Lab 4: A house purchasing webpage

Technical preparations

In this laboration you have to ensure that your KTH-account is configured properly. Follow the instructions in the following document :

https://www.kth.se/social/course/DD2390/subgroup/intnet16-vt/page/teknisk-kontroll/

Overview

In this lab you shall make a website where people can search for houses that are for sale. People obviously don't want to look at all the houses so you have to give them the option of restricting what houses should be listed.

The website should consist of one search page named search.php and a result page named result.php.

To make the site more useful for people who search often you shall make sure that when a person comes back to the page his/her last search is already filled in.

Be careful with what server you are connecting through. The servers at KTH use different versions of PHP so be sure you are using the correct one for your course round.

Specific Requirements

1. You have to use PDO (PHP Data Objects) with prepared statements **(except order by)**
2. UTF-8 should be used in the entire stack (frontend, backend, database, etc), test by using ÅÄÖ in place names.
3. The select fields should be populated from the database, aka only cities where there are houses should exist in the select area field. This applies only to area and type.
4. All data fields should be able to be used simultaneously.
5. All numbers should be able to be restricted by both max and min.
6. You should be able to sort the table in both rising and falling by clicking on the related column header either once or twice. Price should be the default sorting.
7. The table should be sorted server side by making a new request.
8. You need to expand the SQL file (or create an new) with data input so that the database can easily be reset. Also add at **least** 15 entries so that you can show that the sorting works.
9. The parameters of the last search a person did should be saved in a cookie.

Connecting to the database:

In the folder `~/Private/` you should have a file containing your database password that starts with ".`mysqlpw`". To show all the files that are hidden (starts with a .) you simple type "`ls -a`". You can connect to the database you type:

```
mysql --host=mysql-vt2016.csc.kth.se --user=*****_admin --password=*******
```

The host that you should use is named in the password file and is similar to the example.
A setup file that creates the database is provided to you in form of the file bostad.sql, it can be executed by writing "`\.  bostad.sql`" in the database prompt.

Tips:
Character encoding in the database is set by collation.
Serialize might be very useful to save data in cookies.
Setting up the database can sometimes be problematic so please try to at least log in to the database as early as possible.

References:
The official documentation
http://php.net/manual/en/

Bonus
Combine the search and result page with the use of AJAX.

Questions:
What are SQL injections and how do you protect against it?