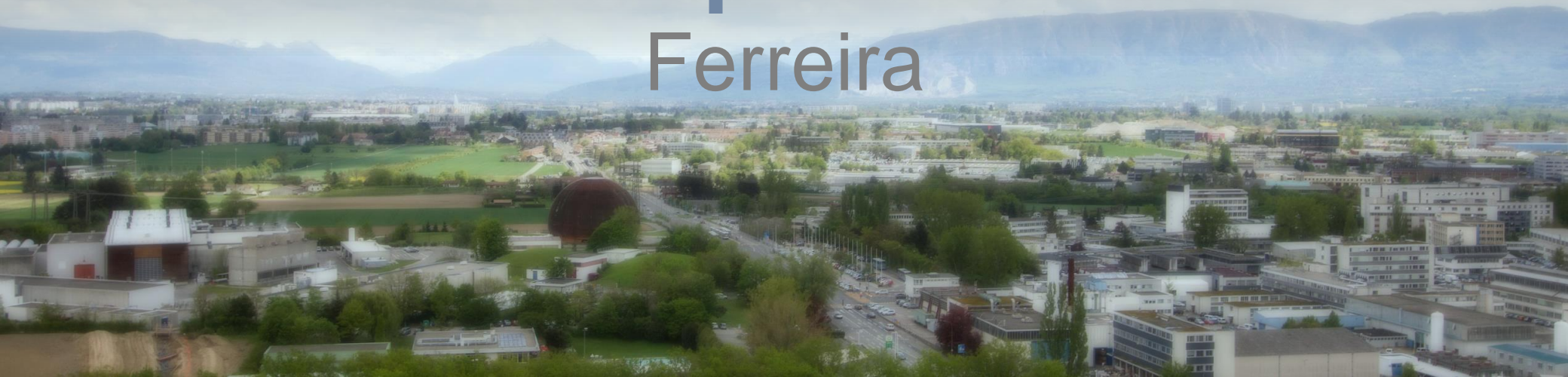


First Indico Workshop

27-29 May 2013 CERN

Indico
Development 101
Pedro
Ferreira



Setting up the environment

The `indico_shell`

The code – guidelines and tools

Contributing to the project

101

adjective, mainly U.S.

showing the most basic knowledge about a subject:

You should know how to boil an egg - that's cooking 101.

Helping people get to the polls is a basic lesson of politics 101.

Cambridge Advanced Learner's Dictionary & Thesaurus

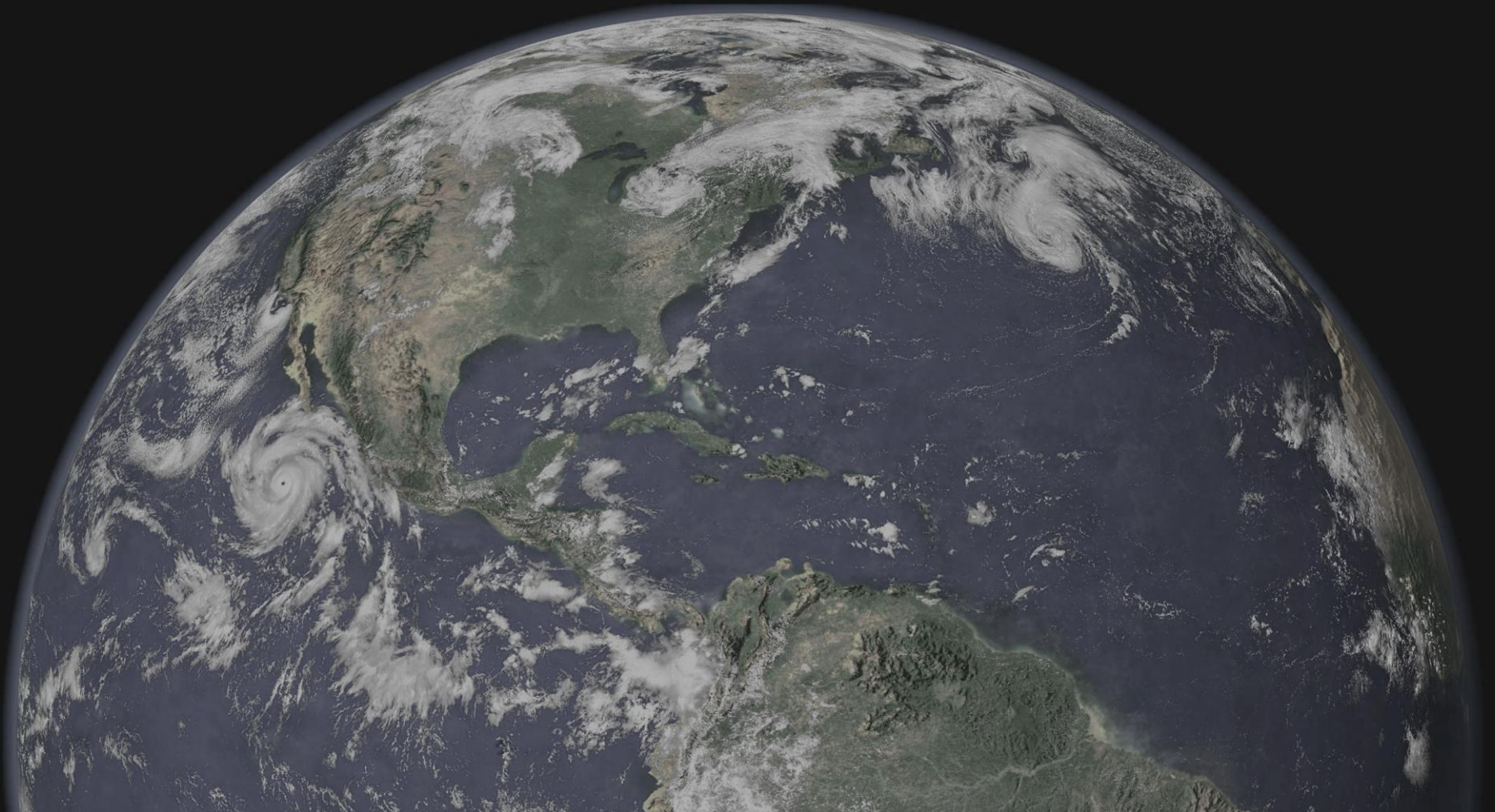
101

Room 101 is a torture chamber in the novel “Nineteen Eighty-Four” by George Orwell.

Wikipedia

<http://goo.gl/UEIZt>

ENVIRONMENT



4 THINGS

The Indico Hacker Toolkit

A shell

Python (≥ 2.6)

Virtualenv

Git

Before we start...

Note: will mention only **apt-get** and **brew** for the sake of simplicity



```
$ sudo apt-get install python-dev  
libxml2-dev libxslt-dev
```



```
$ brew install libxml2 libxslt
```

Creating the Virtualenv



```
$ sudo apt-get install python-virtualenv
```



```
$ brew install python  
$ pip install virtualenv
```

```
$ virtualenv indico-dev  
Installing distribute.....done.  
Installing pip.....done.
```


Getting the Code



```
$ sudo apt-get install git
```



```
$ brew install git
```

```
$ cd indico-dev
$ git clone 'git@github.com:indico/indico.git' src
Cloning into 'src'...
remote: Counting objects: 68547, done.
remote: Compressing objects: 100% (15205/15205), done.
remote: Total 68547 (delta 52645), reused 68104 (delta 52224)
Receiving objects: 100% (68547/68547), 136.96 MiB | 674 KiB/s,
done.
Resolving deltas: 100% (52645/52645), done.
```

Configuring the Environment

```
$ cd src
$ git checkout master
$ source ../bin/activate
(indico-dev)$ pip install -r requirements.txt
(indico-dev)$ python setup.py develop_config
...
```

```
Full path [...]: /home/myuser/indico-dev/data
```

Getting your mail

A fake SMTP server comes very handy

```
$ pip install maildump
```

Other options:

<http://mailcatcher.me/>

<https://github.com/matschaffer/fakemail/tree/master/python>

Getting your mail

Actually running the server

```
$ maildump --smtp-port=8025
```

Problems? Ask Adrian!

Starting the Database

(But you know this already, right?)

```
$ zdaemon -C etc/zdctl.conf start  
.  
daemon process started, pid=7361
```

Starting the Web Server

Note: This is a development server. Don't use it in production!

```
$ indico_shell --web-server --port=8000  
* Using BaseURL http://localhost:8000/indico  
* Running on http://localhost:8000/
```

We Are airborne!



<http://localhost:8000/indico/>

Now...

0. Set the server in Debug mode (admin)
1. Log in and create an account
2. Check your mail
3. Click the activation link

THE SHELL _



The Shell

Our **Swiss** army knife

Usage info:

```
$ indico_shell -h
```

What auto-complete and other pretty things?

```
$ pip install ipython
```

Want colors?

```
$ pip install colorterm
```

THE Shell

Things you should know about IPython (read the docs for more)

TAB auto-completes

Up/down arrows go through command history

CTRL+R also works like in bash (history search)

_ returns last result, __ the one before, and ____ ...
any guesses?

_N returns the Nth result before

Better use %cpaste if you want to paste code from the outside

%edit lets you compose multi-line commands

The Shell

Nice things we've added

Some structures are imported by default:

ConferenceHolder

CategoryManager

AvatarHolder

....

dbi contains the current DB «connection»

THE SHELL

DB operations

```
>>> dbi.sync() # loads DB state, resets changes  
>>> dbi.commit() # saves changes
```

But more about that in the next talk...

The Code



Guidelines

Because sometimes rules do make sense.

PEP8 – Mostly code style and formatting

The Zen of Python **AKA** PEP20 (`import this`)

SO Post - <http://bit.ly/cr4KCN>

Code like a Pythonista: **Idiomatic Python**

<http://bit.ly/2noLNE>

Guidelines

Just a few more...

Can it be inside a plugin? Maybe it should!

Modify the core as little as possible (exception: refactoring)

Write extensible and modular code

Create tests for new developments (whenever possible)

UTILITIES

Your favourite editor™ should provide plugins for some of these

PEP8 - <https://pypi.python.org/pypi/pep8>

Pyflakes - <https://pypi.python.org/pypi/pyflakes>

WinPDB - <http://winpdb.org/>

PyDev (Eclipse) debugger

Contributing



Development process

« Rebase-oriented » pull request model

Developer creates branch off master

Modifications are made, commit made

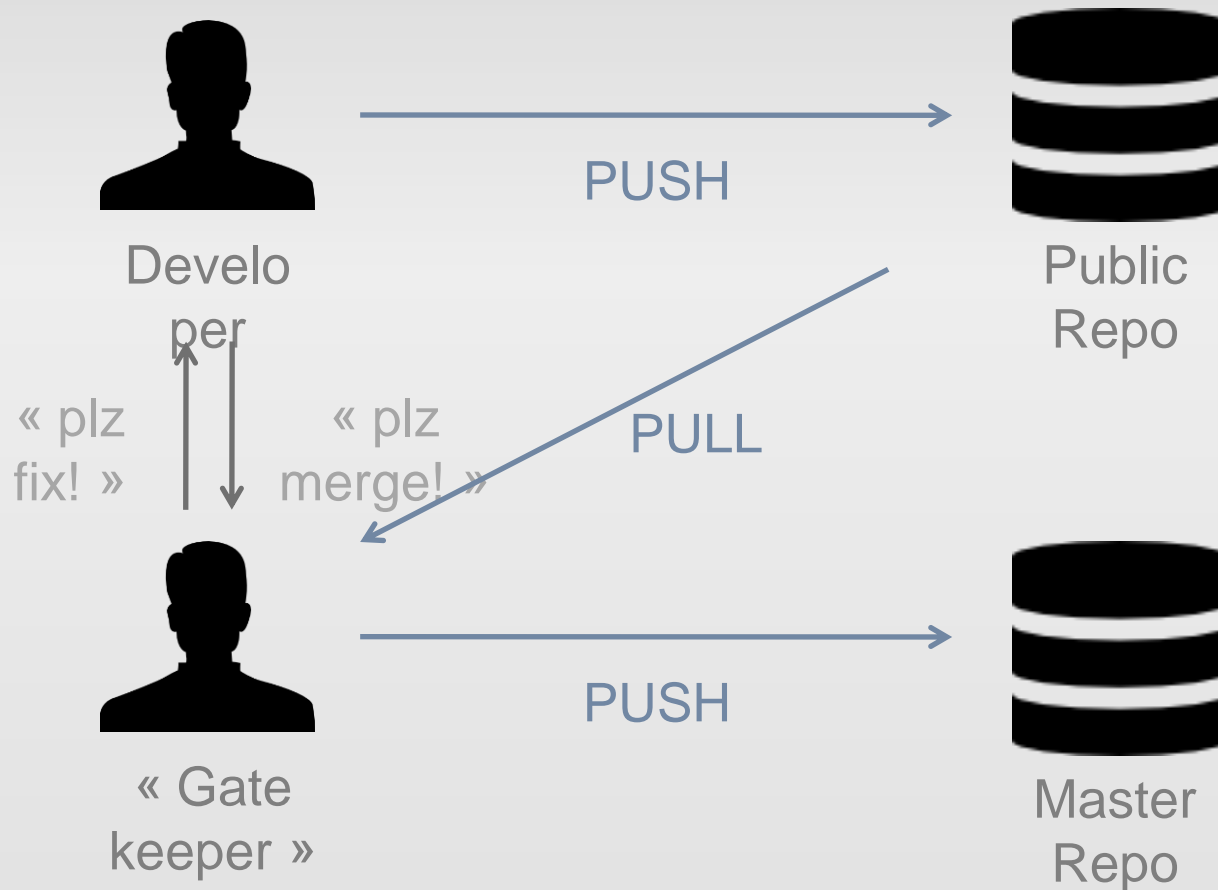
Developer updates master to latest version

Rebase of development branch on master

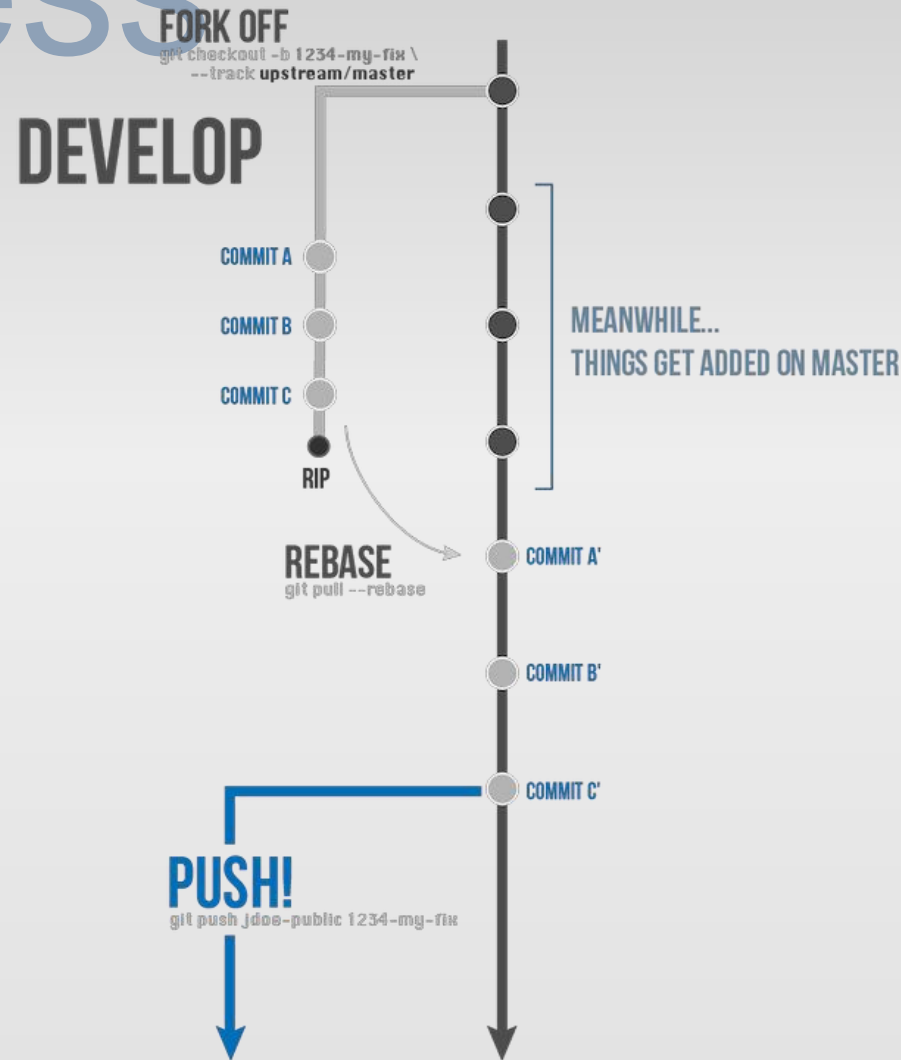
Developer asks for branch to be merged

Gatekeeper merges branch into master

Ensuring Quality



Development process



Public Repo

« Where should I place my public repo? »

Any publicly accessible Git repository

Your own server, BitBucket, GitHub, etc...

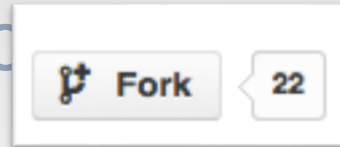
Convenience - GitHub

GitHub Workflow

It is very simple, really...

1. Fork the Indico repository

<http://git.io/nuvDtQ>



2. Do your development and push your modifications to your forked copy



Tickets

Or «How can I help?»

<http://indico-software.org>

Milestone v1.1 (36 matches)						
Ticket	Summary	Component	Version	Type	Owner	Status
#914	When adding secondary email, trigger notification	Security		defect	arescope	assigned
#857	Remove remaining dependencies on Webcast/VS from core	Video Services	0.98-dev	enhancement	arescope	assigned
#599	Timetable menus should be on the right or the left?	General		defect	arescope	assigned
#844	Make caching usable for livesync	RSS/iCal /XML/Metadata	0.98-dev	defect	jatrzask	assigned
#895	Clean classes/modules/... from previous task daemon	General	0.98-dev	defect	pferreir	new

Conclusion

tl;dr → “we need your help!”

Mature and agile development process

Collaborating has never been easier

GitHub workflow: already being used

How to do it - your choice

Small, easy, things are many times the ones left behind

(They're also the most annoying)



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