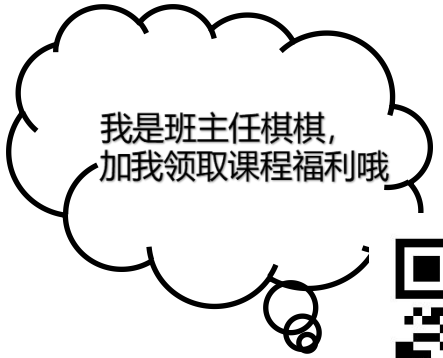
第二节



讲师：文泰来

加班主任，进班级答疑群
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1-2

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- Enough talk, let's get hands dirty.

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后端开发初体验

- 开发环境搭建

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后端开发初体验

- 开发环境搭建

- Django 2.0
- Python 3.7.x

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- 开发环境搭建 – **Install Python 3**

Step 1: Verify the python version in your desktop

```
wentailai@iMac ~ python --version
Python 2.7.10
```

For Mac, Python 2 is already installed

```
wentailai@iMac ~ python3 --version
Python 3.7.0
```

Use this command to verify if you have python3 installed

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- 开发环境搭建 – **Install Python 3**

Step 2: Install Xcode and Homebrew

```
wentailai@iMac ~ xcode-select --install
```

This might take some time

```
wentailai@iMac ~ /usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

Homebrew is a package management tool for macOS.
Command can be found in this link: https://brew.sh/

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- 开发环境搭建 – **Install Python 3**

Step 3: Install Python 3 and verify

```
wentailai@iMac ~ brew install python3
```

Use Homebrew to install python3

```
wentailai@iMac ~ python3
Python 3.7.0 (default, Jun 29 2018, 20:13:13)
[Clang 9.1.0 (clang-902.0.39.2)] on darwin
Type "help", "copyright", "credits" or "license" for more inf
ormation.
>>>
```

You should see the same thing. Use “ctrl + d” to quit

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- 开发环境搭建 – **Install Virtual Environment**

Q:什么是Virtual Environment ?

A: 提供一个隔离的环境，这个环境里包括一个project所需要的所有dependencies

Example:

Project A -> Django 2.0

Project B -> Django 1.1

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- 开发环境搭建 – **Install Virtual Environment**

V.S.

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- 开发环境搭建 – **Install Virtual Environment**

Step 1: Install pipenv

```
✘ wentailai@iMac ~ pip3 install pipenv
```

Type this command to install pipenv

(pip3 is a tool installed alone with python3)

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- 开发环境搭建 – **Install Django**

Step 1: Create your work directory

```
wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo pwd
/Users/wentailai/Desktop/JZDEV/InstaDemo
```

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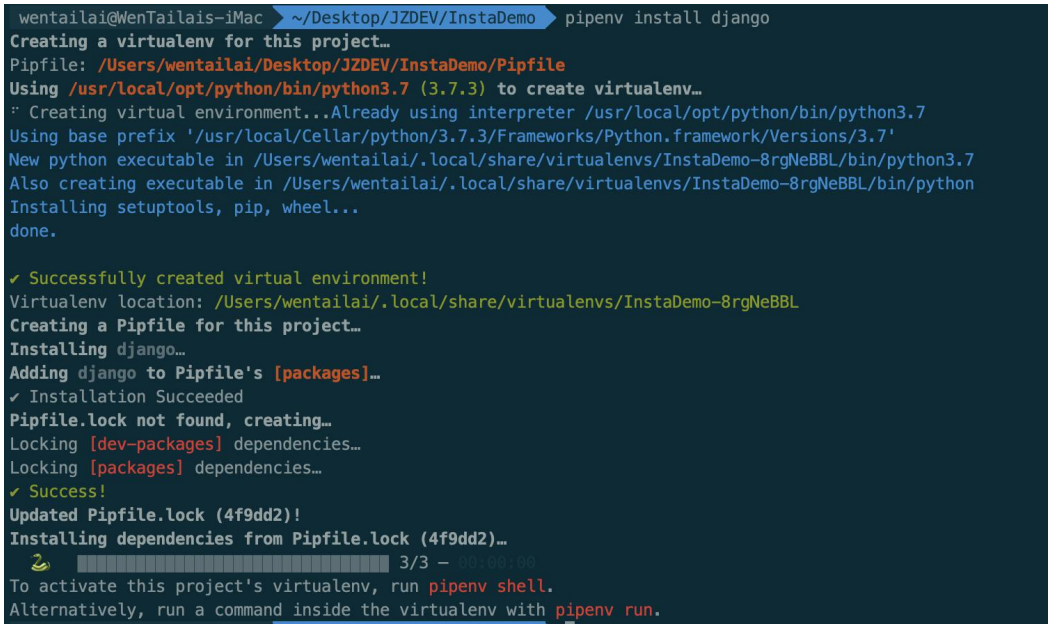
- 开发环境搭建 – **Install Django**

Step 2: Install Django



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- 开发环境搭建 – **Install Django**

Step 3: Check your current directory

```
wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo ls
Pipfile      Pipfile.lock
```

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- 开发环境搭建 – **Install Django**

  Pipfile

```
[[source]]
url = "https://pypi.org/simple"
verify_ssl = true
name = "pypi"

[packages]
django = "*"

[dev-packages]

[requires]
python_version = "3.7"
Pipfile (END)
```

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- 开发环境搭建 – **Install Django**

Pipfile.lock

```
    "default": {
        "django": {
            "hashes": [
                "sha256:7f246078d5a546f63c28fc03ce71f4d7a23677ce42109219c
24c9ffb28416137",
                "sha256:ea50d85709708621d956187c6b61d9f9ce155007b496dd914
fdb35db8d790aec"
            ],
            "index": "pypi",
            "version": "==2.1"
        },
```

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- 开发环境搭建 – **Install Django**

Step 4: Activate this virtual environment

```
wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo pipenv shell
Launching subshell in virtual environment…
. /Users/wentailai/.local/share/virtualenvs/InstaDemo-8rgNeBBL/bin/activate
wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo . /Users/wentailai/.local/share/virtualenvs/InstaDemo-8rgNeBBL/bin/activate
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo
```

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- 开发环境搭建 – **Install Django**

Step 5: Create a new Django project !

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo django-admin startproject InstaDemo .
```

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo tree
.
├── InstaDemo
│   ├── __init__.py
│   ├── settings.py
│   ├── urls.py
│   └── wsgi.py
├── Pipfile
├── Pipfile.lock
└── manage.py

1 directory, 7 files
```

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- 开发环境搭建 – **Run Server**

Step 1: Run local web server

```
(InstaDemo)  wentailai@WenTailais-iMac  ~/Desktop/JZDEV/InstaDemo  python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 17 unapplied migration(s). Your project may not work properly until you apply the migratio
ns for app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.

July 01, 2019 - 10:45:56
Django version 2.2.3, using settings 'InstaDemo.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.
```

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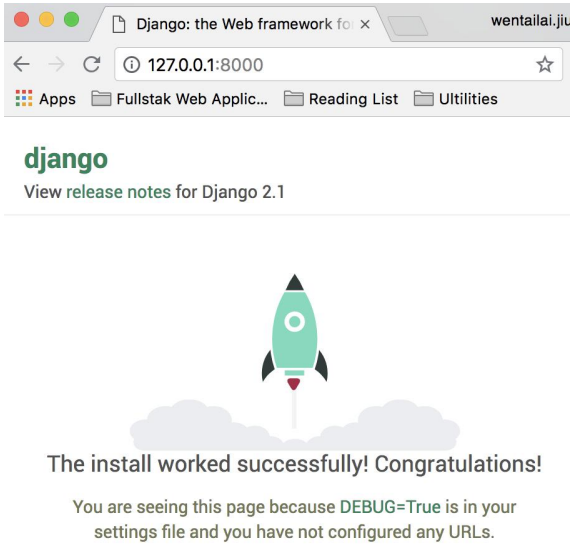
- 开发环境搭建 – **Run Server**

Step 2: Verify the server is up and running



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- 开发环境搭建 – **Run Server**

Step 3: Verify the server is getting request

```
August 30, 2018 - 04:18:39
Django version 2.1, using settings 'helloworld_project.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.
[30/Aug/2018 04:20:22] "GET / HTTP/1.1" 200 16348
[30/Aug/2018 04:20:22] "GET /static/admin/css/fonts.css HTTP/1.1" 200 423
[30/Aug/2018 04:20:22] "GET /static/admin/fonts/Roboto-Regular-webfont.woff HTTP/1.1" 200 80304
[30/Aug/2018 04:20:22] "GET /static/admin/fonts/Roboto-Light-webfont.woff HTTP/1.1" 200 81348
[30/Aug/2018 04:20:22] "GET /static/admin/fonts/Roboto-Bold-webfont.woff HTTP/1.1" 200 82564
```

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- 开发环境搭建 – **Run Server**

Step 4: Stop server and exit virtual environment

- Stop by press “ctrl + c”
- Exit virtual environment by type “exit”

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后端开发初体验

- Now let's take a closer look at our server

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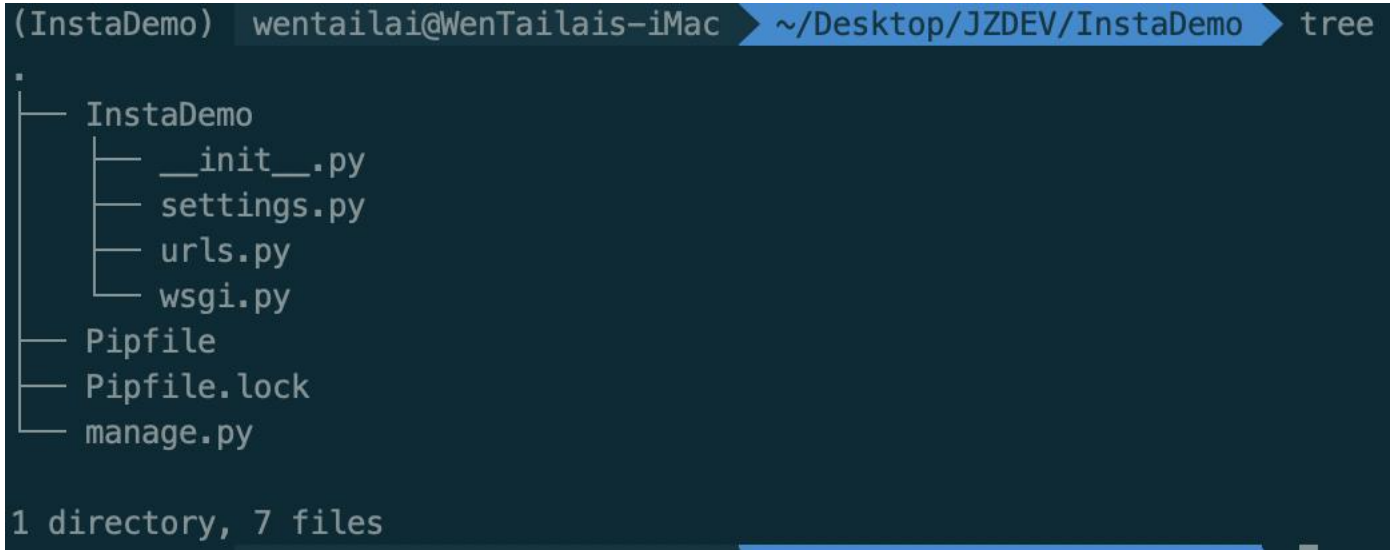
后端开发初体验

- Now let's take a closer look at our server



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后端开发初体验

- Now let's take a closer look at our server

  - We already know about Pipenv files

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo tree
.
├── InstaDemo
│   ├── __init__.py
│   ├── settings.py
│   ├── urls.py
│   └── wsgi.py
├── Pipfile
├── Pipfile.lock
└── manage.py

1 directory, 7 files
```

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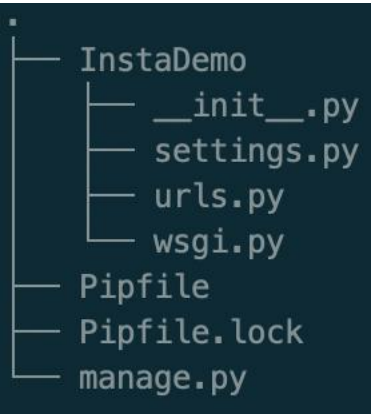
后端开发初体验

- Now let's take a closer look at our server

  - manage.py:

    用于执行各种的django commands




```
(first_project-5vtAMXXV) wentailai@WenTailais-iMac ~/MyRepo/first_project python manage.p
y
cleanup                 -- remove old data from the database
compilemessages         -- compile .po files to .mo for use with gettext
createcachetable        -- creates table for SQL cache backend
createsuperuser         -- create a superuser
dbshell                 -- run command-line client for the current database
diffsettings            -- display differences between the current settings and Django
dumpdata                -- output contents of database as a fixture
flush                   -- execute 'sqlflush' on the current database
inspectdb               -- output Django model module for tables in database
loaddata                -- install the named fixture(s) in the database
makemessages            -- pull out all strings marked for translation
reset                   -- executes 'sqlreset' for the given app(s)
runfcgi                 -- run this project as a fastcgi
runserver               -- start a lightweight web server for development
shell                   -- run a Python interactive interpreter. Tries to use IPython,
sql                     -- print the CREATE TABLE statements for the given app(s)
sqlall                  -- print the CREATE TABLE, CREATE INDEX and custom statements f
sqlclear                -- print the DROP TABLE statements for the given app(s)
sqlcustom               -- print the custom table-modifying SQL statements for the give
sqlflush                -- print the SQL statements required to return all tables to in
sqlindexes              -- print the CREATE INDEX statements for the given app(s)
sqlreset                -- print the DROP TABLE and CREATE TABLE statements for the giv
sqlsequencereset        -- print the SQL statements for resetting sequences for the giv
startapp                -- create Django app directory in this project's directory
syncdb                  -- create database tables for apps in INSTALLED_APPS where requ
test                    -- run the test suite for the specified app, or the entire site
testserver              -- run a development server with data from the given fixture(s)
validate                -- validate all installed modules
```

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后端开发初体验

- Now let's take a closer look at our server

  - settings.py:

    project level settings, example:

```
"""
Django settings for first_project project.

Generated by 'django-admin startproject' using Django 2.1.3.

For more information on this file, see
https://docs.djangoproject.com/en/2.1/topics/settings/

For the full list of settings and their values, see
https://docs.djangoproject.com/en/2.1/ref/settings/
"""
```

```
# Database
# https://docs.djangoproject.com/en/2.1/ref/settings/#databases

DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.sqlite3',
        'NAME': os.path.join(BASE_DIR, 'db.sqlite3'),
    }
}

    },
]
```

```
.
├── InstaDemo
│   ├── __init__.py
│   ├── settings.py
│   ├── urls.py
│   └── wsgi.py
├── Pipfile
├── Pipfile.lock
└── manage.py
```

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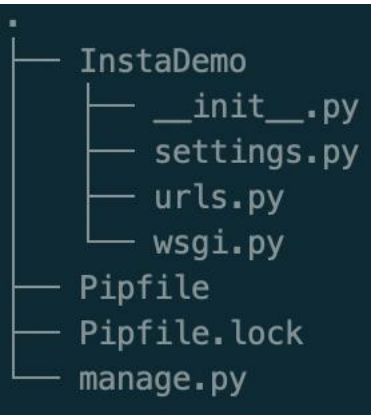
后端开发初体验

- Now let's take a closer look at our server

  - urls.py:

    url routing management:

```
urlpatterns = [
    path('admin/', admin.site.urls),
]
```



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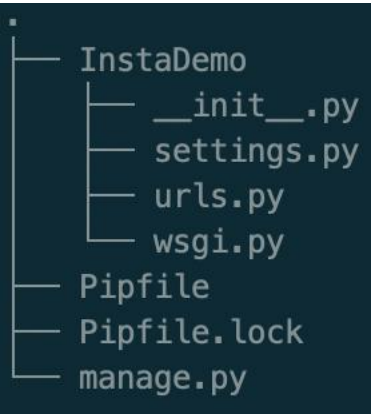
后端开发初体验

- Now let's take a closer look at our server

  - wsgi.py:

    web server gateway interface (describe how server commnunicate with application)



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后端开发Toolkit - Git

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- GIT 是一个版本管理系统

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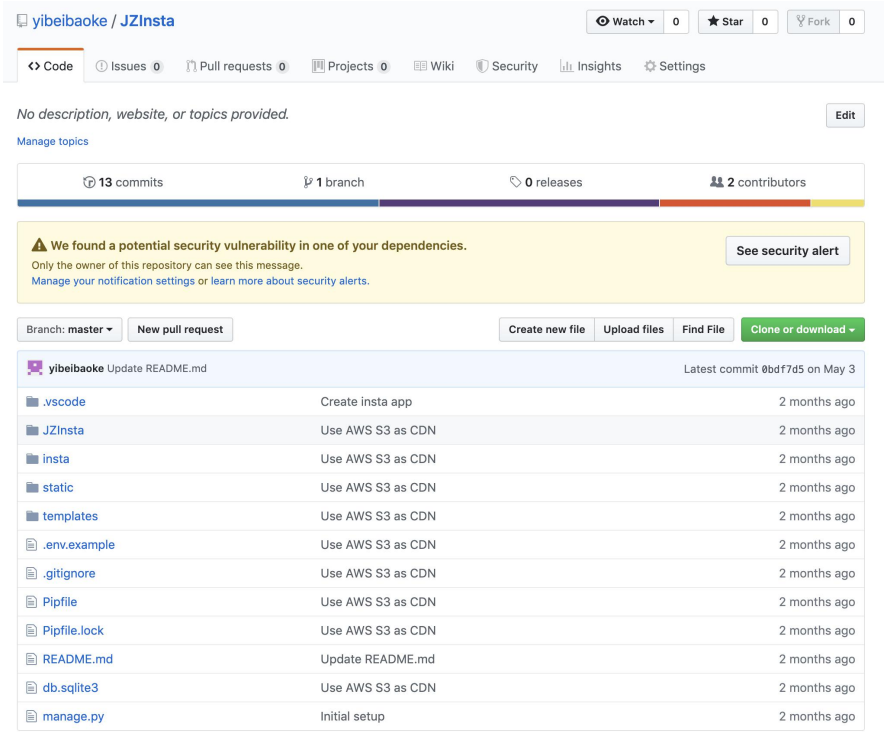
后端开发Toolkit - Git

九章算法

- **GIT是如何进行版本管理的？**



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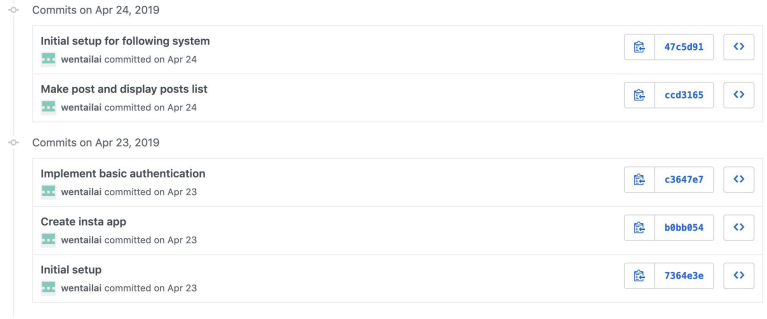
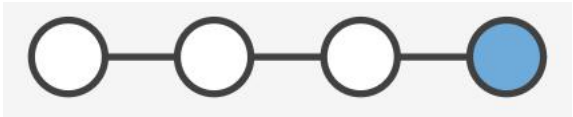
- GIT是如何进行版本管理的？

Commit





Author	Commit	Message
Emma Paris	c7cf7b7	making a change in a branch
Emma Paris	fccfa6f	stationlocations created online with Bitbucket
Emma Paris	5424bbf	Initial commit

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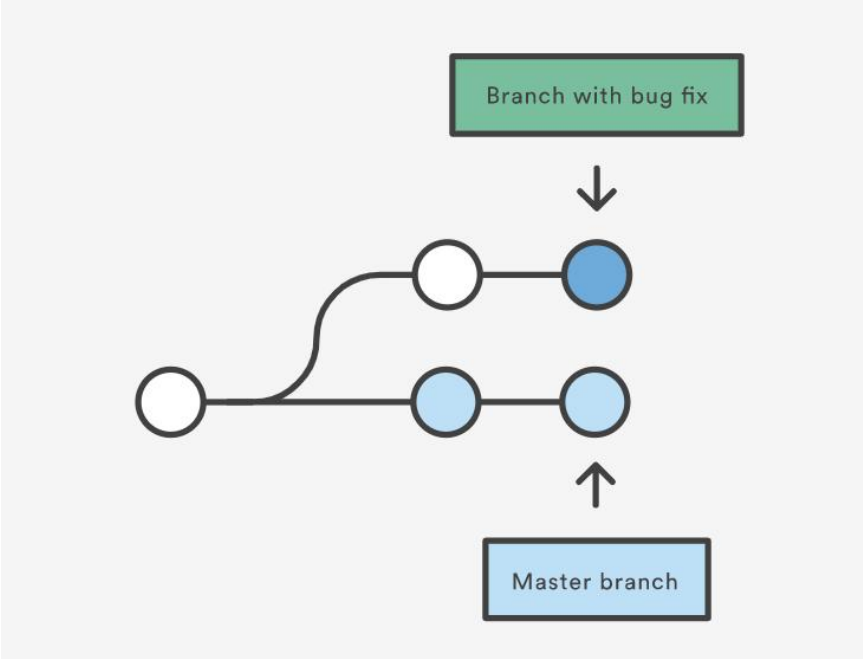
- GIT是如何进行版本管理的？

Branch



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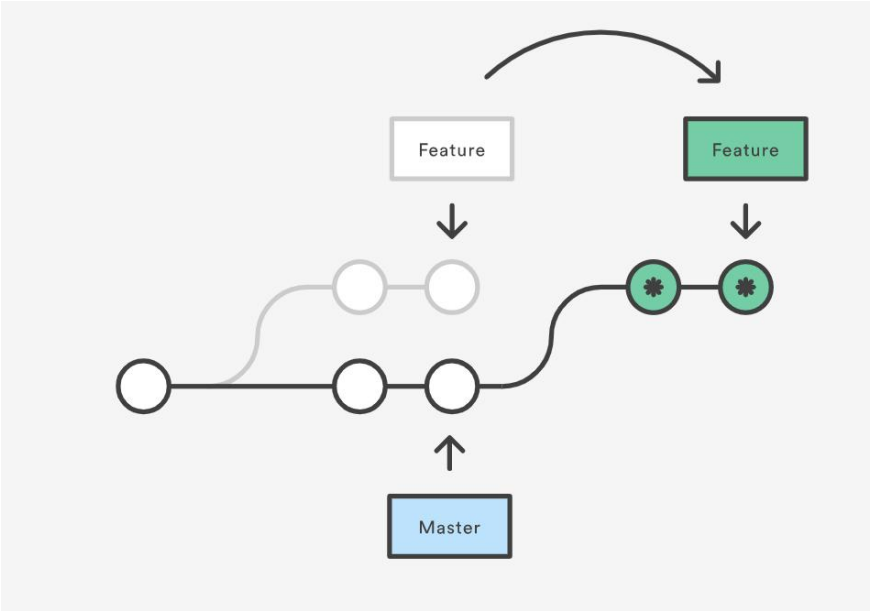
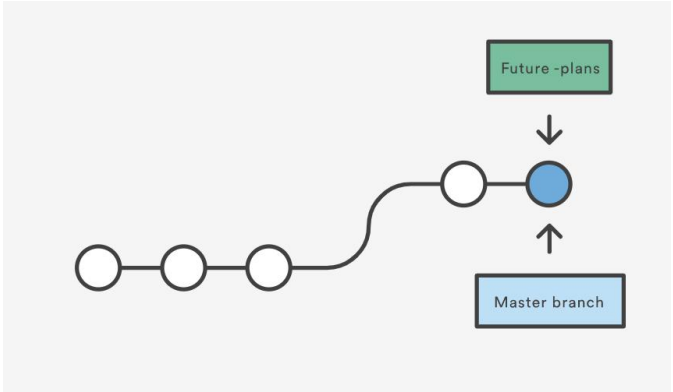
- **GIT是如何进行版本管理的？**

(feature) git rebase Master



(master) git rebase future-plans



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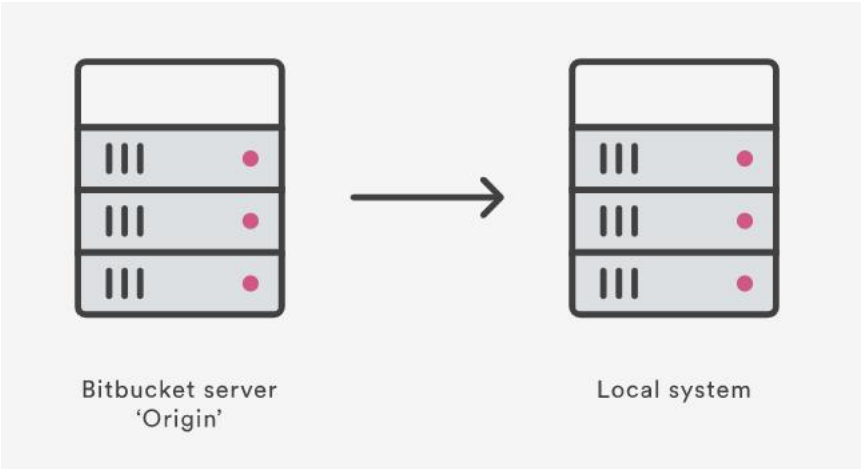
- **GIT是如何进行版本管理的？**

Git Remote / Local - git pull



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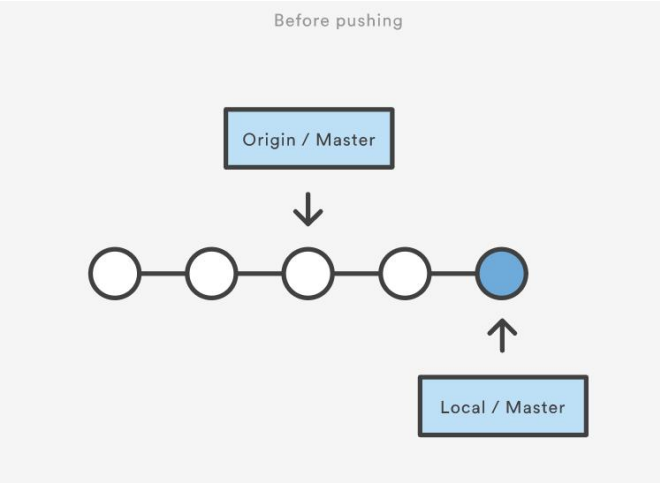
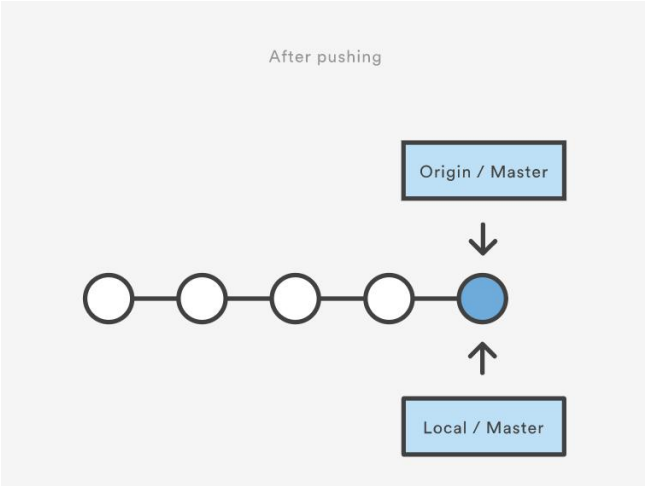
- **GIT是如何进行版本管理的？**

Local development / git push





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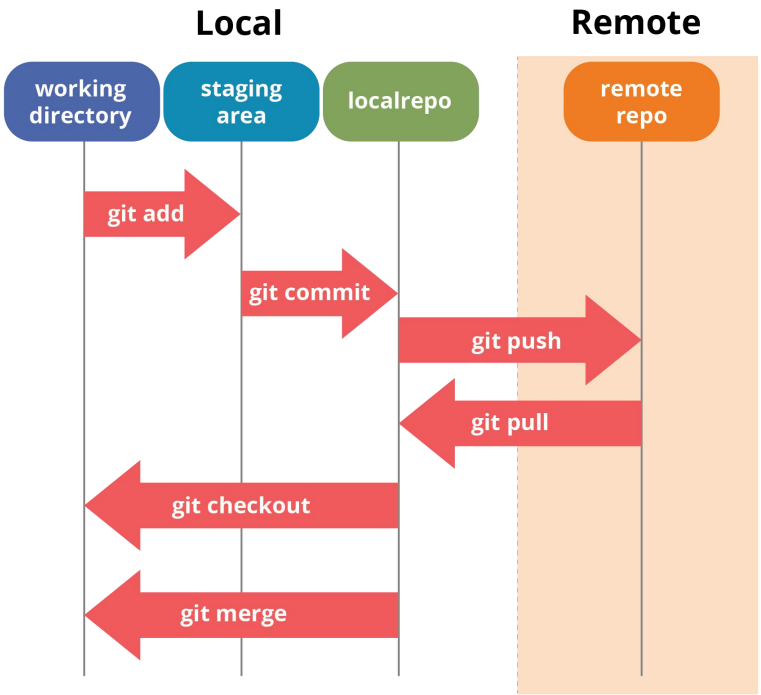
- GIT是如何进行版本管理的？



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后端开发Toolkit - Git

$brew install git

$git config –global user.name “wentailai”
$git config –global user.email “wentailai@jiuzhang.com”

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后端开发Toolkit - Git


```
(InstaDemo)  wentailai@WenTailais-iMac  ~/Desktop/JZDEV/InstaDemo  git init
Initialized empty Git repository in /Users/wentailai/Desktop/JZDEV/InstaDemo/.git/
(InstaDemo)  wentailai@WenTailais-iMac  ~/Desktop/JZDEV/InstaDemo  master
```

```
(InstaDemo)  wentailai@WenTailais-iMac  ~/Desktop/JZDEV/InstaDemo  master  git status
On branch master

No commits yet

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

        InstaDemo/
        Pipfile
        Pipfile.lock
        db.sqlite3
        manage.py

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

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后端开发Toolkit - Git

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo  master git add -A
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo  master + git status
On branch master

No commits yet

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

        new file:   InstaDemo/__init__.py
        new file:   InstaDemo/settings.py
        new file:   InstaDemo/urls.py
        new file:   InstaDemo/wsgi.py
        new file:   Pipfile
        new file:   Pipfile.lock
        new file:   db.sqlite3
        new file:   manage.py
```

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后端开发Toolkit - Git


```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo master + git commit -m "In
itial commit"
[master (root-commit) f702eeb] Initial commit
 8 files changed, 233 insertions(+)
 create mode 100644 InstaDemo/__init__.py
 create mode 100644 InstaDemo/settings.py
 create mode 100644 InstaDemo/urls.py
 create mode 100644 InstaDemo/wsgi.py
 create mode 100644 Pipfile
 create mode 100644 Pipfile.lock
 create mode 100644 db.sqlite3
 create mode 100755 manage.py
```

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后端开发Toolkit - Git

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo master git status
On branch master
nothing to commit, working tree clean
```

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo master git log
```

```
commit f702eeb1082fc9e20c3a057af1642cabd4f14003 (HEAD -> master)
Author: WenTailai <wentailai.jiuzhang@gmail.com>
Date:   Mon Jul 1 07:55:30 2019 -0400

    Initial commit
(END)
```

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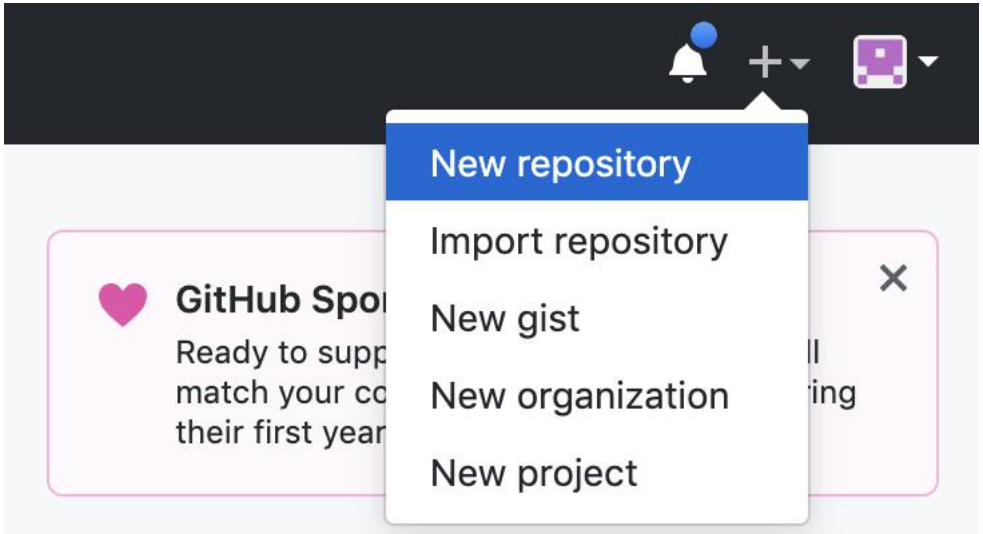
后端开发Toolkit - Git



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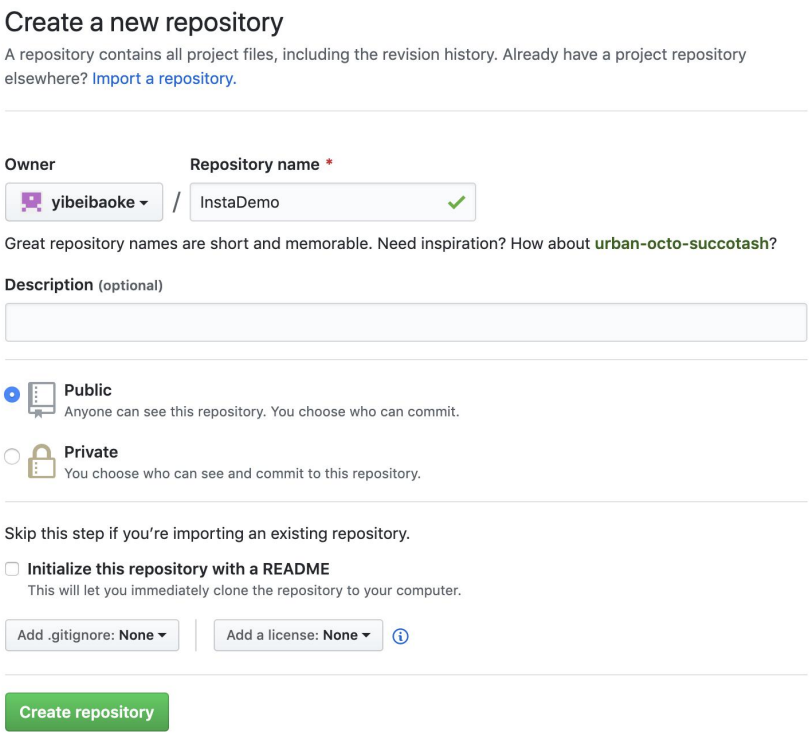
后端开发Toolkit - Git



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后端开发Toolkit - Git

Quick setup — if you've done this kind of thing before

Set up in Desktop or HTTPS SSH https://github.com/yibeibaoke/InstaDemo.git

Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

```
echo "# InstaDemo" >> README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin https://github.com/yibeibaoke/InstaDemo.git
git push -u origin master
```

...or push an existing repository from the command line

```
git remote add origin https://github.com/yibeibaoke/InstaDemo.git
git push -u origin master
```

...or import code from another repository

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

Import code

ProTip! Use the URL for this page when adding GitHub as a remote.

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后端开发Toolkit - Git

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo master git remote add orig
in https://github.com/yibeibaoke/InstaDemo.git
```

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo master git remote
origin
```

```
(InstaDemo) wentailai@WenTailais-iMac ~/Desktop/JZDEV/InstaDemo master git push -u origin
master
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 8 threads
Compressing objects: 100% (9/9), done.
Writing objects: 100% (10/10), 3.31 KiB | 3.31 MiB/s, done.
Total 10 (delta 0), reused 0 (delta 0)
To https://github.com/yibeibaoke/InstaDemo.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
```

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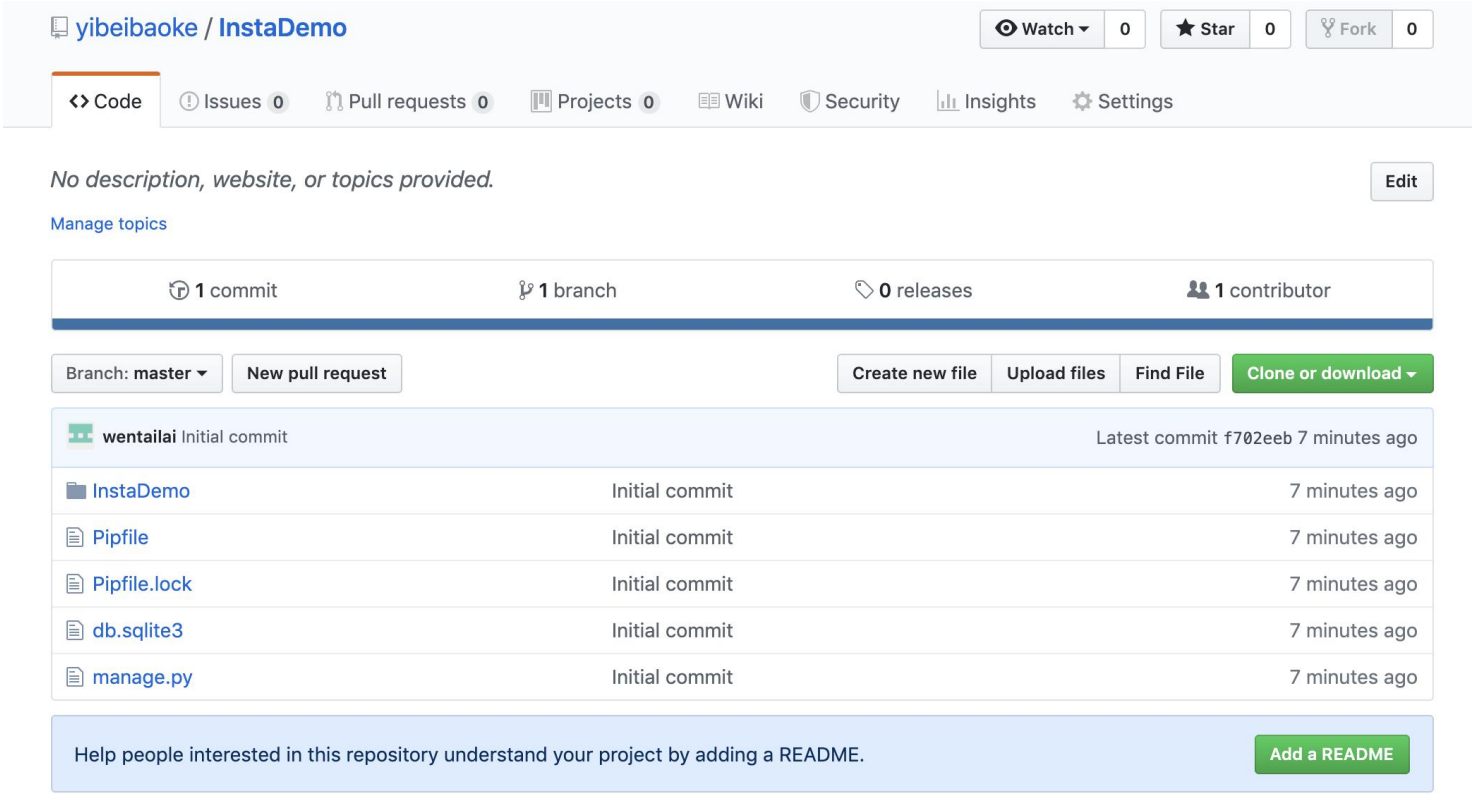
后端开发Toolkit - Git



后端开发Toolkit - VSCODE

Visual Studio Code

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后端开发Toolkit - VSCODE

Set up VSCODE for django: https://code.visualstudio.com/docs/python/tutorial-django

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