Software Architectures

Assignment 3: Using REST Connectors in SOA Architectures

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Deadline: January 14th, 2018, 23:59

Description

For this assignment, you need to extend the *Route Planner* project introduced in the last session of exercises. The current project does not have the backend implementation of the *Plan Route* form. Using the provided *skeleton*[1] project, you will extend the *RoutePlanner* controller to support the calculation of routes between two stations. Your implementation must also validate the form's parameters.

- For the first requirement you have to use the Play WS API[2] and the iRail[3] REST API. More specifically, the *Connections API*. Only the parameters *from* and *to* are required. For processing the response of the *Connections* API, you need to define the *JSON Readers Combinators*[4] of the *case* classes defined in the object *JsonModel*
- For the second requirement you have to use the built-in form validation[5] approach provided by Play.

Deliverables A short *report* (in English) explaining the new solution to the problem, and where you compare it to the original code. The report *file* should follow the naming schema `firstname_lastname_SA3.pdf`, and it should be handed in as a PDF file. For example: `Humberto_Rodriguez_SA3.pdf`.

Submit the *report* and *source code* of your solution as a single *ZIP* file on the Software Architectures course page[6] in PointCarré, by clicking on *Assignments (Opdrachten) > Assignment 3*.

[1] Available on PointCarré
[2] `https://www.playframework.com/documentation/2.6.x/ScalaWS`
[3] iRail API Documentation `https://docs.irail.be`
[4] `https://www.playframework.com/documentation/2.6.x/ScalaJson`
[5] See lecture and `https://www.playframework.com/documentation/2.6.x/ScalaForms`
[6] Use the English variant "Software Architecture**s**", rather than the Dutch one "Software Architecture**n**".

Grading The assignment will be graded and can become subject of an additional defense.

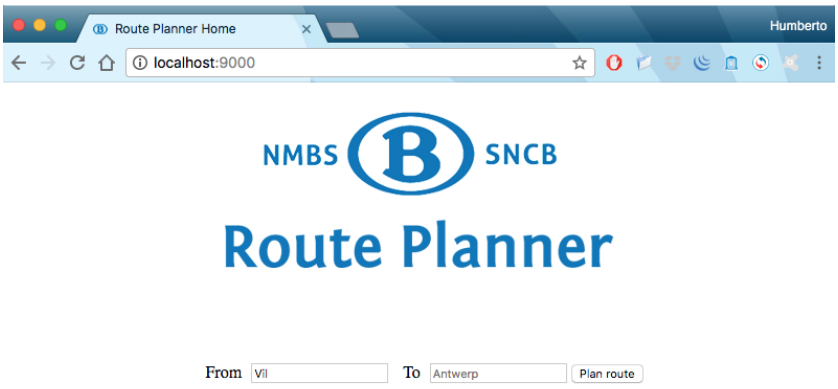
Notes

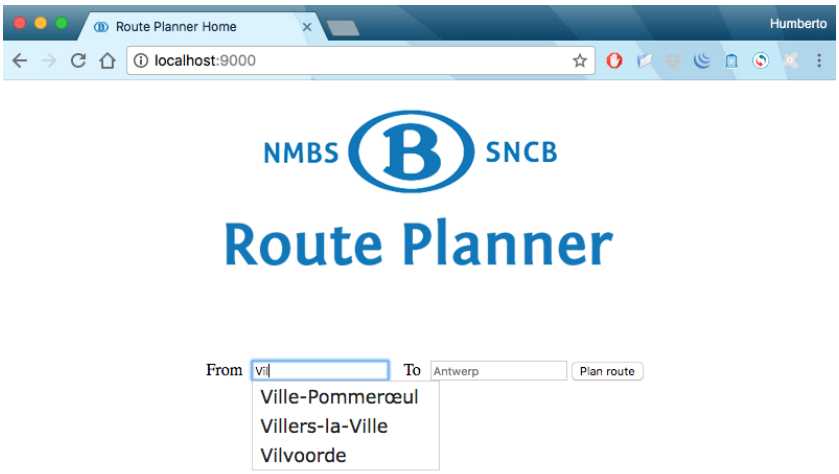
- Team work is not allowed.
- The solution to this assignment can be implemented in *Scala* or in *Java*. In case you choose Java, you have to translate the skeleton code to Java yourself.
- Copying – from other students, or from the internet – will be considered as plagiarism and be reported to the faculty.
- If you use any other resources besides those provided in the lectures and in this document, remember to cite them in your report.

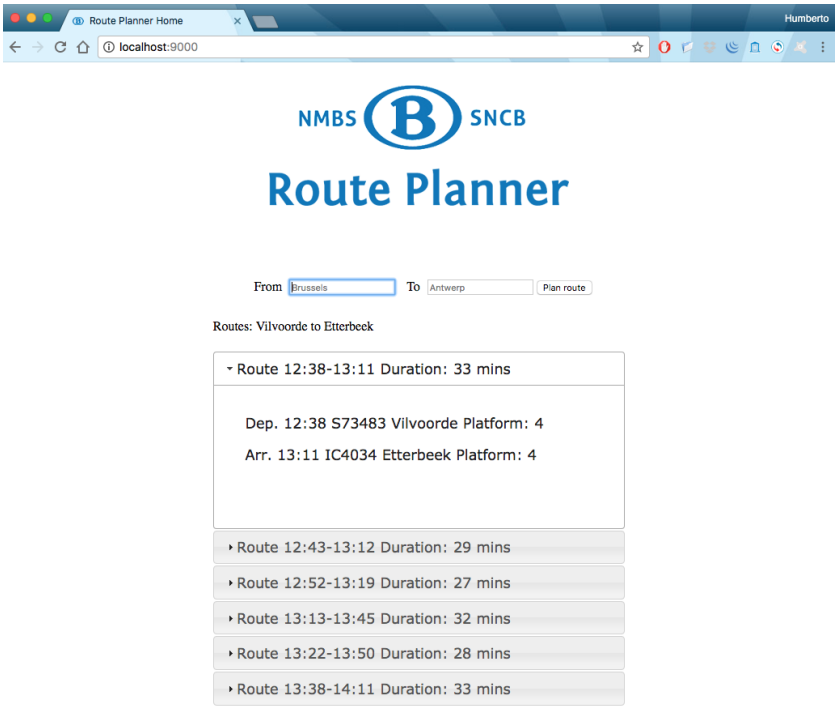
Online resources

- `https://playframework.com/documentation/2.6.x/IDE`
- `https://www.playframework.com/documentation/2.6.x/ScalaJsonHttp`
- `https://www.playframework.com/documentation/2.6.x/Assets`
- `https://www.playframework.com/documentation/2.6.x/ScalaJavascriptRouting`

Screenshots




Route Planner Home
Humberto
localhost:9000
NMBS SNCB
Route Planner
From Vil
To Antwerp
Plan route
Ville-Pommerœul
Villers-la-Ville
Vilvoorde


Route Planner Home
Humberto
localhost:9000
NMBS SNCB
Route Planner
From Brussels
To Antwerp
Plan route
Routes: Vilvoorde to Etterbeek
Route 12:38-13:11 Duration: 33 mins
Dep. 12:38 S73483 Vilvoorde Platform: 4
Arr. 13:11 IC4034 Etterbeek Platform: 4
Route 12:43-13:12 Duration: 29 mins
Route 12:52-13:19 Duration: 27 mins
Route 13:13-13:45 Duration: 32 mins
Route 13:22-13:50 Duration: 28 mins
Route 13:38-14:11 Duration: 33 mins