



**Kartverket**

## **ELF cascading services and client applications**

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# The ELF-cascading services

Inspire, Ken

Norwegian Mapping Authority



## ELF Cascading WFS UpdateCapabilities responses

These files are updated daily. They contain the feature types (with country information) connected to the ELF Cascading WFS.

- [UpdateCapabilities](#) for INSPIRE 4.0 and ELF 1.0 feature types
- [UpdateCapabilities](#) for INSPIRE 3.0 feature types



ArcGIS



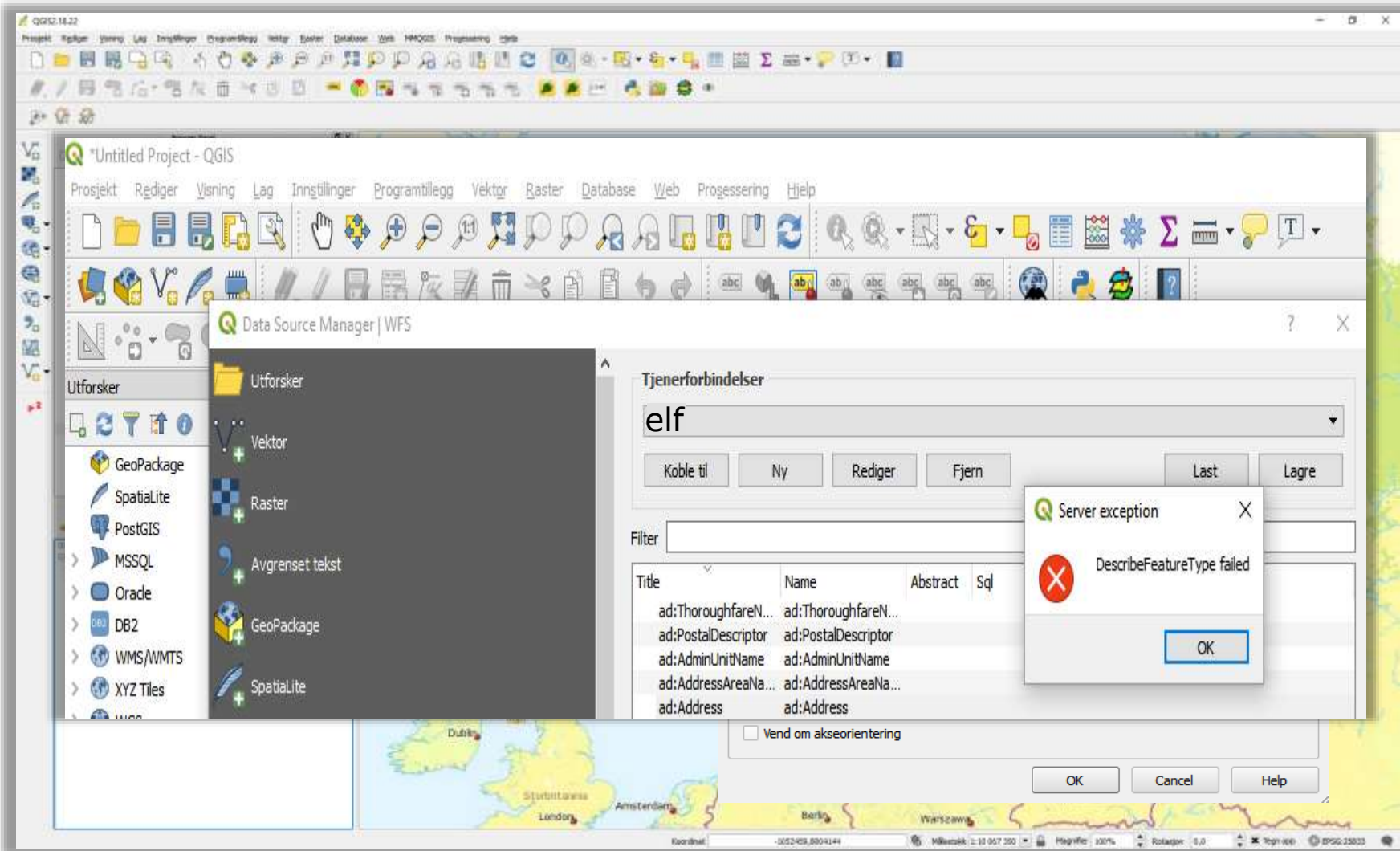
ArcGIS Online



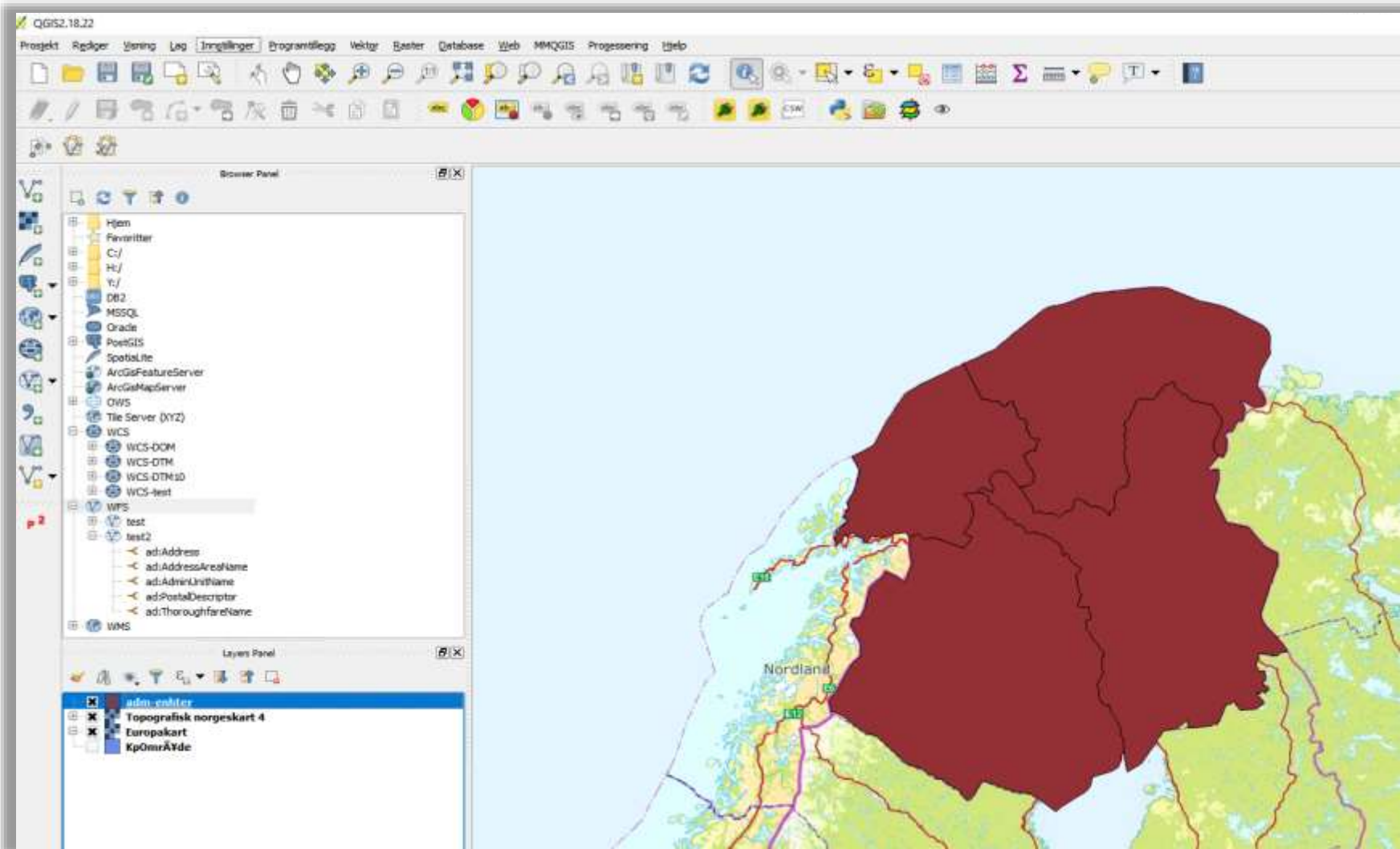




# Testing in QGIS



# Testing in QGIS

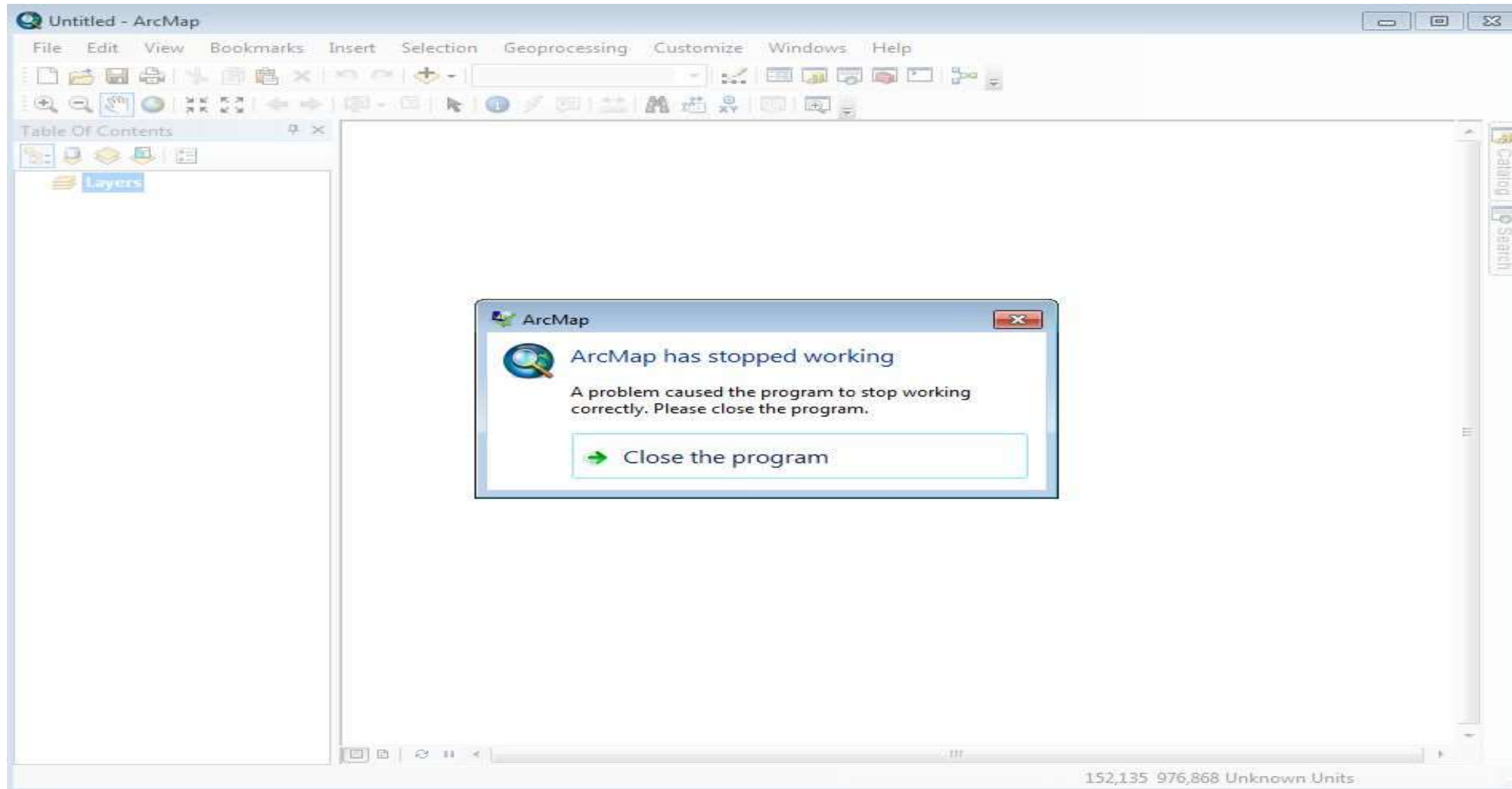


# Testing in QGIS

FeatureType	Answer	Features	Comments	FeatureType	Answer	Features	Comments
ad:Address	Yes	Yes		sr:ShoreSegment	Yes	Yes	
ad:AddressAreaName	Yes	No	Unable to load features	su:NUTSRegion	No	No	
ad:AminUnitName	Yes	No	Unable to load features	tn-a:AerodromeArea	Yes	No	Response is not a valid QGIS-layer
ad:PostalDescriptor	Yes	No	Unable to load features	tn-a:AerodromeCategory	Yes	No	Response is not a valid QGIS-layer
ad:ThoroughfareName	Yes	No	Unable to load features	tn-a:AerodromeNode	Yes	No	Response is not a valid QGIS-layer
ad:AdministrativeBoundry	Yes	Yes		tn-a:AerodromeType	Yes	No	Response is not a valid QGIS-layer
ad:AdministrativeUnit	Yes	Yes		tn-a:ApronArea	Yes	Yes	Features misplaced
bu-core2d:Building	Yes	Yes		tn-a:ConditionOfAirFacility	Yes	Yes	
bu-core2d:BuildingPart	No	No		tn-a:ElementLength	No	No	
bu:Building	Yes	Yes		tn-a:ElementWidth	No	No	
bu:BuildingPart	No	No		tn-a:FieldElevation	No	No	
cp:BasicPropertyUnit	Yes	No	Unable to load features	tn-a:RunwayArea	No	No	
cp:CadastralBoundary	Yes	Yes		tn-a:SurfaceComposition	Yes	No	Response is not a valid QGIS-layer
cp:CadastralParcel	Yes	Yes		tn-a:TaxiwayArea	No	No	
cp:CadastralZoning	No	No		tn-a:TouchDownLiftOff	No	No	
el-vec:BreakLine	Yes	Yes		tn-a:UseRestriction	Yes	No	Response is not a valid QGIS-layer
el-vec:ContourLine	Yes	No		tn-c:CablewayLink	No	No	
el-vec:SpotElevation	Yes	No	No features returned	tn-ra:DesignSpeed	No	No	
elf-au:AdministrativeUnit	Yes	Yes		tn-ra:NominalTrackGauge	Yes	No	Response is not a valid QGIS-layer
elf-au:AdministrativeUnitArea	Yes	Yes		tn-ra:NumberOfTracks	Yes	No	Attribute
elf-gn:NamedPlace	Yes	Yes		tn-ra:RailwayElectrification	Yes	No	Response is not a valid QGIS-layer
elf-pw:Embankment	Yes	Yes		tn-ra:RailwayLine	No	No	
elf-pw:LandWaterBoundary	Yes	Yes		tn-ra:RailwayLink	Yes	No	Response is not a valid QGIS-layer
elf-pw:ShorelineConstruction	Yes	Yes		tn-ra:RailwayNode	No	No	
elf-tn-a:AerodromeArea	Yes	Yes		tn-ra:RailwayStationArea	Yes	Yes	
elf-tn-a:AerodromeNode	Yes	Yes		tn-ra:RailwayStationCode	No	No	
elf-tn-ra:RailwayClass	No	No		tn-ra:RailwayStationNode	Yes	No	Response is not a valid QGIS-layer
elf-tn-ra:RailwayElectrification	Yes	No	Attribute	tn-ra:RailwayType	Yes	No	0 Features returned
elf-tn-ra:RailwayLink	Yes	Yes		tn-ra:RailwayUse	Yes	No	Attribute
elf-tn-ra:RailwayStationNode	Yes	Yes		tn-ra:RailwayYardArea	Yes	No	Response is not a valid QGIS-layer
elf-tn-ro:RoadLink	Yes	Yes		tn-ro:ERoad	Yes	No	Response is not a valid QGIS-layer
elf-tn-w:FerryCrossing	Yes	No	Attribute	tn-ro:FormOfWay	Yes	No	Attribute
elf-tn-w:PortType	No	No		tn-ro:FunctionalRoadClass	Yes	No	Attribute
elf-tn:VerticalPosition	Yes	No	Attribute	tn-ro:NumberOfLanes	Yes	No	Response is not a valid QGIS-layer
gn:NamedPlace	Yes	Yes		tn-ro:Road	Yes	No	Response is not a valid QGIS-layer
hy-n:HydroNode	Yes	Yes	Features misplaced	tn-ro:RoadLink	Yes	Yes	
hy-n:WatercourseLink	Yes	Yes	Features misplaced	tn-ro:RoadLinkSequence	No	No	
hy-n:WatercourseLinkSequence	Yes	No	Response is not a valid QGIS-layer	tn-ro:RoadName	Yes	No	Response is not a valid QGIS-layer
hy-p:Crossing	Yes	No	Response is not a valid QGIS-layer	tn-ro:RoadNode	Yes	No	Response is not a valid QGIS-layer
hy-p:DamOrWeir	Yes	Yes		tn-ro:RoadServiceArea	Yes	Yes	
hy-p:DrainageBasin	Yes	No	Response is not a valid QGIS-layer	tn-ro:RoadServiceType	No	No	
hy-p:Falls	Yes	Yes		tn-ro:RoadSurfaceCategory	Yes	No	Attribute
hy-p:Ford	Yes	No	Response is not a valid QGIS-layer	tn-ro:RoadWidth	Yes	No	Response is not a valid QGIS-layer
hy-p:LandWaterBoundary	Yes	Yes		tn-ro:VehicleTrafficArea	Yes	No	Response is not a valid QGIS-layer
hy-p:Lock	Yes	Yes		tn-w:Beacon	Yes	Yes	
hy-p:Rapids	Yes	Yes		tn-w:Buoy	Yes	Yes	
hy-p:RiverBasin	No	No		tn-w:FairwayArea	Yes	No	Response is not a valid QGIS-layer
hy-p:ShorelineConstruction	Yes	Yes		tn-w:PortArea	Yes	Yes	
hy-p:Sluice	Yes	Yes		tn-w:PortNode	Yes	Yes	
hy-p:StandingWater	Yes	Yes		tn-w:WaterwayLink	Yes	Yes	
hy-p:Watercourse	Yes	Yes		tn-w:WaterwayNode	Yes	Yes	
hy-p:Wetland	Yes	Yes		tn:AccessRestriction	Yes	No	Response is not a valid QGIS-layer
lcv:LandCoverDataset	Yes	Yes	Strange location	tn:ConditionOfFacility	Yes	No	Response is not a valid QGIS-layer
lcv:LandCoverUnit	Yes	Yes		tn:MaintenanceAuthority	Yes	No	0 Features returned
net:Network	Yes	No	Response is not a valid QGIS-layer	tn:MarkerPost	No	No	
ps:ProtectedSite	Yes	Yes		tn:OwnerAuthority	No	No	
sr:InterTidalArea	Yes	Yes		tn:TrafficFlowDirection	Yes	No	Response is not a valid QGIS-layer
sr:MarineContour	Yes	Yes		tn:TransportNetwork	Yes	No	Response is not a valid QGIS-layer
sr:SeaArea	No	No		tn:VerticalPosition	Yes	No	Response is not a valid QGIS-layer



# Testing in ArcGIS









# Testing in ArcGIS

Ken



Example, call generated by Qgis. This is working ok.  
[https://security.locationframework.eu/wss/service/Cascading/httpauth/licid-UUID\\_20171010-101821-712-583186058?service=WFS&request=GetFeature&version=2.0.0&srsName=urn:ogc:def:crs:EPSG::3857&typeNames=ad%3AAddress&bbox=995792.180832,8305627.15057,1300541.2463,8469997.33618,urn:ogc:def:crs:EPSG::3857&namespaces=xmlns\(ad,http%3A%2F%2Finspire.ec.europa.eu%2Fschemas%2Fad%2F4.0\)&count=1000](https://security.locationframework.eu/wss/service/Cascading/httpauth/licid-UUID_20171010-101821-712-583186058?service=WFS&request=GetFeature&version=2.0.0&srsName=urn:ogc:def:crs:EPSG::3857&typeNames=ad%3AAddress&bbox=995792.180832,8305627.15057,1300541.2463,8469997.33618,urn:ogc:def:crs:EPSG::3857&namespaces=xmlns(ad,http%3A%2F%2Finspire.ec.europa.eu%2Fschemas%2Fad%2F4.0)&count=1000)

Example call generated by FME/ArcMap, not working – srsname missing in call  
[https://security.locationframework.eu:443/wss/service/Cascading/httpauth/licid-UUID\\_20171010-101821-712-583186058?SERVICE=WFS&VERSION=2.0.0&REQUEST=GetFeature&TYPENAMES=ad%3AAddress&NAMESPACE=xmlns%28ad%3Dhttp%3A%2F%2Finspire.ec.europa.eu%2Fschemas%2Fad%2F4.0%29&BBOX=995792.180832%2C8305627.15057%2C1300541.2463%2C8469997.33618%2Curn%3Aogc%3Adef%3Acrs%3AEPSSG%3A%3A3857&OUTPUTFORMAT=text%2Fxml%3B%20subtype%3Dgml%2F3.2.1&COUNT=1000](https://security.locationframework.eu:443/wss/service/Cascading/httpauth/licid-UUID_20171010-101821-712-583186058?SERVICE=WFS&VERSION=2.0.0&REQUEST=GetFeature&TYPENAMES=ad%3AAddress&NAMESPACE=xmlns%28ad%3Dhttp%3A%2F%2Finspire.ec.europa.eu%2Fschemas%2Fad%2F4.0%29&BBOX=995792.180832%2C8305627.15057%2C1300541.2463%2C8469997.33618%2Curn%3Aogc%3Adef%3Acrs%3AEPSSG%3A%3A3857&OUTPUTFORMAT=text%2Fxml%3B%20subtype%3Dgml%2F3.2.1&COUNT=1000)

This call works:

[https://security.locationframework.eu/wss/service/Cascading/httpauth/licid-UUID\\_20171010-101821-712-583186058?srsName=urn:ogc:def:crs:EPSG::3857](https://security.locationframework.eu/wss/service/Cascading/httpauth/licid-UUID_20171010-101821-712-583186058?srsName=urn:ogc:def:crs:EPSG::3857)

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# Testing in ArcGIS/FME



The screenshot displays the ArcGIS desktop environment. The main window shows a map with various geographical features. The Table of Contents on the left lists several layers, including:

- Connection (3) - ELF Cascading WFS service WFS.f
- Address
- AdministrativeUnit Point
- AdministrativeUnit Polygon
- Connection (1) - ELF Cascading WFS service WFS.f
- StandingWater NoGeometry
- StandingWater Point
- StandingWater Line
- StandingWater Polygon
- StandingWater Multipatch
- Connection (6) - ELF Cascading WFS service WFS.f
- AdministrativeBoundary
- Europakart WMS

At the bottom of the interface, there are options for "Clip to Search Envelope" and "Search Envelope Coordinate System: EPSG:3857".

# Testing in ArcGIS Online



A screenshot of the ArcGIS Online web interface. The main map area shows a map of Europe with a scale bar at the bottom. Overlaid on the map is a dialog box titled "Legg til lag fra web" (Add layer from web). Inside this dialog, there is a sub-dialog box titled "Error" with the message: "The WFS layer, au:AdministrativeUnit, can't be added to the map." The error dialog has an "OK" button. The "Legg til lag fra web" dialog also has "LEGG TIL LAG" and "AVBRYT" buttons. The background interface includes a top navigation bar with "Hjem", "Mitt kart", and "Nytt kart", and a left sidebar with "Innhold" and "Europakart".







# Difficulties/service limitations

## **Proxy limiting features:**

I believe that the proxies are limiting the number of features that you can request.

Some of the services fail when trying to request 4000+ features through the proxies, but I can request 15000+ if I go directly to the service.

Example:

<https://security.locationframework.eu/wss/service/NO-AD/httpauth?service=WFS&request=GetCapabilities> is a proxy [over](#)  
<http://wfs.geonorge.no/skwms1/wfs.elf-ad?service=WFS&request=GetCapabilities>



Constraints

Feature Types:	<input type="text" value="ndary {au:AdministrativeBoundary}"/>	...
Max Features:	<input type="text" value="100"/>	
WFS Output Format:	<input type="text" value="text/xml; subtype=gml/3.2.1"/>	▼
XML Filter Expression:	<input type="text"/>	...

Application Schema

```
<ServiceExceptionReport version="1.1.0=">
```

```
<ServiceException code="NoApplicableCode=">unexpected exception during parsing</ServiceException>
```

```
</ServiceExceptionReport>
```

Received error report: ServiceExceptionReport

The XML Module halted on error, see the logfile for details

Failed to read features from dataset '[https://security.locationframework.eu/wss/service/Cascading/httpauth/licid-UUID\\_20180209-084721-883--873299594?service=WFS&request=GetCapabilities](https://security.locationframework.eu/wss/service/Cascading/httpauth/licid-UUID_20180209-084721-883--873299594?service=WFS&request=GetCapabilities)' using the 'WFS' reader

# Difficulties/service limitations



Use Search Envelope

Minimum X: -50016.9399131  
Minimum Y: 7757466.0355  
Maximum X: 2452443.5054  
Maximum Y: 9072427.5203

Clip to Search Envelope:

Search Envelope Coordinate System: EPSG:3857

Feature types found:

Nbr	Feature type	URI	Scale
1	ad:Address	http://inspire.ec.europa.eu/schemas/ad	
2	ad:AddressAreaName	http://inspire.ec.europa.eu/schemas/ad	
3	ad:AdminUnitName	http://inspire.ec.europa.eu/schemas/ad	
4	ad:PostalDescriptor	http://inspire.ec.europa.eu/schemas/ad	
5	ad:ThoroughfareName	http://inspire.ec.europa.eu/schemas/ad	
6	au:AdministrativeBoundary	http://inspire.ec.europa.eu/schemas/au	
7	au:AdministrativeUnit	http://inspire.ec.europa.eu/schemas/au	
8	bu-core2d:Building	http://inspire.ec.europa.eu/schemas/bu	
9	bu:Building	urn:x-inspire:specification:gmlas:Build	
10	bu:BuildingPart	urn:x-inspire:specification:gmlas:Build	
11	bo:OtherConstruction	urn:x-inspire:specification:gmlas:Build	
12	cp-BasicPropertyUnit	http://inspire.ec.europa.eu/schemas/cp	
13	cp:CadastralBoundary	http://inspire.ec.europa.eu/schemas/cp	
14	cp:CadastralParcel	http://inspire.ec.europa.eu/schemas/cp	
15	cp:CadastralZoning	http://inspire.ec.europa.eu/schemas/cp	
16	el-vec:BreakLine	http://inspire.ec.europa.eu/schemas/el-vec	
17	el-vec:ContourLine	http://inspire.ec.europa.eu/schemas/el-vec/4.0	FI[15000] NO[10000] IS[15000]
18	el-vec:SpotElevation	http://inspire.ec.europa.eu/schemas/el-vec/4.0	FI[15000]
19	elf-au:AdministrativeUnit	http://www.locationframework.eu/schemas/AdministrativeUnits/1.0	DK[10000]
20	elf-au:AdministrativeUnitArea	http://www.locationframework.eu/schemas/AdministrativeUnits/1.0	DK[10000]

Selected Layers

- Address - INSPIRE 4.0  
ad:Address (INSPIRE 4.0)  
Style: Default style  
The map layer cannot be shown at this scale level. [Please move to a suitable map level.](#)
- Standing Water - INSPIRE 4.0  
hyp:StandingWater (INSPIRE 4.0)  
Style: Default style
- ELF Topographic Basemap

Language: English  
Change language

Feature Data  
Refresh

# Thanks for listening!



## Any questions?

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