

Subscription Notifier Task

Context

In this article, I'm going to talk about how to set up subscription notifier in the dev environment so that we can test the subscription sender functionality.

TL;DR;

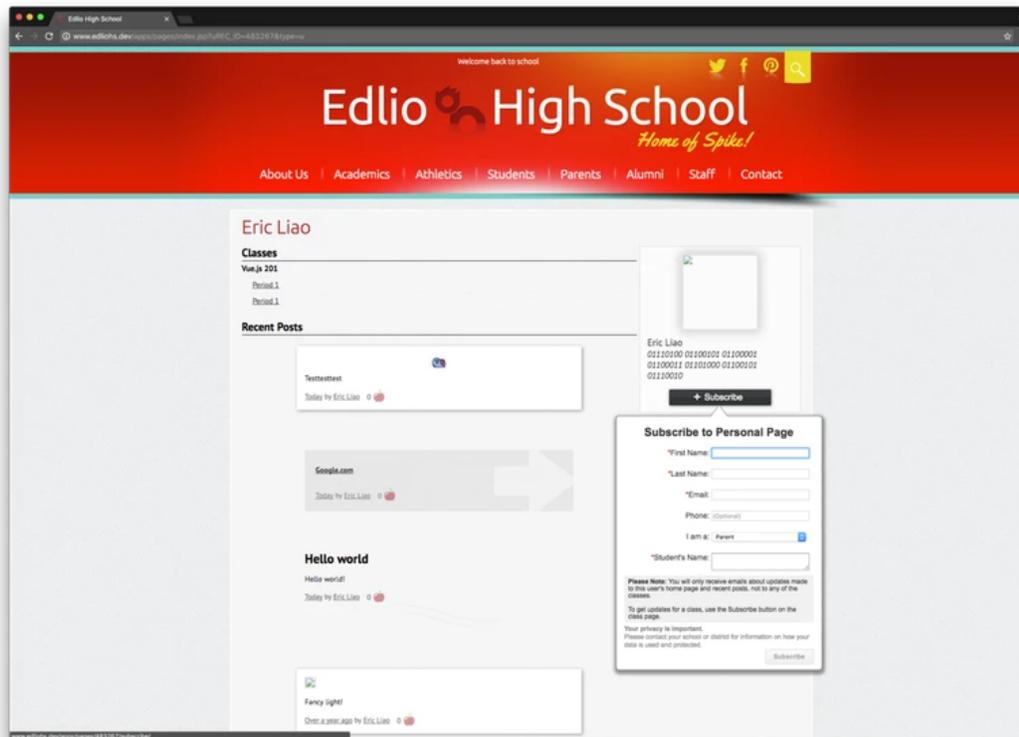
Essentially, the subscription notifier is set up as a Gradle task with input relying on a couple environment variable. This implies, you can set up the subscription notifier as below in the vagrant box (mostly for getting the right value in the catalina.properties):

SubscriptionNotifier Task

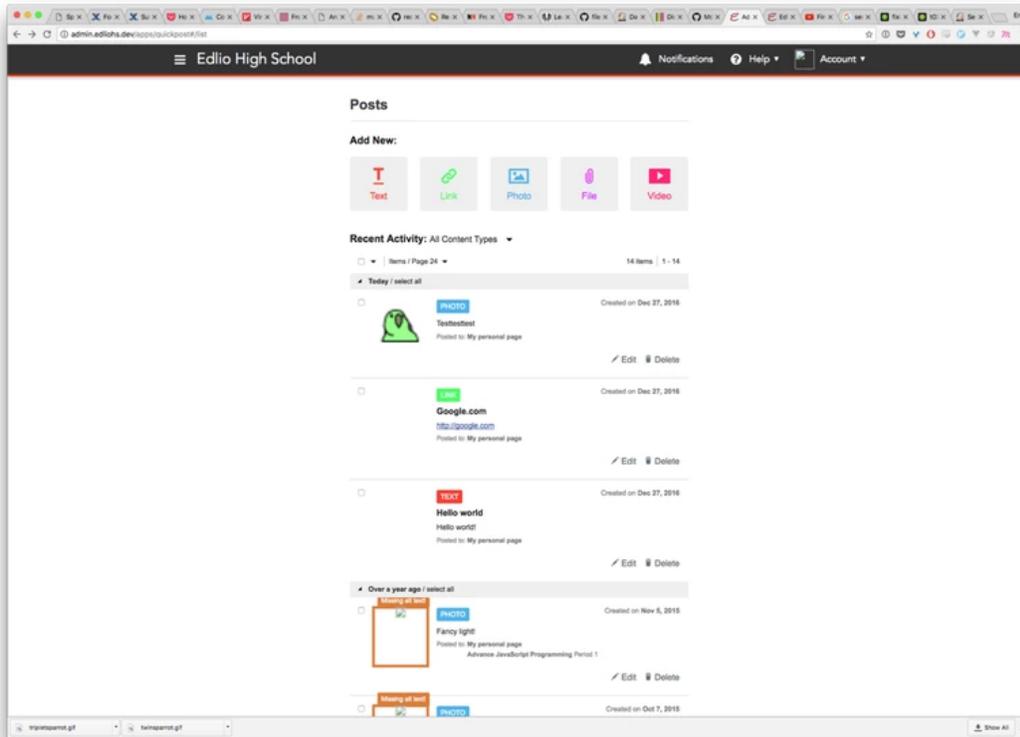
```
1 export NOTIFY_TIMEZONE=US/Pacific
2 export NUM_OF_THREADS=4
3 export CATALINA_BASE=/edlio/cms/current/tomcat
4 cd /edlio/cms/current && ./gradlew subscriptionNotifer
```

Set ups

In order to test subscription notifier, you will need to subscribe to one of teachers in your dev environment.



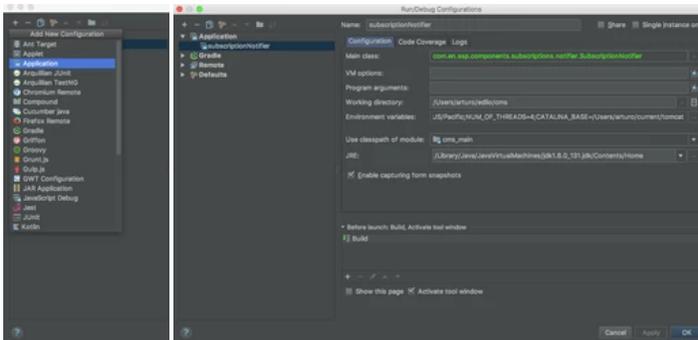
And then you can create a couple **quick posts** or **assignments** as part of notification to send today.



Once above are set up, you can try to run the task above in ****TL;DR**** section.

Debugging

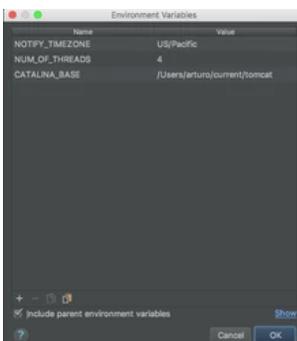
Now because this is a task that is run outside the cms we cannot debug it like we normally do. Yet we can debug the task as a Java application in IntelliJ.



First we should create a new Run Configuration and select the Application option. Then the configuration would be the same as is shown in the picture depending on your directories.

These are the steps you should take to setup the configuration.

1. Choose SubscriptionNotifier as the Main Class.
2. Working Directory is where your cms project is located.
- 3.



Is important to add the environmental variables inside the configuration. The variable values are the same as stated before. I will talk about CATALINA_BASE value later. Take note that the value for this variable is a directory inside your computer.

4. Classpath would be the module that contains SubscriptionNotifier, in this case is cms_main

5. JRE is where you contain the version of Java for the project. Make sure you use the one from the virtual machines.

Now because IntelliJ runs in your computer and not inside the virtual box , it will look for the file of catalina.properties inside your computer and it won't find it. Therefore you should create a directory that contains this file.

In my case the directory is:

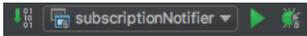
```
/Users/arturo/current/tomcat/conf/catalina.properties
```

The part of /conf/catalina.properties is hard coded in the program. So therefore create a directory anywhere in your computer but make sure catalina.properties is inside the conf directory.

CATALINA_BASE is the value of the path of your directory minus /conf/catalina.properties

```
CATALINA_BASE=/Users/arturo/current/tomcat
```

After all this you can run the notification task inside IntelliJ, you can run it as a normal program or in debugging mode.



If you get an error saying the app cannot find the templates, update the new catalina.properties to match the right location. Those are inside tomcat/templates. For example:

```
templates.path=/home/hipolito/edlio/cms/tomcat/templates
```

Side notes

If email is not sent properly, you can debug into your /edlio/cms/current/tomcat/conf/catalina.properties to check if you have the right sendgrid credentials.

```
vagrant@cmsadmin:/edlio/cms/current
# en.sponsorship.maxNumberContractsPerAuction = 2
# en.sponsorship.auctionInterval = 30
# en.sponsorship.numberImpressionsToBid = 1000
# en.sponsorship.auctionFeePercentage = 18
# en.sponsorship.schoolFeePercentage = 15
# en.sponsorship.auctionInterval = 120

emergency.recipient.1=eric@edlio.com

mail.smtp.timeout=10000
mail.smtp.connectiontimeout=10000
mail.smtp.host=smtp.sendgrid.net
mail.smtp.port=587
mail.smtp.username=<get from dev manager>
mail.smtp.password=<get from dev manager>

# emergency.sms.recipient.1=6469323272@txt.att.net

# mmserver.root=/Workspace/en/webapps/enmultimedia/ROOT/videoSource/
# mmserver.ffmpeg=old

#emergency.email.recipient.1=tortop@gmail.com
#emergency.email.recipient.2=endertortop@gmail.com

# routing and templating configuration
routes.path.public_apps=/opt/edlio/cms/current/tomcat/routes/public-apps.txt
routes.path.admin_apps=/opt/edlio/cms/current/tomcat/routes/admin-apps.txt
routes.path.import_tags=/opt/edlio/cms/current/tomcat/routes/import-tags.txt
templates.path=/opt/edlio/cms/current/tomcat/templates

270,41 61%
```

If you desire to run several times the task of notifications during the day and receive the emails you need to clear a value from the database. The task will only send notifications to the users who haven't received one during the day. Therefore if you run the task , then create a new post and run the task again the person won't receive a notification. That is why in the database in the table of user_subscriptions you have to delete the value of lastNotification for each user.

You will know if the notifications are not send if you get this message in console:

```
05:57:50.298 [main] INFO com.en.util.Log - [14 of 15] Finished sending notifications.
05:57:50.298 [main] INFO com.en.util.Log - [15 of 15] Processing subscriptions...
05:57:50.303 [main] INFO com.en.util.Log - [15 of 15] Finished processing subscriptions.
05:57:50.303 [main] INFO com.en.util.Log - [15 of 15] Sending homework notifications...
05:57:50.303 [main] INFO com.en.util.Log - Entering subscriber notification loop...
05:57:50.304 [main] INFO com.en.util.Log - Done sending notifications (took 1 ms)
05:57:50.304 [main] INFO com.en.util.Log - Results report: {
  "processTimeMs": "1",
  "numSubscriberErrors": "0",
  "numDatabaseUpdates": "0",
  "timeZone": "US/Pacific",
  "numDatabaseUpdateErrors": "0",
  "numSubscribersNotified": "0"
}
05:57:50.308 [main] INFO com.en.util.Log - [15 of 15] Finished sending notifications.
:autolintGradle
BUILD SUCCESSFUL
```

Even when you have users in the table of user_subscriptions those users won't receive the notifications as i stated before.

If several days have passed and you decide to delete the values of lastNotification and run the notification tasks, you could run into a Mysql Exception.

```
09:58:42,220 [Thread-00] WARN com.en.util.Log - Exception occurred during subscription notification loop. Could not continue processing. Thread terminating
com.mysql.jdbc.exceptions.jdbc4.MySQLSyntaxErrorException: You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ')' at line 1

Query being executed when exception was thrown:
UPDATE user_subscriptions SET lastNotification=UTC_TIMESTAMP() WHERE userID IN ( )

at sun.reflect.NativeConstructorAccessorImpl.newInstance0(Native Method) ~[na:1.8.0_131]
at sun.reflect.NativeConstructorAccessorImpl.newInstance(NativeConstructorAccessorImpl.java:62) ~[na:1.8.0_131]
at sun.reflect.DelegatingConstructorAccessorImpl.newInstance(DelegatingConstructorAccessorImpl.java:45) ~[na:1.8.0_131]
at java.lang.reflect.Constructor.newInstance(Constructor.java:423) ~[na:1.8.0_131]
at com.mysql.jdbc.Util.handleNewInstance(Util.java:494) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.Util.getInstance(Util.java:387) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.SQLError.createSQLException(SQLError.java:999) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.MysqlIO.checkErrorPacket(MysqlIO.java:3878) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.MysqlIO.checkErrorPacket(MysqlIO.java:3814) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.MysqlIO.sendCommand(MysqlIO.java:2478) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.MysqlIO.sqlQueryDirect(MysqlIO.java:2925) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.ConnectionImpl.execSQL(ConnectionImpl.java:2551) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.PreparedStatement.executeInternal(PreparedStatement.java:1861) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.mysql.jdbc.PreparedStatement.execute(PreparedStatement.java:1192) ~[mysql-connector-java-5.1.38.jar:5.1.38]
at com.zaxxer.hikari.pool.ProxyPreparedStatement.execute(ProxyPreparedStatement.java:44) ~[HikariCP-2.4.3.jar:na]
at com.zaxxer.hikari.pool.HikariProxyPreparedStatement.execute(HikariProxyPreparedStatement.java) ~[HikariCP-2.4.3.jar:na]
at com.en.mysql.MySQLConnection.execute(MySQLConnection.java:218) ~[main:/na]
at com.en.ssp.components.subscriptions.notifier.SubscriptionNotifier$SubscriptionNotifierThread.run(SubscriptionNotifier.java:391) ~[main:/na]
```

The reason for this is because the code will receive that there are users to notify but because the timestamp of each post is greater than the time window to add them to the notification email. It will not receive any id from the users to notify. To fix this, just create a new post for each user you follow.