FREEBASE结构

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Freebase简介

Freebase是一个开放的、协作创建(知识共享)的、结构化的、含有一定语义的数据库。截止2013年10月 14日，Freebase已经有超过三千九百万个关于现实世界中的实体(如人、地点、事物)的描述。

示例

Subject:<http://rdf.freebase.com/ns/m.0qjjmlt>
Predicate:<http://rdf.freebase.com/ns/type.object.name>

Object:“川浦正大”@ja .

Freebase结构

Freebase数据库为图结构，每个结点都使用type/object定义，边使用type/link定义。

在Freebase中，有topic, property, type, domain, schema等概念。

Topic

每个条目称之为一个Topic，是特定且具有明确名义的数据，可以抽象也可以具体。如姚明，思念等。

一个Topic往往有很多property。比如对于某一个人，可能有姓名、性别、出生日期、个人经历、职业等等属性。

```
<m.01jzhl> <people.person.profession> <m.01445t>    1. .
<m.01jzhl> <people.person.date_of_birth>     "1980-09-12"^^<http://www.w3.org/2001/XMLSchem
<m.01jzhl> <people.person.education>  <m.0n1k91v>  3. .
<m.01jzhl> <people.person.profession> <m.02h664x> 4. .
<m.01jzhl> <people.person.nationality> <m.0d05w3>  5. .
<m.01jzhl> <people.person.parents>     <m.0g5bnz5> 6. .
<m.01jzhl> <people.person.place_of_birth>    <m.06wjf> 7. .
<m.01jzhl> <people.person.spouse_s>   <m.0j688yq>  8. .
<m.01jzhl> <people.person.parents>     <m.0g5bnyy> 9. .
<m.01jzhl> <people.person.gender>      <m.05zppz>  10. .
<m.01jzhl> <people.person.weight_kg>  "141.0"  11. .
```

Type

Type是对Topic的分类。因为Freebase中topics太多了，并且有时候一个topic属于多个方面多个学科的交汇，所以必须把它们分开。通过type，把它们放入不同的类型里面，查找的时候也方便。

一个Topic可以有多个Type，如姚明可以是一名运动员，也可以是一个人。

```
<m.01jzhl>  <type.object.type> <people.person>
```

```
<m.01jzhl> <type.object.type>      <sports.pro_athlete>    .
```

```
<m.01jzhl> <people.person.profession> <m.01445t> 1. .
<m.01jzhl> <people.person.date_of_birth> "1980-09-12"^^<http://www.w3.org/2001/XML
<m.01jzhl> <people.person.education> <m.0n1k91v> 3. .
<m.01jzhl> <people.person.profession> <m.02h664x> 4. .
<m.01jzhl> <people.person.nationality> <m.0d05w3> 5. .
<m.01jzhl> <people.person.parents> <m.0g5bnz5> 6. .
<m.01jzhl> <people.person.place_of_birth> <m.06wjf> 7. .
<m.01jzhl> <people.person.spouse_s> <m.0j688yq> 8. .
<m.01jzhl> <people.person.parents> <m.0g5bnyy> 9. .
<m.01jzhl> <people.person.gender> <m.05zppz> 10. .
<m.01jzhl> <people.person.weight_kg> "141.0" 11. .
```

```
<sports.pro_athlete> <type.type.instance> <m.01jzhl> 1. .
<m.01jzhl> <sports.pro_athlete.teams> <m.0j_ny44> 2. .
<m.01jzhl> <sports.pro_athlete.teams> <m.0j2m__w> 3. .
<m.01jzhl> <sports.pro_athlete.teams> <m.0t_6b7s> 4. .
<m.01jzhl> <type.object.type> <sports.pro_athlete> 5. .
<m.01jzhl> <sports.pro_athlete.career_start> "1997"^^<http://www.w3.org/2001/XMLSchema#gYe
<m.01jzhl> <sports.pro_athlete.sports_played_professionally> <m.0c55c2z> 7. .
<m.01jzhl> <sports.pro_athlete.teams> <m.0j_ny44> 8. .
<m.01jzhl> <sports.pro_athlete.teams> <m.0j2m__w> 9. .
<m.01jzhl> <sports.pro_athlete.teams> <m.0t_6b7s> 10. .
<m.01jzhl> <sports.pro_athlete.sports_played_professionally> <m.0c55c2z> 11. .
```

Domain

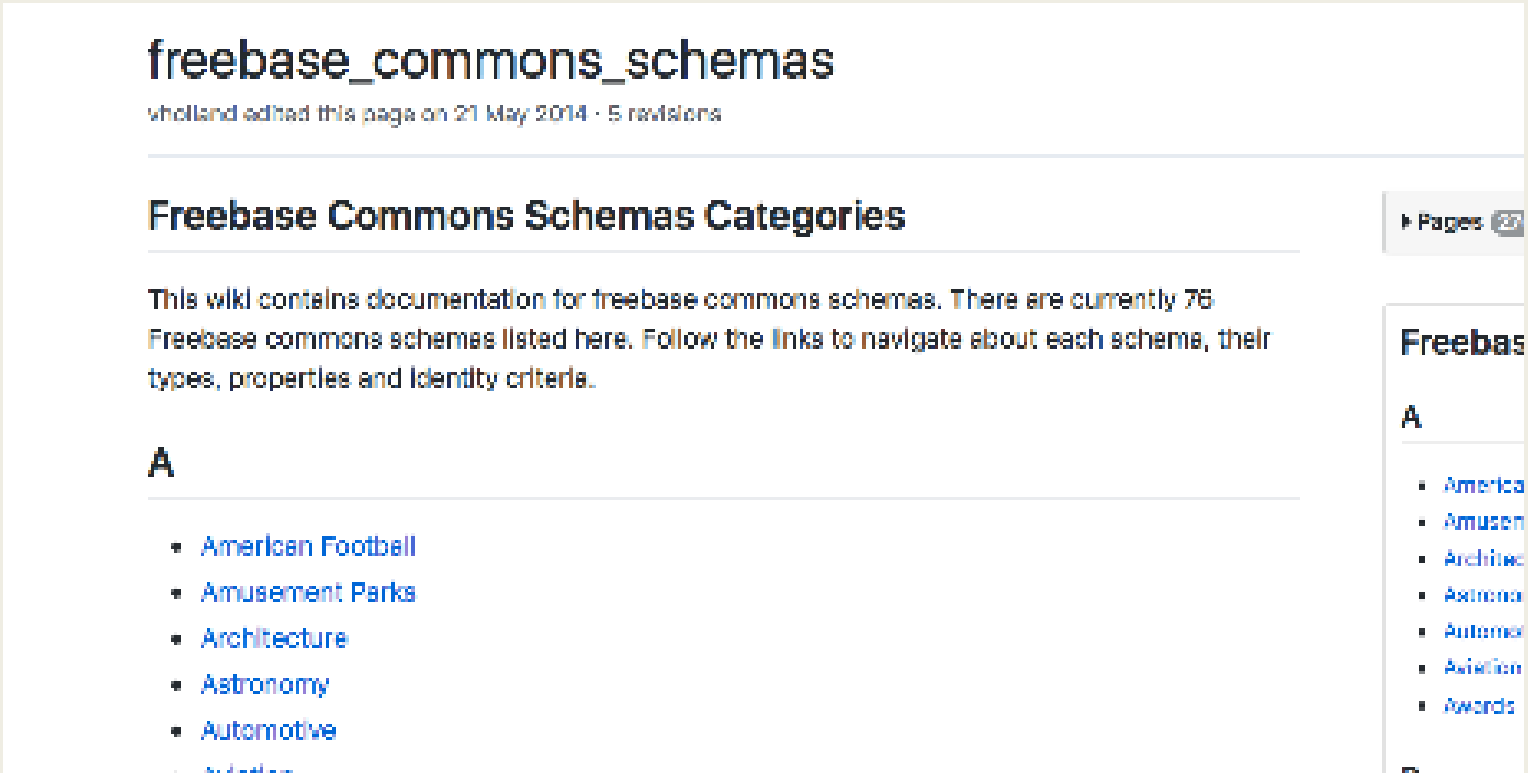
多个type属于一个domain。Domain是对type的分类。如person属于people的domain。

```
<m.01jzhl>  <type.object.type> <people.person>
```

```
<m.01jzhl> <type.object.type>      <sports.pro_athlete>    .
```

Schema

Schema是property的集合。



freebase_commons_schemas

whollend edited this page on 21 May 2014 · 5 revisions

Freebase Commons Schemas Categories

This wiki contains documentation for freebase commons schemas. There are currently 76 Freebase commons schemas listed here. Follow the links to navigate about each scheme, their types, properties and identity criteria.

A

- American Football
- Amusement Parks
- Architecture
- Astronomy
- Automotive

Pages 27

Freebas

A

- America
- Amusem
- Architec
- Astrono
- Automo
- Aviation
- Awards

American Football Commons

This is american football commons

Types

Here are the following types in American Football Commons

- American Football Player
- Super Bowl
- American football head coach
- American football team
- American football division
- American football conference
- American football position
- American football roster position
- American football historical roster position
- American football historical coach position
- American football coach position
- Player Receiving Statistics
- Player Rushing Statistics
- Player Passing Statistics
- American football game

american_football/football_player

Type Definition

An American football player is an individual who participates in games of American football. The type includes professional and amateur football players, as well as international American football players.

Persons who are an American Football Player

- Professional American football players (e.g. Peyton Manning, Richard Bartel, Patrick Gerigk)
- Amateur American football players such as those who play for high schools, colleges, clubs, or in other non-professional tournaments (e.g. Carlos Alvarez, Dan Roberts, Noel Devine)

Persons who are NOT an American Football Player

- Association football (soccer) players (e.g. David Beckham, Daniele Corvia, Gerd Muller)
- Use the Football player type for these.
- Rugby players (e.g. Ignacio Corleto, Mat Rogers, Chris Paterson)
- Use the Rugby player type for these.
- Other kinds of footballers we don't currently have types for such as Canadian football players, Australian rules football players and Gaelic football players (e.g. Greg Battle, Jonathan Brown, Sean Purcell)
- Use the Athlete type for these

Identity Criterion

- American Football Player Identity Criteria

▸ Pages 270

Freebase Commons

A

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- Aviation
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B

- Baseball
- Basketball
- Bicycles
- Biology
- Boats
- Books
- Boxing
- Broadcast
- Business

C

- Celebrities
- Chemistry
- Comics
- Computers
- Conferences and Conventions
- Cricket

Property

一个type可以有许多不同来源的property。

自身Property。

Included type：当前Type集成了included type中所有的Property。这个类似于继承的概念，但又不同于继承，它可以随意删除included type。

Incoming properties：其它type的某些Property。

EducationalOrganization

Canonical URL: http://cnschema.org/EducationalOrganization

Thing > Organization > EducationalOrganization

【教育机构】一个教育机构 An educational organization.

Linked to schema.org: http://schema.org/EducationalOrganization Usage: Between 10,000 and 50,000 domains

属性	值域	定义
Properties from EducationalOrganization		
alumni	Person or Organization or EducationalOrganization	【校友】 教育组织的校友会。 Alumni of an organization. Inverse property: alumniOf
Properties from Organization		
address	PostalAddress or Text or Organization or GeoCoordinates or Place or Person or GeoShape	【地址】 该项的物理地址。 Physical address of the item.
aggregateRating	AggregateRating or Offer or Service or Event or Brand or Place or Organization or Product or CreativeWork	【总体评分】 基于该项的一系列评论或评价的一个总体评价。 The overall rating, based on a collection of reviews or ratings, of the item.
alumni	Person or Organization or	【校友】 教育组织的校友会。 Alumni of an organization.

对property的限制

对每个property，定义值域，值域类型为其他type。

通过这种方式，可以以predicate连接两种不同的topic。

对predict的限制

限制predict的subject、object类型，是否允许为多值等。

```
<m.04nt> <type.property.unique> "false" .
<m.04nt> <type.property.schema> <m.04k2> .
<m.04nt> <http://www.w3.org/2000/01/rdf-schema#domain> <m.04k8> .
<m.04nt> <type.property.expected_type> <m.01mp> .
<m.04nt> <http://www.w3.org/2000/01/rdf-schema#range> <m.01mp> .
<m.04nt> <freebase.property_hints.disambiguator> "true" .
<m.04nt> <freebase.property_hints.display_none> "false" .
<m.04nt> <freebase.property_hints.deprecated> "false" .
<m.04nt> <freebase.property_hints.display_orientation> "horizontal"@en .
<m.04nt> <freebase.property_hints.inverse_description> "{name}: Nationality"@en .
<people.person.nationality> <type.property.unique> "false" .
<people.person.nationality> <type.property.expected_type> <location.country> .

<people.person.nationality> <http://www.w3.org/2000/01/rdf-schema#range> <location.country> .
```

总结

FreeBase包含3层结构：Domain-->Type-->Instance(Topic)。举例来说People-->Person-->somebody。

一个Domain中包含一个或多个Type，每个Type包含多个Property，一个Topic可以属于多个Type。

Freebase会设置各种限制条件保证数据库的正确与高效。