Geocoding service

Introduction

This unit of work specifies the creation of a REST service based upon a webservice definition. De documentation of the webservice is available and is written in Dutch.

Requirements

The resulting REST service must be able to return postal code domain objects given a Dutch postal code. The returning object must contain the gps coordinates of the given postal code. The result can be either in XML of JSON format, depending on the required output. The results of the webservice call must be stored in a database with a timestamp. Resuts from consecutive calls to the REST service with the same arguments should be fetched from the database. Records older than a given timespan should no longer be used as a result. The timespan must be configurable.

Webservice definition

All relevant documentation can be found on http://www.kadaster.nl/BAG/producten/bevragingen.html .
The service that needs to be called is called *RaadplegenDatumADO* and the operation is called *zoekenAdresseerbaarObjectByPostcodeHuisnummer AndActueelOrPeildatum*. The needed information can be found in the return message under:
/envelope/body/antwoordBericht/antwoord/producten/verblijfsobject/verblijfsobjectgeometrie/point/pos and
/envelope/body/antwoordBericht/antwoord/producten/verblijfsobject/verblijfsobjectgeometrie/tijdvakgeldigheid. Previous paths are just an example. The XML schema needs to be consulted in order to process all available options.

REST service definition

Http call: GET /api/geocode(.xml/.json)?zipcode=1234aa&number=1

Return status:

200 ok, postal code found and returned.
404 not found, no geocoding information available
500 error, unforeseen error, details are provided in the body.

Domain model

Below is the postal code model which is to be returned by the REST service.

Country_code	ISO 3166-1 Alpha-2 country code
Postal_code	String of numbers and/or digits
Number	House number
Latitude	GPS latitude
Longitude	GPS longitude
Valid_from	The encoding is valid from this date
Valid_to	The encoding is valid tot his date

Conversion

The results from the webservice do not include GPS coordinates but RD (Rijksdriehoeksmeting) coordinates and these need to be converted to GPS coordinates. More information can be found at www.kadaster.nl/rijksdriehoekmeting. A special tool can be found at https://rdinfo.kadaster.nl/rd/transformator.html.

Non-functional requirements

The project must be split in three: a library that calls the webservice and returns a simple object, a service library that defines the REST service and a library that contains the postal code domain model.
All libraries will be stored on Github. Only Nedap members will be able to push changes, all other parties must use pull requests to submit changes.
All libraries should be able to run within the Jenkins CI environment. The resulting application must be deployable on JBoss 6 and above, whcih runs on Linux.