Linked Data: A 30-Minute Crash Course!

Tom Heath

Lead Researcher
Talis Systems Ltd

July 2011, SSSW2011, Cercedilla, Spain

Outline

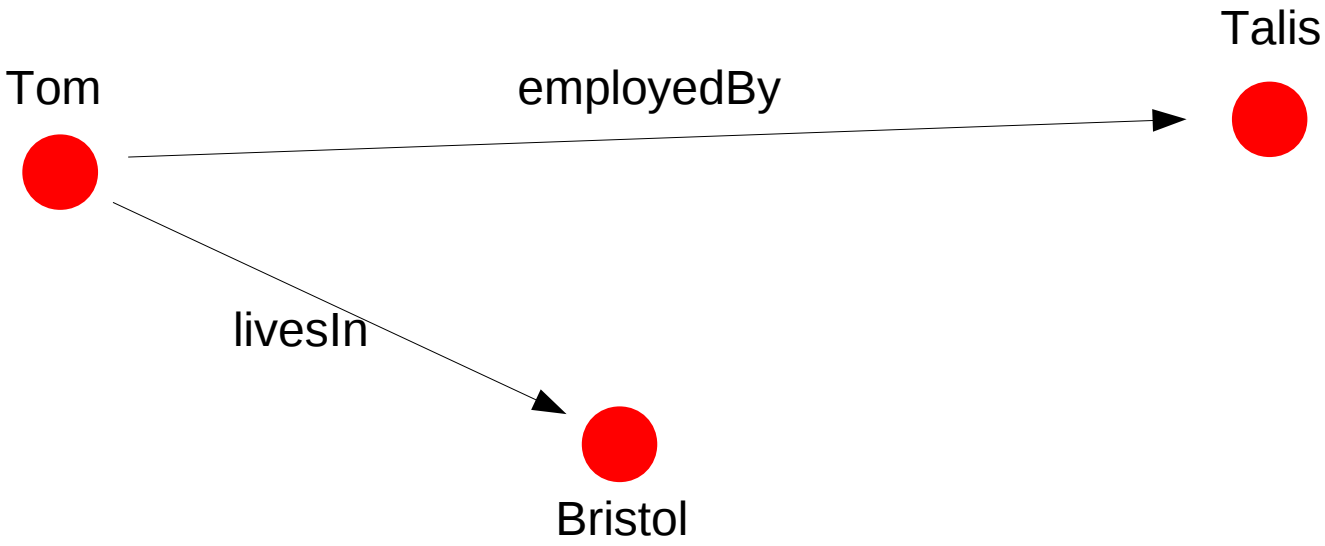
- No “hard sell” about Linked Data, just the basic concepts
- A basic introduction to the topic
  - Graphs
  - RDF Triples
  - URIs for documents and things
  - Links between (things in different) data sets
- A brief mention of some useful data sets
- Outline of the hands-on session

What is a Graph?

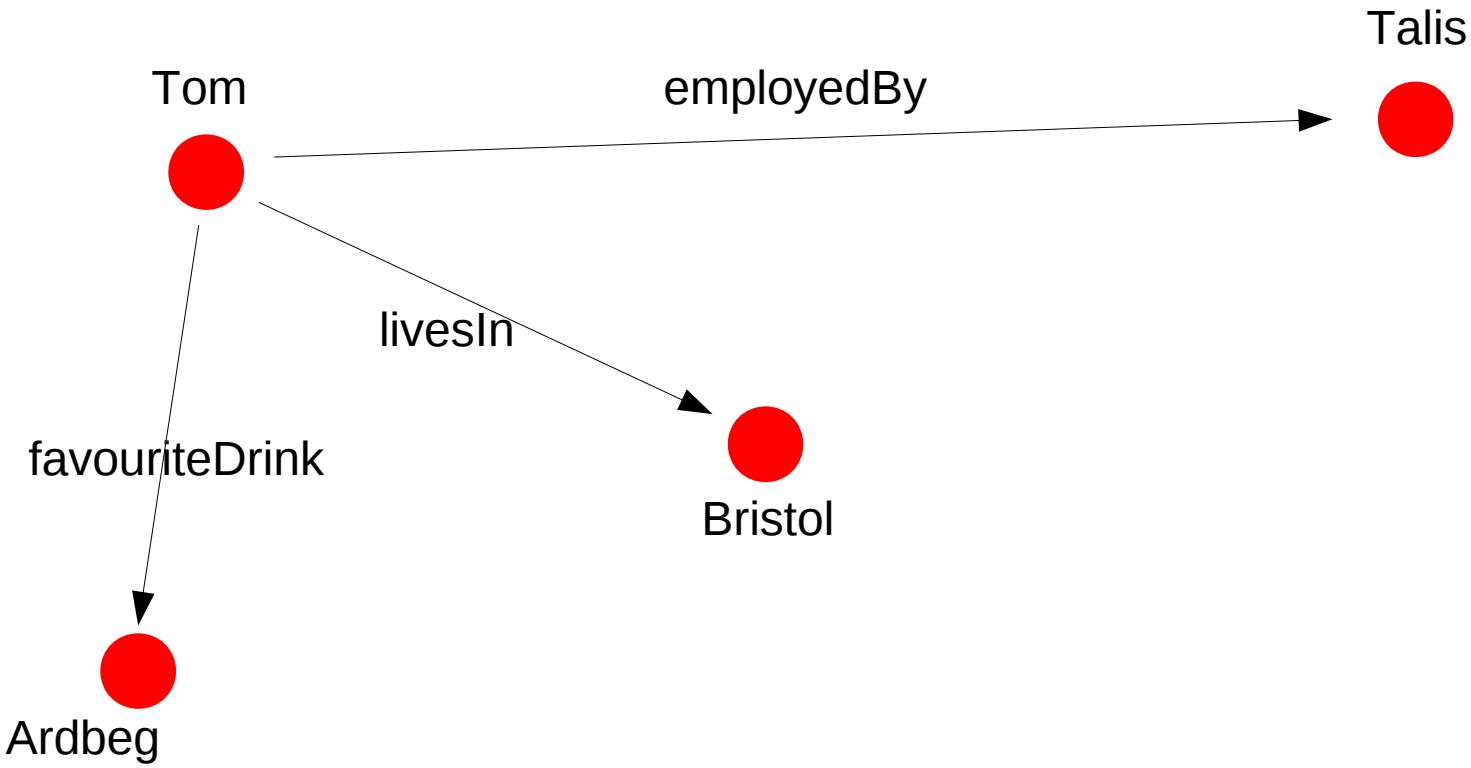
What is a Graph?

What is a Graph?

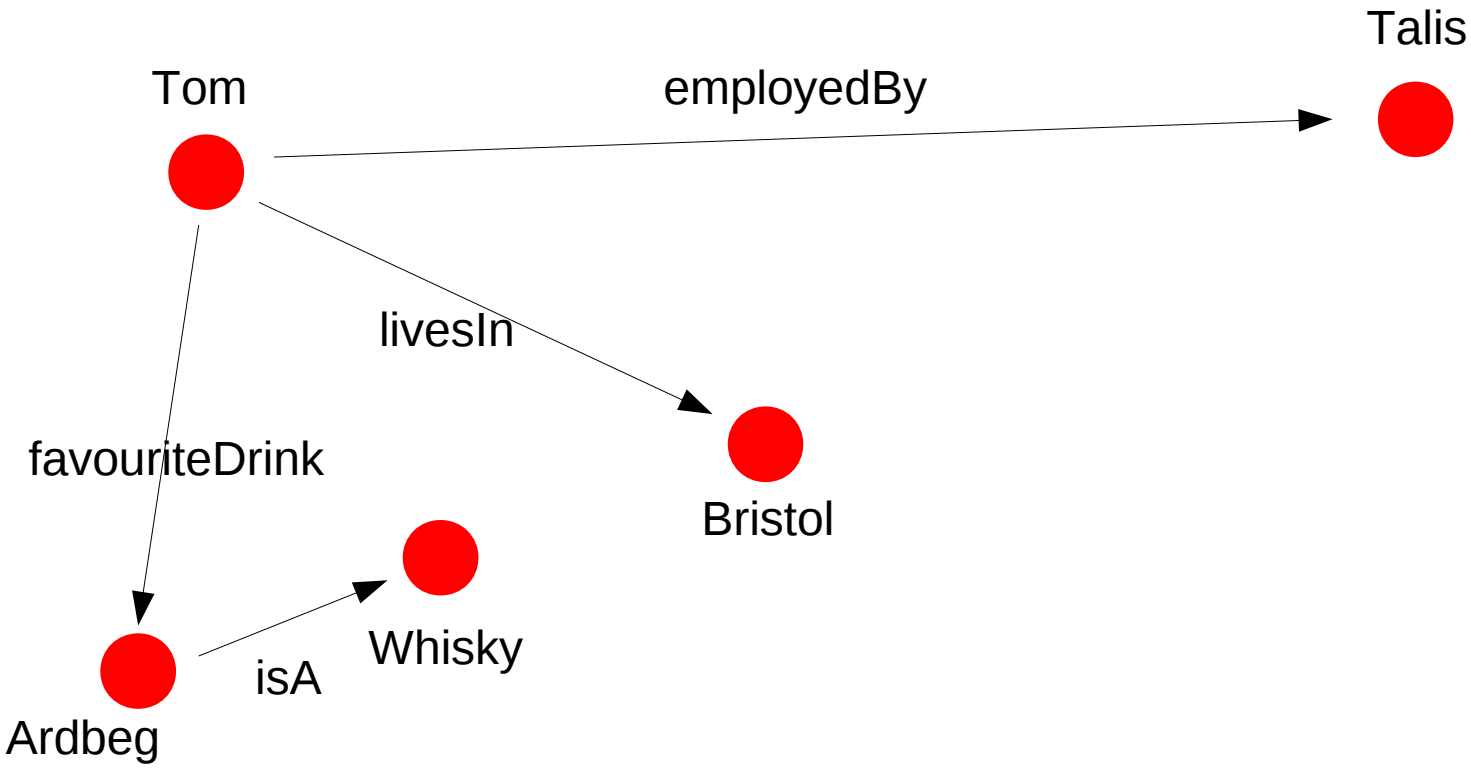
What is a Graph?



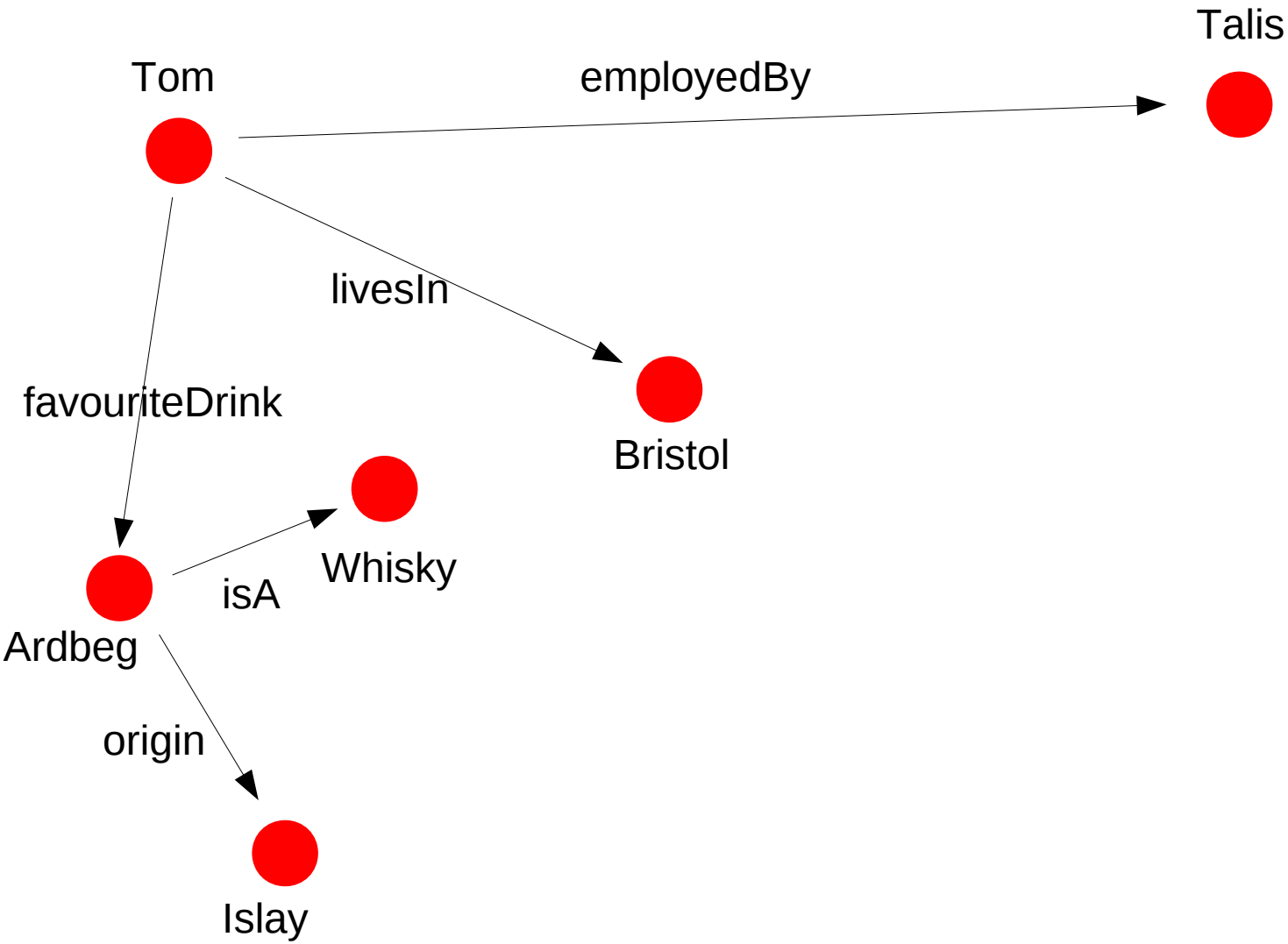
What is a Graph?



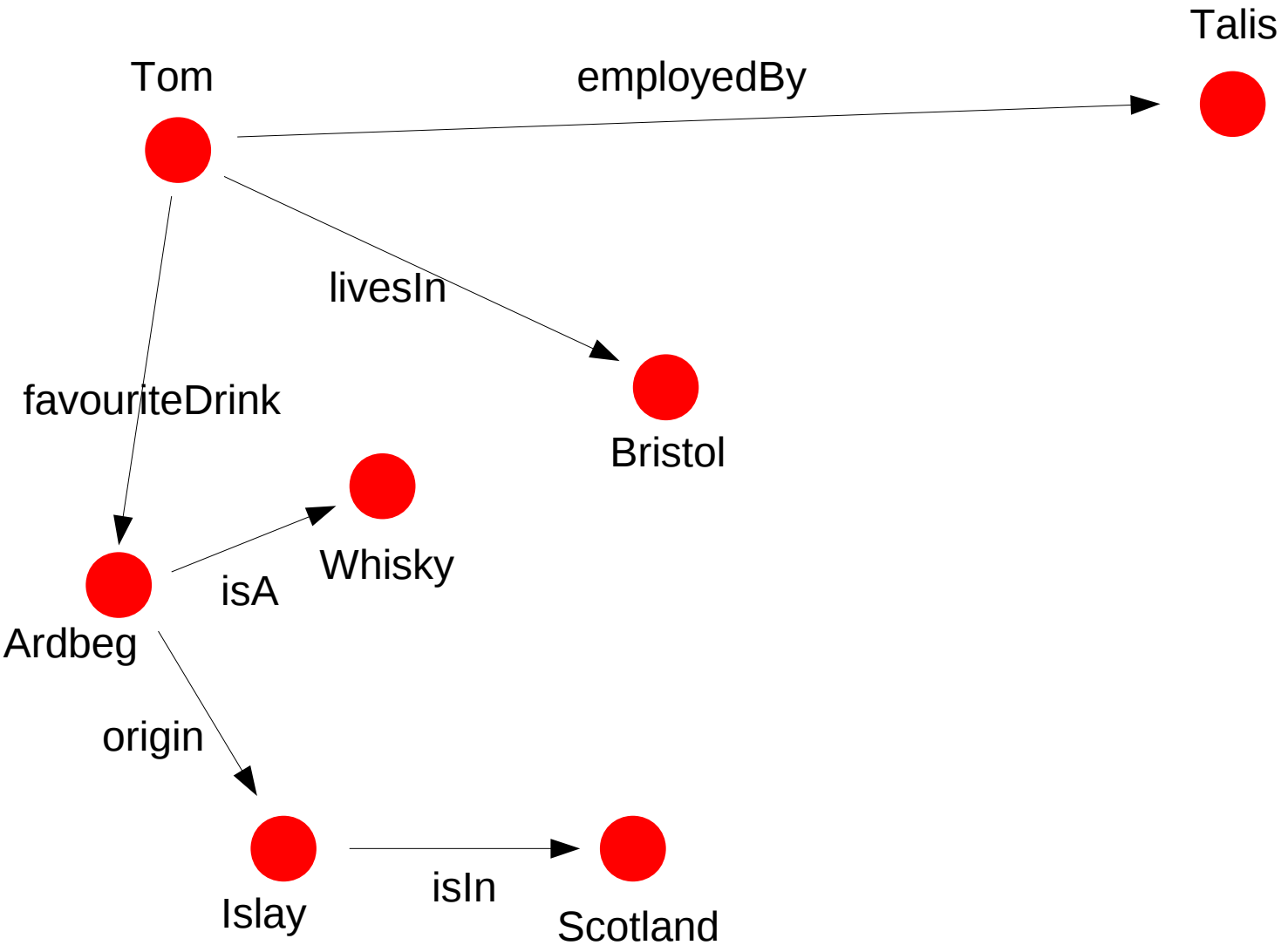
What is a Graph?



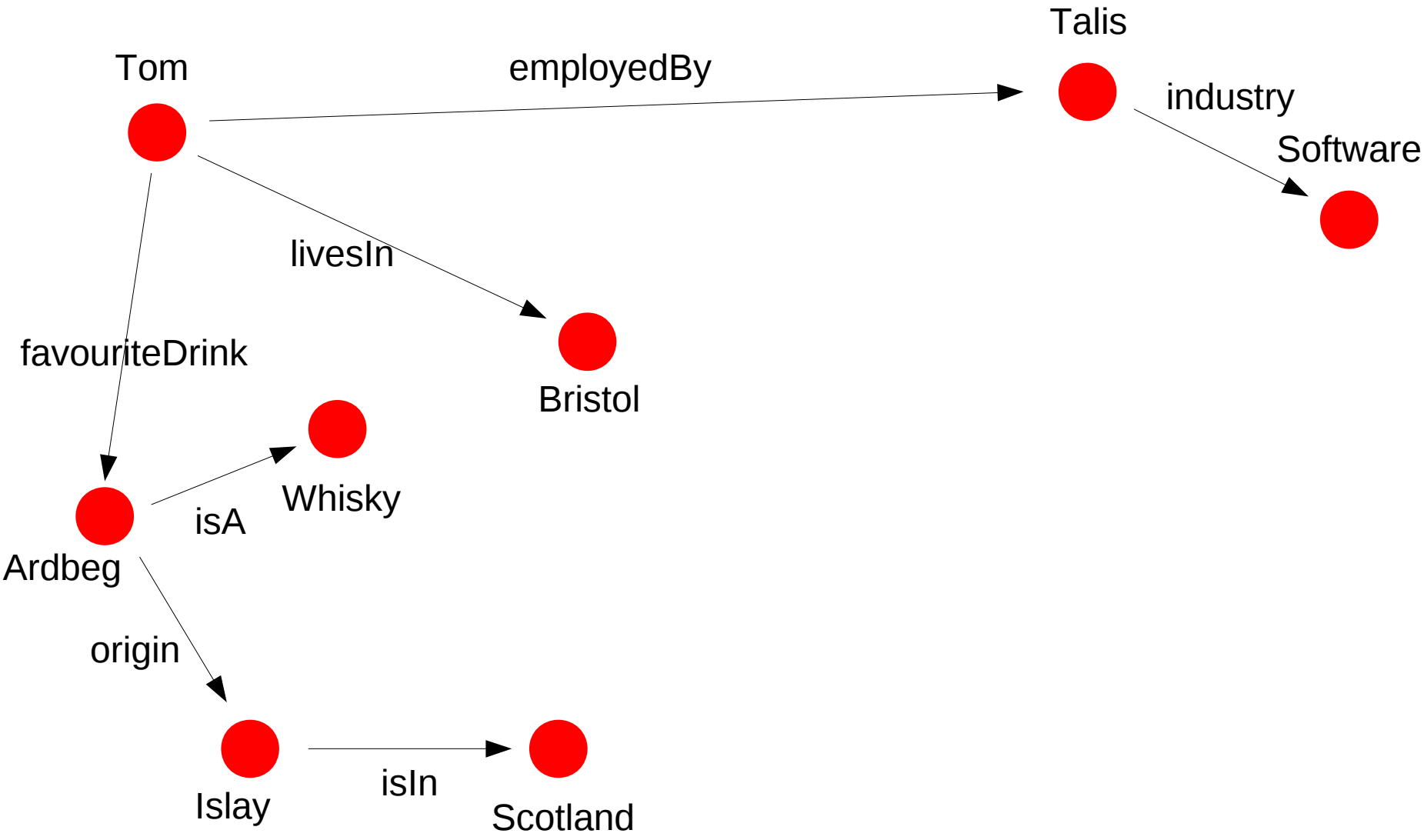
What is a Graph?



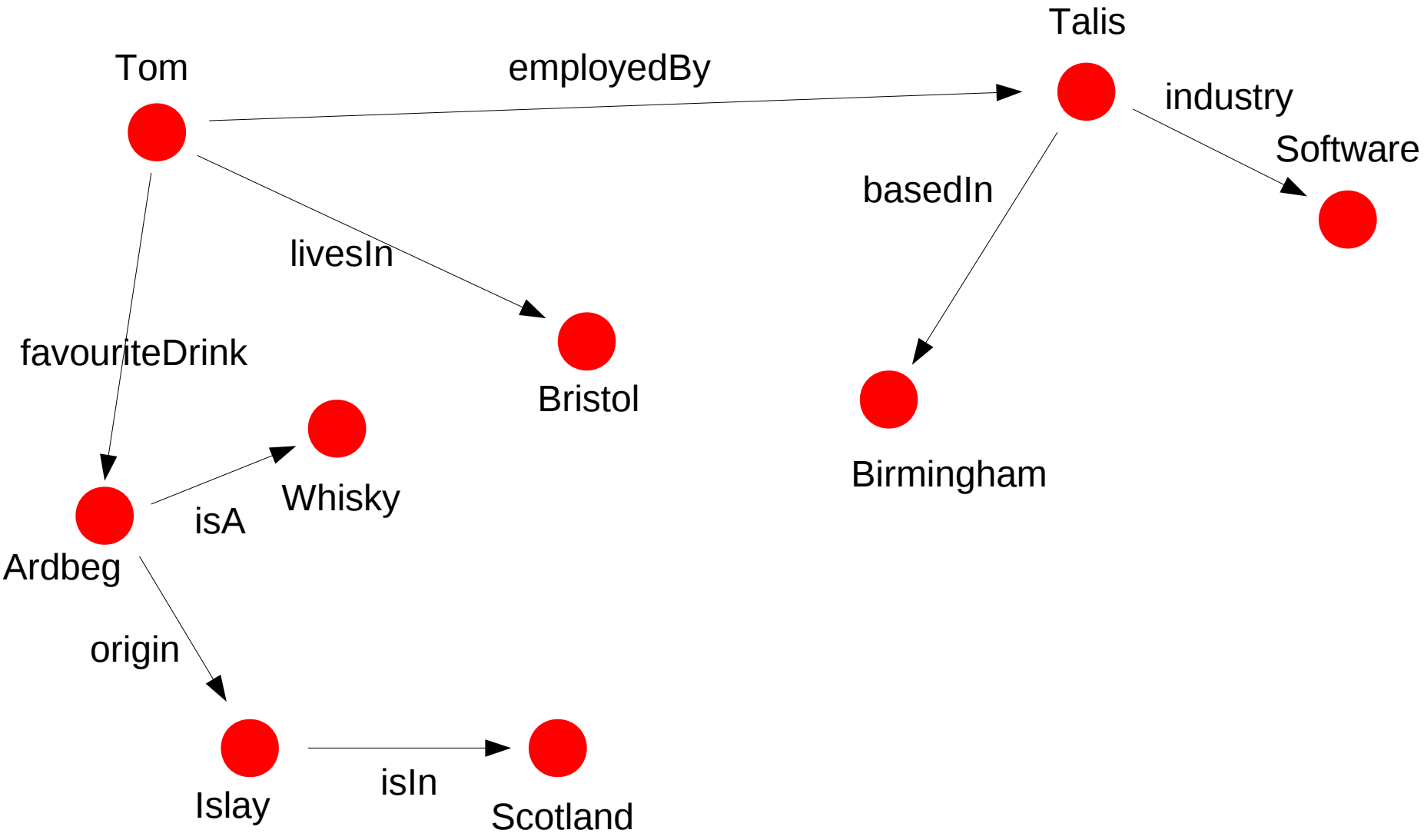
What is a Graph?



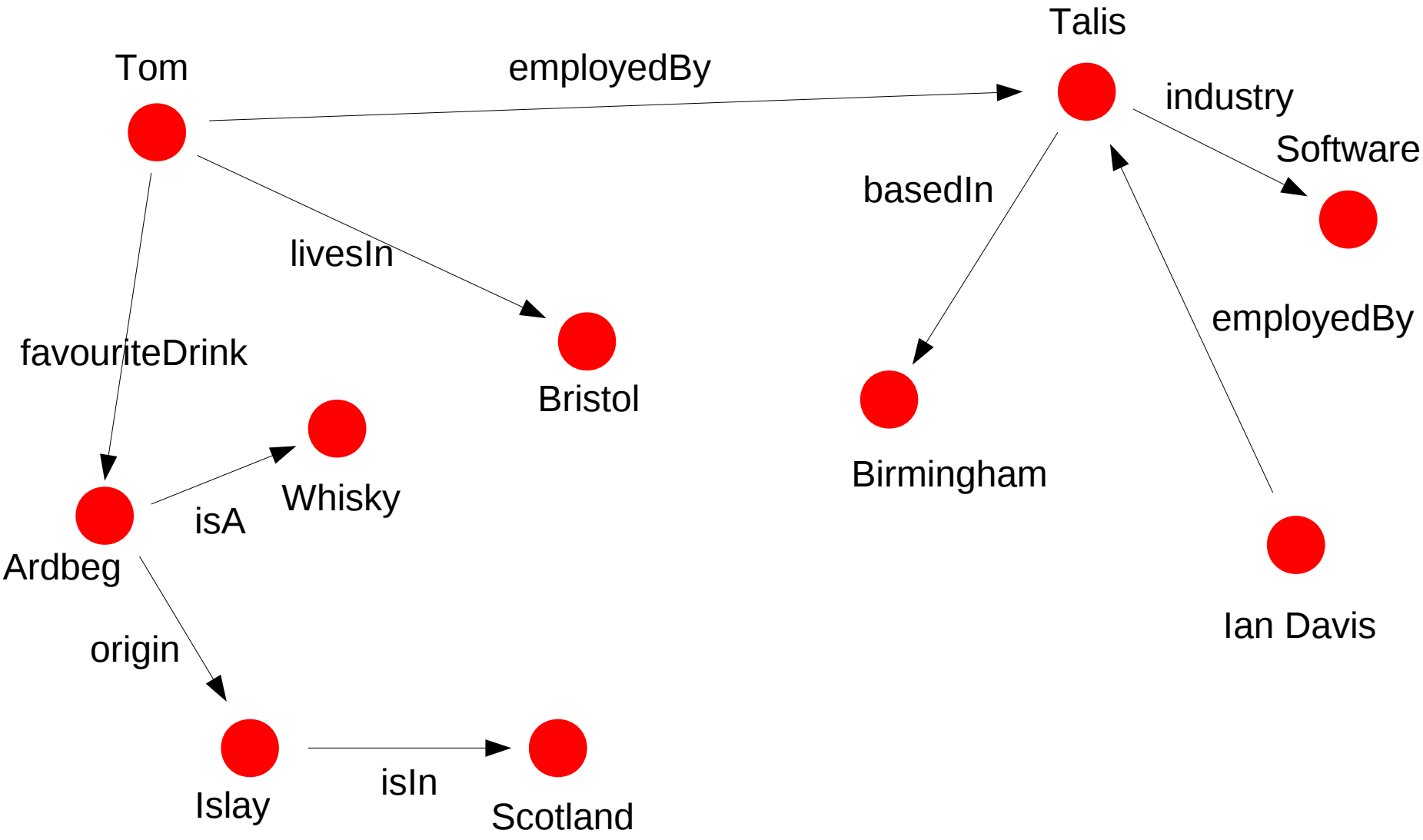
What is a Graph?



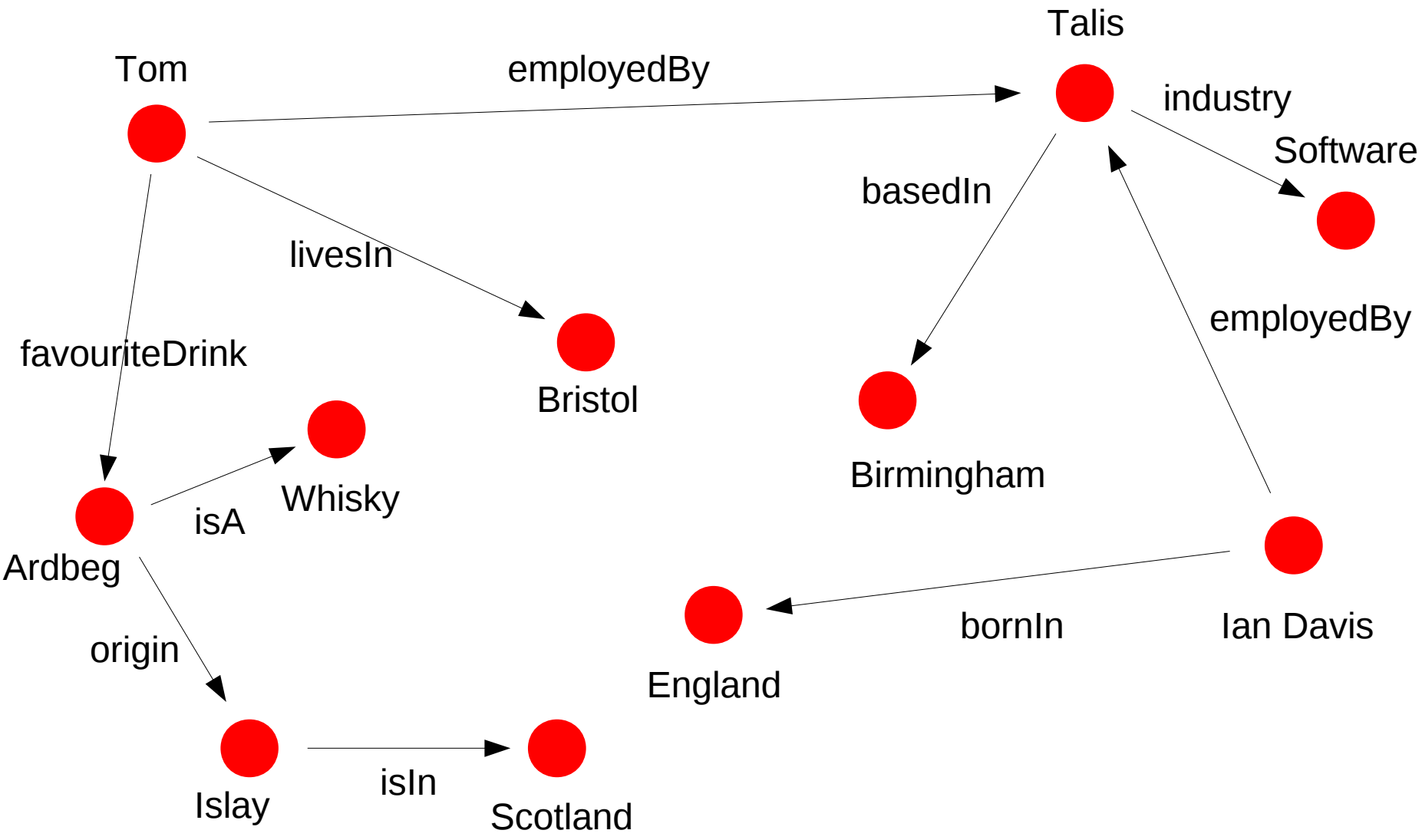
What is a Graph?



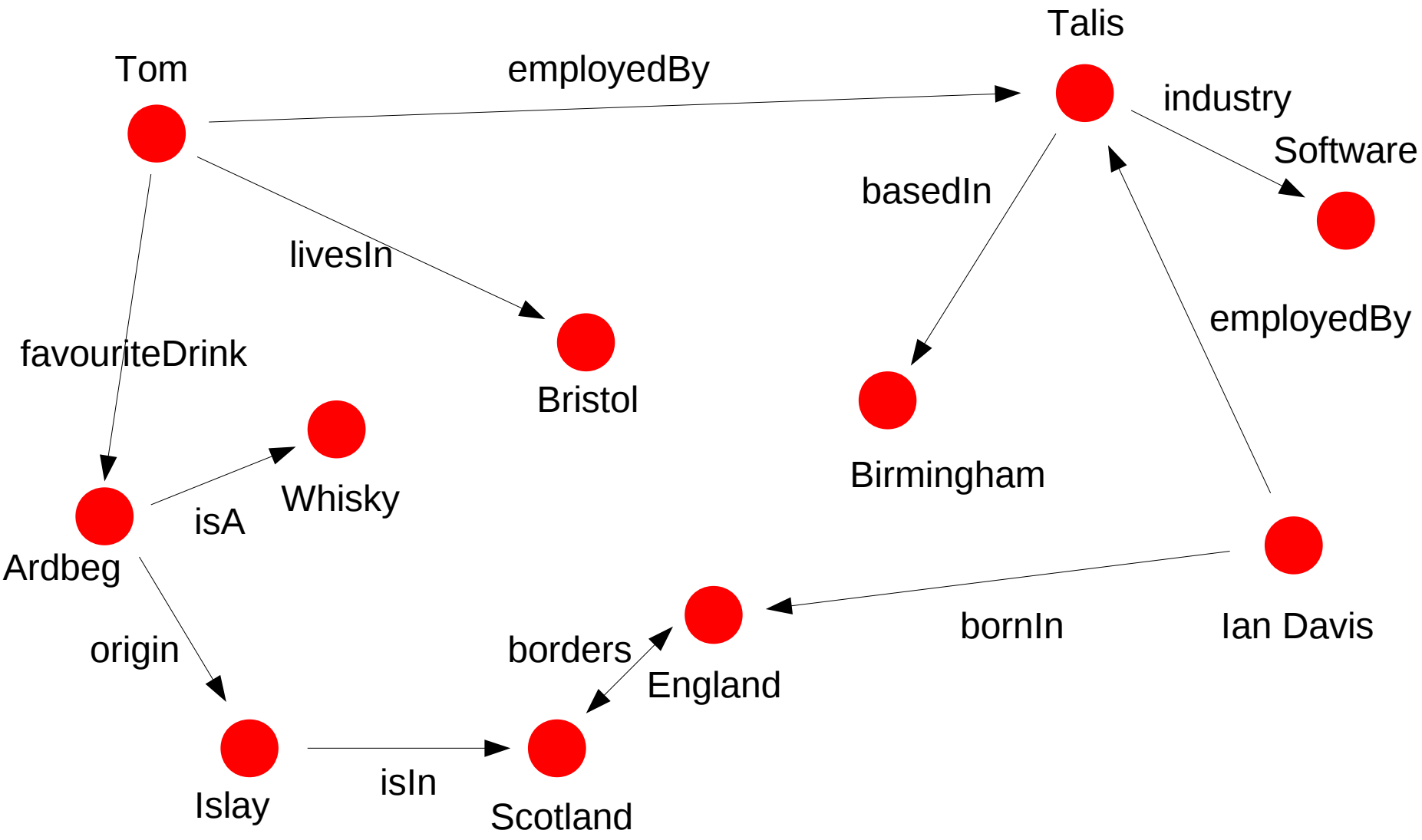
What is a Graph?



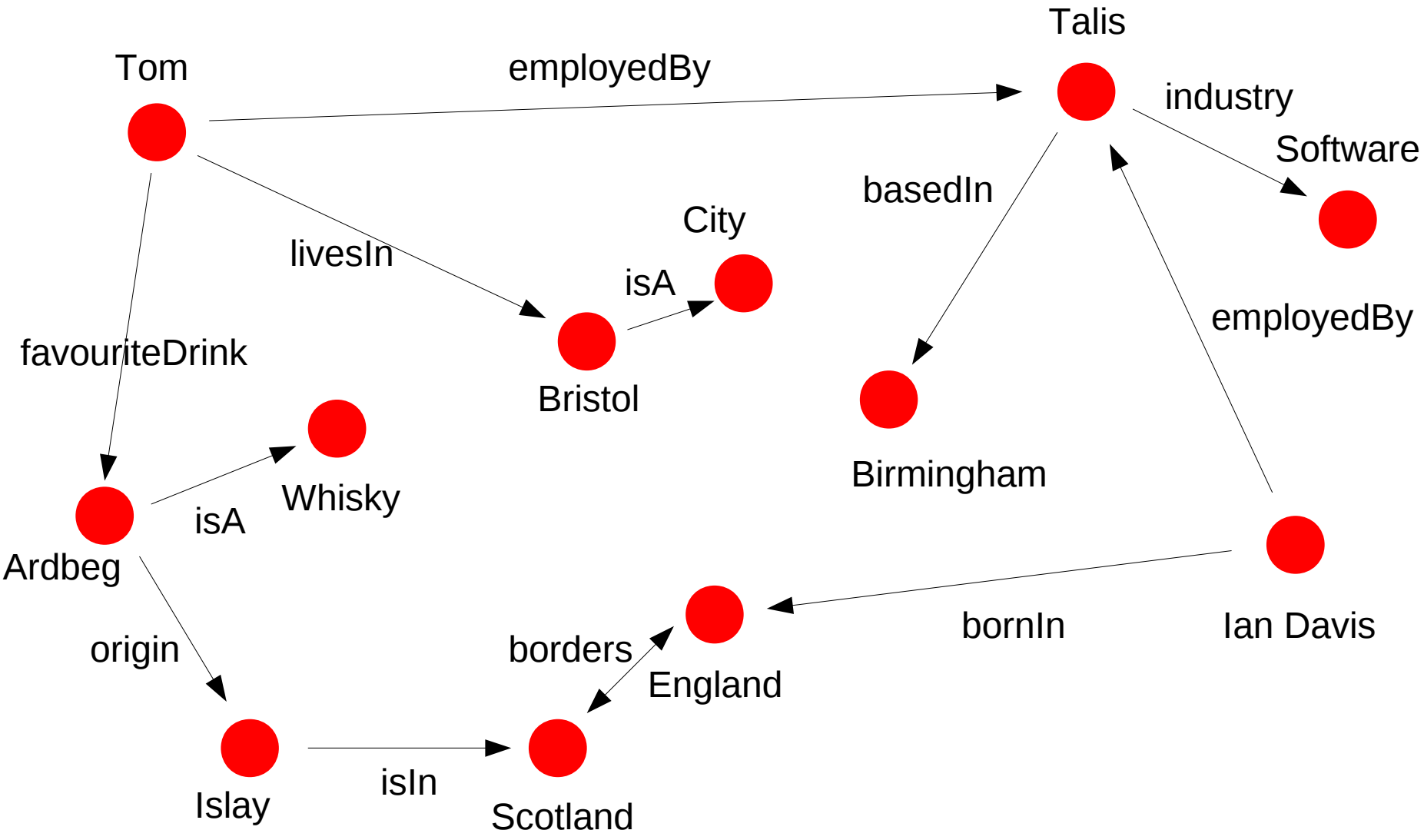
What is a Graph?



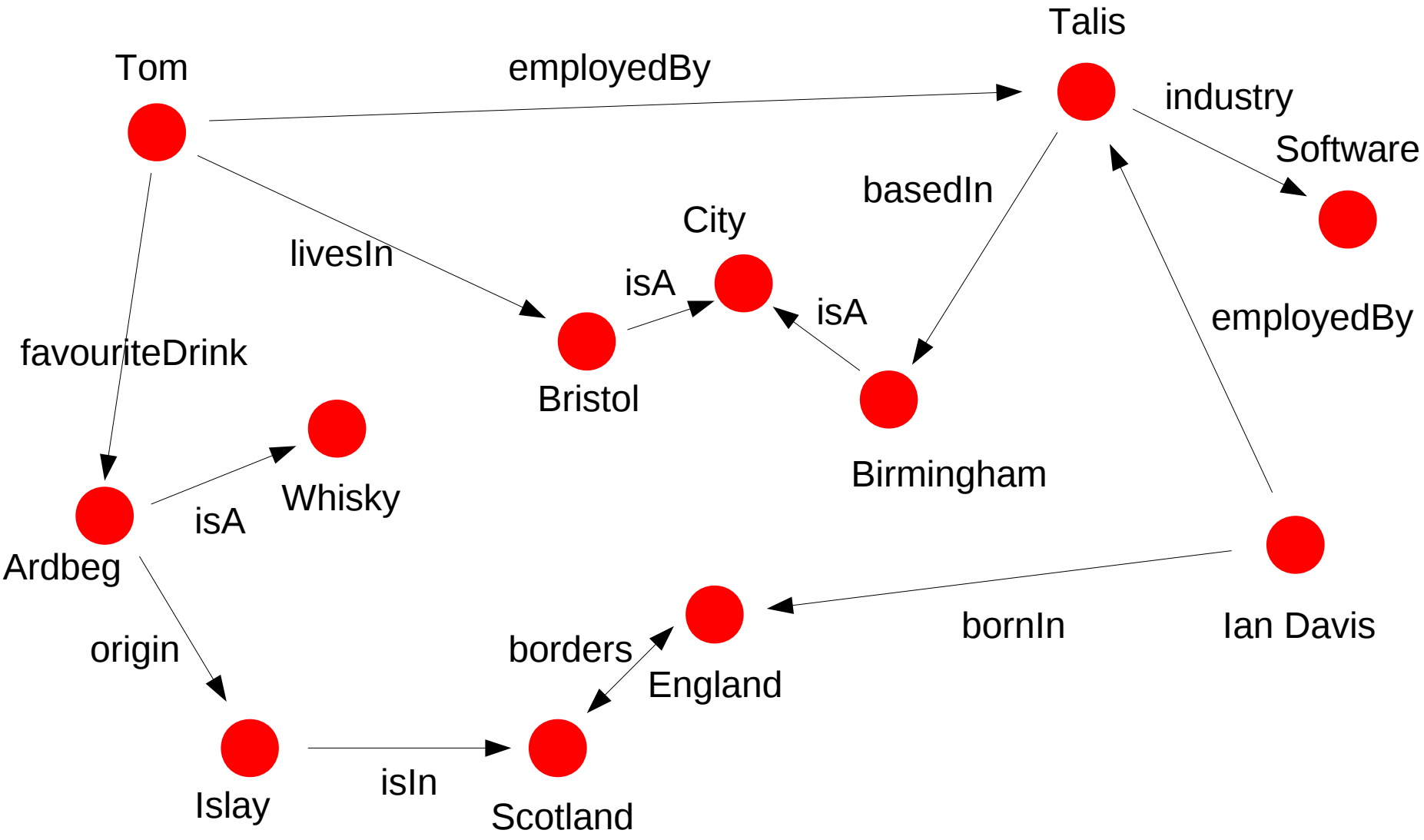
What is a Graph?



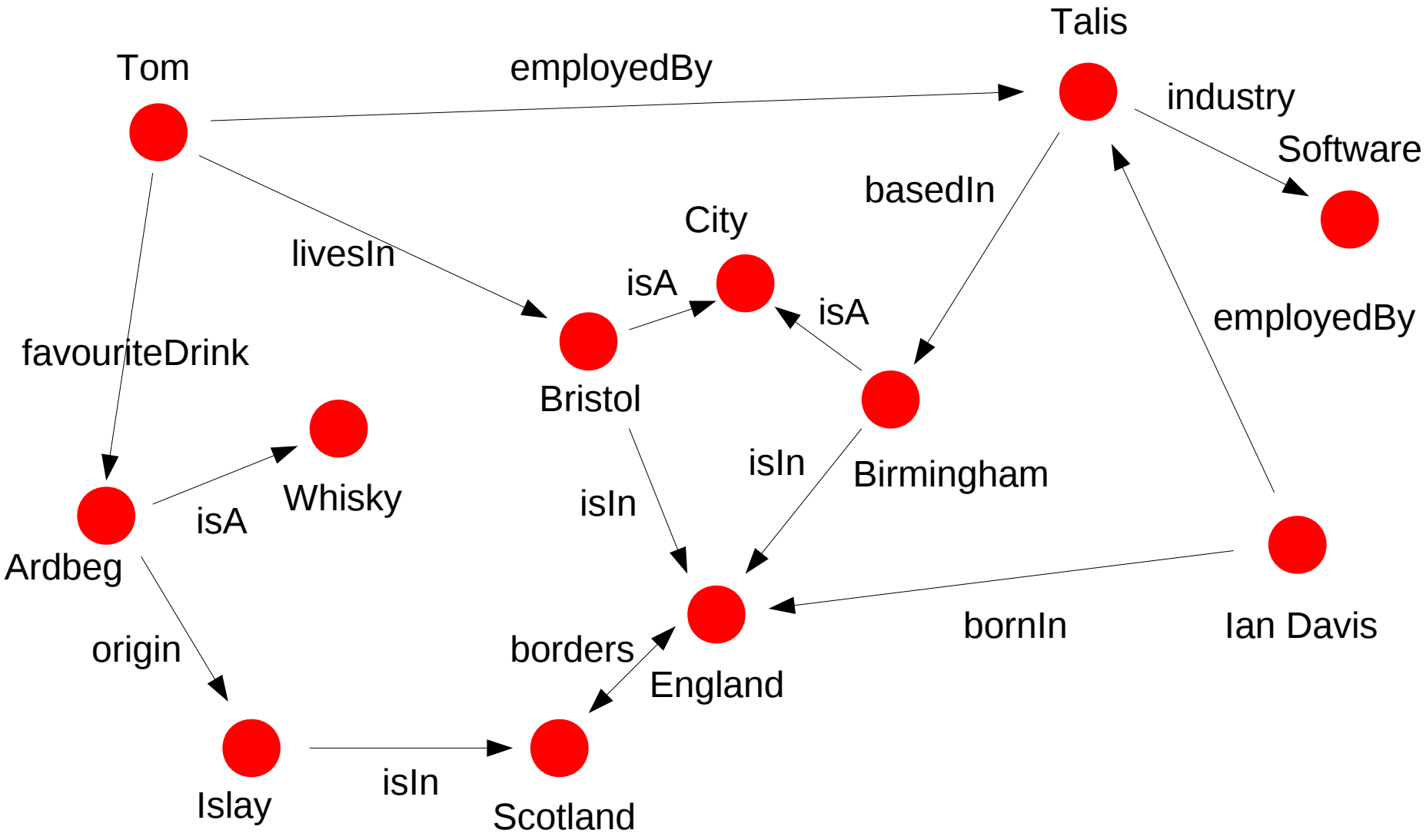
What is a Graph?



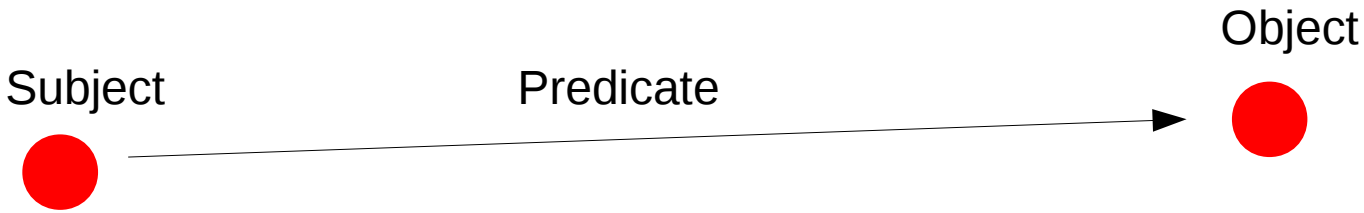
What is a Graph?



What is a Graph?

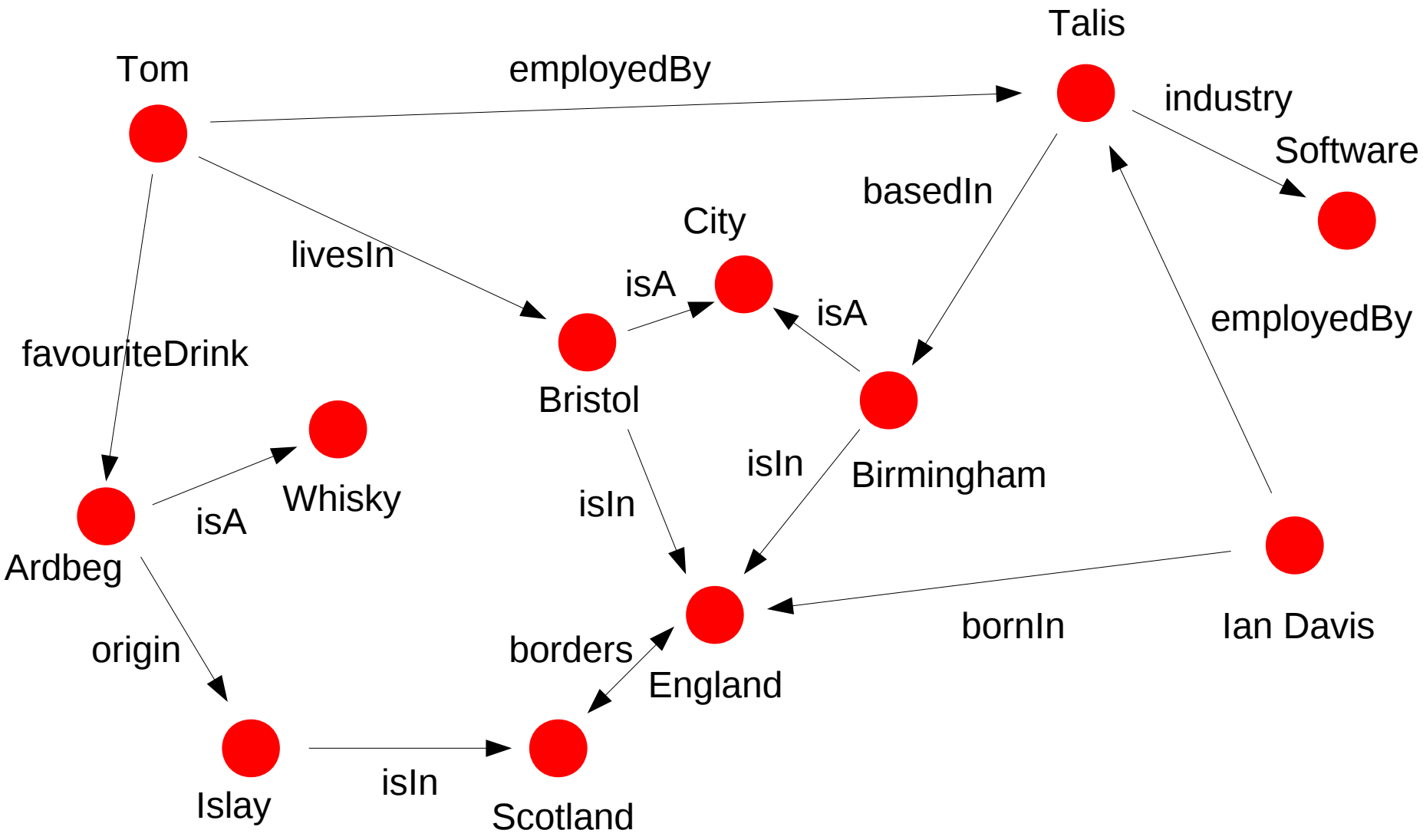


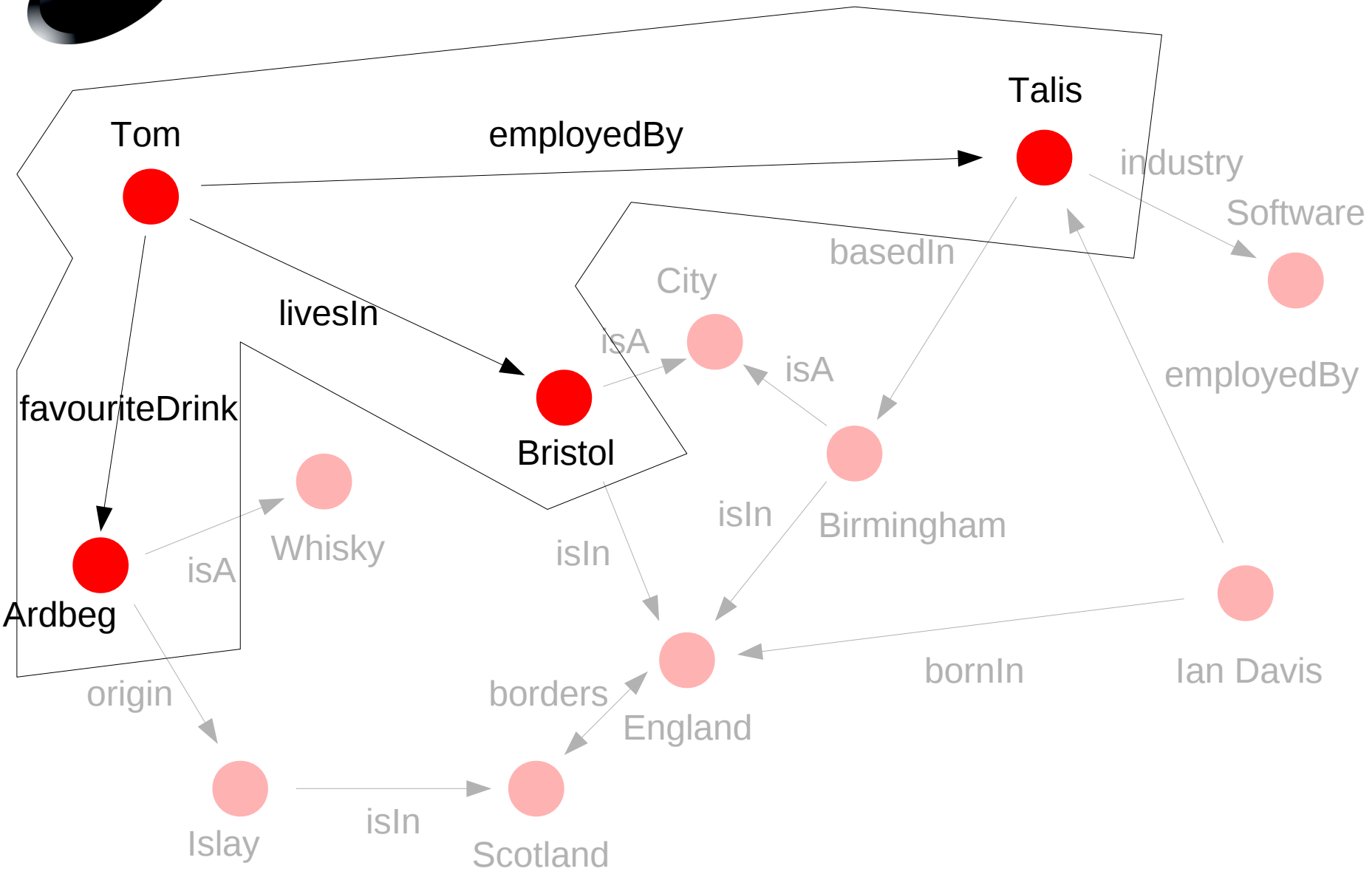
The RDF Data Model: Triples

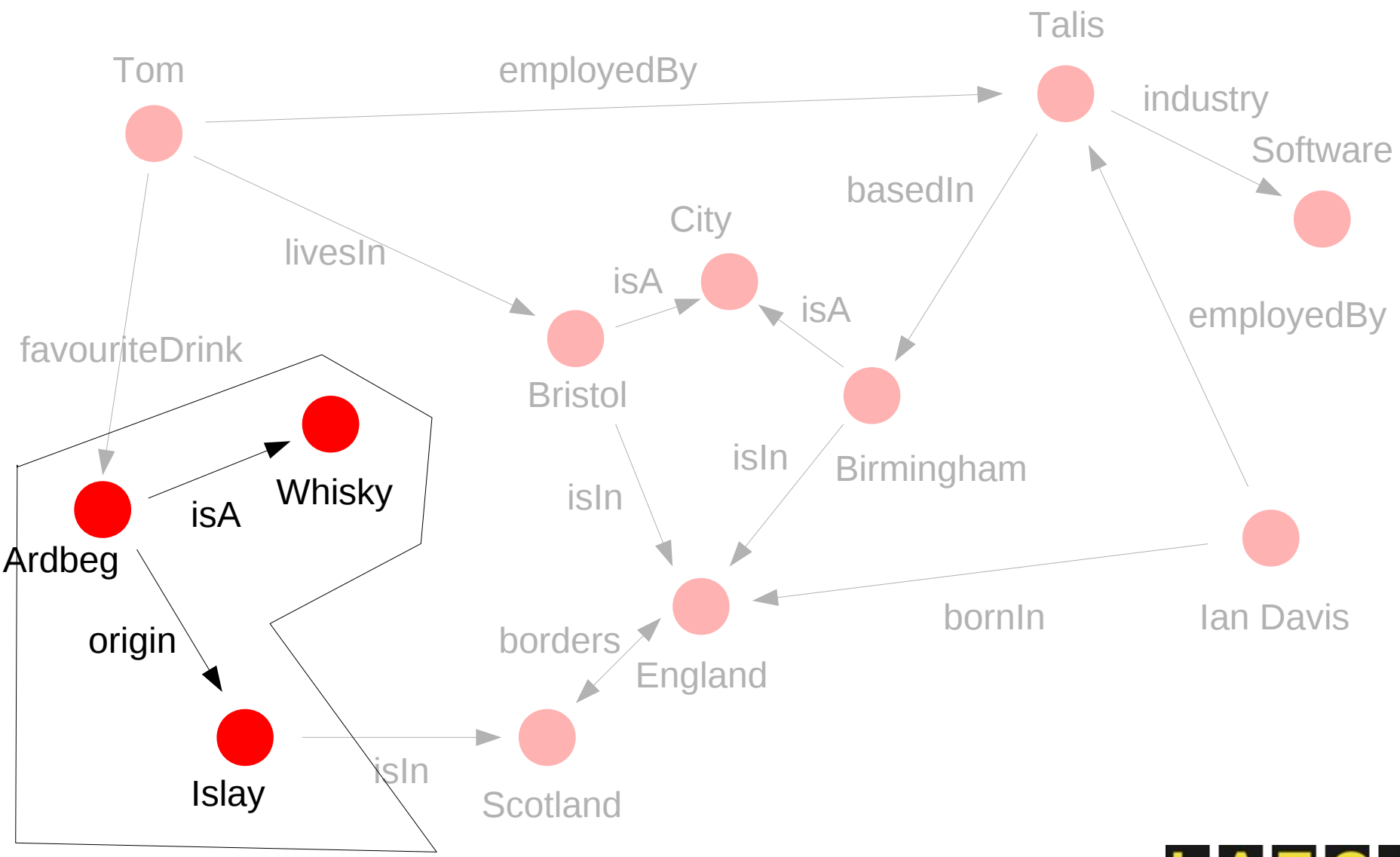


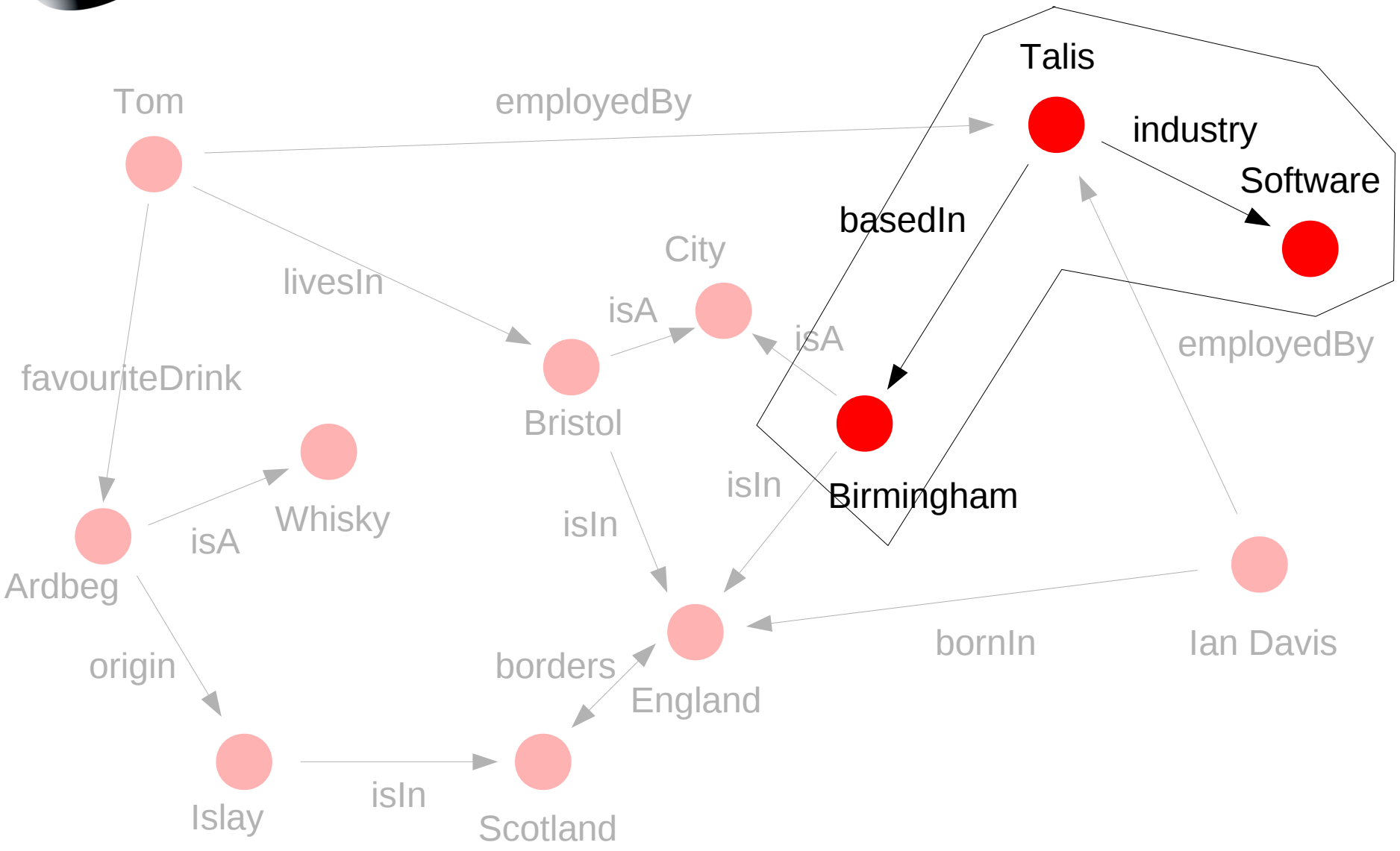
The RDF Data Model: Triples

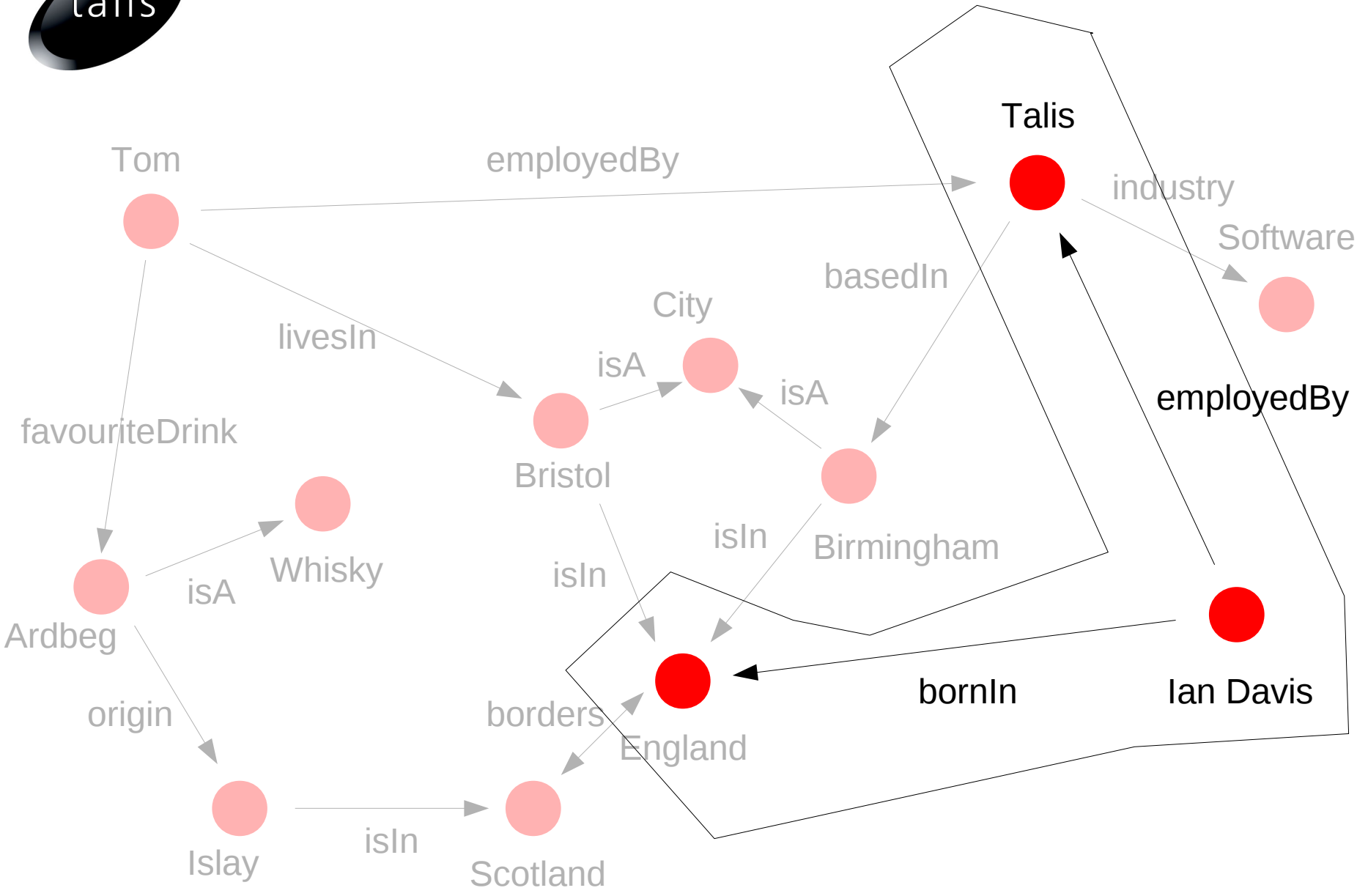
1 Graph, 15 RDF Triples

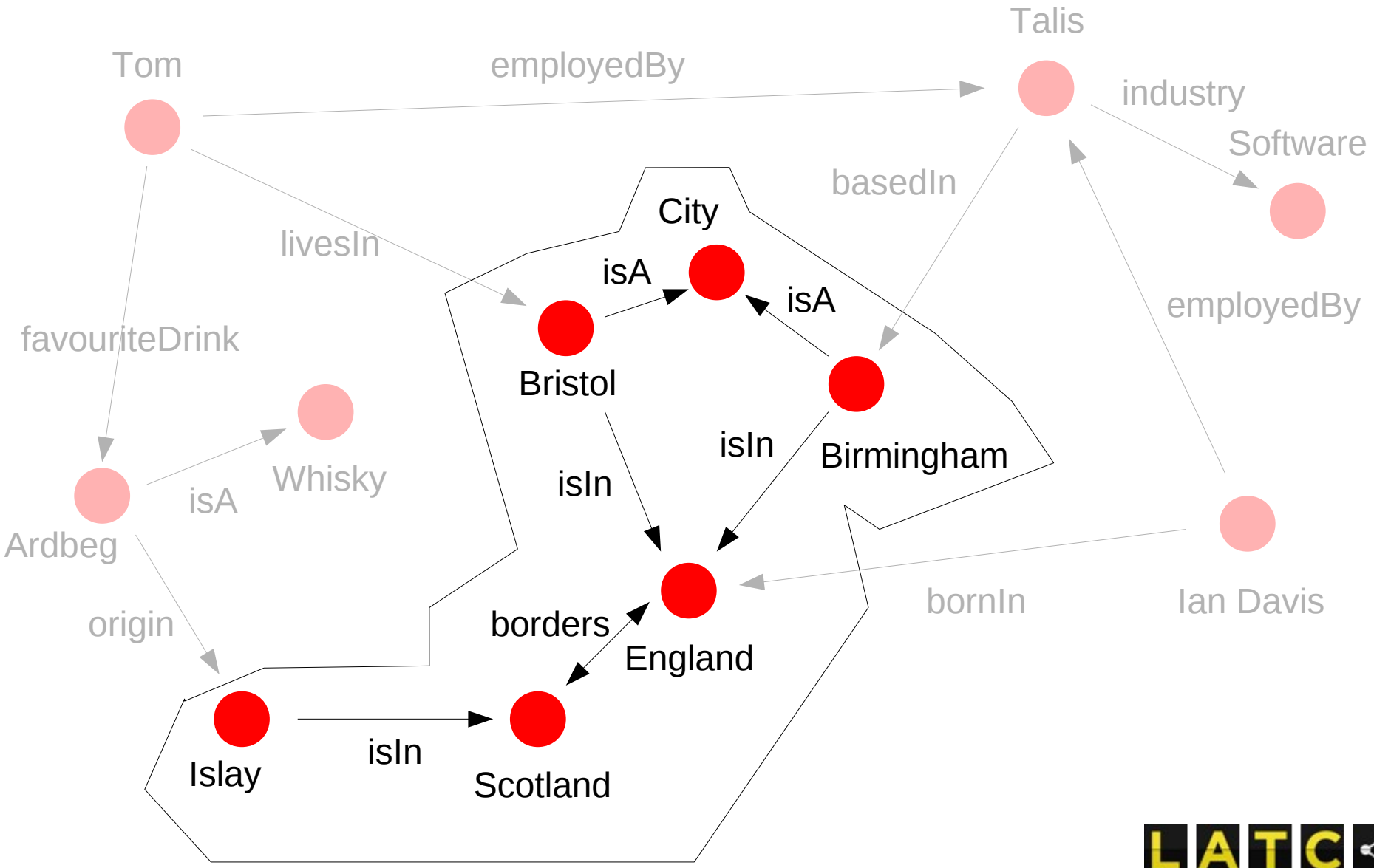


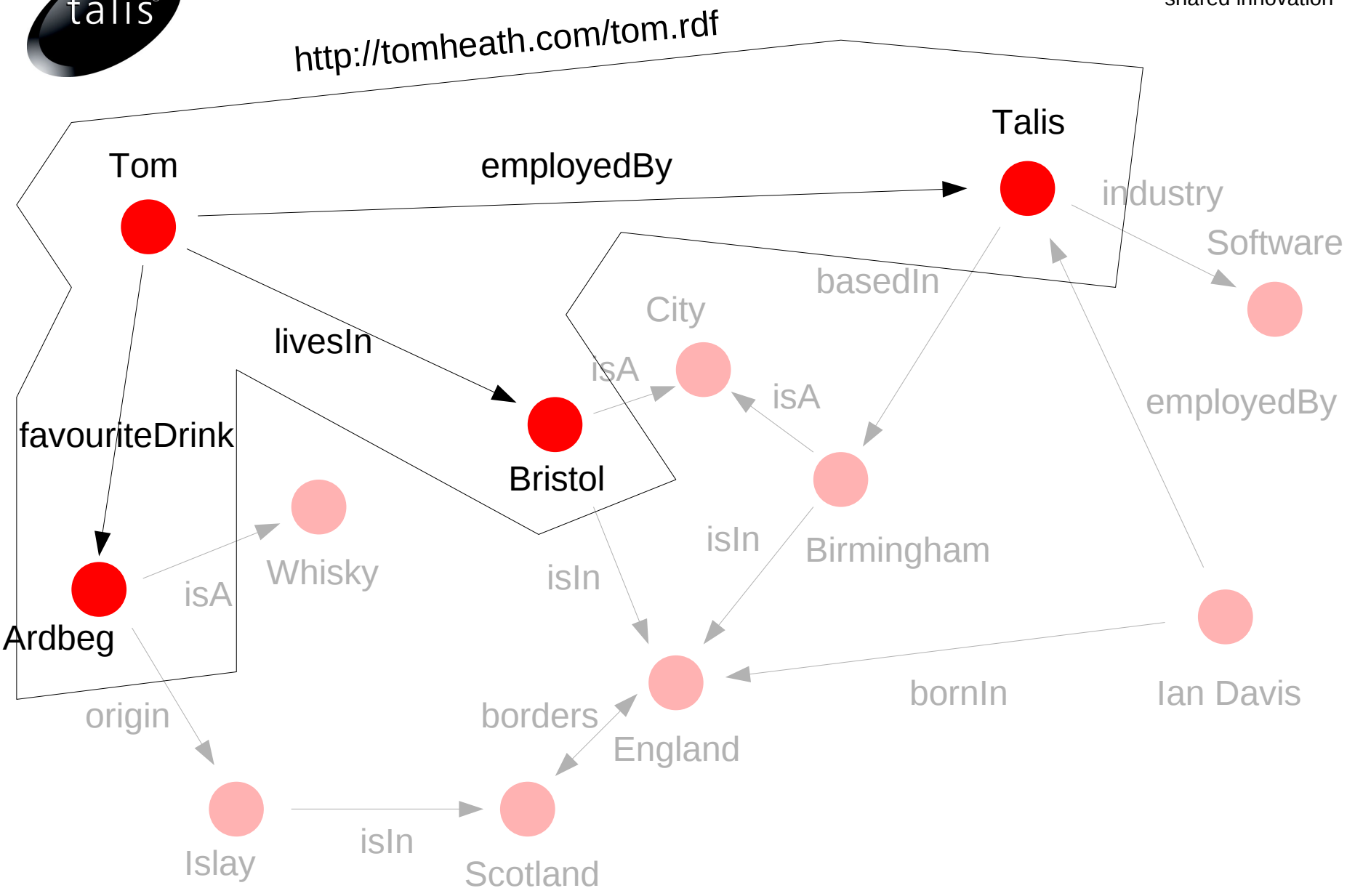

Talis
Tom
employedBy
industry
Software
basedIn
City
livesIn
isA
isA
employedBy
favouriteDrink
Bristol
Whisky
isIn
Birmingham
isA
isIn
Ardbeg
Ian Davis
bornIn
origin
borders
England
Islay
isIn
Scotland

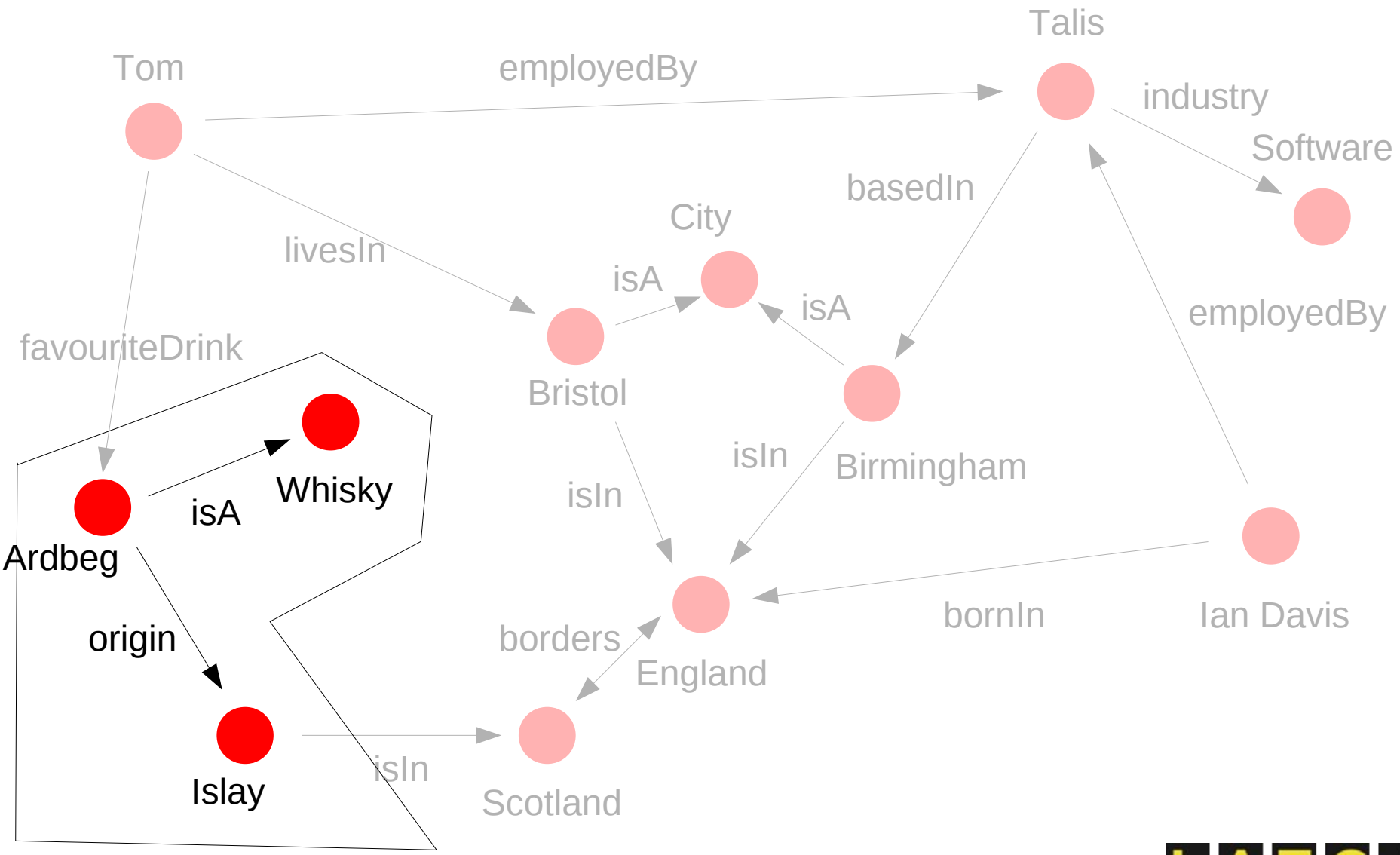

Talis
Tom
employedBy
industry
Software
basedIn
City
livesIn
isA
isA
employedBy
favouriteDrink
Bristol
Birmingham
isIn
isIn
Whisky
isA
Ardbeg
origin
bornIn
Ian Davis
borders
England
Islay
isIn
Scotland


Talis
Tom
employedBy
industry
Software
basedIn
City
livesIn
isA
isA
employedBy
favouriteDrink
Bristol
Birmingham
isIn
Whisky
isA
isIn
Ardbeg
bornIn
Ian Davis
origin
borders
England
isIn
Islay
Scotland


Talis
Tom
employedBy
industry
Software
basedIn
City
livesIn
isA
isA
employedBy
favouriteDrink
Bristol
Birmingham
isIn
Whisky
isIn
isA
Ardbeg
bornIn
Ian Davis
origin
borders
England
Islay
isIn
Scotland

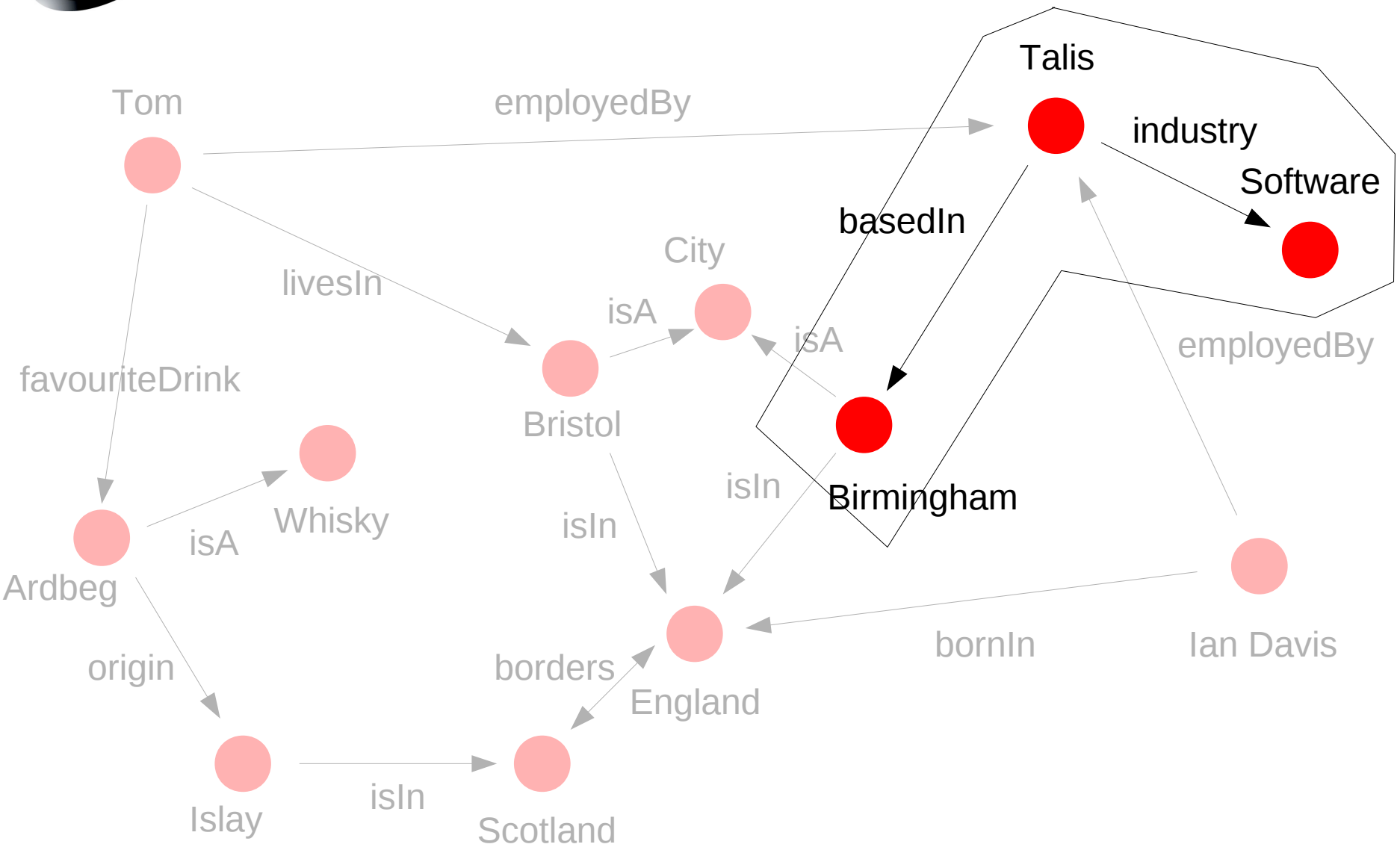

Talis
Tom
employedBy
industry
Software
basedIn
City
livesIn
isA
isA
favouriteDrink
employedBy
Bristol
Birmingham
isIn
isIn
Whisky
isA
Ardbeg
origin
bornIn
Ian Davis
borders
England
Islay
isIn
Scotland

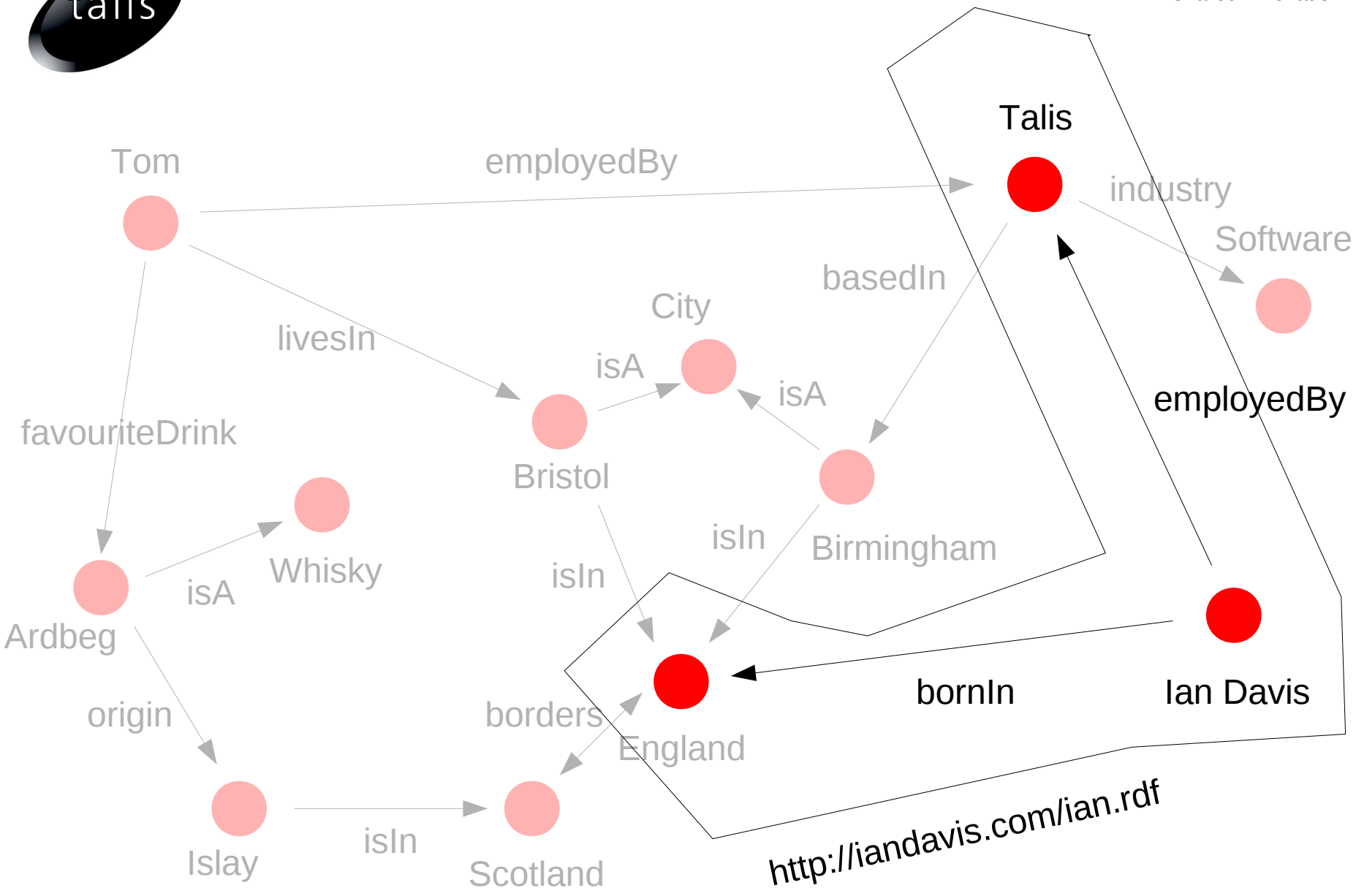

http://tomheath.com/tom.rdf
Tom
employedBy
Talis
industry
Software
basedIn
City
livesIn
isA
isA
employedBy
favouriteDrink
Bristol
Whisky
isIn
Birmingham
isA
isIn
Ardbeg
origin
borders
bornIn
Ian Davis
England
isIn
Islay
Scotland

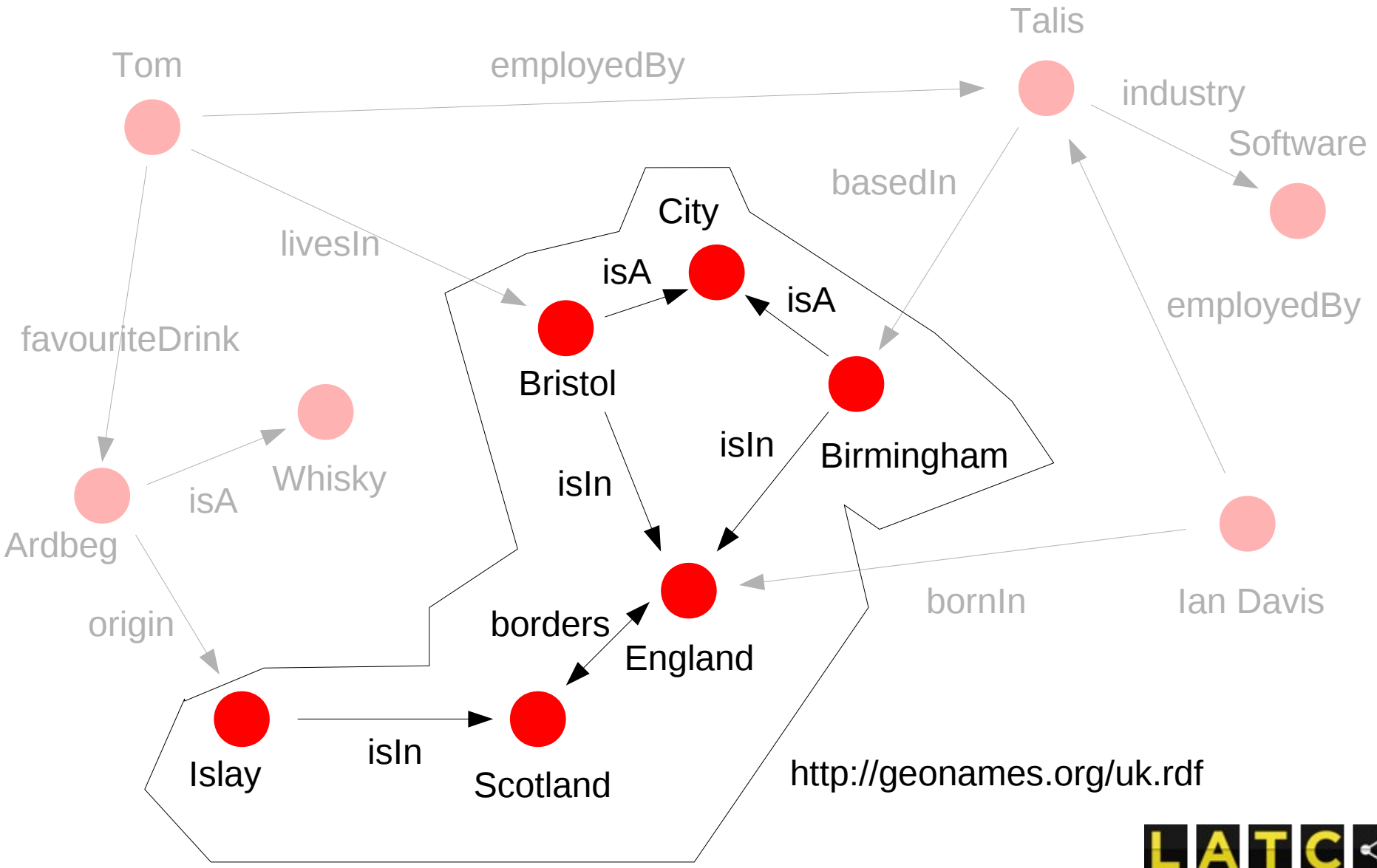


http://wiskii.com/ardbeg.rdf

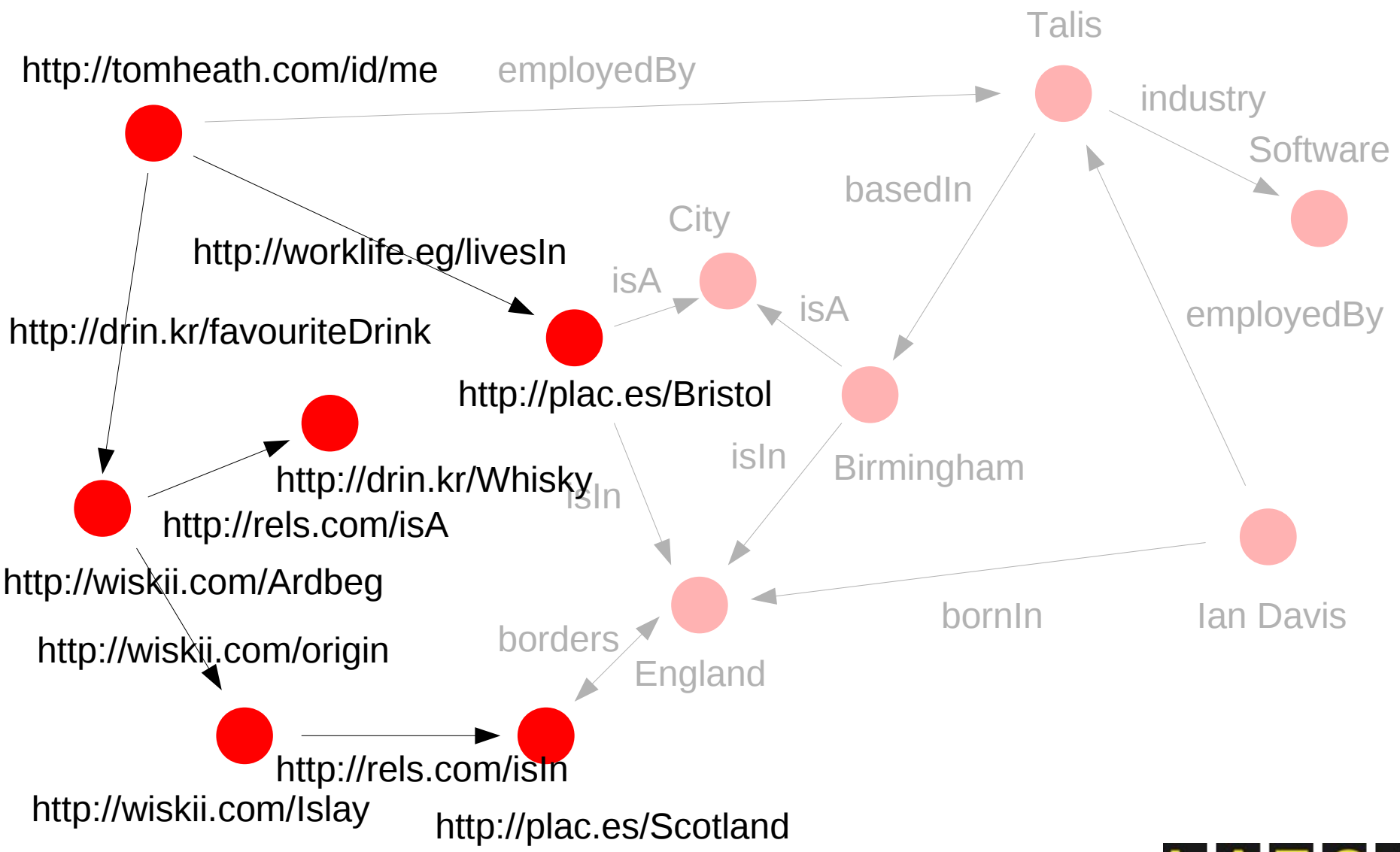
http://www.talis.com/talis.rdf



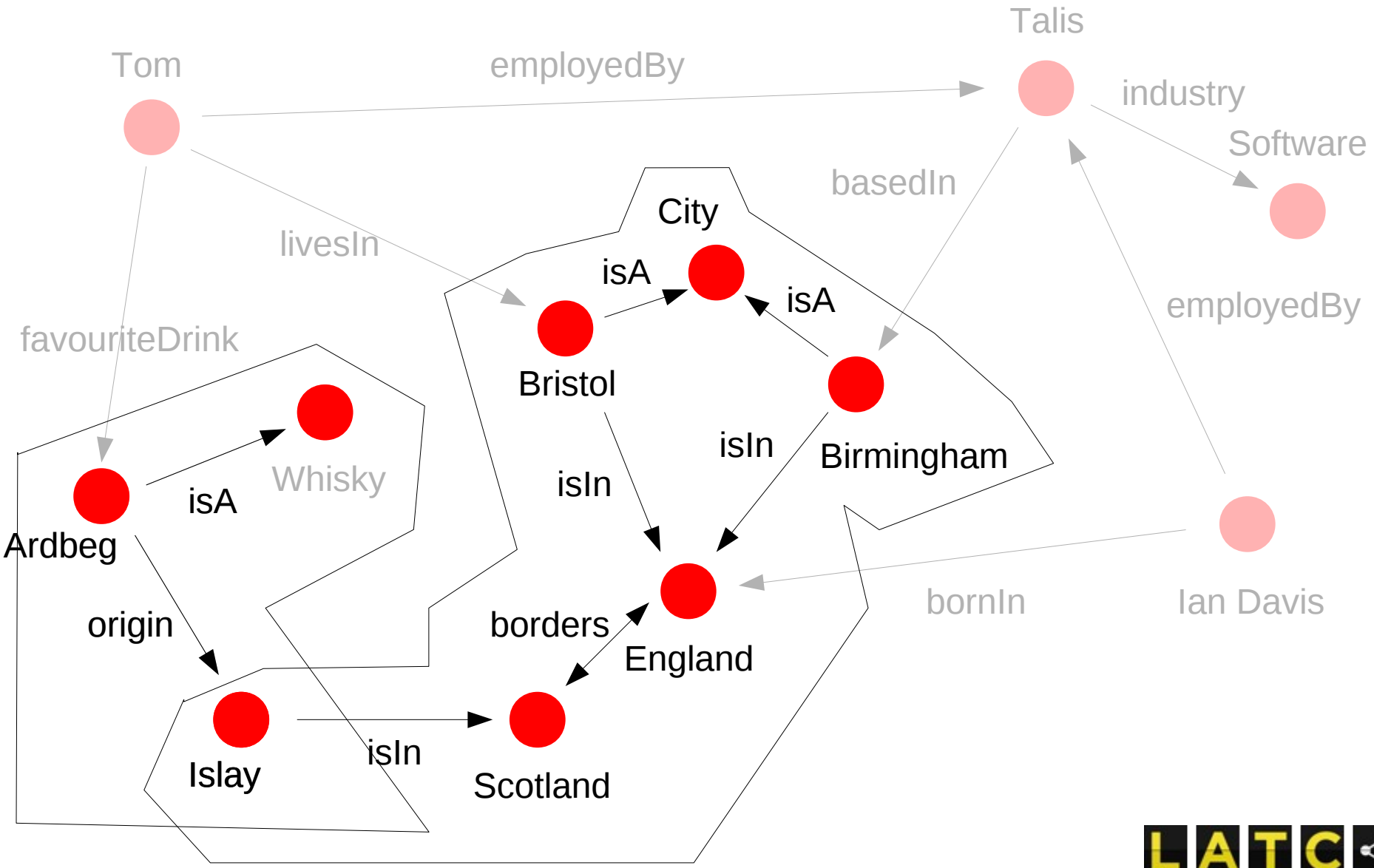

Talis
Tom
employedBy
industry
Software
basedIn
City
livesIn
isA
isA
employedBy
favouriteDrink
Bristol
Birmingham
isIn
Whisky
isIn
isA
Ardbeg
bornIn
Ian Davis
origin
borders
England
isIn
Islay
Scotland
http://iandavis.com/ian.rdf


Talis
Tom
employedBy
industry
Software
basedIn
City
livesIn
isA
isA
favouriteDrink
employedBy
Bristol
Whisky
isA
isIn
Birmingham
isIn
Ardbeg
origin
borders
England
bornIn
Ian Davis
Islay
isIn
Scotland
http://geonames.org/uk.rdf

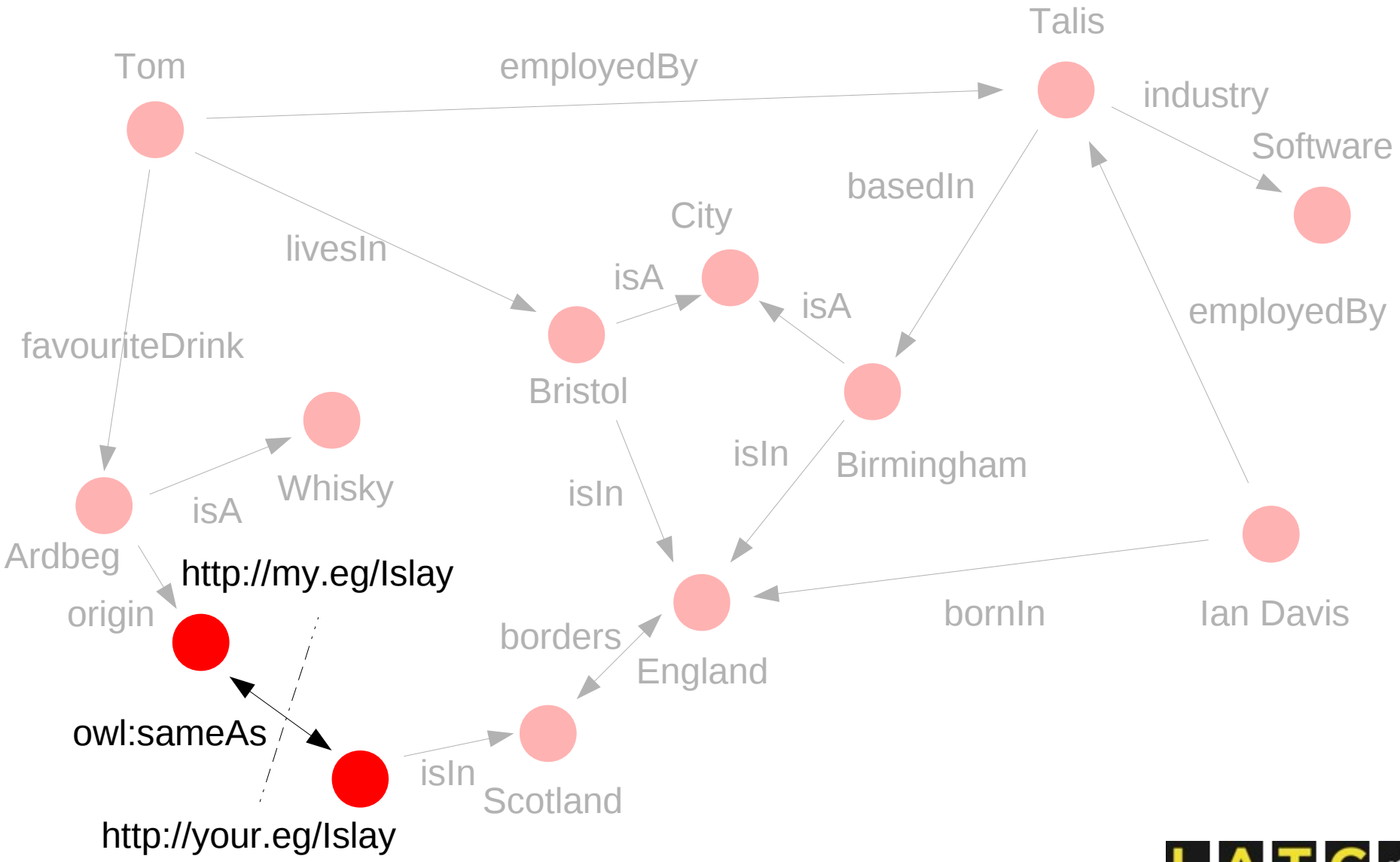
URIs for All Things (Not Just for Documents)



Talking About the Same Thing



Talking About the Same Thing



Useful Data Sets

- Dbpedia: RDF descriptions of everything that has a Wikipedia page <http://dbpedia.org/>
- Geonames: data set about geographic locations, with RDF descriptions <http://geonames.org/>
- owl:sameAs links exist between many places that feature in both DBpedia and Geonames

Anatomy of a Simple Linked Data Application

1. Look up a URI (HTTP GET)
2. Receive some RDF data in response (maybe via a redirect)
3. Do something useful with the data
4. Inspect the data for links to related things
5. Look up the URIs of related things
6. Go to Step 2.

Linked Data Hands-On Session

- Build a simple city guide based on existing Linked Data sources
- Start with a seed URI for a city of your choice
- Populate a SimpleGraph object with data retrieved by looking up this URI
- Look for outgoing links in the data
- Look these up and add the resulting data to your SimpleGraph / Thing object
- Show some/all of the data you have retrieved as a Web page city guide

Instructions

- http://tomheath.com/stuff/sssw2011/

Questions?

- Contact Info
  - tom.heath@talis.com
  - http://tomheath.com/id/me
  - http://www.talis.com/
  - @tommyh (twitter)

- Slides
  - http://tomheath.com/slides/2011-07-cercedilla-linked-data-a-30-minute-crash-course.pdf

shared innovation