Latest version: language en http://www.semanticweb.org/jm/bc/ontologies/2025/3/untitled-ontology-16 Download serialization:

Format JSON LD Format RDF/XML Format N Triples Format TTL

License:

License license name goes here

Visualization:

Visualize with WebVowl

Ontology Specification Draft

Abstract

This is a placeholder text for the abstract. The abstract should contain a couple of sentences summarizing the ontology and its purpose.

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Introduction back to ToC

This is a place holder text for the introduction. The introduction should briefly describe the ontology, its motivation, state of the art and goals.

Namespace declarations

<u>Table 1</u>: Namespaces used in the document

[Ontology NS Prefix] http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16/

">http://www.w3.org/2002/07/owl#>"> owl

http://www.w3.org/1999/02/22-rdf-syntax-ns# rdf rdfs http://www.w3.org/2000/01/rdf-schema# swrl ">http://www.w3.org/2003/11/swrl#>">

swrla

swrlb http://www.w3.org/2003/11/swrlb#

untitled-ontology-16 http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#>

xml http://www.w3.org/XML/1998/namespace xsd http://www.w3.org/2001/XMLSchema#

Smart Tourism Ontology]: Overview back to **ToC**

This ontology has the following classes and properties.

Classes

- Attraction
- **BudgetHotel**
- Bus
- Category City
- Concert • Event
- EventLocation
- Exhibition
- Fine Dining Restaurant
- Hall
- <u>Hotel</u>
- **HotelLocation**
- <u>Location</u>
- **LuxuryHotel**
- Metro Monument
- Museum

- Religious Monument
- Restaurant
- Seafood Restaurant
- Tapas Restaurant
- ThemePark
- Train
- Tram
- <u>Transport</u>

Object Properties

- <u>hasCategory</u>
- <u>hasTransportOption</u>
- isLocatedAt
- isLocatedIn
- isNearTo
- MetroBarcelona
- occursAt

Data Properties

- address
- attractionType
- categoryName
- cityName
- eventDate
- hotelStars
- name
- restaurantCuisine
- transportType

Annotation Properties

- is Rule Enabled
- same As

Named Individuals

- Barcelona
- Event Barcelona Concert
- Event Madrid Art Expo
- Event Valencia Festival
- Fira Barcelona Location
- Hotel Arts
- Hotel Barcelona Center
- Hotel Madrid Palace
- Hotel Valencia Center
- MWC2025
- Madrid
- MetroBarcelona
- Religious Monument
- Restaurant Barcelona Seafood
- Restaurant Madrid Tapas
- Restaurant Valencia Paella
- Restaurante Can Majo
- Sagrada Familia
- Transport Barcelona Metro
- Transport Madrid Bus
- Transport Valencia Tram
- Valencia

SWRL Rules

- <u>Rule 1</u>
- Rule 2
- <u>Rule 3</u>



Smart Tourism Ontology]: Description back to **ToC**

This is a placeholder text for the description of your ontology. The description should include an explanation and a diagram explaining how the classes are related, examples of usage, etc.

Cross-reference for Smart Tourism Ontology] classes, object properties and data properties back to $\underline{\text{ToC}}$

This section provides details for each class and property defined by Smart Tourism Ontology].

Classes

- Attraction
- BudgetHotel
- Bus
- Category
- City
- Concert
- Event
- EventLocation
- Exhibition
- Fine Dining Restaurant
- Hall
- Hotel
- HotelLocation
- Location
- LuxuryHotel
- Metro
- Monument
- Museum
- Park
- Religious Monument
- Restaurant
- Seafood Restaurant
- <u>Tapas Restaurant</u>
- ThemePark
- <u>Train</u>
- Tram
- Transport

Attraction^c back to **ToC** or **Class ToC**

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Attraction

A place of interest tourists visit.

```
is equivalent to
```

```
attractionType dp exactly 1
```

has sub-classes

```
Monument c, Park c, ThemePark c
```

is in domain of

attractionType dp, hasCategory op, hasTransportOption op, isLocatedAt op, isLocatedIn op, isNearTo op, name dp

is in range of

isNearTo op

BudgetHotel^c back to <u>ToC</u> or <u>Class ToC</u>

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#BudgetHotel$

A hotel offering basic accommodation at lower prices.

has super-classes

Hotel c

Bus^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Bus

A large road vehicle for carrying passengers.

has super-classes

Transport c

Category^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Category

A classification grouping events or attractions.

has sub-classes

```
Religious Monument <sup>c</sup>
is in domain of

<u>categoryName</u> <sup>dp</sup>, <u>name</u> <sup>dp</sup>
is in range of

<u>hasCategory</u> <sup>op</sup>
```

City^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#City

A geographical urban area.

```
is in domain of

<u>cityName</u> <sup>dp</sup>, <u>name</u> <sup>dp</sup>
is in range of

<u>isLocatedIn</u> <sup>op</sup>
```

Concert^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Concert

A musical performance held for an audience.

```
has super-classes \frac{\text{Event}}{c}
```

Event^c back to **ToC** or **Class ToC**

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Event

An organized happening or gathering in a city.

```
is equivalent to

eventDate dp exactly 1
has sub-classes

Concert c, Exhibition c, Hall c
is in domain of

eventDate dp, hasCategory op, isLocatedIn op, name dp, occursAt op
```

EventLocation^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#EventLocation

The site where an event takes place.

```
has super-classes \frac{\text{Location}}{\text{Location}}^{\text{c}} has members \frac{\text{Fira Barcelona Location}}{\text{Location}}^{\text{ni}}
```

Exhibition^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Exhibition

A public display of art, products, or services.

```
has super-classes

Event c

has members

M W C2025 ni
```

Fine Dining Restaurant^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#FineDiningRestaurant

A restaurant offering high-quality food and service.

```
has super-classes

Restaurant
```

Hall^c back to <u>ToC</u> or <u>Class ToC</u>

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#Hall-ontology-10\% and the property of the$

A large room used for events.

has super-classes

Event c

Hotel^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Hotel

A place providing lodging to travelers.

```
is equivalent to

hotelStars dp exactly 1
has sub-classes

BudgetHotel c, LuxuryHotel c
is in domain of

hotelStars dp, isLocatedAt op, isLocatedIn op, isNearTo op, name dp
is in range of

isNearTo op
has members

Hotel Barcelona Center ni, Hotel Madrid Palace ni, Hotel Valencia Center ni
```

HotelLocation^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#HotelLocation

The physical place where a hotel is situated.

has super-classes
Location c

Location^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Location

A specific place within a city.

```
is equivalent to

address dp exactly 1
has sub-classes

EventLocation c, HotelLocation c
is in domain of

address dp, name dp
is in range of

isLocatedAt op, occursAt op
```

LuxuryHotel^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#LuxuryHotel

A hotel offering high-end services and facilities.

```
has super-classes \frac{\text{Hotel}}{\text{Hotel}}^{\text{c}} has members \frac{\text{Hotel Arts}}{\text{Hotel Arts}}^{\text{ni}}
```

Metro^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Metro

An urban underground railway system.

```
has super-classes

Transport c
has members

MetroBarcelona ni
```

Monument^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Monument

A structure built to commemorate a person or event.

```
has super-classes

Attraction c
has sub-classes

Museum c
has members
```

Sagrada Familia ni

Museum^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Museum

A building where historical, scientific or artistic items are exhibited.

has super-classes

Monument c

Park^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Park

A public green space for recreation.

has super-classes

Attraction c

Religious Monument^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#ReligiousMonument

has super-classes

Category c

has members

Religious Monument ni

is also defined as

named individual

Restaurant^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Restaurant

A place where people pay to eat meals.

is equivalent to

restaurantCuisine dp exactly 1

has sub-classes

Fine Dining Restaurant c, Seafood Restaurant c, Tapas Restaurant c

is in domain of

hasCategory op, isLocatedAt op, isLocatedIn op, isNearTo op, name dp, restaurantCuisine dp

is in range of

isNearTo op

has members

Restaurant Barcelona Seafood ⁿⁱ, Restaurant Madrid Tapas ⁿⁱ, Restaurant Valencia Paella ⁿⁱ

Seafood Restaurant^c back to <u>ToC</u> or <u>Class ToC</u>

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#SeafoofRestaurant to the property of the p$

A restaurant specialized in seafood dishes.

has super-classes

Restaurant c

has members

Restaurante Can Majo ni

Tapas Restaurant^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#TapasRestaurant

A restaurant specialized in Spanish small dishes.

has super-classes

Restaurant c

ThemePark^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#ThemePark

An amusement park with themed attractions.

has super-classes

Attraction c

Train^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Train

A series of connected vehicles running on railways.

```
has super-classes
```

Transport c

Tram^c back to ToC or Class ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Tram

A passenger vehicle running on tracks in streets.

has super-classes

Transport c

Transport^c back to <u>ToC</u> or <u>Class ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Transport

A means of moving people or goods.

```
is equivalent to

transportType dp exactly 1
has sub-classes

Bus c, Metro c, Train c, Tram c
is in domain of

isLocatedAt op, isLocatedIn op, name dp, transportType dp
is in range of

hasTransportOption op
has members

Transport Barcelona Metro ni, Transport Madrid Bus ni, Transport Valencia Tram ni
```

Object Properties

- <u>hasCategory</u>
- hasTransportOption
- isLocatedAt
- isLocatedIn
- isNearTo
- MetroBarcelona
- occursAt

hasCategory^{op} back to **ToC** or **Object Property ToC**

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#hasCategory

Relates an Event or Attraction to its Category.

```
has super-properties

top Object Property op
has domain

Attraction c

Event c

Restaurant c
has range

Category c
```

$has Transport Option^{op}\ back\ to\ \underline{ToC}\ or\ \underline{Object\ Property\ ToC}$

IRI: http://www.semanticweb.org/jm/bc/ontologies/2025/3/untitled-ontology-16#hasTransportOption

Links a City to the transport options available.

```
has super-properties

top Object Property op
has sub-properties

MetroBarcelona op
has domain

Attraction chas range

Transport chast
```

isLocatedAt^{op} back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#isLocatedAt

Indicates the specific Location of an entity.

```
has super-properties

top Object Property op
has domain

Attraction c

Hotel c

Restaurant c

Transport c
has range
Location c
```

isLocatedIn^{op} back to <u>ToC</u> or <u>Object Property ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#isLocatedIn

Indicates the City in which an entity is located.

```
has super-properties

top Object Property op
has domain

Attraction c

Event c

Hotel c

Restaurant c

Transport c

has range
City c
```

isNearTo^{op} back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#isNearTo

Connects two places that are geographically close.

```
has super-properties

top Object Property op
has domain

Attraction c

Hotel c

Restaurant c

has range

Attraction c

Hotel c

Restaurant c
```

MetroBarcelona^{op} back to ToC or Object Property ToC

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#MetroBarcelonal and the property of the pr$

```
has Super-properties

has Transport Option op
is also defined as

named individual
```

occursAt^{op} back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#occursAt

Connects an Event to the Location where it occurs.

```
has super-properties

top Object Property op
has domain

Event c
has range

Location c
```

Data Properties

- address
- attractionType
- categoryName

- cityName
- eventDate
- hotelStars
- <u>name</u>
- restaurantCuisine
- transportType

address^{dp} back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#address

The physical address of an entity.

```
has super-properties

top Data Property. dp
has domain

Location c
has range
string
```

attractionType^{dp} back to <u>ToC</u> or <u>Data Property ToC</u>

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\# attraction Type$

The specific type of an attraction.

```
has super-properties

top Data Property dp
has domain

Attraction c
has range
string
```

categoryName^{dp} back to <u>ToC</u> or <u>Data Property ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#categoryName

The name of the category assigned

```
has super-properties

top Data Property dp
has domain

Category chas range
string
```

cityName^{dp} back to <u>ToC</u> or <u>Data Property ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#cityName

```
The name of a city.
```

```
has super-properties

top Data Property dp
has domain

City c
has range
string
```

eventDate^{dp} back to <u>ToC</u> or <u>Data Property ToC</u>

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#eventDate and the property of the property$

The date and time when an event happens.

```
has super-properties

top Data Property dp
has domain

Event c
has range
date Time
```

hotelStars^{dp} back to ToC or Data Property ToC

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#hotelStars and the property of the propert$

The star rating of a hotel.

```
28/4/25, 23:10
```

```
has super-properties

top Data Property. dp
has domain

Hotel c
has range
integer
```

name^{dp} back to <u>ToC</u> or <u>Data Property ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#name

The name of the entity.

```
has super-properties

top Data Property
has domain

Attraction c
Category c
City c
Event c
Hotel c
Location c
Restaurant c
Transport c
has range
string
```

restaurantCuisine^{dp} back to <u>ToC</u> or <u>Data Property ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#restaurantCuisine

The type of cuisine served by the restaurant.

```
has super-properties

top Data Property dp
has domain

Restaurant c
has range
string
```

transportType^{dp} back to <u>ToC</u> or <u>Data Property ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#transportType

The type of transport system.

```
has super-properties

top Data Property dp
has domain

Transport c
has range
string
```

Annotation Properties

- is Rule Enabled
- same As

is Rule Enabled^{ap} back to ToC or Annotation Property ToC

IRI: http://swrl.stanford.edu/ontologies/3.3/swrla.owl#isRuleEnabled

same As^{ap} back to ToC or Annotation Property ToC

IRI: http://www.w3.org/2002/07/owl#sameAs

Named Individuals

- Barcelona
- Event Barcelona Concert
- Event Madrid Art Expo
- Event Valencia Festival
- Fira Barcelona Location
- Hotel Arts
- Hotel Barcelona Center
- Hotel Madrid Palace

- Hotel Valencia Center
- M W C2025
- Madrid
- MetroBarcelona
- Religious Monument
- Restaurant Barcelona Seafood
- Restaurant Madrid Tapas
- Restaurant Valencia Paella
- Restaurante Can Majo
- Sagrada Familia
- Transport Barcelona Metro
- Transport Madrid Bus
- Transport Valencia Tram
- Valencia

Barcelonani back to ToC or Named Individual ToC

```
IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Barcelona
```

```
cityName dp "Barcelona"
name dp "Barcelona"
```

Event Barcelona Concertⁿⁱ back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Event_Barcelona_Concert

has facts

```
categoryName dp "Concert"
eventDate dp "2025-07-15T20:00:00"^^date Time
name <sup>dp</sup> "Barcelona Summer Concert"
```

Event Madrid Art Expoⁿⁱ back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Event Madrid ArtExpo

has facts

```
categoryName dp "Exhibition"
eventDate dp "2025-05-20T10:00:00"^^date Time
name dp "Madrid Art Expo"
```

Event Valencia Festivalⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Event_Valencia_Festival

has facts

```
categoryName dp "Festival"
eventDate dp "2025-03-15T19:00:00"^^date Time
name dp "Valencia Fallas Festival"
```

Fira Barcelona Locationnii back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#FiraBarcelonaLocation

belongs to

```
EventLocation <sup>c</sup>
has facts
      isLocatedIn op Barcelona ni
      occursAt op Barcelona ni
      name dp "Fira Barcelona Location"
```

Hotel Artsⁿⁱ back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#HotelArts

```
belongs to
      <u>LuxuryHotel</u> <sup>c</sup>
has facts
       isLocatedIn op Barcelona ni
       isNearTo op Sagrada Familia ni
       address <sup>dp</sup> "Carrer de la Marina, 19-21, Barcelona"
       hotelStars dp "5"^^decimal
       name dp "Hotel Arts Barcelona"
```

Hotel Barcelona Centerⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

```
IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Hotel_Barcelona_Center belongs to
```

```
belongs to

Hotel c
has facts

isLocatedIn op Barcelona ni
address dp "Carrer Balmes 103, Barcelona"
hotelStars dp "4"^^integer
name dp "Barcelona Center Hotel"
```

Hotel Madrid Palaceⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Hotel_Madrid_Palace

```
belongs to

Hotel c
has facts

isLocatedIn op Madrid ni
address dp "Calle de Alcalá 15, Madrid"
hotelStars dp "5"^^decimal
name dp "Madrid Palace Hotel"
```

Hotel Valencia Centerⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Hotel_Valencia_Center

```
belongs to

Hotel c
has facts

isLocatedIn op Valencia ni

address dp "Avenida de Francia 33, Valencia"

hotelStars dp "4"^^decimal

name dp "Valencia Center Hotel"
```

M W C2025ⁿⁱ back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#MWC2025

```
belongs to

Exhibition c
has facts

occursAt op Fira Barcelona Location ni
eventDate dp "2025-02-24T09:00:00"^date Time
name dp "Mobile World Congress 2025"
```

Madridⁿⁱ back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Madrid

```
has facts

<u>cityName</u> <sup>dp</sup> "Madrid"

name <sup>dp</sup> "Madrid"
```

MetroBarcelonani back to ToC or Named Individual ToC

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#MetroBarcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelonal/arcelo$

```
belongs to

Metro c
has facts

isLocatedIn op Barcelona ni
address dp "Plaça Catalunya, Barcelona"
name dp "Metro Barcelona"
name dp "Public Transportation Barcelona Underground"
transportType dp "Metro"
is also defined as
object property.
```

Religious Monumentⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#ReligiousMonument$

belongs to

```
Religious Monument c is also defined as class
```

Restaurant Barcelona Seafoodⁿⁱ back to ToC or Named Individual ToC

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#Restaurant_Barcelona_Seafood belongs to$

```
Restaurant <sup>c</sup>
has facts

isLocatedIn <sup>op</sup> Barcelona <sup>ni</sup>

address <sup>dp</sup> "Passeig de Joan de Borbó 58, Barcelona"

name <sup>dp</sup> "Barcelona Seafood Restaurant"
```

Restaurant Madrid Tapasⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#Restaurant_Madrid_Tapas$

```
belongs to

Restaurant c
has facts

isLocatedIn op Madrid ni
address dp "Calle Cava Baja 10, Madrid"
name dp "Madrid Tapas Bar"
```

Restaurant Valencia Paellaⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Restaurant_Valencia_Paella

```
belongs to

Restaurant c
has facts

isLocatedIn op Valencia ni

address dp "Carrer del Mar 12, Valencia"

name dp "Valencia Paella House"
```

Restaurante Can Majoni back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#RestauranteCanMajo

```
belongs to

Seafood Restaurant c
has facts

isLocatedIn op Barcelona ni
isNearTo op Sagrada Familia ni
address dp "Carrer de l'Almirall Aixada, 23, Barcelona"
name dp "Can Majó"
```

Sagrada Familiani back to ToC or Named Individual ToC

 $\textbf{IRI:} \ http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16\#SagradaFamilia. A substitution of the properties of th$

```
belongs to

Monument c
has facts

hasCategory op Religious Monument ni
hasTransportOption op MetroBarcelona ni
isLocatedIn op Barcelona ni
address dp "Carrer de Mallorca, 401, Barcelona"
attractionType dp "Cathedral"
name dp "Sagrada Familia"
```

Transport Barcelona Metroⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

```
IRI: http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Transport_Barcelona_Metro
```

```
belongs to

Transport c
has facts

isLocatedIn op Barcelona ni
name dp "Barcelona Metro"
transportType dp "Metro"
```

Transport Madrid Busⁿⁱ back to ToC or Named Individual ToC

```
IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Transport Madrid Bus
```

```
belongs to

Transport c
has facts

isLocatedIn op Madrid ni
name dp "Madrid City Bus"
transportType dp "Bus"
```

Transport Valencia Tramⁿⁱ back to <u>ToC</u> or <u>Named Individual ToC</u>

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Transport Valencia Tram

```
belongs to

Transport c
has facts

isLocatedIn op Valencia ni
name dp "Valencia Tram"
transportType dp "Tram"
```

Valenciani back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/jm bc/ontologies/2025/3/untitled-ontology-16#Valencia

```
has facts

<u>cityName</u> <sup>dp</sup> "Valencia"

<u>name</u> <sup>dp</sup> "Valencia"
```

SWRL rules

- Rule
- Rule 2
- Rule 3

Rule 1back to ToC or SWRL ToC

If a hotel has 5 stars, it is classified as a LuxuryHotel.

```
\underline{Hotel}^{c}(?), \underline{hotelStars}^{dp}(?,?), \underline{equal}(?) \rightarrow \underline{LuxuryHotel}^{c}(?)
```

Rule 2back to ToC or SWRL ToC

If a hotel has less than 3 stars, it is classified as a BudgetHotel.

```
\underline{\text{Hotel}}^{c}(?), \underline{\text{hotelStars}}^{dp}(?,?), \underline{\text{lessThan}}(?) \rightarrow \underline{\text{BudgetHotel}}^{c}(?)
```

Rule 3back to ToC or SWRL ToC

If an individual is classified as a Bus, it is also classified as a Transport.

```
Bus ^{c}(?) \rightarrow \underline{Transport} ^{c}(?)
```

Legend back to **ToC**

```
c: Classes
```

op: Object Properties

dp: Data Properties

ni: Named Individuals

References back to ToC

Add your references here. It is recommended to have them as a list.

Acknowledgments back to **ToC**

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