

## ECP 2005 GEO 038026 EGN

### EGN

# EGN web services prototype and test interfaces

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<sup>1</sup> OJ L 79, 24.3.2005, p. 1.

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# 1 Introduction

## 1.1 Purpose

This document describes the interface of the EGN Web Feature Service (WFS) servers that are used for the various EGN Local Services and the EGN Central Service. The place of these services in the EGN architecture is depicted in diagram 1:

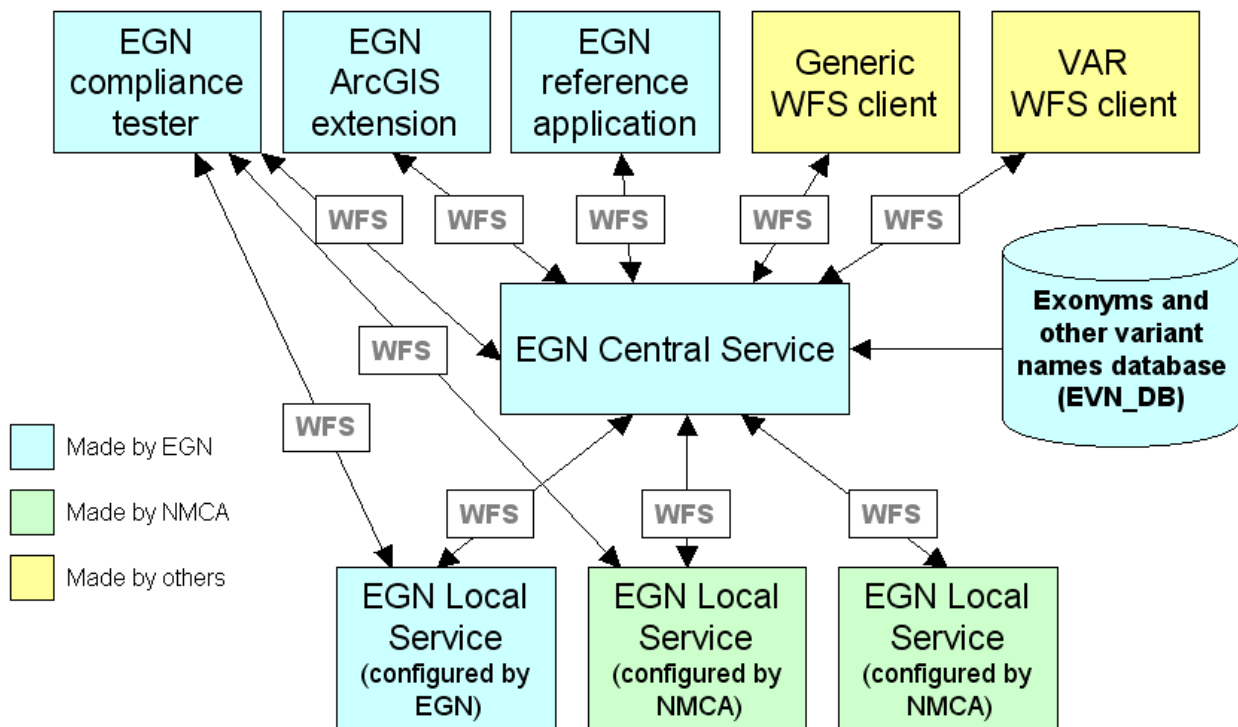


Diagram 1: An overview of the EGN architecture (source: EGN Web Services Architecture.odp)

Diagram 1 shows that the EGN architecture consists of a number of servers and clients that make use of the WFS standard for the exchange of information. This document describes the specifics of how the WFS standard is expected to be used by the EGN Central Service and the various EGN Local Services. The aim is to use the same interface specification for both services, but some differences may exist. Particularly, an EGN Local Service does not have to be able to produce XLinks (see chapter 2.2.3) as references to remote data.

The main purposes of this document are:

- Provide a description of the server interfaces for the EGN Consortium partners responsible for development of client applications (work packages 7 and 8)
- Provide a description of what is expected of an EGN Local Service for NMCA's. Based on this document NMCA's should be able to decide whether they want to create their EGN Local Service themselves or ask the EGN consortium to create the EGN Local Service. The EGN consortium will provide support for the NMCA's in both cases.

## 1.2 Related documents

This document is related to:

1. D6.1: The previous deliverable for work package 6 provides a general description of the functionality of the EGN services.
2. D4.2c: The conceptual data model defines the classes, class properties and relationships that are used by the EGN services.
3. D4.3: The application schema is a representation of the conceptual data model in XML Schema. It can be used to check conformance of the WFS service output.
4. D11.1: The EGN Consortium has decided that this deliverable will be maintained as a 'living document', describing all outstanding issues.
5. *EGN Web Services Architecture.odp*: An interactive presentation that describes the EGN architecture. This file can be downloaded from the EuroGeoNames public website ([http://www.eurogeographics.org/eng/03\\_projects\\_EuroGeoNames\\_downloads.asp](http://www.eurogeographics.org/eng/03_projects_EuroGeoNames_downloads.asp))
6. *Definition of the term 'Single Inquiry'*. This document describes how a 'single inquiry' should work. The EGN Central Service should support this type of request. The document can be downloaded from the EuroGeoNames public website ([http://www.eurogeographics.org/eng/03\\_projects\\_EuroGeoNames\\_downloads.asp](http://www.eurogeographics.org/eng/03_projects_EuroGeoNames_downloads.asp))

## 1.3 Executive summary

This document specifies the interfaces for both the EGN Central Service and the EGN Local Services. In both cases this interface is based on the OGC WFS 1.1 specification. The required interfaces for the EGN Central Service and EGN Local Services are very similar. There are a few exceptions where some additional functionality is required from the EGN Central Service. Examples of how to achieve common operations using the WFS interface are listed in chapter 4.

## 2 Interface specification

In short, an EGN service (EGN Local Service or EGN Central Service) should be a WFS 1.1 server that uses the EGN data model. A more detailed specification can be found in the following paragraphs.

### 2.1 Gazetteer standards

The EGN servers will be compliant with the OGC WFS 1.1 standard, which includes compliance with the Geography Mark-up Language (GML) and Filter Encoding standards. In the course of the project, some applicable standards for creating a gazetteer service have been considered:

1. ISO-19112: Geographic information - Spatial referencing by geographic identifiers.
2. OGC Gazetteer Service application profile (reference code 05-035r2). This OGC application profile is based on ISO-19112. Currently a Standards Working Group (SWG) is being formed within the OGC with the purposes of finalizing this standard.
3. INSPIRE D2.5 Generic Conceptual Model (draft): this document contains an application schema for gazetteers that is also based on ISO-19112.

Although the EGN data model has elements in common with these standards or proposals, it is not fully compliant with any of these.

### 2.2 WFS

The WFS specification provides a standard for the on-line querying of geographical databases. For the EGN services, we will use the WFS 1.1 specification. This means that all rules and recommendations described in this specification apply to the EGN services.

It is possible to make different kinds of WFS servers. In our case, we will use a basic WFS with support for three HTTP requests: **GetCapabilities**, **DescribeFeatureType** and **GetFeature**.

#### 2.2.1 Prototype

A prototype of a EGN Local Service is made available by Geodan. The capabilities URL is:

```
http://egn.geodan.nl/deegree-wfs/services?REQUEST=GetCapabilities&version=1.1.0&service=WFS
```

Other requests can be derived from this URL. This WFS server can be used as an example for an EGN Local Server, although no guarantees can be given about uptime.

This prototype is used as a basis for the specifications in this document. The prototype uses the Deegree 2.1 WFS server. However, it should be possible to implement the interface using other WFS software.

#### 2.2.2 HTTP requests

An EGN service should support the GET request method for all operations. Additionally it should

support the POST request method for at least the GetFeature request.

### 2.2.3 XLinks

A GetFeature response might use XLinks to reference data in the same document (local XLinks). Only the EGN Central Service will also be able to produce remote XLinks: references to remote data. This is because not all data may be available in the data store used by the EGN Central Service. Some data may only be available from EGN Local Services. Those data can be referenced by remote XLinks in GetFeature responses. The XLink will contain a *href* element with a GetFeature URL, as in the following example:

```
<egn:ComplexGeometry xlink:href="http://egn_local_service.nmca.xx/
deegree-wfs/services?service=WFS&version=1.1.0
&request=GetFeature&typename=egn:ComplexGeometry
&namespace=xmlns(egn=http://www.eurogeonames.eu/egn)
&featureid=ComplexGeometry_337"/>
```

Remote XLinks like these in practice will be traversed and resolved by the EGN Link Resolver (which has yet to be build). This means that an EGN WFS client only has to support resolving local XLinks.

Remote XLinks could also be used for the exonyms and other variant names database, especially for getting extra information on a variant or exonym that is only available in the exonyms & variants database.

### 2.2.4 GetCapabilities

The GetCapabilities request will return a description of the service: the capabilities document. See Appendix A for an example. EGN requirements are:

1. The updateSequence attribute of the <ows:WFS\_Capabilities> is a string consisting of three integers separated by a point: "X.Y.Z". The numbers have the following meaning:

X: This number will be increased if the data model/application schema changes  
Y: This number will be increased when there has been an update of the 'fixed' featurtypes: FeatureClassification, Gender, Status and GrammaticalNumber.  
Z: This number will be increased every time all or a part of the data are updated.

By evaluating the updateSequence number of the Central Service clients can decide to update their cache.

2. The <ows:serviceProvider> section should be configured to contain the proper local values.
3. The <ows:OperationsMetadata> section should contain GetCapabilities, DescribeFeatureType and GetFeature.
4. The <wfs:FeatureTypeList> section should contain all EGN feature types. It may contain additional feature types.
5. The <ogc:Filter\_Capabilities> section should at least contain the same elements as those listed in Appendix A. Please refer to the OGC Filter Encoding Implementation Specification version 1.1.0 for a description of these elements.

## 2.2.5 DescribeFeatureType

The DescribeFeatureType request is used to request the XML Schema document (\*.xsd) that describes the EGN data model. See Appendix B for the response that is expected. An EGN WFS server should include all feature types and properties, with the same attributes. The schema may contain extra namespaces, feature types or properties, as long as all required elements are present.

**Note:** EGN elements use the XML prefix “egn:”. The namespace reference resource <http://www.eurogeonames.eu/egn> does not exist. It may later be replaced by another URL, through which some kind of meaningful information is available.

## 2.2.6 GetFeature

The GetFeature request is the request that is used to get the actual names data from a WFS server. The response to a GetFeature request should be formatted as GML 3.1.1 and should validate against the GML schema. The response may contain local and/or remote XLinks. See Appendix C for an example of a GetFeature request.

### **3 EGN Compliance Tester**

The EGN Compliance Tester is a command line utility program that can be used to check compliance of a EGN Service (Central or Local) with the interface specification. It can be used to test any accessible EGN WFS server. The result of executing the program is a report file, where all performed tests are listed, along with the result of the tests.

The EGN Compliance Tester can be downloaded from the EuroGeoNames website ([http://www.eurogeographics.org/eng/03\\_projects\\_EuroGeoNames\\_downloads.asp](http://www.eurogeographics.org/eng/03_projects_EuroGeoNames_downloads.asp)). Please refer to the accompanying instructions to use the EGN Compliance Tester.

## 4 Examples

In this chapter examples of how a client might interact with an EGN WFS server are presented.

### 4.1 Download static data

A part of the EGN data can be regarded as look-up tables. Characteristic of these data is that they are the same at every EGN server and that they do not change, except possibly when major system updates occur or during the initial development of the system. These data are:

1. The EGN classification (*egn:FeatureClassification*)
2. The gender list (*egn:Gender*)
3. The status list (*egn:Status*)
4. The grammatical number list (*egn:GrammaticalNumber*)

EGN clients can safely cache these data on client machines as long as the `updateSequence` number remains the same (see 2.2.4). This is especially recommendable for the feature classification, as the feature class can be used as a filter for name requests.

The following example requests all possible Status values:

```
http://egn.geodan.nl/deegree-wfs/services?SERVICE=WFS&VERSION=1.1.0&REQUEST=GetFeature&TYPENAME=egn:Status&NAMESPACE=xmlns (egn=http://www.eurogeonames.eu/egn)
```

### 4.2 Request information about a geoname

The following (POST) example requests information about the name 'Paris':

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:GetFeature version="1.1.0" xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:wfs="http://www.opengis.net/wfs" xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.opengis.net/wfs http://schemas.opengis.net/wfs/1.1.0/wfs.xsd">
  <wfs:Query typeName="egn:LocationInstanceName" >
    <ogc:Filter>
      <ogc:PropertyIsEqualTo>
        <ogc:PropertyName>egn:name/egn:PT_FreeText/egn:plainText</ogc:PropertyName>
        <ogc:Literal>Paris</ogc:Literal>
      </ogc:PropertyIsEqualTo>
    </ogc:Filter>
  </wfs:Query>
</wfs:GetFeature>
```

### 4.3 Request a name with a particular ID

The following (GET) request returns all information about the *LocationInstanceName* object with the ID 100:

```
http://egn.geodan.nl/deegree-wfs/services?SERVICE=WFS&VERSION=1.1.0&REQUEST=GetFeature&TYPENAME=egn:LocationInstanceName&NAMESPACE=xmlns (egn=http://www.eurogeonames.eu/egn)&FEATUREID=LocationInstanceName_100
```

### 4.4 Request names in a particular language

The following (POST) request asks for all *LocationInstanceNames* where the name is 'Monaco' in

## Italian:

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:GetFeature version="1.1.0" xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:wfs="http://www.opengis.net/wfs" xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.opengis.net/wfs http://schemas.opengis.net/wfs/1.1.0/wfs.xsd">
  <wfs:Query typeName="egn:LocationInstanceName" >
    <ogc:Filter>
      <ogc:And>
        <ogc:PropertyIsEqualTo>
          <ogc:PropertyName>egn:name/egn:PT_FreeText/egn:plainText</ogc:PropertyName>
          <ogc:Literal>Monaco</ogc:Literal>
        </ogc:PropertyIsEqualTo>
        <ogc:PropertyIsEqualTo>
          <ogc:PropertyName>egn:name/egn:PT_FreeText/egn:languageCode</ogc:PropertyName>
          <ogc:Literal>ita</ogc:Literal>
        </ogc:PropertyIsEqualTo>
      </ogc:And>
    </ogc:Filter>
  </wfs:Query>
</wfs:GetFeature>
```

## 4.5 Request all names of a particular feature class

The following (POST) example requests all geonames that belong to the feature class 'Country':

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:GetFeature version="1.1.0" xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:wfs="http://www.opengis.net/wfs" xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.opengis.net/wfs http://schemas.opengis.net/wfs/1.1.0/wfs.xsd">
  <wfs:Query typeName="egn:LocationInstanceName" >
    <ogc:Filter>
      <ogc:PropertyIsEqualTo>
        <ogc:PropertyName>egn:locationType/egn:FeatureClassification/egn:featureType/egn:FeatureCla
ssification_featureType/egn:featureType/egn:PT_FreeText/egn:plainText</ogc:PropertyName>
        <ogc:Literal>Country</ogc:Literal>
      </ogc:PropertyIsEqualTo>
    </ogc:Filter>
  </wfs:Query>
</wfs:GetFeature>
```

## 4.6 Request the number of features that will be returned by a query

The following example is a variation of example 4.5. Instead of returning a set of features, it uses the resultType attribute of the GetFeature element to specify that only the number of features (or hits) should be returned:

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:GetFeature version="1.1.0" xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:wfs="http://www.opengis.net/wfs" xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.opengis.net/wfs http://schemas.opengis.net/wfs/1.1.0/wfs.xsd"
resultType="hits">
  <wfs:Query typeName="egn:LocationInstanceName" >
    <ogc:Filter>
      <ogc:PropertyIsEqualTo>
        <ogc:PropertyName>egn:locationType/egn:FeatureClassification/egn:featureType/egn:FeatureCla
ssification_featureType/egn:featureType/egn:PT_FreeText/egn:plainText</ogc:PropertyName>
        <ogc:Literal>Country</ogc:Literal>
      </ogc:PropertyIsEqualTo>
    </ogc:Filter>
  </wfs:Query>
</wfs:GetFeature>
```

## 4.7 Request names using partial string matching

The following (POST) request uses a wildcard character to request information about all names that start with 'Par':

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:GetFeature version="1.1.0" xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:wfs="http://www.opengis.net/wfs" xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.opengis.net/wfs http://schemas.opengis.net/wfs/1.1.0/wfs.xsd">
  <wfs:Query typeName="egn:LocationInstanceName" >
    <ogc:Filter>
      <ogc:PropertyIsLike wildCard="*" singleChar="#" escapeChar="!">
        <ogc:PropertyName>egn:name/egn:PT_FreeText/egn:plainText</ogc:PropertyName>
        <ogc:Literal>Par*</ogc:Literal>
      </ogc:PropertyIsLike>
    </ogc:Filter>
  </wfs:Query>
</wfs:GetFeature>
```

## 4.8 Request all names within a rectangle (spatial operator)

The following (POST) example requests all geonames that belong to geographical features with a centroid within the rectangle defined by the lower corner coordinate (0,50) and the upper corner coordinate (10,60):

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:GetFeature version="1.1.0" xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:wfs="http://www.opengis.net/wfs" xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.opengis.net/wfs http://schemas.opengis.net/wfs/1.1.0/wfs.xsd">
  <wfs:Query typeName="egn:LocationInstanceName" >
    <ogc:Filter>
      <ogc:BBOX>
        <ogc:PropertyName>egn:position</ogc:PropertyName>
        <gml:Envelope srsName="EPSG:4258">
          <gml:lowerCorner>0 50</gml:lowerCorner>
          <gml:upperCorner>10 60</gml:upperCorner>
        </gml:Envelope>
      </ogc:BBOX>
    </ogc:Filter>
  </wfs:Query>
</wfs:GetFeature>
```

## 5 Issues

In some areas it is not very clear yet how the EGN architecture will work. It is in these areas that changes to existing views may occur. These changes may in turn result in changes to the server interface(s). In the following paragraphs the outstanding issues that have not yet been fully resolved are described.

### 5.1 Unclear relationships between feature types

The GML application schema that is produced by the EGN Local Service prototype (see appendix B) by itself is not clear in the relationships between feature types. For example, the attribute *coordinateSystem* of the feature type *SI\_Gazetteer* is specified as follows:

```
<xsd:element name="coordinateSystem" type="gml:FeaturePropertyType" minOccurs="0"/>
```

The specification *type="gml:FeaturePropertyType"* shows that this is a complex property: the property is another feature type. But it is not clear that this feature type is *egn:SC\_CoordinateReferenceSystem*. This information can be derived from the UML class diagram, but the output from a *DescribeFeatureType* itself itself is insufficient.

The EGN Local Service prototype uses a Deegree 2.1 WFS. This issue could be regarded as a weak point of this particular WFS Server. However, in theory it is possible to use separate schemas for *DescribeFeatureType* and *GetFeature*. We could decide to make use of this possibility to let *DescribeFeatureType* return a response in which the relationships between feature types are clearer.

### 5.2 Fuzzy and 'sounds like' searching

We want to support fuzzy and 'sounds like' searching for geonames. Fuzzy searching means that the spelling does not need to be correct. For example, a search for 'Parris' should still find return information for Paris if fuzzy searching is enabled. 'Sounds like' searching uses a special database index (a soundex index) to match search string with names that sound like the search string. The soundex algorithm is language-dependent, although a simple algorithm could suffice for most languages used in Europe.

These two methods of searching are not covered by the OGC WFS or Filter specifications. A way of supporting fuzzy and 'sounds like' searching within the limits of the specifications and current WFS software has not been fully researched yet. One possible way of doing this could be to define extra attributes of *LocationInstanceName* (e.g. *fuzzyName* and *soundexName*) derived from the *name* attribute.

If good methods of enabling fuzzy and 'sounds like' searching are found, the extra interface specifications will only be required for the EGN Central Service.

### 5.3 XLinks

The way of using XLinks described in paragraph 2.2.3 has not been tested in practice yet, it is not certain that this method will work in practice. The first part of the problem is to configure the WFS server and its database in such a way that these types of XLinks can be produced. The matter is complicated by the following factors:

1. XLinks could replace objects with different data types. For example, elements of type 'number' or 'geometry' could both be replaced by an XLink, which is of type 'string' itself.
2. Whether or not an element should be replaced by an XLink depends on the policy of the data provider. This means that if there are some similar objects in one GML document, some objects might have XLinks in their properties while others have not.

## 5.4 *Pagination*

Pagination is needed to make 'single inquiries' possible. It is also nice to have something like pagination to prevent GetFeature responses from becoming very big. However, pagination is no out-of-the-box functionality, it is a subject that is not touched upon by the WFS specification. The EGN Consortium therefore has to come up with its own way of supporting pagination. This support for pagination has not been fully developed yet. The way in which this will affect the interface specification is not clear yet, but it will probably consist of an extra so called 'vendor specific' request parameter. This parameter could be called 'PAGENUMBER', for example. The following (GET) request would return the third page of the response:

```
http://egn.geodan.nl/deegree-wfs/services?SERVICE=WFS&VERSION=1.1.0&REQUEST=GetFeature&TYPENAME=egn:LocationInstanceName&NAMESPACE=xmlns(egn=http://www.eurogeonames.eu/egn) &PAGENUMBER=3
```

Because the 'single inquiry' concept only affects the EGN Central Service and because do not want to limit NMCA's in their choice of WFS server software, the requirement to handle this extra parameter will only be made for the EGN Central Service.

## 5.5 *Validation*

Several XML validators report the OGC GML 3.1.1. schemas that are used for communication to be invalid. XMLSpy 2006, for example, reports an error in <http://schemas.opengis.net/gml/3.1.1/base/valueObjects.xsd>. XMLSpy 2008, however, detects no problems in these schemas.

## 6 References

1. OGC Web Feature Service Implementation Specification version 1.1.0, reference code: OGC 04-094. URL: <http://www.opengeospatial.org/standards/wfs>
2. OGC Filter Encoding Implementation Specification version 1.1.0, reference code: OGC 04-095. URL: <http://www.opengeospatial.org/standards/filter>
3. OGC Geography Markup Language (GML) Encoding Specification version 3.1.1, reference code: OGC 03-105r1. URL: <http://www.opengeospatial.org/standards/gml>
4. XML Linking Language (XLink) Version 1.0 (W3C recommendation). URL: <http://www.w3.org/TR/xlink/>

## 7 appendix A: GetCapabilities example

### 7.1 Request

```
http://egn.geodan.nl/deegree-
wfs/services?REQUEST=GetCapabilities&version=1.1.0&service=WFS
```

### 7.2 Response

**Note:** The response is available as a separate file (*GetCapabilities.xml*) in the archive *wfs\_response\_examples.zip*.

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:WFS_Capabilities xmlns:wfs="http://www.opengis.net/wfs" xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" updateSequence="0" version="1.1.0"
xsi:schemaLocation="http://www.opengis.net/wfs http://schemas.opengis.net/wfs/1.1.0/wfs.xsd">
  <ows:ServiceIdentification xmlns:ows="http://www.opengis.net/ows">
    <ows:ServiceType>WFS</ows:ServiceType>
    <ows:ServiceTypeVersion>1.1.0</ows:ServiceTypeVersion>
    <ows:Fees>None</ows:Fees>
    <ows:AccessConstraints>None</ows:AccessConstraints>
  </ows:ServiceIdentification>
  <ows:ServiceProvider xmlns:ows="http://www.opengis.net/ows">
    <ows:ProviderName>Geodan</ows:ProviderName>
    <ows:ProviderSite xlink:href="http://www.geodan.com" xlink:type="simple"/>
    <ows:ServiceContact>
      <ows:IndividualName>Frans Knibbe</ows:IndividualName>
      <ows:PositionName>EGN developer </ows:PositionName>
      <ows:ContactInfo>
        <ows:Phone>
          <ows:Voice>+31 20 5711347</ows:Voice>
          <ows:Facsimile>+31 20 5711333</ows:Facsimile>
        </ows:Phone>
        <ows:Address>
          <ows:DeliveryPoint>President Kennedylaan 1</ows:DeliveryPoint>
          <ows:City>Amsterdam</ows:City>
          <ows:AdministrativeArea>Noord-Holland</ows:AdministrativeArea>
          <ows:PostalCode>1079 MB</ows:PostalCode>
          <ows:Country>the Netherlands</ows:Country>
        </ows:Address>
      </ows:ContactInfo>
      <ows:ElectronicMailAddress>frans.knibbe@geodan.nl</ows:ElectronicMailAddress>
    </ows:ServiceContact>
    <ows:OnlineResource xlink:href="http://egn.geodan.nl/deegree-
wfs/services" xlink:type="simple"/>
    <ows:HoursOfService>Normal business hours</ows:HoursOfService>
    <ows:ContactInstructions>Please use e-mail</ows:ContactInstructions>
  </ows:ServiceProvider>
  <ows:OperationsMetadata xmlns:ows="http://www.opengis.net/ows">
    <ows:Operation name="GetFeature">
      <ows:DCP>
        <ows:HTTP>
          <ows:Get xlink:href="http://egn.geodan.nl/deegree-
wfs/services?" xlink:type="simple"/>
          <ows:Post xlink:href="http://egn.geodan.nl/deegree-
wfs/services" xlink:type="simple"/>
        </ows:HTTP>
      </ows:DCP>
      <ows:Parameter name="resultType">
        <ows:Value>results</ows:Value>
        <ows:Value>hits</ows:Value>
      </ows:Parameter>
    </ows:Operation>
  </ows:OperationsMetadata>
</wfs:WFS_Capabilities>
```

```

        <ows:Parameter name="outputFormat">
            <ows:Value>text/xml; subtype=gml/3.1.1</ows:Value>
        </ows:Parameter>
    </ows:Operation>
    <ows:Operation name="DescribeFeatureType">
        <ows:DCP>
            <ows:HTTP>
                <ows:Get xlink:href="http://egn.geodan.nl/deegree-
wfs/services?" xlink:type="simple"/>
                <ows:Post xlink:href="http://egn.geodan.nl/deegree-
wfs/services" xlink:type="simple"/>
            </ows:HTTP>
        </ows:DCP>
        <ows:Parameter name="outputFormat">
            <ows:Value>text/xml; subtype=gml/3.1.1</ows:Value>
        </ows:Parameter>
    </ows:Operation>
    <ows:Operation name="GetCapabilities">
        <ows:DCP>
            <ows:HTTP>
                <ows:Get xlink:href="http://egn.geodan.nl/deegree-
wfs/services?" xlink:type="simple"/>
                <ows:Post xlink:href="http://egn.geodan.nl/deegree-
wfs/services" xlink:type="simple"/>
            </ows:HTTP>
        </ows:DCP>
        <ows:Parameter name="AcceptVersions">
            <ows:Value>1.1.0</ows:Value>
        </ows:Parameter>
        <ows:Parameter name="AcceptFormats">
            <ows:Value>text/xml</ows:Value>
        </ows:Parameter>
        <ows:Parameter name="Sections">
            <ows:Value>ServiceIdentification</ows:Value>
            <ows:Value>ServiceProvider</ows:Value>
            <ows:Value>OperationsMetadata</ows:Value>
            <ows:Value>FeatureTypeList</ows:Value>
            <ows:Value>ServesGMLObjectTypeList</ows:Value>
            <ows:Value>SupportsGMLObjectTypeList</ows:Value>
            <ows:Value>Filter_Capabilities</ows:Value>
        </ows:Parameter>
    </ows:Operation>
</ows:OperationsMetadata>
<wfs:FeatureTypeList>
    <wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
        <wfs:Name>egn:LocationInstanceRelation</wfs:Name>
        <wfs:Title/>
        <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
        <wfs:Operations>
            <wfs:Operation>Query</wfs:Operation>
        </wfs:Operations>
        <wfs:OutputFormats>
            <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
        </wfs:OutputFormats>
        <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
            <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
            <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
        </ows:WGS84BoundingBox>
    </wfs:FeatureType>
    <wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
        <wfs:Name>egn:PT_FreeText</wfs:Name>
        <wfs:Title/>
        <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
        <wfs:Operations>
            <wfs:Operation>Query</wfs:Operation>
        </wfs:Operations>
        <wfs:OutputFormats>
            <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
        </wfs:OutputFormats>
        <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
            <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>

```

```

        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:Gender_gender</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:GrammaticalNumber_grammaticalNumber</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:LocationInstanceStreetAddress</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:alternativeGeographicIdentifier</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:FeatureClassificationLocal</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>

```

```

        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:ComplexGeometry</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:Status_status</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:FeatureClassificationLocal_featureDescriptionLocal</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:LocationInstancePostalCode</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:SI_Gazetteer</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>

```

```

    <wfs:Operations>
      <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
  </wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:MD_CharacterSetCode</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:Status</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:LocationInstanceName</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:FeatureClassification_featureType</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>

```

```

<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:GrammaticalNumber</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:FeatureClassification</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:Gender</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:LocalStatus_localStatus</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
    <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
    <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
  </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
  <wfs:Name>egn:FeatureClassificationLocal_featureTypeLocal</wfs:Name>
  <wfs:Title/>
  <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
  <wfs:Operations>
    <wfs:Operation>Query</wfs:Operation>
  </wfs:Operations>
  <wfs:OutputFormats>
    <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
  </wfs:OutputFormats>
  <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">

```

```

        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:SC_CoordinateReferenceSystem</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
<wfs:FeatureType xmlns:egn="http://www.eurogeonames.eu/egn">
    <wfs:Name>egn:LocalStatus</wfs:Name>
    <wfs:Title/>
    <wfs:DefaultSRS>EPSG:4258</wfs:DefaultSRS>
    <wfs:Operations>
        <wfs:Operation>Query</wfs:Operation>
    </wfs:Operations>
    <wfs:OutputFormats>
        <wfs:Format>text/xml; subtype=gml/3.1.1</wfs:Format>
    </wfs:OutputFormats>
    <ows:WGS84BoundingBox xmlns:ows="http://www.opengis.net/ows">
        <ows:LowerCorner>-180.0 -90.0</ows:LowerCorner>
        <ows:UpperCorner>180.0 90.0</ows:UpperCorner>
    </ows:WGS84BoundingBox>
</wfs:FeatureType>
</wfs:FeatureTypeList>
<ogc:Filter_Capabilities>
    <ogc:Spatial_Capabilities>
        <ogc:GeometryOperands>
            <ogc:GeometryOperand>gml:Envelope</ogc:GeometryOperand>
            <ogc:GeometryOperand>gml:Point</ogc:GeometryOperand>
            <ogc:GeometryOperand>gml:LineString</ogc:GeometryOperand>
            <ogc:GeometryOperand>gml:Polygon</ogc:GeometryOperand>
        </ogc:GeometryOperands>
        <ogc:SpatialOperators>
            <ogc:SpatialOperator name="Within"/>
            <ogc:SpatialOperator name="Intersects"/>
            <ogc:SpatialOperator name="Overlaps"/>
            <ogc:SpatialOperator name="BBOX"/>
            <ogc:SpatialOperator name="Crosses"/>
            <ogc:SpatialOperator name="Contains"/>
            <ogc:SpatialOperator name="Disjoint"/>
            <ogc:SpatialOperator name="Beyond"/>
            <ogc:SpatialOperator name="Equals"/>
            <ogc:SpatialOperator name="Touches"/>
        </ogc:SpatialOperators>
    </ogc:Spatial_Capabilities>
    <ogc:Scalar_Capabilities>
        <ogc:LogicalOperators/>
        <ogc:ComparisonOperators>
            <ogc:ComparisonOperator>LessThanEqualTo</ogc:ComparisonOperator>
            <ogc:ComparisonOperator>Between</ogc:ComparisonOperator>
            <ogc:ComparisonOperator>EqualTo</ogc:ComparisonOperator>
            <ogc:ComparisonOperator>GreaterThanEqualTo</ogc:ComparisonOperator>
            <ogc:ComparisonOperator>Like</ogc:ComparisonOperator>
            <ogc:ComparisonOperator>GreaterThan</ogc:ComparisonOperator>
            <ogc:ComparisonOperator>NullCheck</ogc:ComparisonOperator>
            <ogc:ComparisonOperator>LessThan</ogc:ComparisonOperator>
        </ogc:ComparisonOperators>
        <ogc:ArithmeticOperators>
            <ogc:SimpleArithmetic/>
        </ogc:ArithmeticOperators>
    </ogc:Scalar_Capabilities>
</ogc:Filter_Capabilities>

```

```
</ogc:Scalar_Capabilities>  
<ogc:Id_Capabilities>  
  <ogc:EID/>  
  <ogc:FID/>  
</ogc:Id_Capabilities>  
</ogc:Filter_Capabilities>  
</wfs:WFS_Capabilities>
```

## 8 appendix B: DescribeFeatureType example

### 8.1 Request

The following request asks for a description of all feature types:

```
http://egn.geodan.nl/deegree-
wfs/services?service=WFS&version=1.1.0&request=DescribeFeatureType
&namespace=xmlns(egn=http://www.eurogeonames.eu/egn)
```

### 8.2 Response

**Note:** The response is available as a separate file (*DescribeFeatureType.xsd*) in the archive *wfs\_response\_examples.zip*.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:deegreewfs="http://www.deegree.org/wfs" xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:gml="http://www.opengis.net/gml" xmlns:ogc="http://www.opengis.net/ogc"
targetNamespace="http://www.eurogeonames.eu/egn" elementFormDefault="qualified"
attributeFormDefault="unqualified">
  <xsd:import namespace="http://www.opengis.net/gml"
schemaLocation="http://schemas.opengis.net/gml/3.1.1/base/feature.xsd"/>
  <xsd:import namespace="http://www.opengis.net/gml"
schemaLocation="http://schemas.opengis.net/gml/3.1.1/base/geometryAggregates.xsd"/>
  <xsd:element name="SI_Gazetteer" type="egn:SI_GazetteerType"
substitutionGroup="gml:_Feature"/>
  <xsd:complexType name="SI_GazetteerType">
    <xsd:complexContent>
      <xsd:extension base="gml:AbstractFeatureType">
        <xsd:sequence>
          <xsd:element name="name" type="xsd:string"/>
          <xsd:element name="scope" type="xsd:string" minOccurs="0"/>
          <xsd:element name="custodian" type="xsd:string"/>
          <xsd:element name="territoryOfUse"
type="gml:GeometryPropertyType"/>
          <xsd:element name="coordinateSystem"
type="gml:FeaturePropertyType" minOccurs="0"/>
          <xsd:element name="locationType" type="gml:FeaturePropertyType"
minOccurs="0" maxOccurs="unbounded"/>
          <xsd:element name="locationInstanceName"
type="gml:FeaturePropertyType" minOccurs="0" maxOccurs="unbounded"/>
          <xsd:element name="locationInstancePostalCode"
type="gml:FeaturePropertyType" minOccurs="0" maxOccurs="unbounded"/>
          <xsd:element name="locationInstanceStreetAddress"
type="gml:FeaturePropertyType" minOccurs="0" maxOccurs="unbounded"/>
        </xsd:sequence>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>
  <xsd:element name="LocationInstanceRelation" type="egn:LocationInstanceRelationType"
substitutionGroup="gml:_Feature"/>
  <xsd:complexType name="LocationInstanceRelationType">
    <xsd:complexContent>
      <xsd:extension base="gml:AbstractFeatureType">
        <xsd:sequence>
          <xsd:element name="parentID" type="xsd:integer"/>
          <xsd:element name="childID" type="xsd:integer"/>
        </xsd:sequence>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>
  <xsd:element name="LocationInstanceName" type="egn:LocationInstanceNameType"
substitutionGroup="gml:_Feature"/>
```

```

<xsd:complexType name="LocationInstanceNameType">
  <xsd:complexContent>
    <xsd:extension base="gml:AbstractFeatureType">
      <xsd:sequence>
        <xsd:element name="locationInstanceID" type="xsd:integer"/>
        <xsd:element name="geographicIdentifier" type="xsd:string"/>
        <xsd:element name="alternativeGeographicIdentifier"
type="gml:FeaturePropertyType" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="geographicExtent"
type="gml:GeometryPropertyType"/>
        <xsd:element name="temporalExtent" type="xsd:dateTime"/>
        <xsd:element name="position" type="gml:GeometryPropertyType"/>
        <xsd:element name="administrator" type="xsd:string"/>
        <xsd:element name="historicalStartDate" type="xsd:dateTime"
minOccurs="0"/>
        <xsd:element name="historicalEndDate" type="xsd:dateTime"
minOccurs="0"/>
        <xsd:element name="pronunciationAudio" type="xsd:string"
minOccurs="0"/>
        <xsd:element name="IPAs" type="xsd:string" minOccurs="0"/>
        <xsd:element name="lastUpdateDate" type="xsd:dateTime"/>
        <xsd:element name="dataSource" type="gml:FeaturePropertyType"
minOccurs="0"/>
        <xsd:element name="locationType"
type="gml:FeaturePropertyType"/>
        <xsd:element name="locationTypeLocal"
type="gml:FeaturePropertyType" minOccurs="0"/>
        <xsd:element name="spatialObject"
type="gml:FeaturePropertyType" minOccurs="0"/>
        <xsd:element name="parent" type="gml:FeaturePropertyType"
minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="child" type="gml:FeaturePropertyType"
minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="name" type="gml:FeaturePropertyType"/>
        <xsd:element name="status" type="gml:FeaturePropertyType"/>
        <xsd:element name="localStatus" type="gml:FeaturePropertyType"
minOccurs="0"/>
        <xsd:element name="nationalUniqueId" type="xsd:string"
minOccurs="0"/>
        <xsd:element name="gender" type="gml:FeaturePropertyType"
minOccurs="0"/>
        <xsd:element name="grammaticalNumber"
type="gml:FeaturePropertyType" minOccurs="0"/>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:element name="LocationInstancePostalCode" type="egn:LocationInstancePostalCodeType"
substitutionGroup="gml:_Feature"/>
<xsd:complexType name="LocationInstancePostalCodeType">
  <xsd:complexContent>
    <xsd:extension base="gml:AbstractFeatureType">
      <xsd:sequence>
        <xsd:element name="locationInstanceID" type="xsd:integer"/>
        <xsd:element name="geographicIdentifier" type="xsd:string"/>
        <xsd:element name="alternativeGeographicIdentifier"
type="gml:FeaturePropertyType" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="geographicExtent"
type="gml:GeometryPropertyType"/>
        <xsd:element name="temporalExtent" type="xsd:dateTime"/>
        <xsd:element name="position" type="gml:GeometryPropertyType"/>
        <xsd:element name="administrator" type="xsd:string"/>
        <xsd:element name="historicalStartDate" type="xsd:dateTime"
minOccurs="0"/>
        <xsd:element name="historicalEndDate" type="xsd:time"
minOccurs="0"/>
        <xsd:element name="pronunciationAudio" type="xsd:string"
minOccurs="0"/>
        <xsd:element name="IPAs" type="xsd:string"/>
        <xsd:element name="lastUpdateDate" type="xsd:time"/>
        <xsd:element name="dataSource" type="gml:FeaturePropertyType"
minOccurs="0"/>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>

```

```

minOccurs="0"/>
                                <xsd:element name="locationType"
type="gml:FeaturePropertyType"/>
                                <xsd:element name="locationTypeLocal"
type="gml:FeaturePropertyType" minOccurs="0"/>
                                <xsd:element name="spatialObject"
type="gml:FeaturePropertyType" minOccurs="0"/>
                                <xsd:element name="parent" type="gml:FeaturePropertyType"
minOccurs="0" maxOccurs="unbounded"/>
                                <xsd:element name="child" type="gml:FeaturePropertyType"
minOccurs="0" maxOccurs="unbounded"/>
                                <xsd:element name="postalCode" type="xsd:string"/>
                                </xsd:sequence>
                                </xsd:extension>
                                </xsd:complexContent>
                                </xsd:complexType>
                                <xsd:element name="LocationInstanceStreetAddress"
type="egn:LocationInstanceStreetAddressType" substitutionGroup="gml:_Feature"/>
                                <xsd:complexType name="LocationInstanceStreetAddressType">
                                    <xsd:complexContent>
                                        <xsd:extension base="gml:AbstractFeatureType">
                                            <xsd:sequence>
                                                <xsd:element name="locationInstanceID" type="xsd:integer"/>
                                                <xsd:element name="geographicIdentifier" type="xsd:string"/>
                                                <xsd:element name="alternativeGeographicIdentifier"
type="gml:FeaturePropertyType" minOccurs="0" maxOccurs="unbounded"/>
                                                <xsd:element name="geographicExtent"
type="gml:GeometryPropertyType"/>
                                                <xsd:element name="temporalExtent" type="xsd:dateTime"/>
                                                <xsd:element name="position" type="gml:GeometryPropertyType"/>
                                                <xsd:element name="administrator" type="xsd:string"/>
                                                <xsd:element name="historicalStartDate" type="xsd:time"
minOccurs="0"/>
                                                <xsd:element name="historicalEndDate" type="xsd:time"
minOccurs="0"/>
                                                <xsd:element name="pronunciationAudio" type="xsd:string"
minOccurs="0"/>
                                                <xsd:element name="IPAs" type="xsd:string"/>
                                                <xsd:element name="lastUpdateDate" type="xsd:time"/>
                                                <xsd:element name="dataSource" type="gml:FeaturePropertyType"
minOccurs="0"/>
                                                <xsd:element name="locationType"
type="gml:FeaturePropertyType"/>
                                                <xsd:element name="locationTypeLocal"
type="gml:FeaturePropertyType" minOccurs="0"/>
                                                <xsd:element name="spatialObject"
type="gml:FeaturePropertyType" minOccurs="0"/>
                                                <xsd:element name="parent" type="gml:FeaturePropertyType"
minOccurs="0" maxOccurs="unbounded"/>
                                                <xsd:element name="child" type="gml:FeaturePropertyType"
minOccurs="0" maxOccurs="unbounded"/>
                                                <xsd:element name="streetAddress"
type="gml:FeaturePropertyType"/>
                                            </xsd:sequence>
                                            </xsd:extension>
                                        </xsd:complexContent>
                                    </xsd:complexType>
                                <xsd:element name="ComplexGeometry" type="egn:ComplexGeometryType"
substitutionGroup="gml:_Feature"/>
                                <xsd:complexType name="ComplexGeometryType">
                                    <xsd:complexContent>
                                        <xsd:extension base="gml:AbstractFeatureType">
                                            <xsd:sequence>
                                                <xsd:element name="geometry" type="gml:GeometryPropertyType"/>
                                            </xsd:sequence>
                                        </xsd:extension>
                                    </xsd:complexContent>
                                </xsd:complexType>
                                <xsd:element name="SC_CoordinateReferenceSystem" type="egn:SC_CoordinateReferenceSystemType"
substitutionGroup="gml:_Feature"/>
                                <xsd:complexType name="SC_CoordinateReferenceSystemType">

```

```

        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="kindCode" type="xsd:integer"/>
                    <xsd:element name="RS_Identifier.code" type="xsd:string"/>
                    <xsd:element name="RS_Identifier.authority.title"
type="xsd:string"/>
                    <xsd:element name="RS_Identifier.authority.date"
type="xsd:date"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="MD_CharactersetCode" type="egn:MD_CharactersetCodeType"
substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="MD_CharactersetCodeType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="text" type="xsd:string"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="PT_FreeText" type="egn:PT_FreeTextType" substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="PT_FreeTextType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="languageCode" type="xsd:string"
minOccurs="0"/>
                    <xsd:element name="country" type="xsd:string" minOccurs="0"/>
                    <xsd:element name="charactersetCode"
type="gml:FeaturePropertyType" minOccurs="0"/>
                    <xsd:element name="plainText" type="xsd:string"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="FeatureClassification" type="egn:FeatureClassificationType"
substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="FeatureClassificationType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="featureType" type="gml:FeaturePropertyType"
maxOccurs="unbounded"/>
                    <xsd:element name="classificationScheme" type="xsd:string"/>
                    <xsd:element name="parent" type="gml:FeaturePropertyType"
minOccurs="0"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="FeatureClassification_featureType"
type="egn:FeatureClassification_featureTypeType" substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="FeatureClassification_featureTypeType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="featureType"
type="gml:FeaturePropertyType"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="FeatureClassificationLocal" type="egn:FeatureClassificationLocalType"
substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="FeatureClassificationLocalType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">

```

```

                <xsd:sequence>
                    <xsd:element name="featureCodeLocal" type="xsd:string"
minOccurs="0"/>
                    <xsd:element name="featureTypeLocal"
type="gml:FeaturePropertyType" maxOccurs="unbounded"/>
                    <xsd:element name="featureDescriptionLocal"
type="gml:FeaturePropertyType" maxOccurs="unbounded"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="FeatureClassificationLocal_featureTypeLocal"
type="egn:FeatureClassificationLocal_featureTypeLocalType" substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="FeatureClassificationLocal_featureTypeLocalType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="featureTypeLocal"
type="gml:FeaturePropertyType"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="FeatureClassificationLocal_featureDescriptionLocal"
type="egn:FeatureClassificationLocal_featureDescriptionLocalType" substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="FeatureClassificationLocal_featureDescriptionLocalType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="featureTypeLocal"
type="gml:FeaturePropertyType"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="alternativeGeographicIdentifier"
type="egn:alternativeGeographicIdentifierType" substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="alternativeGeographicIdentifierType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="text" type="xsd:string"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="Gender" type="egn:GenderType" substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="GenderType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="gender" type="gml:FeaturePropertyType"
maxOccurs="unbounded"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="Gender_gender" type="egn:Gender_genderType"
substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="Gender_genderType">
        <xsd:complexContent>
            <xsd:extension base="gml:AbstractFeatureType">
                <xsd:sequence>
                    <xsd:element name="gender" type="gml:FeaturePropertyType"/>
                </xsd:sequence>
            </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
    <xsd:element name="Status" type="egn:StatusType" substitutionGroup="gml:_Feature"/>
    <xsd:complexType name="StatusType">
        <xsd:complexContent>

```

```

        <xsd:extension base="gml:AbstractFeatureType">
            <xsd:sequence>
                <xsd:element name="status" type="gml:FeaturePropertyType"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:element name="Status_status" type="egn:Status_statusType"
substitutionGroup="gml:_Feature"/>
<xsd:complexType name="Status_statusType">
    <xsd:complexContent>
        <xsd:extension base="gml:AbstractFeatureType">
            <xsd:sequence>
                <xsd:element name="status" type="gml:FeaturePropertyType"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:element name="GrammaticalNumber" type="egn:GrammaticalNumberType"
substitutionGroup="gml:_Feature"/>
<xsd:complexType name="GrammaticalNumberType">
    <xsd:complexContent>
        <xsd:extension base="gml:AbstractFeatureType">
            <xsd:sequence>
                <xsd:element name="grammaticalNumber"
type="gml:FeaturePropertyType"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:element name="GrammaticalNumber_grammaticalNumber"
type="egn:GrammaticalNumber_grammaticalNumberType" substitutionGroup="gml:_Feature"/>
<xsd:complexType name="GrammaticalNumber_grammaticalNumberType">
    <xsd:complexContent>
        <xsd:extension base="gml:AbstractFeatureType">
            <xsd:sequence>
                <xsd:element name="grammaticalNumber"
type="gml:FeaturePropertyType"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:element name="LocalStatus" type="egn:LocalStatusType" substitutionGroup="gml:_Feature"/>
<xsd:complexType name="LocalStatusType">
    <xsd:complexContent>
        <xsd:extension base="gml:AbstractFeatureType">
            <xsd:sequence>
                <xsd:element name="localStatus"
type="gml:FeaturePropertyType"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:element name="LocalStatus_localStatus" type="egn:LocalStatus_localStatusType"
substitutionGroup="gml:_Feature"/>
<xsd:complexType name="LocalStatus_localStatusType">
    <xsd:complexContent>
        <xsd:extension base="gml:AbstractFeatureType">
            <xsd:sequence>
                <xsd:element name="localStatus"
type="gml:FeaturePropertyType"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
</xsd:schema>

```

## 9 appendix C: GetFeature example

### 9.1 Request

The following request asks for the Gazetteer object (and therefore for all gazetteer information available, because all other classes are related to the SI\_Gazetteer class):

```
http://egn.geodan.nl/deegree-
wfs/services?SERVICE=WFS&VERSION=1.1.0&REQUEST=GetFeature&TYPENAME=egn:SI_Gazetteer&NAMESPACE=xmlns (
egn=http://www.eurogeonames.eu/egn)
```

### 9.2 Response

**Note:** The response is available as a separate file (*GetFeature.xml*) in the archive *wfs\_response\_examples.zip*.

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:FeatureCollection numberOfFeatures="1" xmlns:egn="http://www.eurogeonames.eu/egn"
xmlns:gml="http://www.opengis.net/gml" xmlns:wfs="http://www.opengis.net/wfs"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xlink="http://www.w3.org/1999/xlink"
xsi:schemaLocation="http://www.eurogeonames.eu/egn http://egn.geodan.nl/deegree-wfs-
dev/services?SERVICE=WFS&VERSION=1.1.0&REQUEST=DescribeFeatureType&TYPENAME=egn:SI_Gazet
teer&NAMESPACE=xmlns (egn=http://www.eurogeonames.eu/egn) http://www.opengis.net/wfs
http://schemas.opengis.net/wfs/1.1.0/wfs.xsd">
  <gml:boundedBy>
    <gml:Envelope srsName="EPSG:4258">
      <gml:pos srsDimension="2">3.3581838607788086 50.75050354003906</gml:pos>
      <gml:pos srsDimension="2">7.228315353393555 53.551231384277344</gml:pos>
    </gml:Envelope>
  </gml:boundedBy>
  <gml:featureMember>
    <egn:SI_Gazetteer gml:id="SI_Gazetteer_1">
      <gml:boundedBy>
        <gml:Envelope srsName="EPSG:4258">
          <gml:pos srsDimension="2">3.3581838607788086
50.75050354003906</gml:pos>
          <gml:pos srsDimension="2">7.228315353393555
53.551231384277344</gml:pos>
        </gml:Envelope>
      </gml:boundedBy>
      <egn:name>EGN demonstration Gazetteer</egn:name>
      <egn:scope>Places in the Netherlands</egn:scope>
      <egn:custodian>Geodan</egn:custodian>
      <egn:territoryOfUse>
        <gml:Polygon srsName="EPSG:4258">
          <gml:outerBoundaryIs>
            <gml:LinearRing>
              <gml:coordinates cs="," decimal="." ts="
">3.3581838607788086,50.75050354003906 3.3581838607788086,53.551231384277344
7.228315353393555,53.551231384277344 7.228315353393555,50.75050354003906
3.3581838607788086,50.75050354003906</gml:coordinates>
            </gml:LinearRing>
          </gml:outerBoundaryIs>
        </gml:Polygon>
      </egn:territoryOfUse>
      <egn:coordinateSystem>
        <egn:SC_CoordinateReferenceSystem
gml:id="SC_CoordinateReferenceSystem_1">
          <egn:kindCode>1</egn:kindCode>
          <egn:RS_Identifier.code>4258</egn:RS_Identifier.code>
          <egn:RS_Identifier.authority.title>EPSG
v6.14</egn:RS_Identifier.authority.title>
          <egn:RS_Identifier.authority.date>2007-09-
02</egn:RS_Identifier.authority.date>
```

```

        </egn:SC_CoordinateReferenceSystem>
    </egn:coordinateSystem>
    <egn:locationType>
        <egn:FeatureClassification gml:id="FeatureClassification_3">
            <egn:featureType>
                <egn:FeatureClassification_featureType
gml:id="FeatureClassification_featureType_3">
                    <egn:featureType>
                        <egn:PT_FreeText gml:id="PT_FreeText_14">

    <egn:languageCode>eng</egn:languageCode>
                                                    <egn:characterSetCode>
gml:id="MD_CharacterSetCode_4">
                                                        <egn:MD_CharacterSetCode

    <egn:text>utf8</egn:text>
                                                    </egn:MD_CharacterSetCode>
                                                        </egn:characterSetCode>

    <egn:plainText>Country</egn:plainText>
                                                    </egn:PT_FreeText>
                                                        </egn:featureType>
                                                            </egn:FeatureClassification_featureType>
                                                                </egn:featureType>

    <egn:classificationScheme>EuroGeoNames</egn:classificationScheme>
        <egn:parent>
            <egn:FeatureClassification
gml:id="FeatureClassification_1">
                <egn:featureType>
                    <egn:FeatureClassification_featureType
gml:id="FeatureClassification_featureType_1">
                        <egn:featureType>
                            <egn:PT_FreeText
gml:id="PT_FreeText_12">
                                <egn:languageCode>eng</egn:languageCode>

                                <egn:characterSetCode xlink:href="#MD_CharacterSetCode_4"/>

                                <egn:plainText>Countries, administrative areas and other areas</egn:plainText>
                                    </egn:PT_FreeText>
                                        </egn:featureType>
                                            </egn:FeatureClassification_featureType>
                                                </egn:featureType>

                                <egn:classificationScheme>EuroGeoNames</egn:classificationScheme>
                                    </egn:FeatureClassification>
                                        </egn:parent>
                                            </egn:FeatureClassification>
                                                </egn:locationType>
                                                    <egn:locationInstanceName>
                                                        <egn:LocationInstanceName gml:id="LocationInstanceName_1">
                                                            <gml:boundedBy>
                                                                <gml:Envelope srsName="EPSG:4258">
                                                                    <gml:pos srsDimension="2">3.3581838607788086
50.75050354003906</gml:pos>
                                                                    <gml:pos srsDimension="2">7.228315353393555
53.551231384277344</gml:pos>
                                                                </gml:Envelope>
                                                            </gml:boundedBy>
                                                        <egn:locationInstanceID>1</egn:locationInstanceID>

                                                    <egn:geographicIdentifier>1:Nederland</egn:geographicIdentifier>
                                                        <egn:geographicExtent>
                                                            <gml:Polygon srsName="EPSG:4258">
                                                                <gml:outerBoundaryIs>
                                                                    <gml:LinearRing>
                                                                        <gml:coordinates cs=","
decimal="." ts=" ">3.3581838607788086,50.75050354003906 3.3581838607788086,53.551231384277344
7.228315353393555,53.551231384277344 7.228315353393555,50.75050354003906

```

```

3.3581838607788086,50.75050354003906</gml:coordinates>
                                </gml:LinearRing>
                                </gml:outerBoundaryIs>
                                </gml:Polygon>
</egn:geographicExtent>
<egn:temporalExtent>2008-02-14T15:03:47</egn:temporalExtent>
<egn:position>
    <gml:Point srsName="EPSG:4258">
        <gml:coordinates cs="," decimal="." ts="
">5.618094064388991,52.249490873400646</gml:coordinates>
        </gml:Point>
    </egn:position>
    <egn:administrator>Topografische
dienst/kadaster</egn:administrator>
    <egn:lastUpdateDate>1990-01-01T12:00:00</egn:lastUpdateDate>
    <egn:dataSource>
        <egn:PT_FreeText gml:id="PT_FreeText_49">
            <egn:languageCode>nl </egn:languageCode>
            <egn:characterSetCode
xlink:href="#MD_CharacterSetCode_4"/>
            <egn:plainText>Geodan startdata</egn:plainText>
        </egn:PT_FreeText>
    </egn:dataSource>
    <egn:locationType xlink:href="#FeatureClassification_3"/>
    <egn:locationTypeLocal>
        <egn:FeatureClassificationLocal
gml:id="FeatureClassificationLocal_1">
            <egn:featureCodeLocal>0</egn:featureCodeLocal>
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                        </egn:PT_FreeText>
                    </egn:featureTypeLocal>
                </egn:FeatureClassificationLocal_featureTypeLocal>
            </egn:featureTypeLocal>
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                            <egn:languageCode>nl </egn:languageCode>
                            <egn:characterSetCode xlink:href="#MD_CharacterSetCode_4"/>
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    <egn:name>
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                                <egn:characteretCode xlink:href="#MD_CharacterSetCode_4"/>
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                                </egn:PT_FreeText>
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                                    </egn:PT_FreeText>
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                            </egn:Gender_gender>
                        </egn:gender>
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                </egn:Gender_gender
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```



```
<egn:plainText>singular</egn:plainText>
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</egn:GrammaticalNumber_grammaticalNumber>
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                                     </egn:SI_Gazetteer>
</gml:featureMember>
</wfs:FeatureCollection>
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