

# Smart Tourism Ontology

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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

<a href="#">Table 1</a> : Namespaces used in the document	
[Ontology NS Prefix]	< <a href="http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16/">http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16/</a> >
dc	< <a href="http://purl.org/dc/elements/1.1/">http://purl.org/dc/elements/1.1/</a> >
owl	< <a href="http://www.w3.org/2002/07/owl#">http://www.w3.org/2002/07/owl#</a> >
rdf	< <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a> >
rdfs	< <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#</a> >
swrl	< <a href="http://www.w3.org/2003/11/swrl#">http://www.w3.org/2003/11/swrl#</a> >
swrla	< <a href="http://swrl.stanford.edu/ontologies/3.3/swrla.owl#">http://swrl.stanford.edu/ontologies/3.3/swrla.owl#</a> >
swrlb	< <a href="http://www.w3.org/2003/11/swrlb#">http://www.w3.org/2003/11/swrlb#</a> >
terms	< <a href="http://purl.org/dc/terms/">http://purl.org/dc/terms/</a> >
untitled-ontology-16	< <a href="http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16/">http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16/</a> >
xml	< <a href="http://www.w3.org/XML/1998/namespace">http://www.w3.org/XML/1998/namespace</a> >
xsd	< <a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a> >

## 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](#)
- [Hotel](#)
- [HotelLocation](#)
- [Location](#)
- [LuxuryHotel](#)
- [Metro](#)
- [Monument](#)
- [Museum](#)
- [Park](#)
- [ReligiousMonument](#)
- [Restaurant](#)
- [Seafood Restaurant](#)
- [Tapas Restaurant](#)
- [ThemePark](#)
- [Train](#)
- [Tram](#)
- [Transport](#)

### Object Properties

- [hasCategory](#)
- [hasTransportOption](#)
- [isLocatedAt](#)
- [isLocatedIn](#)
- [isNearTo](#)
- [MetroBarcelona](#)
- [occursAt](#)

### Data Properties

- [address](#)
- [attractionType](#)
- [categoryName](#)
- [cityName](#)
- [eventDate](#)
- [hotelStars](#)
- [name](#)
- [restaurantCuisine](#)
- [transportType](#)

### Annotation Properties

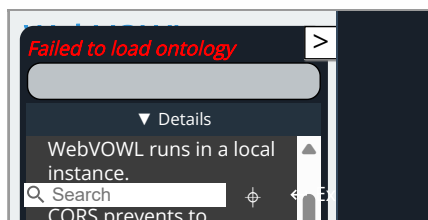
- [created](#)
- [creator](#)
- [is Rule Enabled](#)
- [license](#)
- [rights](#)
- [same As](#)
- [title](#)

### 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](#)
- [ReligiousMonument](#)
- [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

- [Rule 1](#)
- [Rule 2](#)
- [Rule 3](#)



## Smart Tourism Ontology: Description back to [ToC](#)

Author: Jordi Marín

## Cross-reference for Smart Tourism Ontology classes, object properties and data properties back to [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](#)
- [ReligiousMonument](#)
- [Restaurant](#)
- [Seafood Restaurant](#)
- [Tapas Restaurant](#)
- [ThemePark](#)
- [Train](#)
- [Tram](#)
- [Transport](#)

### Attraction<sup>c</sup> back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Attraction](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Attraction)

A place of interest tourists visit.

is equivalent to

[attractionType](#)<sup>dp</sup> exactly 1

has sub-classes

[Monument](#)<sup>c</sup>, [Park](#)<sup>c</sup>, [ThemePark](#)<sup>c</sup>

is in domain of

[attractionType](#)<sup>dp</sup>, [hasCategory](#)<sup>op</sup>, [hasTransportOption](#)<sup>op</sup>, [isLocatedAt](#)<sup>op</sup>, [isLocatedIn](#)<sup>op</sup>, [isNearTo](#)<sup>op</sup>, [name](#)<sup>dp</sup>

is in range of

[isNearTo](#)<sup>op</sup>

### BudgetHotel<sup>c</sup> back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#BudgetHotel](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](#)<sup>c</sup>

### Bus<sup>c</sup> back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Bus](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Bus)

A large road vehicle for carrying passengers.

has super-classes

[Transport](#)<sup>c</sup>

**Category<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Category](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Category)

A classification grouping events or attractions.

has sub-classes

[ReligiousMonument](#)<sup>c</sup>

is in domain of

[categoryName](#)<sup>dp</sup>, [name](#)<sup>dp</sup>

is in range of

[hasCategory](#)<sup>op</sup>

**City<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#City](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#City)

A geographical urban area.

is in domain of

[cityName](#)<sup>dp</sup>, [name](#)<sup>dp</sup>

is in range of

[isLocatedIn](#)<sup>op</sup>

**Concert<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Concert](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Concert)

A musical performance held for an audience.

has super-classes

[Event](#)<sup>c</sup>

**Event<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Event](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](#)<sup>dp</sup> exactly 1

has sub-classes

[Concert](#)<sup>c</sup>, [Exhibition](#)<sup>c</sup>, [Hall](#)<sup>c</sup>

is in domain of

[eventDate](#)<sup>dp</sup>, [hasCategory](#)<sup>op</sup>, [isLocatedIn](#)<sup>op</sup>, [name](#)<sup>dp</sup>, [occursAt](#)<sup>op</sup>

**EventLocation<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#EventLocation](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#EventLocation)

The site where an event takes place.

has super-classes

[Location](#)<sup>c</sup>

has members

[Fira Barcelona Location](#)<sup>ni</sup>

**Exhibition<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Exhibition](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](#)<sup>c</sup>

has members

[M W C2025](#)<sup>ni</sup>

**Fine Dining Restaurant<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#FineDiningRestaurant](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](#)<sup>c</sup>

**Hall<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Hall](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Hall)

A large room used for events.

has super-classes

[Event](#)<sup>c</sup>

**Hotel<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Hotel](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Hotel)

A place providing lodging to travelers.

is equivalent to

[hotelStars](#)<sup>dp</sup> exactly 1

has sub-classes

[BudgetHotel](#)<sup>c</sup>, [LuxuryHotel](#)<sup>c</sup>

is in domain of

[hotelStars](#)<sup>dp</sup>, [isLocatedAt](#)<sup>op</sup>, [isLocatedIn](#)<sup>op</sup>, [isNearTo](#)<sup>op</sup>, [name](#)<sup>dp</sup>

is in range of

[isNearTo](#)<sup>op</sup>

has members

[Hotel Barcelona Center](#)<sup>ni</sup>, [Hotel Madrid Palace](#)<sup>ni</sup>, [Hotel Valencia Center](#)<sup>ni</sup>

is disjoint with

[Restaurant](#)<sup>c</sup>

**HotelLocation<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#HotelLocation](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](#)<sup>c</sup>

**Location<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Location](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Location)

A specific place within a city.

is equivalent to

[address](#)<sup>dp</sup> exactly 1

has sub-classes

[EventLocation](#)<sup>c</sup>, [HotelLocation](#)<sup>c</sup>

is in domain of

[address](#)<sup>dp</sup>, [name](#)<sup>dp</sup>

is in range of

[isLocatedAt](#)<sup>op</sup>, [occursAt](#)<sup>op</sup>

**LuxuryHotel<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#LuxuryHotel](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#LuxuryHotel)

A hotel offering high-end services and facilities.

has super-classes

[Hotel](#)<sup>c</sup>

has members

[Hotel Arts](#)<sup>ni</sup>

**Metro<sup>c</sup>** back to [ToC](#) or [Class ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Metro](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Metro)

An urban underground railway system.

has super-classes

[Transport](#)<sup>c</sup>

has members

[MetroBarcelona](#)<sup>ni</sup>**Monument<sup>c</sup> back to [ToC](#) or [Class ToC](#)****IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Monument](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](#)<sup>c</sup>

has sub-classes

[Museum](#)<sup>c</sup>

has members

[Sagrada Familia](#)<sup>ni</sup>**Museum<sup>c</sup> back to [ToC](#) or [Class ToC](#)****IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Museum](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](#)<sup>c</sup>**Park<sup>c</sup> back to [ToC](#) or [Class ToC](#)****IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Park](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Park)

A public green space for recreation.

has super-classes

[Attraction](#)<sup>c</sup>**ReligiousMonument<sup>c</sup> back to [ToC](#) or [Class ToC](#)****IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#ReligiousMonument](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#ReligiousMonument)

has super-classes

[Category](#)<sup>c</sup>

has members

[ReligiousMonument](#)<sup>ni</sup>

is also defined as

[named individual](#)**Restaurant<sup>c</sup> back to [ToC](#) or [Class ToC](#)****IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Restaurant](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](#)<sup>dp</sup> exactly 1

has sub-classes

[Fine Dining Restaurant](#)<sup>c</sup>, [Seafood Restaurant](#)<sup>c</sup>, [Tapas Restaurant](#)<sup>c</sup>

is in domain of

[hasCategory](#)<sup>op</sup>, [isLocatedAt](#)<sup>op</sup>, [isLocatedIn](#)<sup>op</sup>, [isNearTo](#)<sup>op</sup>, [name](#)<sup>dp</sup>, [restaurantCuisine](#)<sup>dp</sup>

is in range of

[isNearTo](#)<sup>op</sup>

has members

[Restaurant Barcelona Seafood](#)<sup>ni</sup>, [Restaurant Madrid Tapas](#)<sup>ni</sup>, [Restaurant Valencia Paella](#)<sup>ni</sup>

is disjoint with

[Hotel](#)<sup>c</sup>**Seafood Restaurant<sup>c</sup> back to [ToC](#) or [Class ToC](#)****IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#SeafoofRestaurant](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#SeafoofRestaurant)

A restaurant specialized in seafood dishes.

has super-classes

[Restaurant](#)<sup>c</sup>

has members

[Restaurante Can Majo](#)<sup>ni</sup>

**Tapas Restaurant<sup>c</sup> back to [ToC](#) or [Class ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#TapasRestaurant](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#TapasRestaurant)

A restaurant specialized in Spanish small dishes.

has super-classes

[Restaurant](#)<sup>c</sup>

**ThemePark<sup>c</sup> back to [ToC](#) or [Class ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#ThemePark](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#ThemePark)

An amusement park with themed attractions.

has super-classes

[Attraction](#)<sup>c</sup>

**Train<sup>c</sup> back to [ToC](#) or [Class ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Train](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](#)<sup>c</sup>

**Tram<sup>c</sup> back to [ToC](#) or [Class ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Tram](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](#)<sup>c</sup>

**Transport<sup>c</sup> back to [ToC](#) or [Class ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Transport](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Transport)

A means of moving people or goods.

is equivalent to

[transportType](#)<sup>dp</sup> exactly 1

has sub-classes

[Bus](#)<sup>c</sup>, [Metro](#)<sup>c</sup>, [Train](#)<sup>c</sup>, [Tram](#)<sup>c</sup>

is in domain of

[isLocatedAt](#)<sup>op</sup>, [isLocatedIn](#)<sup>op</sup>, [name](#)<sup>dp</sup>, [transportType](#)<sup>dp</sup>

is in range of

[hasTransportOption](#)<sup>op</sup>

has members

[Transport Barcelona Metro](#)<sup>ni</sup>, [Transport Madrid Bus](#)<sup>ni</sup>, [Transport Valencia Tram](#)<sup>ni</sup>

**Object Properties**

- [hasCategory](#)
- [hasTransportOption](#)
- [isLocatedAt](#)
- [isLocatedIn](#)
- [isNearTo](#)
- [MetroBarcelona](#)
- [occursAt](#)

**hasCategory<sup>op</sup> back to [ToC](#) or [Object Property ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#hasCategory](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](#)<sup>op</sup>

has domain

[Attraction](#)<sup>c</sup> or [Event](#)<sup>c</sup> or [Restaurant](#)<sup>c</sup>

has range

[Category](#)<sup>c</sup>

**hasTransportOption<sup>op</sup> back to [ToC](#) or [Object Property ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#hasTransportOption](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](#) <sup>op</sup>

has sub-properties

[MetroBarcelona](#) <sup>op</sup>

has domain

[Attraction](#) <sup>c</sup>

has range

[Transport](#) <sup>c</sup>

**isLocatedAt**<sup>op</sup> back to [ToC](#) or [Object Property ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#isLocatedAt](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](#) <sup>op</sup>

has domain

[Attraction](#) <sup>c</sup> or [Hotel](#) <sup>c</sup> or [Restaurant](#) <sup>c</sup> or [Transport](#) <sup>c</sup>

has range

[Location](#) <sup>c</sup>

**isLocatedIn**<sup>op</sup> back to [ToC](#) or [Object Property ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#isLocatedIn](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](#) <sup>op</sup>

has domain

[Attraction](#) <sup>c</sup> or [Event](#) <sup>c</sup> or [Hotel](#) <sup>c</sup> or [Restaurant](#) <sup>c</sup> or [Transport](#) <sup>c</sup>

has range

[City](#) <sup>c</sup>

**isNearTo**<sup>op</sup> back to [ToC](#) or [Object Property ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#isNearTo](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#isNearTo)

Connects two places that are geographically close.

**has characteristics:** symmetric

has super-properties

[top Object Property](#) <sup>op</sup>

has domain

[Attraction](#) <sup>c</sup> or [Hotel](#) <sup>c</sup> or [Restaurant](#) <sup>c</sup>

has range

[Attraction](#) <sup>c</sup> or [Hotel](#) <sup>c</sup> or [Restaurant](#) <sup>c</sup>

**MetroBarcelona**<sup>op</sup> back to [ToC](#) or [Object Property ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#MetroBarcelona](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#MetroBarcelona)

has super-properties

[hasTransportOption](#) <sup>op</sup>

is also defined as

[named individual](#)

**occursAt**<sup>op</sup> back to [ToC](#) or [Object Property ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#occursAt](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](#) <sup>op</sup>

has domain

[Event](#) <sup>c</sup>

has range

[Location](#) <sup>c</sup>

**Data Properties**



- [address](#)
- [attractionType](#)
- [categoryName](#)
- [cityName](#)
- [eventDate](#)
- [hotelStars](#)
- [name](#)
- [restaurantCuisine](#)
- [transportType](#)

### **address<sup>dp</sup> back to [ToC](#) or [Data Property ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#address](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](#)<sup>dp</sup>

has domain

[Location](#)<sup>c</sup>

has range

[string](#)

### **attractionType<sup>dp</sup> back to [ToC](#) or [Data Property ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#attractionType](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#attractionType)

The specific type of an attraction.

has super-properties

[top Data Property](#)<sup>dp</sup>

has domain

[Attraction](#)<sup>c</sup>

has range

[string](#)

### **categoryName<sup>dp</sup> back to [ToC](#) or [Data Property ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#categoryName](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](#)<sup>dp</sup>

has domain

[Category](#)<sup>c</sup>

has range

[string](#)

### **cityName<sup>dp</sup> back to [ToC](#) or [Data Property ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#cityName](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#cityName)

The name of a city.

has super-properties

[top Data Property](#)<sup>dp</sup>

has domain

[City](#)<sup>c</sup>

has range

[string](#)

### **eventDate<sup>dp</sup> back to [ToC](#) or [Data Property ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#eventDate](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#eventDate)

The date and time when an event happens.

has super-properties

[top Data Property](#)<sup>dp</sup>

has domain

[Event](#)<sup>c</sup>

has range

[date Time](#)

### **hotelStars<sup>dp</sup> back to [ToC](#) or [Data Property ToC](#)**

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#hotelStars](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#hotelStars)

The star rating of a hotel.

has super-properties

[top Data Property](#)<sup>dp</sup>

has domain

[Hotel](#)<sup>c</sup>

has range

[integer](#)

**name<sup>dp</sup>** back to [ToC](#) or [Data Property ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#name](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#name)

The name of the entity.

has super-properties

[top Data Property](#)<sup>dp</sup>

has domain

[Attraction](#)<sup>c</sup> or [Category](#)<sup>c</sup> or [City](#)<sup>c</sup> or [Event](#)<sup>c</sup> or [Hotel](#)<sup>c</sup> or [Location](#)<sup>c</sup> or [Restaurant](#)<sup>c</sup> or [Transport](#)<sup>c</sup>

has range

[string](#)

**restaurantCuisine<sup>dp</sup>** back to [ToC](#) or [Data Property ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#restaurantCuisine](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](#)<sup>dp</sup>

has domain

[Restaurant](#)<sup>c</sup>

has range

[string](#)

**transportType<sup>dp</sup>** back to [ToC](#) or [Data Property ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#transportType](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#transportType)

The type of transport system.

has super-properties

[top Data Property](#)<sup>dp</sup>

has domain

[Transport](#)<sup>c</sup>

has range

[string](#)

## Annotation Properties

- [created](#)
- [creator](#)
- [is Rule Enabled](#)
- [license](#)
- [rights](#)
- [same As](#)
- [title](#)

**created<sup>ap</sup>** back to [ToC](#) or [Annotation Property ToC](#)

**IRI:** <http://purl.org/dc/terms/created>

**creator<sup>ap</sup>** back to [ToC](#) or [Annotation Property ToC](#)

**IRI:** <http://purl.org/dc/elements/1.1/creator>

**is Rule Enabled<sup>ap</sup>** back to [ToC](#) or [Annotation Property ToC](#)

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

**license<sup>ap</sup>** back to [ToC](#) or [Annotation Property ToC](#)

**IRI:** <http://purl.org/dc/terms/license>

**rights<sup>ap</sup>** back to [ToC](#) or [Annotation Property ToC](#)

**IRI:** <http://purl.org/dc/elements/1.1/rights>

same As<sup>ap</sup> back to [ToC](#) or [Annotation Property ToC](#)

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

title<sup>ap</sup> back to [ToC](#) or [Annotation Property ToC](#)

IRI: <http://purl.org/dc/elements/1.1/title>

## 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](#)
- [ReligiousMonument](#)
- [Restaurant Barcelona Seafood](#)
- [Restaurant Madrid Tapas](#)
- [Restaurant Valencia Paella](#)
- [Restaurante Can Majo](#)
- [Sagrada Familia](#)
- [Transport Barcelona Metro](#)
- [Transport Madrid Bus](#)
- [Transport Valencia Tram](#)
- [Valencia](#)

Barcelona<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Barcelona](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Barcelona)

has facts

[cityName](#) <sup>dp</sup> "Barcelona"

[name](#) <sup>dp</sup> "Barcelona"

Event Barcelona Concert<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Event\\_Barcelona\\_Concert](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Event_Barcelona_Concert)

has facts

[categoryName](#) <sup>dp</sup> "Concert"

[eventDate](#) <sup>dp</sup> "2025-07-15T20:00:00"^^[date Time](#)

[name](#) <sup>dp</sup> "Barcelona Summer Concert"

Event Madrid Art Expo<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Event\\_Madrid\\_ArtExpo](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Event_Madrid_ArtExpo)

has facts

[categoryName](#) <sup>dp</sup> "Exhibition"

[eventDate](#) <sup>dp</sup> "2025-05-20T10:00:00"^^[date Time](#)

[name](#) <sup>dp</sup> "Madrid Art Expo"

Event Valencia Festival<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Event\\_Valencia\\_Festival](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Event_Valencia_Festival)

has facts

[categoryName](#) <sup>dp</sup> "Festival"

[eventDate](#) <sup>dp</sup> "2025-03-15T19:00:00"^^[date Time](#)

[name](#) <sup>dp</sup> "Valencia Fallas Festival"

Fira Barcelona Location<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#FiraBarcelonaLocation](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#FiraBarcelonaLocation)

belongs to

[EventLocation](#) <sup>c</sup>

has facts

[isLocatedIn](#) <sup>op</sup> [Barcelona](#) <sup>ni</sup>

[occursAt](#) <sup>op</sup> [Barcelona](#) <sup>ni</sup>  
[name](#) <sup>dp</sup> "Fira Barcelona Location"

### Hotel Arts<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#HotelArts](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#HotelArts)

belongs to

[LuxuryHotel](#) <sup>c</sup>

has facts

[isLocatedIn](#) <sup>op</sup> [Barcelona](#) <sup>ni</sup>  
[isNearTo](#) <sup>op</sup> [Sagrada Familia](#) <sup>ni</sup>  
[address](#) <sup>dp</sup> "Carrer de la Marina, 19-21, Barcelona"  
[hotelStars](#) <sup>dp</sup> "5"^^[decimal](#)  
[name](#) <sup>dp</sup> "Hotel Arts Barcelona"

### Hotel Barcelona Center<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Hotel\\_Barcelona\\_Center](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Hotel_Barcelona_Center)

belongs to

[Hotel](#) <sup>c</sup>

has facts

[isLocatedIn](#) <sup>op</sup> [Barcelona](#) <sup>ni</sup>  
[address](#) <sup>dp</sup> "Carrer Balmes 103, Barcelona"  
[hotelStars](#) <sup>dp</sup> "4"^^[integer](#)  
[name](#) <sup>dp</sup> "Barcelona Center Hotel"

### Hotel Madrid Palace<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Hotel\\_Madrid\\_Palace](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Hotel_Madrid_Palace)

belongs to

[Hotel](#) <sup>c</sup>

has facts

[isLocatedIn](#) <sup>op</sup> [Madrid](#) <sup>ni</sup>  
[address](#) <sup>dp</sup> "Calle de Alcalá 15, Madrid"  
[hotelStars](#) <sup>dp</sup> "5"^^[decimal](#)  
[name](#) <sup>dp</sup> "Madrid Palace Hotel"

### Hotel Valencia Center<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Hotel\\_Valencia\\_Center](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Hotel_Valencia_Center)

belongs to

[Hotel](#) <sup>c</sup>

has facts

[isLocatedIn](#) <sup>op</sup> [Valencia](#) <sup>ni</sup>  
[address](#) <sup>dp</sup> "Avenida de Francia 33, Valencia"  
[hotelStars](#) <sup>dp</sup> "4"^^[decimal](#)  
[name](#) <sup>dp</sup> "Valencia Center Hotel"

### M W C2025<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#MWC2025](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#MWC2025)

belongs to

[Exhibition](#) <sup>c</sup>

has facts

[occursAt](#) <sup>op</sup> [Fira Barcelona Location](#) <sup>ni</sup>  
[eventDate](#) <sup>dp</sup> "2025-02-24T09:00:00"^^[date Time](#)  
[name](#) <sup>dp</sup> "Mobile World Congress 2025"

### Madrid<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

IRI: [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Madrid](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Madrid)

has facts

[cityName](#) <sup>dp</sup> "Madrid"  
[name](#) <sup>dp</sup> "Madrid"

### MetroBarcelona<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#MetroBarcelona](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#MetroBarcelona)

belongs to

[Metro](#)<sup>c</sup>

has facts

[isLocatedIn](#) op [Barcelona](#)<sup>ni</sup>

[address](#) dp "Plaça Catalunya, Barcelona"

[name](#) dp "Metro Barcelona"

[name](#) dp "Public Transportation Barcelona Underground"

[transportType](#) dp "Metro"

is also defined as

[object property](#)

**ReligiousMonument**<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#ReligiousMonument](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#ReligiousMonument)

belongs to

[ReligiousMonument](#)<sup>c</sup>

is also defined as

[class](#)

**Restaurant Barcelona Seafood**<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Restaurant\\_Barcelona\\_Seafood](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Restaurant_Barcelona_Seafood)

belongs to

[Restaurant](#)<sup>c</sup>

has facts

[isLocatedIn](#) op [Barcelona](#)<sup>ni</sup>

[address](#) dp "Passeig de Joan de Borbó 58, Barcelona"

[name](#) dp "Barcelona Seafood Restaurant"

**Restaurant Madrid Tapas**<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Restaurant\\_Madrid\\_Tapas](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Restaurant_Madrid_Tapas)

belongs to

[Restaurant](#)<sup>c</sup>

has facts

[isLocatedIn](#) op [Madrid](#)<sup>ni</sup>

[address](#) dp "Calle Cava Baja 10, Madrid"

[name](#) dp "Madrid Tapas Bar"

**Restaurant Valencia Paella**<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Restaurant\\_Valencia\\_Paella](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Restaurant_Valencia_Paella)

belongs to

[Restaurant](#)<sup>c</sup>

has facts

[isLocatedIn](#) op [Valencia](#)<sup>ni</sup>

[address](#) dp "Carrer del Mar 12, Valencia"

[name](#) dp "Valencia Paella House"

**Restaurante Can Majo**<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#RestauranteCanMajo](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#RestauranteCanMajo)

belongs to

[Seafood Restaurant](#)<sup>c</sup>

has facts

[isLocatedIn](#) op [Barcelona](#)<sup>ni</sup>

[isNearTo](#) op [Sagrada Familia](#)<sup>ni</sup>

[address](#) dp "Carrer de l'Almirall Aixada, 23, Barcelona"

[name](#) dp "Can Majó"

**Sagrada Familia**<sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#SagradaFamilia](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#SagradaFamilia)

belongs to

[Monument](#)<sup>c</sup>

has facts

[hasCategory](#) <sup>op</sup> [ReligiousMonument](#) <sup>ni</sup>  
[hasTransportOption](#) <sup>op</sup> [MetroBarcelona](#) <sup>ni</sup>  
[isLocatedIn](#) <sup>op</sup> [Barcelona](#) <sup>ni</sup>  
[address](#) <sup>dp</sup> "Carrer de Mallorca, 401, Barcelona"  
[attractionType](#) <sup>dp</sup> "Cathedral"  
[name](#) <sup>dp</sup> "Sagrada Familia"

**Transport Barcelona Metro** <sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Transport\\_Barcelona\\_Metro](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Transport_Barcelona_Metro)

belongs to

[Transport](#) <sup>c</sup>

has facts

[isLocatedIn](#) <sup>op</sup> [Barcelona](#) <sup>ni</sup>  
[name](#) <sup>dp</sup> "Barcelona Metro"  
[transportType](#) <sup>dp</sup> "Metro"

**Transport Madrid Bus** <sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Transport\\_Madrid\\_Bus](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Transport_Madrid_Bus)

belongs to

[Transport](#) <sup>c</sup>

has facts

[isLocatedIn](#) <sup>op</sup> [Madrid](#) <sup>ni</sup>  
[name](#) <sup>dp</sup> "Madrid City Bus"  
[transportType](#) <sup>dp</sup> "Bus"

**Transport Valencia Tram** <sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Transport\\_Valencia\\_Tram](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Transport_Valencia_Tram)

belongs to

[Transport](#) <sup>c</sup>

has facts

[isLocatedIn](#) <sup>op</sup> [Valencia](#) <sup>ni</sup>  
[name](#) <sup>dp</sup> "Valencia Tram"  
[transportType](#) <sup>dp</sup> "Tram"

**Valencia** <sup>ni</sup> back to [ToC](#) or [Named Individual ToC](#)

**IRI:** [http://www.semanticweb.org/jm\\_bc/ontologies/2025/3/untitled-ontology-16#Valencia](http://www.semanticweb.org/jm_bc/ontologies/2025/3/untitled-ontology-16#Valencia)

has facts

[cityName](#) <sup>dp</sup> "Valencia"  
[name](#) <sup>dp</sup> "Valencia"

## SWRL rules

- [Rule 1](#)
- [Rule 2](#)
- [Rule 3](#)

**Rule 1** back to [ToC](#) or [SWRL ToC](#)

If a hotel has 5 stars, it is classified as a [LuxuryHotel](#).

[Hotel](#) <sup>c(?)</sup> , [hotelStars](#) <sup>dp(?,?)</sup> , [equal](#) <sup>(?)</sup> -> [LuxuryHotel](#) <sup>c(?)</sup>

**Rule 2** back to [ToC](#) or [SWRL ToC](#)

If a hotel has less than 3 stars, it is classified as a [BudgetHotel](#).

[Hotel](#) <sup>c(?)</sup> , [hotelStars](#) <sup>dp(?,?)</sup> , [lessThan](#) <sup>(?)</sup> -> [BudgetHotel](#) <sup>c(?)</sup>

**Rule 3** back to [ToC](#) or [SWRL ToC](#)

If an individual is classified as a [Bus](#), it is also classified as a [Transport](#).

[Bus](#) <sup>c(?)</sup> -> [Transport](#) <sup>c(?)</sup>

**Legend** back to [ToC](#)

<sup>c</sup>: Classes

<sup>op</sup>: Object Properties

<sup>dp</sup>: Data Properties

<sup>ni</sup>: 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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