Setting up Ubuntu 14.04 LTS / PHP 5.6.23 VM

Authored by Antoine Lierville & MI-LA01

Overview

This describe the whole installation process to get a working Development VM, almost based, on the same libs and versions from the Production environment.

This VM embed also third party tools dedicated for dev tasks such as git, java, maven...

This VM run under Ubuntu 14.04-LTS.

In this documentation, Host refer to the Hypervisor (the Machine were vmware is installed), The guest refer to the Virtual Machine

OS installation

Get the iso file for Ubuntu 14.04 LTS (ubuntu-14.04.4-server-amd64.iso) and follow instructions from VMWARE

During the install select only the package "OpenSSH server"

Machine name: kt14
User: ktdev / password test or ktpwd

After install log into the guest using user/password combo
get IP address

```
ifconfig
```

Return to host and edit your host file by adding: {IP ADDRESS} kt14

```
sudo vi /etc/hosts #add {IP ADDRESS} kt14
```

Log into your guest using host's terminal

```
ssh ktdev@kt14
```

Once connected

```
sudo apt-get update
sudo apt-get upgrade
sudo apt-get install open-vm-tools
sudo vi /etc/ssh/ssh_config #comment line w/
"SendEnv LANG LC_*"
sudo ufw allow 22
```

On the guest To interact easily w/ github we need to have / create a dsa keypair. If into the user directory "ktdev" the .ssh folder is not present, please create it :

```
mkdir ~/.ssh
```

If you have already generated your keypair, copy it. From Host open a terminal (or continue on a previous one) and type :

In the following exemple we use "ktdev" as username. It can be replaced by the one it fit better for you

```
scp id_rsa* ktdev@kt14:~/.ssh
```

If you didn't yet created the keypair, use ssh command, whatever it is from Host or Guest. To generate the dsa keypair type :

```
ssh-keygen -b 4096 -t rsa
```

In both case, the rights for the keys must use the following rights :

- id_dsa.priv (600)
- id_dsa.pub (644)

You may also refair to the complete github doc regarding RSA keys https://help.github.com/articles/generating-ssh-keys/
Now we'll have to set the home folder for the source code, apply the rights and modify the host file.

```
sudo mkdir -p /u00/kt_sources
sudo chown -R ktdev:ktdev /u00
sudo chmod -R 775 /u00
```

Avoid the i386 packages

```
sudo dpkg --remove-architecture i386
```

Add apt.ktws.io

```
sudo apt-key adv --keyserver
keyserver.ubuntu.com --recv-keys 4EED5EFB

sudo vi /etc/apt/apt.conf.d/00https ( create
this empty file and dump the following content
)

#Debug::Acquire::https "true";
Acquire::https::apt.ktws.io {
    Verify-Peer "true";
    Verify-Host "true";
    SslCert "/etc/ssl/certs/KTUBQJJX.crt";
    SslKey  "/etc/ssl/private/KTUBQJJX.key";
}
```

Now we need to add two certificate files in the right placeholders as described above

```
sudo bash
vi /etc/ssl/certs/KTUBQJJX.crt

>> Dump this cert

-----BEGIN CERTIFICATE-----
MIICkTCCAfoCCQC/FXegmj216DANBgkqhkiG9w0BAQUFADC
BgzELMAkGA1UEBhMC
RlIxFzAVBgNVBAcTDkJvdXJnLWxhLVJlaW5lMRAwDgYDVQQ
KEwdrcm9rbmV0MQww
CgYDVQQLEwNJLlQxJzAlBgkqhkiG9w0BCQEWGGFsZXhpcy5
ncnVldEBrcm9rbmV0
LmNvbTESMBAGA1UEAxQJKi5rdHdzLmlvMB4XDTE2MDEyMDE
3MjQ0N1oXDTE3MDEx
OTE3MjQ0N1owgZUxCzAJBgNVBAYTAkZSMRYwFAYDVQQIEw1
pbGUtZGUtZnJhbmNl
MQ4wDAYDVQQHEwVwYXJpczEQMA4GA1UEChMHa3Jva25ldDE
MMAoGA1UECxMDZGV2
MRQwEgYDVQQDEwttYXZlbiBtYXZlbjEoMCYGCSqGSIb3DQE
JARYZYWdydWV0QG1l
ZGlhaW5zcGVjdGlvbi5oazCBnzANBgkqhkiG9w0BAQEFAAO
BjQAwgYkCgYEA0zGQ
h2Brt6wlsq93EJkO0Ic2fXVMUi7M82pQfPwtdBtdPCVsB+E
BZPnlvU2jQdN/qeIb
lZLVhrNZ4+Tr9YHwt6j5Ax0BS+UyoHPnDvncsjyKGI38aFY
mT/kmkqilCtl08oYq
NU76RTV2fmEeliSbs0P2cpLP5xLAV770djiJPYMCAwEAATA
NBgkqhkiG9w0BAQUF
AAOBgQAEfw64asjsnbaPyBaBYe+IIdE3FhSpNKq6nK6wxvU
DyAmQ4bWiFZ+kH5jZ
V6ne8E+vUWU8kJ6L3NkoNrT5Fd+i/xIXJyorhVkDXf/+udV
G0iuSUxsKMN9ew4Db
3UlqMWN/hzZYDEpB502wTr/7phhGpr5zaGLslM6c4NXhYP1
k3g==
```

```
-----END CERTIFICATE-----

vi /etc/ssl/private/KTUBQJJX.key

>> Dump this cert

-----BEGIN RSA PRIVATE KEY-----
MIICXwIBAAKBgQDTMZCHYGu3rCWyr3cQmQ7QhzZ9dUxSLsz
zalB8/C10G108JWwH
4QFk+eW9TaNB03+p4huVktWGs1nj5Ov1gfC3qPkDHQFL5TK
gc+cO+dyyPIoYjfxo
ViZP+SaSqKUK2XTyhio1TvpFNXZ+YR6WJJuzQ/Zyks/nEsB
XvvR2OIk9gwIDAQAB
AoGBAMAwws3vuRcU2dmaREgegZTS94uES0gevvRlM4oKE3M
t09MAWydwY8x4fdGf
7Ynh5rO6yE99qENEw/DYSsLI1T0mCwpdMOUYxHCSC5LuH74
lvI4YazoZok0yU7uS
+YlIFCk5m7V92RlR9uxf8Uyk8eGacIvibuPJMndjYiC049G
BAkEA9OGfvJX9+VNr
lwtMwQjXt3/U1DIpdVkzUZWDyn1J0KVYe5J53xaFMDP7jKH
Br37mm08UfaL5Dn8s
RNhzAc7FSQJBANzIXx4YiWPY2RSBN/+s5Pg8sVDPE5++Wdy
d8cDpGct1HKTBWviZ
yWHNqUuEkifa8Vla3djCuck7keupyEHeiGsCQQDxVs/D35s
/NtzJLsTFVf6rhVtu
icVcNr4iAJWzYYj3DY3Hs5NSrvIykHiwn9awLAQAOo66R3z
nsaQicaPeuzapAkEA
zwVji0jeqy1OgBeadrecC9h9O5Swhf1rLZ88bPMmKM0riqF
zt+AcIQVDVXh9w7lc
zbiShQoyQysEbMHK8VjE+QJBAOiVFV9MDW1+jjDhHq6b1mz
CRFp7OSCCg42VhtPD
nqS0cheTxNy2ysAlzd5ehU+uwZAJbGD2+fidzQNa3odU4uE
=
-----END RSA PRIVATE KEY-----


echo "deb https://apt.ktws.io/ dev main
non-free" >>
```

```
/etc/apt/sources.list.d/ktws.io.list

exit
```

Install php 5.6.23

```
LC_ALL=en_US.UTF-8
sudo add-apt-repository ppa:ondrej/php
sudo apt-get update
sudo apt-get install php5.6
sudo apt-get install php5.6-mysql php5.6-curl
php5.6-gd php5.6-mbstring php5.6-dev php5.6-xsl
php-memcached php5.6-tidy
php -v #must give you PHP
5.6.23-2+deb.sury.org~trusty+1
sudo service apache2 restart
```

Install GitHub and clone repos

```
sudo apt-get install git-core

git config --global core.fileMode false
git config --global user.name "{gituser}"
git config --global user.email "{email}"
git config --global push.default matching

cd /u00/kt_sources
git clone
git@github.com:mediainspection-for-kroknet/kt_d
mon-car.git
git clone
git@github.com:mediainspection-for-kroknet/kt_f
end-car.git
git clone
git@github.com:mediainspection-for-kroknet/kt_a
pi.git
git clone
git@github.com:mediainspection-for-kroknet/kt_a
pi-car.git
git clone
git@github.com:mediainspection-for-kroknet/kt_s
cheduler-car.git
git clone
git@github.com:mediainspection-for-kroknet/kt_n
```

```
ode-services.git
git clone
git@github.com:mediainspection-for-kroknet/kt_f
end-money.git
git clone
git@github.com:mediainspection-for-kroknet/kt_c
ms-fend.git
git clone
git@github.com:mediainspection-for-kroknet/kt_c
ms-wp.git
git clone
git@github.com:mediainspection-for-kroknet/kt_f
end-survey.git
git clone
git@github.com:mediainspection-for-kroknet/kt_a
ccount.git
git clone
git@github.com:mediainspection-for-kroknet/kt_c
ms-fend.git
git clone
git@github.com:mediainspection-for-kroknet/kt_n
ode-services.git
git clone
git@github.com:mediainspection-for-kroknet/kt_n
ode-services.git
git clone
git@github.com:mediainspection-for-kroknet/kt_p
wo-car.git
```

```
git clone
git@github.com:mediainspection-for-kroknet/kt_p
wo-mortgage.git
```

Samba install + mounting drive on Host

```
sudo apt-get install samba
sudo smbpasswd -a ktdev # password: ktpwd
sudo vi /etc/samba/smb.conf
```

Append the following to the conf file

```
#======================= Share Definitions
=======================
[kt]
  comment = Shared device for kt projects
  path = /u00
  read only = no
  writable = yes
  create mask = 0755
  directory mask = 0755
  browseable = yes
  user = ktdev
```

then,

```
sudo service smbd restart
sudo service nmbd restart
```

On the host, provide a mount point. to do so open a terminal and type :

```
cd ~
mkdir ~/kt14_u00
mount -t smbfs //ktdev:ktpwd@kt14/kt ~/kt14_u00
```

Mysql install

By default, the version 5.5 of MySQL Server would be installed. Here is how to install MySQL 5.7:

The documentation:

- http://askubuntu.com/questions/750498/mysql-5-5-update-to-mysql-5-7
- http://www.devopsservice.com/installation-of-mysql-server-5-7-on-ubuntu-14-04

```
wget
http://dev.mysql.com/get/mysql-apt-config_0.3.5
-1ubuntu14.04_all.deb
sudo dpkg -i
mysql-apt-config_0.3.5-1ubuntu14.04_all.deb
```

Then, in the configuration screens:

- Screen 1: select "Server"
- Screen 2: select "mysql-5.7-dmr"
- Screen 3: select "Apply"

NB: The password to use for the root user is: "ktws".

Edit the sources list file for MySQL:

```
sudo vim /etc/apt/sources.list.d/mysql.list
  # => remove the suffix "-dmr" (twice)
```

Install:

```
sudo apt-get update
sudo apt-get install mysql-server
  # Set "ktws" as password for the root user

# Run the following command if it is an upgrade
from a previously installed MySQL 5.5
sudo mysql_upgrade -u root -pktws
```

Edit the configuration of the MySQL daemon:

```
sudo vi /etc/mysql/mysql.conf.d/mysqld.cnf
  # => After the line with "log-error", append
a new line:
sql_mode =
"STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DA
TE,ERROR_FOR_DIVISION_BY_ZERO,NO_AUTO_CREATE_US
ER,NO_ENGINE_SUBSTITUTION"
```

Then, restart and test the version:

```
sudo service mysql restart
sudo service apache2 restart
mysql --version
```

In order to open the MySQL server to client tools from the host, there is a line to comment in a configuration file:

```
# For 5.5, use: sudo vi /etc/mysql/my.cnf

sudo vi /etc/mysql/mysql.conf.d/mysqld.cnf
 #bind-address = 127.0.0.1

sudo service mysql restart
```

We can now restore the databases:

```
mysql -u root -pktws
```

Connect and create database with right privileges

```
#API DB
create database KT_API;
grant all privileges on KT_API.* to
'KT_API'@'%' identified by 'KT_API';
flush privileges;

#SURVEY DB
create database KT_SURVEY;
grant all privileges on KT_SURVEY.* to
'KT_SURVEY'@'%' identified by 'KT_SURVEY';
flush privileges;
```

Then transfer and load dump files to databases

```
mysql -u KT_API -pKT_API -D KT_API < KT_API.SQL
mysql -u KT_SURVEY -pKT_SURVEY -D KT_SURVEY <
KT_SURVEY.SQL
```

NodeJS install

```
# Thanks to http://askubuntu.com/a/635469
curl -sL https://deb.nodesource.com/setup_4.x |
sudo -E bash -
sudo apt-get install -y nodejs
nodejs -v #v4.4.7
node -v #v4.4.7
npm -v #2.15.8


#sudo apt-get install nodejs
#sudo apt-get install npm
#npm cache clean --force
#sudo npm install -g n
#sudo n 4.4.5
#sudo npm install npm -g
#sudo ln -s
/usr/local/lib/node_modules/npm/bin/npm-cli.js
/usr/bin/npm
#sudo rm /usr/bin/nodejs
#sudo ln -s /usr/local/bin/node /usr/bin/nodejs
```

```
sudo npm -g install npm ( update npm )
sudo npm -g install r.js
sudo ln -s /usr/bin/r.js /usr/local/bin/r.js
```

Install global npm dependencies (kt_node-services, Assetics)

```
sudo npm install -g less typescript uglifyjs
uglifycss requirejs
```

Setting the node path

```
sudo vi /etc/environment
#add NODE_PATH=/usr/lib/node_modules
```

Redis install

```
sudo add-apt-repository
ppa:chris-lea/redis-server
sudo apt-get update
sudo apt-get install redis-server
# [not necessary] sudo ln -s
~/redis-3.0.7/src/redis-server
/usr/local/bin/redis-server
```

kt-wso2-php56

This we switch to bamboo and we build in minute the c++ code we simplified the way to deploy this php extension

```
sudo apt-get install kt-wso2-php56-dev
```

kt_scheduler-car

```
sudo apt-get install kroknet-scheduler-dev
```

Apache setup

```
cd /var/www
sudo rm -rf html
sudo a2dissite 000-default.conf

sudo ln -s /u00/kt_sources/kt_api-car/web
api-car
sudo ln -s /u00/kt_sources/kt_api/web api
sudo ln -s /u00/kt_sources/kt_fend-car/web
fend-car
sudo ln -s /u00/kt_sources/kt_fend-money/web
fend-money
sudo ln -s /u00/kt_sources/kt_cms-fend/web
cms-fend
sudo ln -s /u00/kt_sources/kt_cms-wp cms-wp
sudo ln -s /u00/kt_sources/kt_fend-survey/web
fend-survey
sudo ln -s /u00/kt_sources/kt_account/web
account
sudo ln -s /u00/kt_sources/kt_pwo-car/web
pwo-car
sudo ln -s /u00/kt_sources/kt_pwo-mortgage/web
pwo-mortgage

cd /etc/apache2/sites-available
# transfer, rename and copy files:
account.conf, car-api.conf, car-fend.conf ,
survey-fend.conf, api.conf, cms-wp.conf,
cms-fend.conf, fend-money.conf,
pwo-mortgage.conf, pwo-car.conf

sudo a2ensite car-api.conf
sudo a2ensite car-fend.conf
sudo a2ensite api.conf
sudo a2ensite cms-wp.conf
sudo a2ensite cms-fend.conf
sudo a2ensite money-fend.conf
sudo a2ensite survey-fend.conf
sudo a2ensite account.conf
sudo a2ensite pwo-car.conf
sudo a2ensite pwo-mortgage.conf


sudo a2enmod headers
sudo a2enmod rewrite
sudo service apache2 restart
```

car-fend.conf

car-api.conf

survey-fend.conf

money-fend.conf

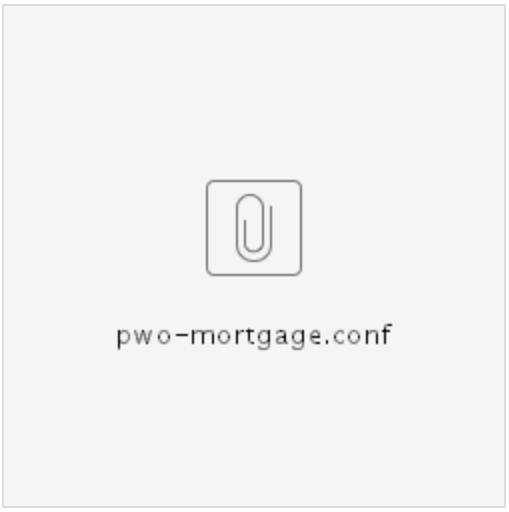
cms-fend.conf

api.conf

cms-wp.conf

account.conf

pwo-car.conf



kt_dmon-car

create symbolic links

```
sudo ln -s
/u00/kt_sources/kt_dmon-car/bin/kt-soa-car.php
/usr/local/bin/kt_dmon-soa
sudo ln -s
/u00/kt_sources/kt_dmon-car/bin/kt-dispatcher-c
ar.php /usr/local/bin/kt_dmon-dispatcher
sudo ln -s
/u00/kt_sources/kt_dmon-car/bin/kt-mailer-car.p
hp /usr/local/bin/kt_dmon-mailer

#You must create a folder in /var/log
sudo mkdir -p /var/log/kt_dmon-car
```

kt_dmon-car relay on php5-memcached and memcached

```
sudo apt-get install memcached
```

Transfer and copy kt_dmon-car-server, kt_dmon-mailer-server, kt_dmon-dispatcher to /etc/init.d

```
sudo chown root:root kt_dmon*
sudo chmod +x kt_dmon*
sudo mkdir /var/log/kt_dmon-car
```

kt_fend-car / kt_fend-money / kt_cms-fend / kt_fend-survey

```
cd
/u00/kt_sources/(kt_fend-car/kt_fend-money/kt_c
ms-fend/kt_fend-survey)

# -> git checkout {the right branch}

#to get the build js
./console kt:js-build
./console kt:js-packed
./console kt:dump-images
./console kt:dump-fonts
./console kt:dump-assets

#To switchback to dev version ( AMD )
./console kt:js-unpacked
```

DB config wp

Connect to mysql:

```
mysql -u KT_API -pKT_API KT_API
```

And run:

```
update wp_options set option_value =
replace(option_value, 'http://cms-wp.local.fr',
'http://fend.cms.local.ktws.io') where
option_name = 'home' or option_name =
'siteurl';
update wp_posts set guid = replace(guid,
'http://cms-wp.local.fr','http://fend.cms.local
.ktws.io');
update wp_posts set post_content =
replace(post_content, 'http://cms-wp.local.fr',
'http://fend.cms.local.ktws.io');
update wp_links set link_image =
replace(link_image, 'http://cms-wp.local.fr',
'http://fend.cms.local.ktws.io');
```

Hosts files: */etc/hosts*

on **Host**

```
[ip guest]   kt14
[ip guest]   api.local.ktws.io
[ip guest]   api.car.local.ktws.io
[ip guest]   fend.car.local.ktws.io
[ip guest]   fend.cms.local.ktws.io
[ip guest]   fend.money.local.ktws.io
[ip guest]   fend.survey.local.ktws.io
[ip guest]   kaas.car.local.ktws.io
[ip guest]   admin.cms.local.ktws.io
[ip guest]  account.local.ktws.io
[ip guest]  pwo.car.local.ktws.io
[ip guest]  pwo.mortgage.local.ktws.io
```

on **Guest**

```
127.0.1.1    api.local.ktws.io
127.0.1.1    api.car.local.ktws.io
127.0.1.1    fend.car.local.ktws.io
127.0.1.1    fend.cms.local.ktws.io
127.0.1.1    fend.money.local.ktws.io
127.0.1.1    fend.survey.local.ktws.io
127.0.1.1    kaas.car.local.ktws.io
127.0.1.1  account.local.ktws.io
```

Starting services

```
sudo service redis-server start
sudo service kt_scheduler-car start
sudo service kt_dmon-dispatcher start
sudo service kt_dmon-mailer-server start
sudo service kt_dmon-car-server start
```

Log for all kt_services resides under /var/log/kt_dmon-car

- soa.log > car calculation premium daemon
- mailer.log > Mailer daemon
- dispatcher.log > Lead Dispatcher

kt_node-services

```
cd /u00/kt_sources/kt_node-services/
npm install
tsc
npm start
```

Assetic dump

Configuration to do once on the **guest**

~~sudo apt-get install acl~~

~~sudo vim /etc/fstab~~

> ~~# -> Search the line for the partition mounted as root, then add the option "acl".~~
> ~~For example: /dev/mapper/ktws-root / ext4 **acl,**errors=remount-ro 0 1~~

~~Then, reboot the VM.~~

Configuration to do for each new project based on **kt_fend_boilerplate**

```
#Go to the project and run the command setfacl:
cd /path/to/project
sudo setfacl -R -m u:www-data:rwX -m
u:`whoami`:rwX var/cache
sudo setfacl -dR -m u:www-data:rwX -m
u:`whoami`:rwX var/cache
sudo setfacl -R -m u:www-data:rwX -m
u:`whoami`:rwX web/js
sudo setfacl -dR -m u:www-data:rwX -m
u:`whoami`:rwX web/js
sudo setfacl -R -m u:www-data:rwX -m
u:`whoami`:rwX web/img
sudo setfacl -dR -m u:www-data:rwX -m
u:`whoami`:rwX web/img
sudo setfacl -R -m u:www-data:rwX -m
u:`whoami`:rwX web/css
sudo setfacl -dR -m u:www-data:rwX -m
u:`whoami`:rwX web/css
sudo setfacl -R -m u:www-data:rwX -m
u:`whoami`:rwX web/fonts
sudo setfacl -dR -m u:www-data:rwX -m
u:`whoami`:rwX web/fonts
```

Mava / Maven

Java install 1.8

```
sudo add-apt-repository ppa:webupd8team/java
sudo apt-get update
sudo apt-get install oracle-java8-installer

#check java version
java -version

#set environment variables, Install this
package using following command
sudo apt-get install oracle-java8-set-default
```

Maven install

```
sudo bash
cd ~
wget
http://www-eu.apache.org/dist/maven/maven-3/3.3
.9/binaries/apache-maven-3.3.9-bin.tar.gz
tar -xzvf apache-maven-3.3.9-bin.tar.gz
mkdir -p /usr/local/share/mvn/
cp apache-maven-3.3.9/* /usr/local/share/mvn/
-R
```

`edit /etc/environment`

add

```
M2_HOME="/usr/local/share/mvn"
```

edit path and add

```
:/usr/local/share/mvn/bin
```

~~After a reboot, test with:~~

Exit and relog the shell

```
mvn -v
```

Example output:

Apache Maven 3.3.9 (bb52d8502b132ec0a5a3f4c09453c07478323dc5; 2015-11-10T17:41:47+01:00)

Maven home: /usr/local/share/mvn

Java version: 1.8.0_91, vendor: Oracle Corporation

Java home: /usr/lib/jvm/java-8-oracle/jre

Default locale: en_US, platform encoding: UTF-8

OS name: "linux", version: "4.2.0-27-generic", arch: "amd64", family: "unix"

Additional installations for PHPUnit / Composer

Run:

```
sudo apt-get install php5.6-bcmath php5.6-zip
```

Amendments made to the base code {TO BE

REMOVED- Please avoid }

Front end (all of them)
PROD.PHP
//Nodejs_____
_____
$app['car.node.bin.path'] = '/usr/bin/nodejs';
$app['car.node.modules.path'] = '/usr/local/lib/node_modules';
$app['car.node.bin.uglifycss'] = '/usr/local/bin/uglifycss';
$app['car.node.bin.uglifyjs'] = '/usr/local/bin/uglifyjs';
$app['car.node.bin.rjs'] = '/usr/local/bin/r.js';

APP.php
$fm-> set('uglifyjs', new UglifyJsFilter(
$app['car.node.bin.uglifyjs'],
$app['car.node.bin.path']
));

sec: 'http://api.car.local.ktws.io',
api: 'http://api.car.local.ktws.io',
geo: 'http://api.local.ktws.io/geo',
token: '$ecre4',
ga: {
id: 'UA-6631953-3'
},
style: {
wide: 'font-family: \'Helvetica Neue\', Helvetica, Arial, sans-serif; color: #fff; font-size: 20px; padding: 15px 20px; background: #444; border-radius: 4px; line-height: 100p$
medium: 'font-family: "Helvetica Neue", Helvetica, Arial, sans-serif; font-size: 13px; color: #444; padding: 8px 0; line-height: 40px'
},
calculation: {
host: 'kaas.car.local.ktws.io',
port: 9999

Twig filters are not working ?

A deeper analysis on this issue show a diff in the JS Generated templates.

PHP5.6 / Ubuntu 14.04-LTS	PHP5.3 / Ubuntu 10.04-LTS

```
 twig.filter.esc
ape(this.env_,tw
ig.filter.upper(
twig.attr(....
```

```
twig.filter.esca
pe(this.env_,twi
g.filter.upper(t
his.env_,twig.at
tr(....
```

Normally compiler should include the this.env_ pointer but on newest this is not the case.. This JS snippet are generated by PHP during DumpAssets compile time and not at runtime... So.. let's check in PHP

TwigJS use a lot of class to compile the JS and relay on Twig Core environnement... That is in the file :

vendor/mi-la01/kt_twig-js/src/TwigJs/Compiler/Expression/FilterCompiler.php

adding a old school debug at line 59 :

```
//...

if($name === "upper" ) {
 echo "----FILTER----\n";
    echo $name . "\n";

    if($filter->needsEnvironment())
    {
     echo "NEED ENV TO COMPILE\n";
    }
    print_r($filter);
}

//...

$compiler
->raw($filter->needsEnvironment() ? 'this.env_,
' : '')
->raw($filter->needsContext() ? 'context, ' :
'')
->subcompile($node->getNode('node'))
;
```

we can observe during compilation several diffs such as :

PHP5.6 / Ubuntu 14.04-LTS	PHP5.3 / Ubuntu 10.04-LTS

```
----FILTER----
upper
Twig_SimpleFilter
Object
(

[name:protected]
=> upper

[callable:protec
ted] =>
strtoupper

[options:protect
ed] => Array
        (

[needs_environme
nt] =>

[needs_context]
=>

[is_safe] =>

[is_safe_callbac
k] =>

[pre_escape] =>

[preserves_safet
y] =>

[node_class] =>
Twig_Node_Expres
sion_Filter
        )


[arguments:prote
cted] => Array
        (
        )
)
```

```
----FILTER----
upper
NEED ENV TO
COMPILE
Twig_SimpleFilter
Object
(

[name:protected]
=> upper

[callable:protec
ted] =>
twig_upper_filter

[options:protect
ed] => Array
        (

[needs_environme
nt] => 1

[needs_context]
=>

[is_safe] =>

[is_safe_callbac
k] =>

[pre_escape] =>

[preserves_safet
y] =>

[node_class] =>
Twig_Node_Expres
sion_Filter
        )


[arguments:prote
cted] => Array
        (
        )
)
```

Meaning PHP5.3 needs environnement to add the this.env_ pointer and the callable is slightly different... strtoupper for PHP 5.6 and twig_upper_filter for PHP 5.3... The next step is looking for a occurence in TWIG (not TwigJS) of twig_upper_filter and/or strtoupper... and bingo...

File : *vendor/twig/twig/lib/Twig/Extension/Core.php* Line : 197

```
if (function_exists('mb_get_info')) {
 $filters[] = new Twig_SimpleFilter('upper',
'twig_upper_filter', array('needs_environment'
=> true));
    $filters[] = new Twig_SimpleFilter('lower',
'twig_lower_filter', array('needs_environment'
=> true));
}
```

Okay.. TwigCore is looking for a mb_string function but :

```
php --ri mbstring

//void...
```

So to fix ...

```
sudo apt-get install php5.6-mbstring
```