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OPEN|edX[®]

AT HOME

Conference _____ 2023
hosted by MIT



TVM

**Tutor
Version
Manager**

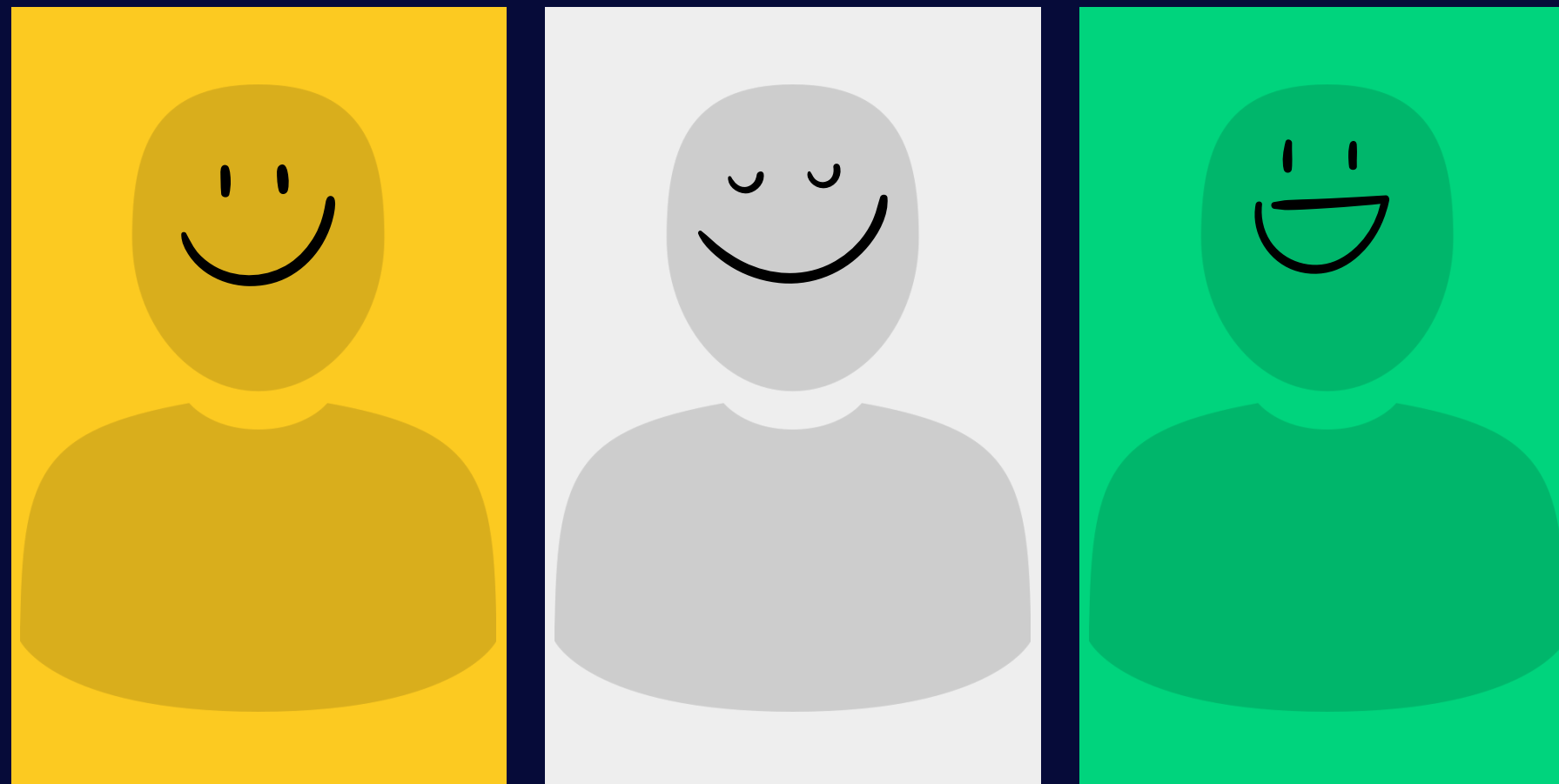
**Tutor
Environment
Manager**

TVM is a tool that mainly allows you to manage several Tutor development environments so that they work in isolation, and you can work on different projects with independent Tutor versions and configurations.

Motivation



As a Open edX developers sometimes we need more than one platform version.



<tutor>

TUTOR ROOT

- Tutor is the official Open edX distribution.
- By default is installed globally and uses `your-home/.local/share/tutor` to store the configurations.
- If you want to change the location, you must set `TUTOR_ROOT` and `TUTOR_PLUGINS_ROOT` environment variables.

How can we have several envs?

Step by step

```
mkdir project_1
cd project_1
virtualenv -p python3.8 venv
source venv/bin/activate
pip install tutor
export TUTOR_ROOT="/home/your_user/project_1"
export TUTOR_PLUGINS_ROOT="/home/your_user/project_1/plugins"
tutor config save
```

1. Create the project directory.
2. Enter in that directory.
3. Create a python virtual environment.
4. Activate the environment.
5. Install Tutor.
6. Set your tutor root and your plugin tutor root.
7. Execute tutor config save.

Problem

You need to set manually the environment variables. And you need to do it repeatedly.



Creating a project with TVM

Step by step



```
tvm project init project_1 v15.3.2  
cd project_1  
source .tvm/bin/activate  
tutor config save
```

1. Create a project with tvm.
2. Enter that project.
3. Activate the project environment.
4. Execute tutor config save.



TVM quick demo for Open edX Conference 2023 - without audio

```
edunext@asus-zenbook: ~/Documents/edunext/temp/project_1
[v12.2.0@project_1] edunext@asus-zenbook:~/Documents/edunext/temp/project_1
$ tutor plugins printroot
/home/edunext/Documents/edunext/temp/project_1/plugins
[v12.2.0@project_1] edunext@asus-zenbook:~/Documents/edunext/temp/project_1
$ tutor plugins list
[v12.2.0@project_1] edunext@asus-zenbook:~/Documents/edunext/temp/project_1
$ mkdir /home/edunext/Documents/edunext/temp/project_1/plugins
[v12.2.0@project_1] edunext@asus-zenbook:~/Documents/edunext/temp/project_1
$ touch /home/edunext/Documents/edunext/temp/project_1/plugins/google.yml
[v12.2.0@project_1] edunext@asus-zenbook:~/Documents/edunext/temp/project_1
$ vim /home/edunext/Documents/edunext/temp/project_1/plugins/google.yml
[v12.2.0@project_1] edunext@asus-zenbook:~/Documents/edunext/temp/project_1
$ tutor plugins list
googleanalytics==0.1.0 (disabled)
[v12.2.0@project_1] edunext@asus-zenbook:~/Documents/edunext/temp/project_1
[v12.2.0@project_1] edunext@asus-zenbook:~/Documents/edunext/temp/project_1
$
```

edunext@asus-zenbook: ~/Documents/edunext/temp

edunext@asus-zenbook: ~/Documents/edunext/temp 75x39

```
Requirement already satisfied: setuptools>=21.0.0 in /home/edunext/.tvm/15
.3.3@project_2/venv/lib/python3.10/site-packages (from kubernetes->tutor==1
5.3.3) (65.6.3)
Collecting tomli>=1.1.0
  Using cached tomli-2.0.1-py3-none-any.whl (12 kB)
Collecting mpy-extensions>=1.0.0
  Using cached mpy_extensions-1.0.0-py3-none-any.whl (4.7 kB)
Collecting pyasn1-modules>=0.2.1
  Using cached pyasn1_modules-0.2.8-py2.py3-none-any.whl (155 kB)
Collecting rsa<5,>=3.1.4
  Using cached rsa-4.9-py3-none-any.whl (34 kB)
Collecting cachetools<6.0,>=2.0.0
  Using cached cachetools-5.3.0-py3-none-any.whl (9.3 kB)
Collecting idna<4,>=2.5
  Using cached idna-3.4-py3-none-any.whl (61 kB)
Collecting charset-normalizer<4,>=2
  Using cached charset_normalizer-3.1.0-cp310-cp310-manylinux_2_17_x86_64.m
anylinux2014_x86_64.whl (199 kB)
Collecting oauthlib>=3.0.0
  Using cached oauthlib-3.2.2-py3-none-any.whl (151 kB)
Collecting pyasn1<0.5.0,>=0.4.6
  Using cached pyasn1-0.4.8-py2.py3-none-any.whl (77 kB)
Installing collected packages: pyasn1, appdirs, websocket-client, urllib3,
typing-extensions, tomli, six, rsa, pyyaml, pycryptodome, pyasn1-modules, o
authlib, mpy-extensions, MarkupSafe, idna, click, charset-normalizer, cert
ifi, cachetools, requests, python-dateutil, mpy, jinja2, google-auth, requ
ests-oauthlib, kubernetes, tutor
Running setup.py develop for tutor
Successfully installed MarkupSafe-2.1.2 appdirs-1.4.4 cachetools-5.3.0 cert
ifi-2022.12.7 charset-normalizer-3.1.0 click-8.1.3 google-auth-2.16.3 idna-
3.4 jinja2-3.1.2 kubernetes-26.1.0 mpy-1.1.1 mpy-extensions-1.0.0 oauthli
b-3.2.2 pyasn1-0.4.8 pyasn1-modules-0.2.8 pycryptodome-3.17 python-dateutil
-2.8.2 pyyaml-6.0 requests-2.28.2 requests-oauthlib-1.3.1 rsa-4.9 six-1.16.
0 tomli-2.0.1 tutor-15.3.3 typing-extensions-4.5.0 urllib3-1.26.15 websocke
t-client-1.5.1

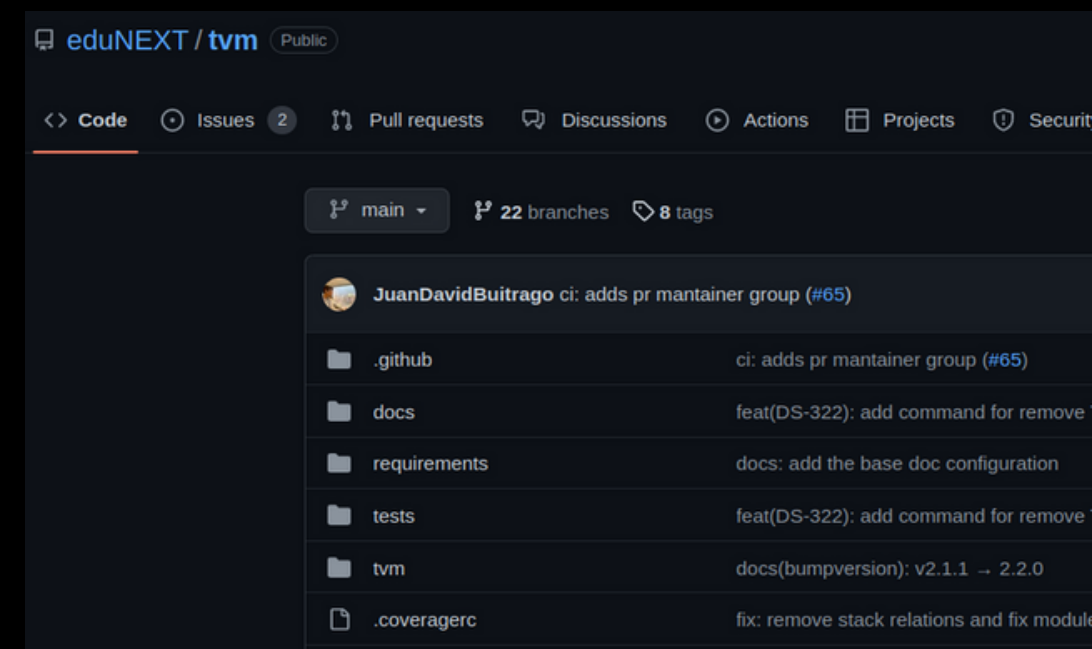
[notice] A new release of pip available: 22.3.1 -> 23.0.1
[notice] To update, run: pip install --upgrade pip
edunext@asus-zenbook:~/Documents/edunext/temp$
```

Watch on YouTube



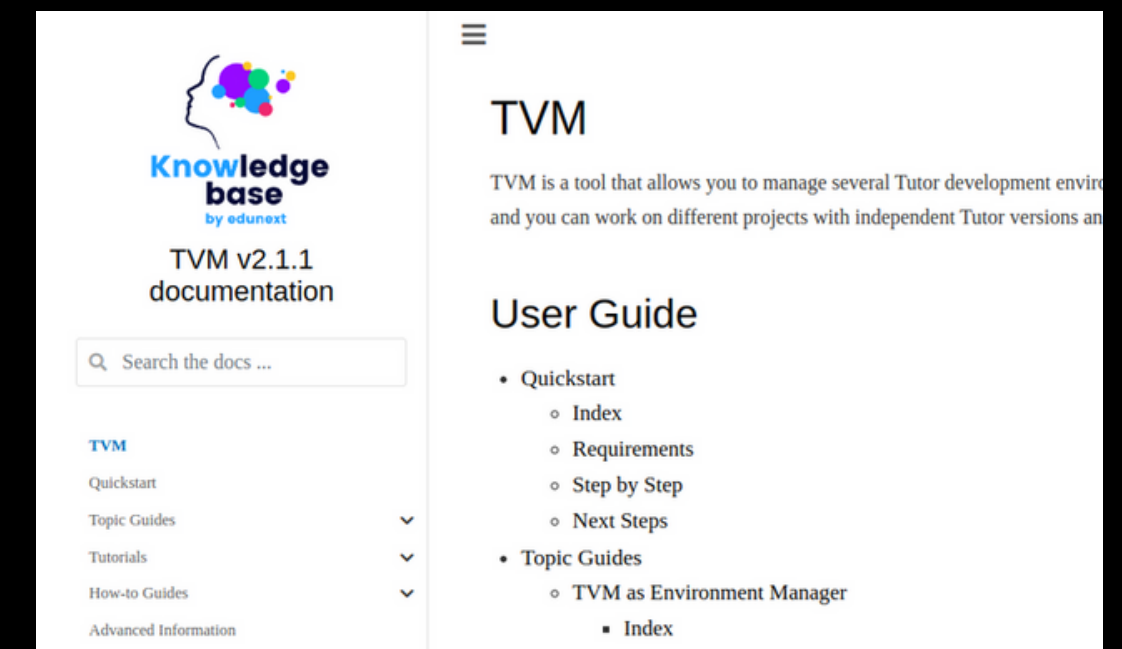
Github Project

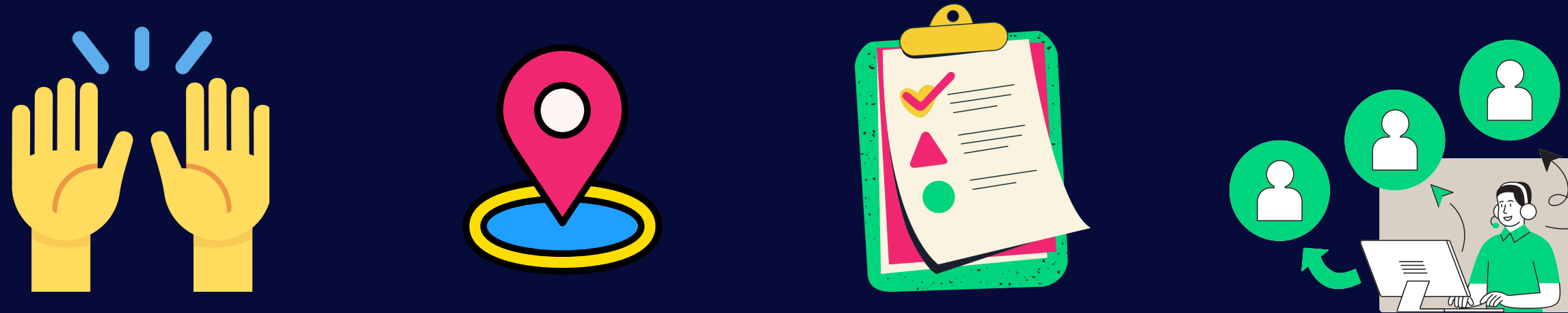
<https://github.com/eduNEXT/tvm>



Read The Docs

<https://tvm.docs.edunext.co>





TVM is a powerful tool to make our lives easier, maintaining the platforms we want to have isolated and changing between versions quickly.

I invite you to try TVM and let us know about your experience.

Thanks

SHAPING THE FUTURE OF EDUCATION TOGETHER



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