SPRAWOZDANIE

Zajęcia: Informatyczne systemy medyczne
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Laboratorium 2
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Temat: Podstawy systemu OpenMRS SDK
Wszystkie warianty.

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Zadanie 1. Zadanie dotyczy tworzenia kilka instancji serwerów OpenMRS.

Instalacja OpenMRS SDK.

Do intalacji OpenMRS SDK jest potrzebny serwer Maven i Java 8. Całą instalację przeprowadzamy w programie “Windows PowerShell”

Sprawdzamy wersję java i Maven:

```
PS D:\Radek> java -version
>> mvn -v
```

```
java version "1.8.0_271"
Java(TM) SE Runtime Environment (build 1.8.0_271-b09)
Java HotSpot(TM) Client VM (build 25.271-b09, mixed mode)
Apache Maven 3.6.3 (cecedd343002696d0abb50b32b541b8a6ba2883f)
```

Po sprawdzeniu działaniu obu programów, należy zainstalowaći OpenMRS SDK:

```
>> mvn org.openmrs.maven.plugins:openmrs-sdk-maven-plugin:setup-sdk
```

```
Would you be willing to help us improve SDK by sending us once in a while anonymous usage statistics (you can always
change your mind by going to sdk-stats.properties and setting statsEnabled to false) [Y/n]:
mvn -v
[INFO] SDK installed successfully, settings file: C:\Users\Radek\.m2\settings.xml
[INFO] Now you can use sdk: mvn openmrs-sdk:<task_name>
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  45:13 min
[INFO] Finished at: 2021-01-17T21:10:03+01:00
[INFO] ------------------------------------------------------------------------
```

Po zainstalowaniu należy OpenMRS skonfigurować:

```
PS D:\Radek> mvn openmrs-sdk:setup
[INFO] Scanning for projects...
Downloading from openmrs-repo: http://mavenrepo.openmrs.org/nexus/content/repositories/public/org/apache/maven/plugin
s/maven-clean-plugin/2.5/maven-clean-plugin-2.5.pom
Downloaded from openmrs-repo: http://mavenrepo.openmrs.org/nexus/content/repositories/public/org/apache/maven/plugins
/maven-clean-plugin/2.5/maven-clean-plugin-2.5.pom (3.9 kB at 2.0 kB/s)
Downloading from openmrs-repo: http://mavenrepo.openmrs.org/nexus/content/repositories/public/org/apache/maven/plugin
s/maven-plugins/22/maven-plugins-22.pom
Downloaded from openmrs-repo: http://mavenrepo.openmrs.org/nexus/content/repositories/public/org/apache/maven/plugins
```

```
ns/openmrs-sdk-maven-plugin/3.13.6/openmrs-sdk-maven-plugin-3.13.6.jar
Downloaded from openmrs-repo: http://mavenrepo.openmrs.org/nexus/content/repositories/public/org/openmrs/maven/plugi
s/openmrs-sdk-maven-plugin/3.13.6/openmrs-sdk-maven-plugin-3.13.6.jar (340 kB at 248 kB/s)
[INFO]
[INFO] ------------------< org.apache.maven:standalone-pom >-------------------
[INFO] Building Maven Stub Project (No POM) 1
[INFO] --------------------------------[ pom ]---------------------------------
[INFO]
[INFO] --- openmrs-sdk-maven-plugin:3.13.6:setup (default-cli) @ standalone-pom ---
Downloading from openmrs-repo: http://mavenrepo.openmrs.org/nexus/content/repositories/public/mysql/mysql-connector-
ava/5.1.49/mysql-connector-java-5.1.49.pom
Downloaded from openmrs-repo: http://mavenrepo.openmrs.org/nexus/content/repositories/public/mysql/mysql-connector-j
va/5.1.49/mysql-connector-java-5.1.49.pom (1.1 kB at 1.6 kB/s)
Downloading from openmrs-repo: http://mavenrepo.openmrs.org/nexus/content/repositories/public/org/apache/tomcat/embe
```

Określić Id serwera:

```
Setting up a new server...
Specify server id (-DserverId) (default: 'server'): 1
```

Wybrać wersję OpenMRS SDK:

```
You can setup the following servers:
1) Distribution
2) Platform

Which one do you choose? [1/2]: 1
[INFO] artifact org.openmrs.distro:referenceapplication-package: checking for updates from openmrs-repo
[INFO] artifact org.openmrs.distro:referenceapplication-package: checking for updates from archetype
[INFO] artifact org.openmrs.distro:referenceapplication-package: checking for updates from openmrs-repo-thirdparty
[INFO] artifact org.openmrs.distro:referenceapplication-package: checking for updates from openmrs-bintray-repo
[INFO] artifact org.openmrs.distro:referenceapplication-package: checking for updates from central

You can deploy the following versions of distribution:
1) Reference Application 2.11.0-SNAPSHOT
2) Reference Application 2.10.0
3) Reference Application 2.9.0
4) Reference Application 2.8.1
5) Reference Application 2.7.0
6) Other...

Which one do you choose? [1/2/3/4/5/6]: 2
```

Wybrać port serwera i port do debugowania serwera:

```
What port would you like your server to use? (default: '8080'): 8081

If you want to enable remote debugging by default when running the server,
specify the port number here (e.g. 1044). Leave blank to disable debugging.
(Do not do this on a production server) (default: 'no debugging'): 1024
```

Wybrać z którego serwera baz danych będzie się korzystać:

```
Which database would you like to use?:
1) MySQL 5.6 (requires pre-installed MySQL 5.6)
2) MySQL 5.6 in SDK docker container (requires pre-installed Docker)
3) Existing docker container (requires pre-installed Docker)

Which one do you choose? [1/2/3]: 2
```

Na końcu wybrać który JDK będzie używać serwera:

```
Which one do you choose? [1/2]: [INFO] Server configured successfully, path: C:\Users\Radek\openmrs\server
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  56:01 min
[INFO] Finished at: 2021-01-18T08:31:12+01:00
[INFO] ------------------------------------------------------------------------
PS D:\Radek>
```

Po odpowiedniej konfiguracji, build powinien być poprawny.

Teraz należy sprawdzić czy działa poprawnie serwer:

```
PS D:\Radek> mvn openmrs-sdk:run
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------< org.apache.maven:standalone-pom >-------------------
[INFO] Building Maven Stub Project (No POM) 1
[INFO] --------------------------------[ pom ]---------------------------------
[INFO]
[INFO] --- openmrs-sdk-maven-plugin:3.13.6:run (default-cli) @ standalone-pom ---

You have the following servers::
1) server

Which one do you choose? [1]: 1
```

Serwer jest dostępny:

```
OpenMRS is ready for you at http://localhost:8081/openmrs/
sty 18, 2021 9:49:05 AM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8081"]
```

Kilka intancji serwera:

```
PS D:\Radek> mvn openmrs-sdk:run
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------< org.apache.maven:standalone-pom >-------------------
[INFO] Building Maven Stub Project (No POM) 1
[INFO] --------------------------------[ pom ]---------------------------------
[INFO]
[INFO] --- openmrs-sdk-maven-plugin:3.13.6:run (default-cli) @ standalone-pom ---

You have the following servers::
1) server3
2) server2
3) server1
4) server

Which one do you choose? [1/2/3/4]:
```

Zadanie 2. Zadanie dotyczy tworzenia projektu OpenMRS z archetypu.

W celu stworzenia projektu OpenMRS z prototypu wpisać komendę:

```
PS D:\Radek> mvn openmrs-sdk:create-project
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------< org.apache.maven:standalone-pom >-------------------
[INFO] Building Maven Stub Project (No POM) 1
[INFO] --------------------------------[ pom ]---------------------------------
[INFO]
[INFO] --- openmrs-sdk-maven-plugin:3.13.6:create-project (default-cli) @ standalone-pom ---
```

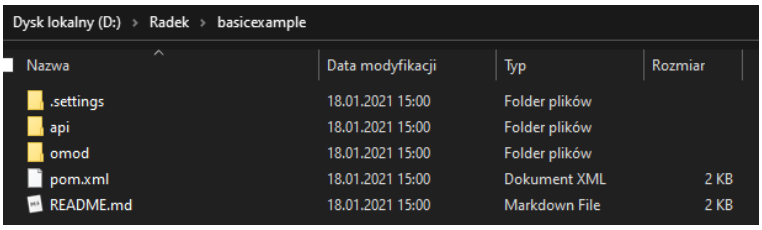
Należy teraz wybrać wersję projektu, określić specyfikację Id serwera, określić specyfikację nazwy serwera, dodać opis projektu:

```
What kind of project would you like to create?:
1) Platform module
2) Reference Application module
3) Open Web App

Which one do you choose? [1/2/3]: 1

Module id uniquely identifies your module in the OpenMRS world.

It is advised to consult your module id on https://talk.openmrs.org
to eliminate possible collisions.

Module id must consists of lowercase letters, must start from
a letter, can contain alphanumerics and dots, e.g. webservices.rest,
metadatasharing, reporting, htmlformentry.

Please specify module id (default: 'basicexample'): basicexample

Module name is a user friendly name displayed to the user
instead of the module id.

By convention it is a module id with spaces between words.

Please specify module name (default: 'Basicexample'): Basicexample

Describe your module in a few sentences (default: 'no description'):

GroupId, artifactId and version combined together identify
your module in the maven repository.

By convention OpenMRS modules use 'org.openmrs.module' as a groupId
(must follow convention for naming java packages) and the module id
as an artifactId. The version should follow maven versioning convention,
which in short is: major.minor.maintenance(-SNAPSHOT).

Please specify groupId (default: 'org.openmrs.module'): org.openmrs.module

Please specify initial version (default: '1.0.0-SNAPSHOT'): 1.0.0-SNAPSHOT

What is the lowest version of the platform (-Dplatform) you want to support? (default: '1.11.6'): 1.11.6
```

Po zbudowaniu:

```
[INFO] ------------------------------------------------------------------------
[INFO] Using following parameters for creating project from Archetype: openmrs-sdk-archetype-module-platform:3.13.6
[INFO] ------------------------------------------------------------------------
[INFO] Parameter: groupId, Value: org.openmrs.module
[INFO] Parameter: artifactId, Value: basicexample
[INFO] Parameter: version, Value: 1.0.0-SNAPSHOT
[INFO] Parameter: package, Value: org.openmrs.module.basicexample
[INFO] Parameter: packageInPathFormat, Value: org/openmrs/module/basicexample
[INFO] Parameter: moduleClassnamePrefix, Value: Basicexample
[INFO] Parameter: moduleName, Value: Basicexample
[INFO] Parameter: moduleAuthor, Value: NDominik
[INFO] Parameter: moduleDescription, Value: no description
[INFO] Parameter: groupId, Value: org.openmrs.module
[INFO] Parameter: version, Value: 1.0.0-SNAPSHOT
[INFO] Parameter: package, Value: org.openmrs.module.basicexample
[INFO] Parameter: openmrsPlatformVersion, Value: 1.11.6
[INFO] Parameter: artifactId, Value: basicexample
[INFO] Parent element not overwritten in D:\Radek\basicexample\api\pom.xml
[INFO] Parent element not overwritten in D:\Radek\basicexample\omod\pom.xml
[INFO] project created from Archetype in dir: D:\Radek\basicexample
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  02:49 min
[INFO] Finished at: 2021-01-18T15:00:20+01:00
[INFO] ------------------------------------------------------------------------
```

W celu upewnienia się utworzenia projektu, można sprawdzić w eksplorerze Windows:



Zadanie 3. Zadanie dotyczy rozwijania projektu na serwerze OpenMRS.

W celu wdrożenia projektu użyć komendy

```
PS D:\Radek\basicexample> mvn openmrs-sdk:deploy -DserverId=server1
[INFO] Scanning for projects...
```

Wybieramy co się chce wdrożyć:

```
What would you like to deploy?:
1) Module
2) Open Web App
3) Distribution
4) Platform

Which one do you choose? [1/2/3/4]: 1
```

Określić groupId, artifactId:

```
Please specify groupId (default: 'org.openmrs.module'): org.openmrs.module

Please specify artifactId: artId
```

Wybrać wersję wdrażania modułu:

```
You can deploy the following versions of the module:
1) 1.14.0-SNAPSHOT
2) 1.13.0
3) 1.12.0
4) 1.11.0
5) 1.10.0
6) Other...

Which one do you choose? [1/2/3/4/5/6]: 1
```

Należy zatwierdzić aktualizację:

```
[INFO] ------------------------------------------------------------------------
[INFO] Reactor Summary for Basicexample 1.0.0-SNAPSHOT:
[INFO]
[INFO] Basicexample ....................................... SUCCESS [09:16 min]
[INFO] Basicexample API ................................... SKIPPED
[INFO] Basicexample OMOD .................................. SKIPPED
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  09:17 min
[INFO] Finished at: 2020-11-06T14:23:15+01:00
[INFO] ------------------------------------------------------------------------
```

Wdrożenie przebiegło pomyślnie.

Zadanie 4. Zadanie dotyczy budowania na serwerach OpenMRS wszystkich projektów.

Żeby zbudować projekty należy użyć komendy

```
PS D:\Radek\basicexample> mvn openmrs-sdk:build
[INFO] Scanning for projects...
[INFO] ------------------------------------------------------------------------
[INFO] Reactor Build Order:
[INFO]
[INFO] Basicexample                                               [pom]
[INFO] Basicexample API                                           [jar]
[INFO] Basicexample OMOD                                          [jar]
[WARNING] The POM for org.eclipse.m2e:lifecycle-mapping:jar:1.0.0 is missing, no dependency information available
[WARNING] Failed to retrieve plugin descriptor for org.eclipse.m2e:lifecycle-mapping:1.0.0: Plugin org.eclipse.m2e:li
fecycle-mapping:1.0.0 or one of its dependencies could not be resolved: Failure to find org.eclipse.m2e:lifecycle-map
ping:jar:1.0.0 in http://mavenrepo.openmrs.org/nexus/content/repositories/public was cached in the local repository,
resolution will not be reattempted until the update interval of openmrs-repo has elapsed or updates are forced
[INFO]
[INFO] ------------------< org.openmrs.module:basicexample >-------------------
[INFO] Building Basicexample 1.0.0-SNAPSHOT                       [1/3]
[INFO] --------------------------------[ pom ]---------------------------------
[WARNING] The POM for org.eclipse.m2e:lifecycle-mapping:jar:1.0.0 is missing, no dependency information available
[WARNING] Failed to retrieve plugin descriptor for org.eclipse.m2e:lifecycle-mapping:1.0.0: Plugin org.eclipse.m2e:li
fecycle-mapping:1.0.0 or one of its dependencies could not be resolved: Failure to find org.eclipse.m2e:lifecycle-map
ping:jar:1.0.0 in http://mavenrepo.openmrs.org/nexus/content/repositories/public was cached in the local repository,
resolution will not be reattempted until the update interval of openmrs-repo has elapsed or updates are forced
[INFO]
[INFO] --- openmrs-sdk-maven-plugin:3.13.6:build (default-cli) @ basicexample ---
```

Zatwierdzić budowanie projektu:

```
Maven artifact org.openmrs.module:basicexample:1.0.0-SNAPSHOT detected in this directory, would you like to build it? [Y
/n]: y
```

Po zbudowaniu powinniśmy otrzymać potwierdzenie zbudowania projektu:

```
[INFO] Installing D:\Radek\basicexample\omod\target\basicexample-1.0.0-SNAPSHOT-tests.jar
pository\org\openmrs\module\basicexample-omod\1.0.0-SNAPSHOT\basicexample-omod-1.0.0-SNAPS
[INFO] ------------------------------------------------------------------------
[INFO] Reactor Summary for Basicexample 1.0.0-SNAPSHOT:
[INFO]
[INFO] Basicexample ....................................... SUCCESS [01:11 min]
[INFO] Basicexample API ................................... SUCCESS [03:00 min]
[INFO] Basicexample OMOD .................................. SUCCESS [ 43.502 s]
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  04:55 min
[INFO] Finished at: 2021-01-18T15:27:12+01:00
[INFO] ------------------------------------------------------------------------
[INFO] ------------------------------------------------------------------------
[INFO] Reactor Summary for Basicexample 1.0.0-SNAPSHOT:
[INFO]
[INFO] Basicexample ....................................... SUCCESS [05:13 min]
[INFO] Basicexample API ................................... SKIPPED
[INFO] Basicexample OMOD .................................. SKIPPED
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  05:14 min
[INFO] Finished at: 2021-01-18T15:27:12+01:00
[INFO] ------------------------------------------------------------------------
```

Wnioski końcowe:

Na podstawie uzyskanych wyników można stwierdzić, że po zapoznaniu się programu OpenMRS SDK z jego działaniem jest to zaawansowany program, który może nie tylko zarządzać pacjentami i ich parametrami, ale także zarządzać całym projektem i serwerem medycznym.

Link do zdalnego repozytorium

https://github.com/SiwiecSoft/ATH/tree/master/ISM