1) Done: Create a schema.xml (or doctrine/[entity name].yml) file(s) for the db.
   a) Generate entities from yml to model.php

2) Done: Create RESTful Endpoints - A service to mark items as sold or pre-order
   e.g   getDealersData(List of Magazines or List of Books)
          { returns object->marked list,
          }

1) Done: Function: Expects a list of either magazines or books as an argument and sets a rebate for those.
   a) Return a reduced set of Magazines or books
   b) Calculate the rebate based on input
   c) Store the updated list in DB

2) Done: Function: Creates prices from "rounded" Euro prices, parameter is to be set / passed in console.
   a) e.g 4.99 EUR out of 5.00 EUR (rounded)
   b) e.g turn prices like 5.10 EUR into 4.99 (or 4.39 into 3.99 etc.)

3) Done : Restful Service: To retrieve the average prices of books or magazines

4) Done: Restful Service: To retrieve books and magazines from the dealers condition is to design the or have the actual SQL (no JPA container)

5) Done : For Jquery View:Function that retrieves a list of book dealers via AJAX from the DB (using a RESTful API).

Frontend : To make the app modular and keep Angular modules in sync with Symfony bundles. Deeper implementation with your symfony project, We can compile AngularJS using Assetic's filters, and gain performance in page loading.
- Filters for Assetic added here with FrontendBundle in which AngularJs rendered as a bundle
- RESTEnabled Services
- Serializer Bundle
- Nemio Bundle for CORS enabled message communication.

Backend: A Bundle with REST enabled controller services with support on Annotation / Deserialization / Interface and Data Fixtures.
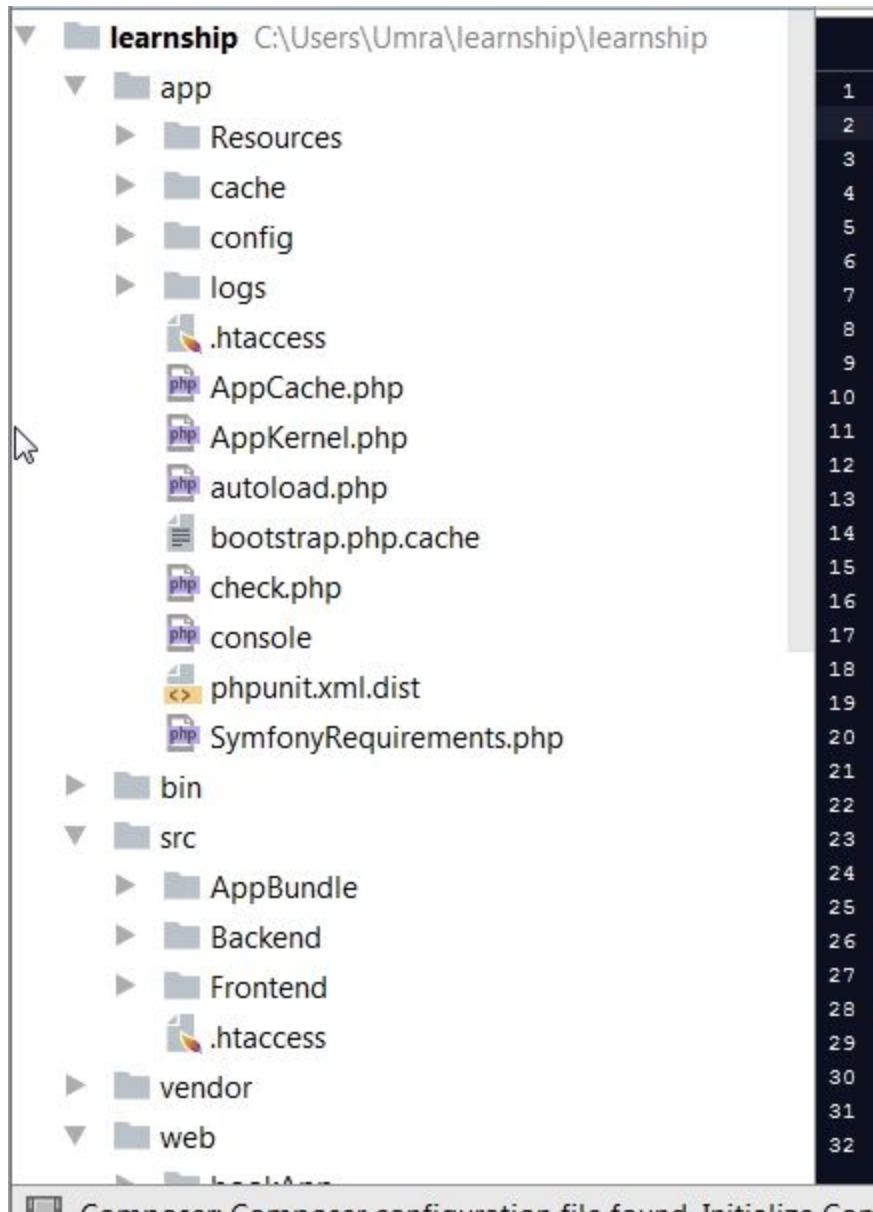
TASK:

Supports CREATE / UPDATE / PATCH / READ & DELETE Operations on Books / Magazines & Dealers.

To run the project and test APIs:

1. run composer install
2. edit parameters.yml to set your mysql user, password and database name

3. run php app/console doctrine:database:create
4. run php app/console doctrine:schema:create
5. Or run php app/console doctrine:schema:update --force
6. run php app/console doctrine:fixtures:load (for dummy books,dealers & magazines data)
7. Open your browser and go to http://localhost/{your_project_folder}/app_dev.php/api/books to get via api rest all the tasks from Backend/database or go to http://localhost/{your_project_folder}/app_dev.php/api/book/{id} (replace {id} with 1, 2 or 3, example: http://localhost/{your_project_folder}/app_dev.php/api/book/1) to get a custom book.

The links below defines the routes that need to test or consume our Api Rest.

FOSRestBundle annotations: To define the methods of the controller as resources Api Rest e.g for Book Entity.

- @Get("/backend/api/books") - To Obtain records
- @Post("/backend/api/books/{array}") - To create records
- @Put("//backend/api/books/{id}") - To edit records
- @Delete("/backend/api/books/{id}") - To delete records
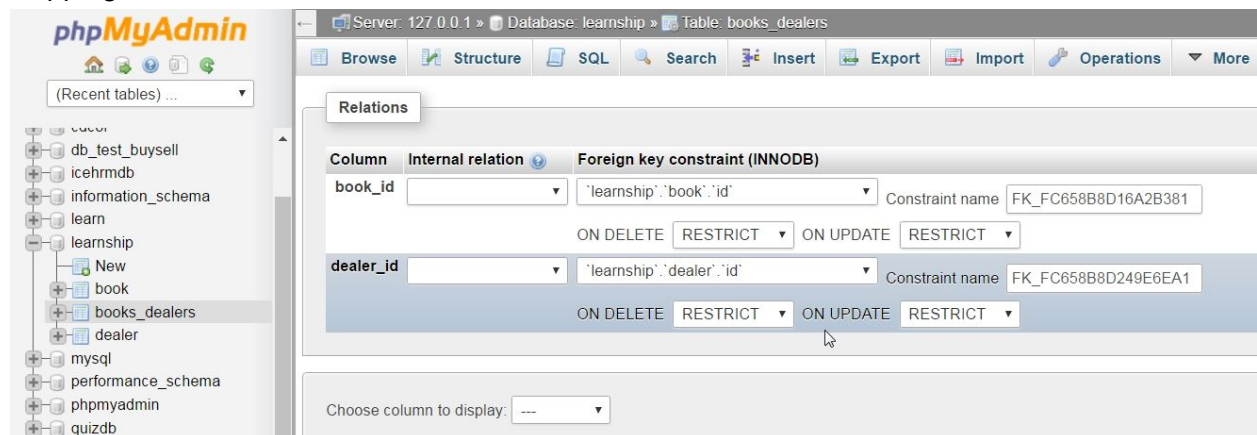
DB Schema:
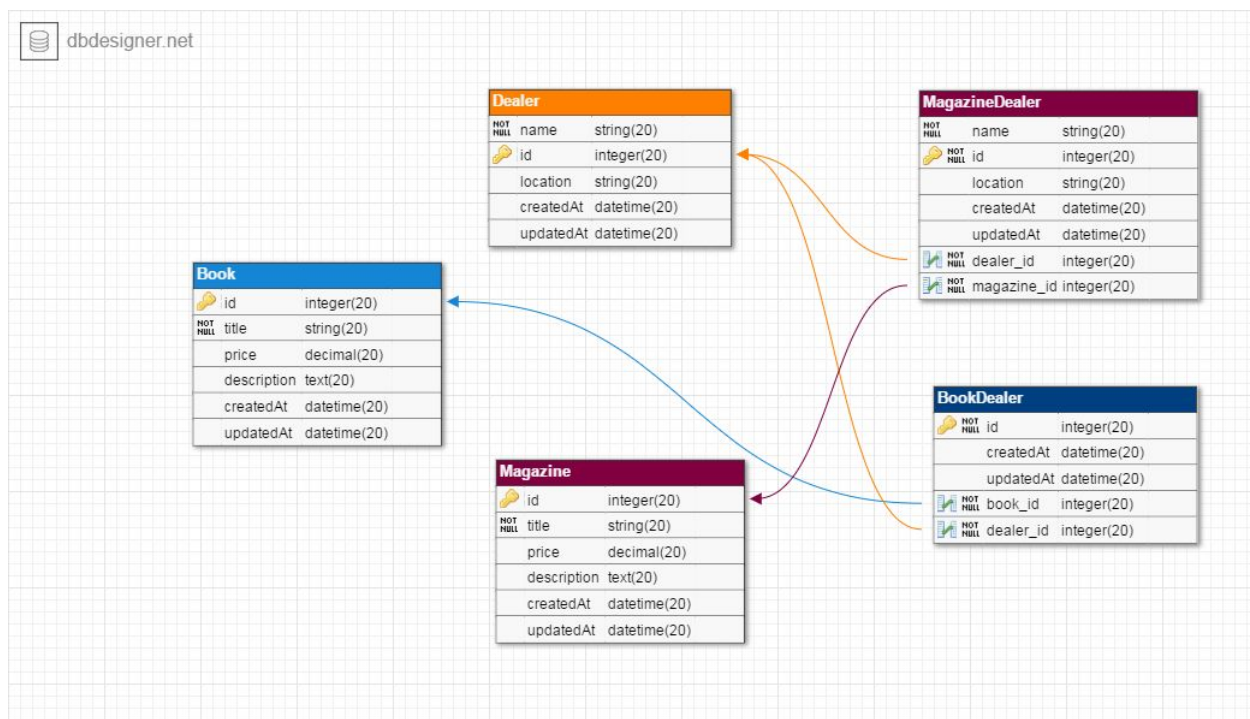
Screen: DB table created from Entities above.
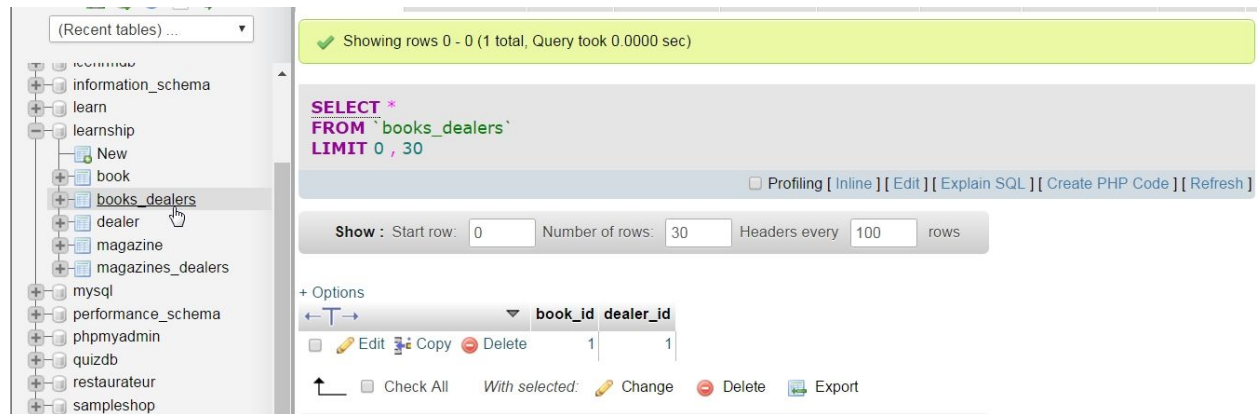
OneToMany and ManyToOne (association) to achieve the best manyTomany Relationship mapping Between Book and Dealer:

Frontend ScreenShots

Task :

Function that retrieves a list of book dealers via AJAX from the DB (using a RESTful API) with Dealers & Books, Books only, Magazines Only, Magazines & Books.
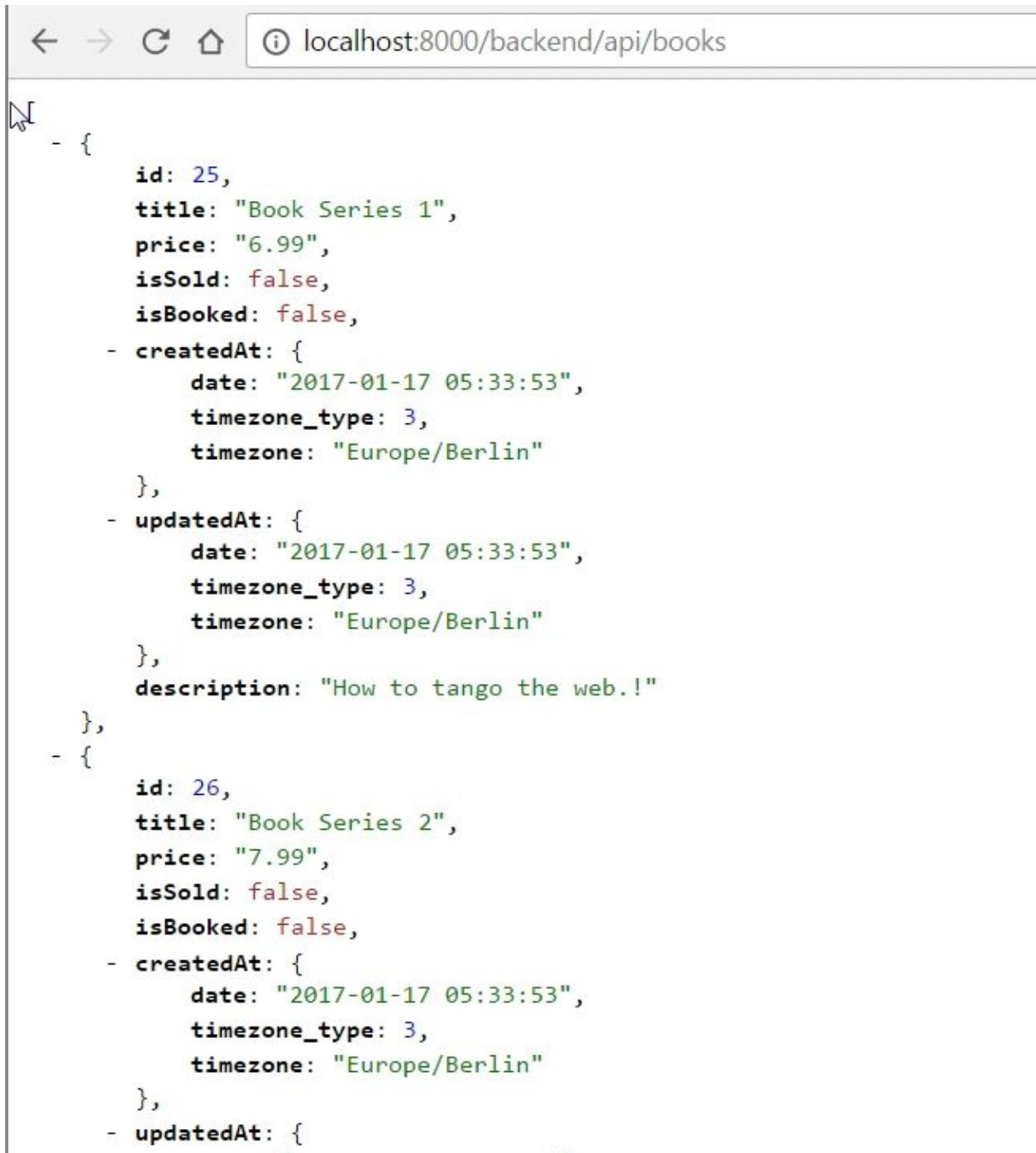
```
[
  - {
        id: 19,
        name: "TOP Town Books!",
        location: "Germany",
      - createdAt: {
            date: "2017-01-17 05:33:53",
            timezone_type: 3,
            timezone: "Europe/Berlin"
        },
      - updatedAt: {
            date: "2017-01-17 05:33:53",
            timezone_type: 3,
            timezone: "Europe/Berlin"
        }
    },
  - {
        id: 20,
        name: "Common Books Dealer!",
        location: "India",
      - createdAt: {
            date: "2017-01-17 05:33:53",
            timezone_type: 3,
            timezone: "Europe/Berlin"
        },
      - updatedAt: {
            date: "2017-01-17 05:33:53",
            timezone_type: 3,
            timezone: "Europe/Berlin"
        }
    }
```

[1]

```
{
  - books: [
    - {
        id: 1,
        title: "Book1",
        price: 50,
        created_at: "2017-01-06T00:00:00+0100",
        updated_at: "2017-01-27T00:00:00+0100",
      - dealer: [
          - {
              id: 1,
              name: "MasterDealer",
              created_at: "2017-01-25T00:00:00+0100",
              updated_at: "2017-01-15T00:00:00+0100",
            - book: [
                - {
                    id: 3,
                    title: "Book3",
                    price: 60,
                    created_at: "2017-01-31T00:00:00+0100",
                    updated_at: "2017-01-15T00:00:00+0100",
                    dealer: [ ]
                }
              ],
              magazine: [ ]
          }
        ]
    },
  - {
        id: 2,
```

- {
    id: 25,
    title: "Book Series 1",
    price: "6.99",
    isSold: false,
    isBooked: false,
    - createdAt: {
        date: "2017-01-17 05:33:53",
        timezone_type: 3,
        timezone: "Europe/Berlin"
    },
    - updatedAt: {
        date: "2017-01-17 05:33:53",
        timezone_type: 3,
        timezone: "Europe/Berlin"
    },
    description: "How to tango the web.!"
},
- {
    id: 26,
    title: "Book Series 2",
    price: "7.99",
    isSold: false,
    isBooked: false,
    - createdAt: {
        date: "2017-01-17 05:33:53",
        timezone_type: 3,
        timezone: "Europe/Berlin"
    },
    - updatedAt: {

Task:

Add Magazine console	Mark Sold	Mark Booked	Set Rebate	Set Rounded	Avg Price

All Magazines

☐ Style Magazine Series 1	17	View	Delete
☐ Style Magazine Series 2	18	View	Delete
☐ Style Magazine Series 3	19	View	Delete
☐ Style Magazine Series 4	20	View	Delete
☐ Style Magazine Series 5	21	View	Delete
☐ Style Magazine Series 6	22	View	Delete
☐ Style Magazine Series 7	23	View	Delete
☐ Style Magazine Series 8	24	View	Delete

Backend ScreenShots: Displays bundle & entities creation, dependencies configuration for REST, CORS and Annotations.

```
Command Prompt                                                  _ □ X

Warning: Module 'openssl' already loaded in Unknown on line 0
Dropped database for connection named `schema`

C:\Users\Umra\myBookShop> php app\console doctrine:database:create

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Created database `schema` for connection named default

C:\Users\Umra\myBookShop> php app\console doctrine:schema:validate

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
[Mapping]  OK - The mapping files are correct.
[Database] FAIL - The database schema is not in sync with the current mapping fi
le.

C:\Users\Umra\myBookShop> php app\console doctrine:generate:entities AppBundle

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Generating entities for bundle "AppBundle"
  > backing up Book.php to Book.php~
  > generating AppBundle\Entity\Book
  > backing up Magazine.php to Magazine.php~
  > generating AppBundle\Entity\Magazine

C:\Users\Umra\myBookShop> php app\console doctrine:schema:update --force

Warning: Module 'openssl' already loaded in Unknown on line 0
```

```
Generating entity "Nadeem\DealerBundle\Entity\Dealer"
  > backing up Dealer.php to Dealer.php~
  > generating Nadeem\DealerBundle\Entity\Dealer

C:\dev\learnshipTask\appBooks>php app/console doctrine:generate:entities NadeemD
ealerBundle:Book

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Generating entity "Nadeem\DealerBundle\Entity\Book"
  > backing up Book.php to Book.php~
  > generating Nadeem\DealerBundle\Entity\Book

C:\dev\learnshipTask\appBooks>php app/console doctrine:generate:entities NadeemD
ealerBundle

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Generating entities for bundle "NadeemDealerBundle"
  > backing up Book.php to Book.php~
  > generating Nadeem\DealerBundle\Entity\Book
  > backing up Dealer.php to Dealer.php~
  > generating Nadeem\DealerBundle\Entity\Dealer

C:\dev\learnshipTask\appBooks>php app/console doctrine:schema:update --force

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Updating database schema...
Database schema updated successfully! "5" queries were executed

C:\dev\learnshipTask\appBooks>
```

```
Command Prompt                                            _ ☐ ×

C:\>cd Users

C:\Users>cd Umra

C:\Users\Umra>cd Desktop

C:\Users\Umra\Desktop>cd learnShip

C:\Users\Umra\Desktop\learnShip>symfony new myBookSellerApp
'symfony' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\Umra\Desktop\learnShip>php symfony

 Symfony Installer (1.5.9)
 ========================

 This is the official installer to start new projects based on the
 Symfony full-stack framework.

 To create a new project called blog in the current directory using
 the latest stable version of Symfony, execute the following command:

   symfony new blog

 Create a project based on the Symfony Long Term Support version (LTS):

   symfony new blog lts

 Create a project based on a specific Symfony branch:

   symfony new blog 2.8 or symfony new blog 3.0

 Create a project based on a specific Symfony version:
```

```
Command Prompt                                              _ □ X

Warning: Module 'openssl' already loaded in Unknown on line 0
Dropped database for connection named `schema`

C:\Users\Umra\myBookShop> php app\console doctrine:database:create

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Created database `schema` for connection named default

C:\Users\Umra\myBookShop> php app\console doctrine:schema:validate

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
[Mapping]  OK - The mapping files are correct.
[Database] FAIL - The database schema is not in sync with the current mapping fi
le.

C:\Users\Umra\myBookShop> php app\console doctrine:generate:entities AppBundle

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Generating entities for bundle "AppBundle"
  > backing up Book.php to Book.php~
  > generating AppBundle\Entity\Book
  > backing up Magazine.php to Magazine.php~
  > generating AppBundle\Entity\Magazine

C:\Users\Umra\myBookShop> php app\console doctrine:schema:update --force

Warning: Module 'openssl' already loaded in Unknown on line 0
```

```
Command Prompt                                              _ □ ✕

> Sensio\Bundle\DistributionBundle\Composer\ScriptHandler::installAssets

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0

 Trying to install assets as relative symbolic links.


--------- ---------------- ----------------
          Bundle            Method / Error
--------- ---------------- ----------------
 WARNING  FrameworkBundle   copy
--------- ---------------- ----------------

! [NOTE] Some assets were installed via copy. If you make changes to these
!        assets you have to run this command again.

[OK] All assets were successfully installed.

> Sensio\Bundle\DistributionBundle\Composer\ScriptHandler::installRequirementsFi
le
> Sensio\Bundle\DistributionBundle\Composer\ScriptHandler::prepareDeploymentTarg
et

C:\Users\Umra\myBookShop>
```

```
myBookShop  app  AppKernel.php
```

```php
8        public function registerBundles()
9        {
10           $bundles = array(
11               //next 3 are newly added bundles below
12               new FOS\RestBundle\FOSRestBundle(),
13               new JMS\SerializerBundle\JMSSerializerBundle(),
14               new Nelmio\ApiDocBundle\NelmioApiDocBundle(),
15               //default bundles begin here
16               new Symfony\Bundle\FrameworkBundle\FrameworkBundle(),
17               new Symfony\Bundle\SecurityBundle\SecurityBundle(),
18               new Symfony\Bundle\TwigBundle\TwigBundle(),
19               new Symfony\Bundle\MonologBundle\MonologBundle(),
20               new Symfony\Bundle\SwiftmailerBundle\SwiftmailerBundle(),
21               new Doctrine\Bundle\DoctrineBundle\DoctrineBundle(),
22               new Sensio\Bundle\FrameworkExtraBundle\SensioFrameworkExtraBundle(),
23               new AppBundle\AppBundle(),
24           );
25
26           if (in_array($this->getEnvironment(), array('dev', 'test'), true)) {
27               $bundles[] = new Symfony\Bundle\DebugBundle\DebugBundle();
28               $bundles[] = new Symfony\Bundle\WebProfilerBundle\WebProfilerBundle();
29               $bundles[] = new Sensio\Bundle\DistributionBundle\SensioDistributionBundle();
30               $bundles[] = new Sensio\Bundle\GeneratorBundle\SensioGeneratorBundle();
31           }
32
33           return $bundles;
34       }
35
```

```
Command Prompt                                                    _ ⊡ X

Generating entity "Nadeem\DealerBundle\Entity\Dealer"
  > backing up Dealer.php to Dealer.php~
  > generating Nadeem\DealerBundle\Entity\Dealer

C:\dev\learnshipTask\appBooks>php app/console doctrine:generate:entities NadeemD
ealerBundle:Book

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Generating entity "Nadeem\DealerBundle\Entity\Book"
  > backing up Book.php to Book.php~
  > generating Nadeem\DealerBundle\Entity\Book

C:\dev\learnshipTask\appBooks>php app/console doctrine:generate:entities NadeemD
ealerBundle

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Generating entities for bundle "NadeemDealerBundle"
  > backing up Book.php to Book.php~
  > generating Nadeem\DealerBundle\Entity\Book
  > backing up Dealer.php to Dealer.php~
  > generating Nadeem\DealerBundle\Entity\Dealer

C:\dev\learnshipTask\appBooks>php app/console doctrine:schema:update --force

Warning: Module 'openssl' already loaded in Unknown on line 0

Warning: Module 'openssl' already loaded in Unknown on line 0
Updating database schema...
Database schema updated successfully! "5" queries were executed

C:\dev\learnshipTask\appBooks>
```

Challenges:

- YML files mapping and creation of entities (doesn't overwrite once changed or changes made after .class creation.)
- Cache doesn't go and adds bottlenecks while checking changes or upgrading dependencies.
- Many to many: For example, one book can be written by several authors, while one author can write many books. A "many-to-many" relationship should be avoided in a database design, and be substituted with a pair of "one-to-many" relationships
- CRUD forms
  - Coincide with REST services & requests.
- Testing forms
- RESTbased components

- Not inter-dependent with other modules.