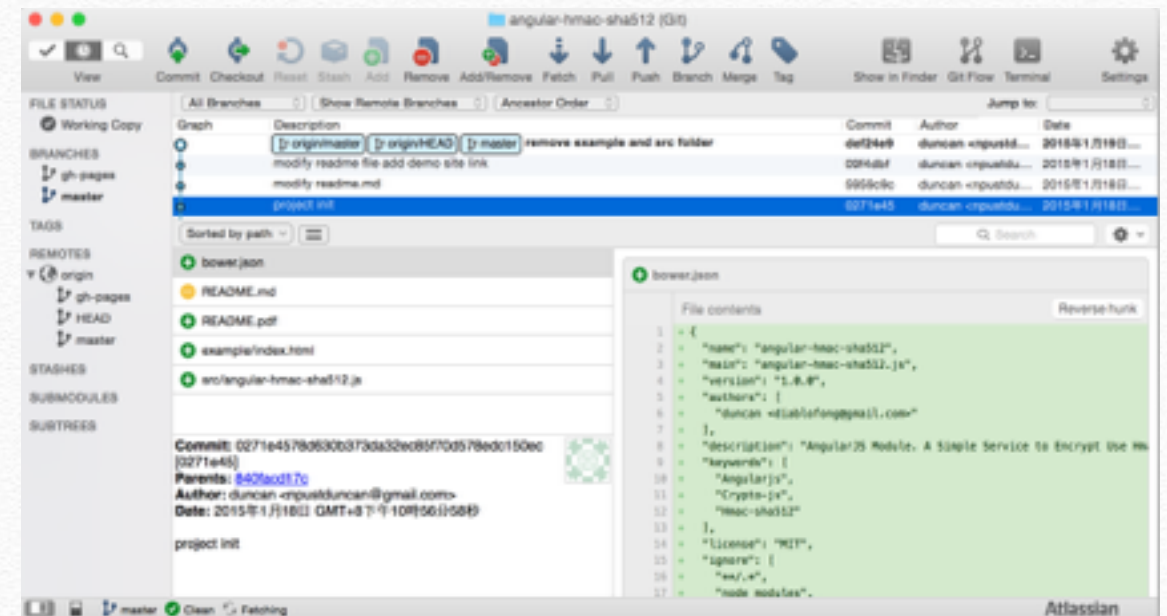
❖ Git特點

- 超快
- 超簡單
- 支援非線性開發
- 完全分散式
- 可以處理超大的資料



SourceTree介紹

- ❖ SourceTree是一套免費的Git GUI管理工具，主要開發商為 Atlassian，這套工具可以支援 Windows、Mac、Linux。
- ❖ 這套工具也有提供Git Flow的功能算是功能比較齊全與強大的一套工具，本人也是使用這套工具來做版本控管



Git指令介紹

❖ 建立一個新的檔案庫 (Repository)

```
duncans-MacBook-Pro:gittest duncan$ git init  
Initialized empty Git repository in /Users/duncan/gittest/.git/  
duncans-MacBook-Pro:gittest duncan$
```


Git指令介紹

❖ 複製別人的檔案庫 (Clone)

HTTPS clone URL

<https://github.com/diablofong/angular-hmac-sha512>



```
duncans-MacBook-Pro:gittest duncan$ git clone https://github.com/diablofong/angular-hmac-sha512.git
Cloning into 'angular-hmac-sha512'...
remote: Counting objects: 42, done.
remote: Total 42 (delta 0), reused 0 (delta 0)
Unpacking objects: 100% (42/42), done.
Checking connectivity... done.
```


Git指令介紹

❖ 查詢歷史紀錄(log)

```
duncans-MacBook-Pro:angular-hmac-sha512 duncan$ git log  
commit def24e9f3bee0a86a8cdd173f1a508f4b2f3460d  
Author: duncan <npustduncan@gmail.com>  
Date: Mon Jan 19 22:04:42 2015 +0800  
  
remove example and src folder
```


Git指令介紹

❖ 查詢狀態(status)

```
duncans-MacBook-Pro:angular-hmac-sha512 duncan$ git status  
On branch master  
Your branch is up-to-date with 'origin/master'.  
nothing to commit, working directory clean
```


Git指令介紹

❖ 查詢所有分支(branch)

```
duncans-MacBook-Pro:angular-hmac-sha512 duncan$ git branch  
* master
```

❖ 建立新分支(new branch)

```
duncans-MacBook-Pro:angular-hmac-sha512 duncan$ git branch developer  
duncans-MacBook-Pro:angular-hmac-sha512 duncan$ git branch  
  developer  
* master
```


Git指令介紹

❖ 切換分支(checkout)

```
duncans-MacBook-Pro:angular-hmac-sha512 duncan$ git checkout developer
Switched to branch 'developer'
duncans-MacBook-Pro:angular-hmac-sha512 duncan$ git branch
* developer
master
```


Git指令介紹

❖ 新增檔案(add)

```
duncans-MacBook-Pro:gitdemo duncan$ git add -i
      staged      unstaged path

*** Commands ***
  1: status      2: update      3: revert      4: add untracked
  5: patch       6: diff        7: quit        8: help
What now> 4
  1: readme.md
Add untracked>> 1
* 1: readme.md
Add untracked>>
added one path

*** Commands ***
  1: status      2: update      3: revert      4: add untracked
  5: patch       6: diff        7: quit        8: help
What now> 1

      staged      unstaged path
  1:      +5/-0      nothing readme.md

*** Commands ***
  1: status      2: update      3: revert      4: add untracked
  5: patch       6: diff        7: quit        8: help
What now> 
```


Git指令介紹

❖ 提交(commit)

```
duncans-MacBook-Pro:gitdemo duncan$ git status
On branch master

Initial commit

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

    new file:   readme.md

duncans-MacBook-Pro:gitdemo duncan$ git commit -m "add readme file"
[master (root-commit) 6324179] add readme file
1 file changed, 5 insertions(+)
create mode 100644 readme.md
duncans-MacBook-Pro:gitdemo duncan$
```


Git指令介紹

❖ 回原上一版本(reset)

```
duncans-MacBook-Pro:gitdemo duncan$ git log
commit cd964bd2f7b08df4c3ecfe1930bf255aab6fcfc8
Author: duncan <npustduncan@gmail.com>
Date: Sat Jan 31 12:33:46 2015 +0800

    modify readme file

commit 13490a1744306ddc4fc95c2c3c1cc490949c0409
Author: duncan <npustduncan@gmail.com>
Date: Sat Jan 31 12:00:39 2015 +0800

    add readme file
duncans-MacBook-Pro:gitdemo duncan$ git reset --hard 13490a1744306ddc4fc95c2c3c1cc490949c0409
HEAD is now at 13490a1 add readme file
duncans-MacBook-Pro:gitdemo duncan$ git log
commit 13490a1744306ddc4fc95c2c3c1cc490949c0409
Author: duncan <npustduncan@gmail.com>
Date: Sat Jan 31 12:00:39 2015 +0800

    add readme file
```


Git指令介紹

❖ 推送至遠端檔案庫(push)

```
duncans-MacBook-Pro:gitdemo duncan$ git push
warning: push.default is unset; its implicit value has changed in
Git 2.0 from 'matching' to 'simple'. To squelch this message
and maintain the traditional behavior,
```

```
git config --global push.default match
```

```
To squelch this message and adopt the new default value,
```

```
git config --global push.default simple
```

```
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 268 bytes | 0 bytes
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/diablofong/gitdemo.git
 * [new branch]      master -> master
```



Git指令介紹

❖ 取得遠端檔案庫更新(fetch)

```
duncans-MacBook-Pro:gitdemo duncan$ git fetch
remote: Counting objects: 3, done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0)
Unpacking objects: 100% (3/3), done.
From https://github.com/diablofong/gitdemo
   13490a1..67f73df  master    -> origin/master
duncans-MacBook-Pro:gitdemo duncan$ git status
On branch master
Your branch is behind 'origin/master' by 1 commit, and can be fast-forwarded.
  (use "git pull" to update your local branch)
nothing to commit, working directory clean
```


Git指令介紹

❖ 從遠端檔案庫更新至本地端(pull)

```
duncans-MacBook-Pro:gitdemo duncan$ git pull
Updating 13490a1..67f73df
Fast-forward
 readme.md | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
duncans-MacBook-Pro:gitdemo duncan$ git log
commit 67f73df84ec27298f8bc9a8434570d78cba6cecc
Author: duncan <diablofong@users.noreply.github.com>
Date: Sat Jan 31 13:09:36 2015 +0800

    Update readme.md

commit 13490a1744306ddc4fc95c2c3c1cc490949c0409
Author: duncan <npustduncan@gmail.com>
Date: Sat Jan 31 12:00:39 2015 +0800

    add readme file
```


Git Flow介紹

- ❖ Git Flow是一個git的模型流程，這套流程定義了兩個分支，一個為主要分支、支援性分支。
- ❖ 主要分支：
 - master：釋出的版本，只從 release 與 hotfix merge 回來，不直接在上面 commit 變更。
 - develop：開發中的版本，預設在這 branch 上，開發修改功能都從這分支出去。
- ❖ 支援性分支
 - feature：從 develop 分支出來，當功能開發修改完成後 merge 回 develop。
 - release：從 develop 分支出來，是準備釋出的版本，只修改版本號與 bug，完成後 merge 回 develop 與 master，並在 master 標上版本號的 tag。
 - hotfix：從 master 分支出來，主要是處理已釋出版本需要立即修改的錯誤，完成後 merge 回 develop 與 master，並在 master 標上版本號的 tag。

實機操作

- ❖ 請從github上fork一個專案，並複製到本機端後開始進行專案開發
- ❖ 依序使用教學上所教導的方法將專案推送至遠端檔案庫
- ❖ 展示專案連結

參考資料

- ❖ <http://gogojimmy.net/2012/01/17/how-to-use-git-1-git-basic/>
- ❖ http://backlogtool.com/git-guide/tw/intro/intro1_1.html
- ❖ <https://ihower.tw/blog/archives/5140>
- ❖ <http://www.sourcetreeapp.com/>
- ❖ <https://github.com/>

Q & A

謝謝大家的聆聽