



WEB SEMANTIQUE

Réalisation d'ontologie
des recettes de cuisine

PAR ALPHA CODERS

Notre Équipe

ALPHA CODERS



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SOMMAIRE

Présentation de la thématique

Les concepts de la thématique

Les relations de la thématique

L'ontologie modélisée

Les interfaces graphiques

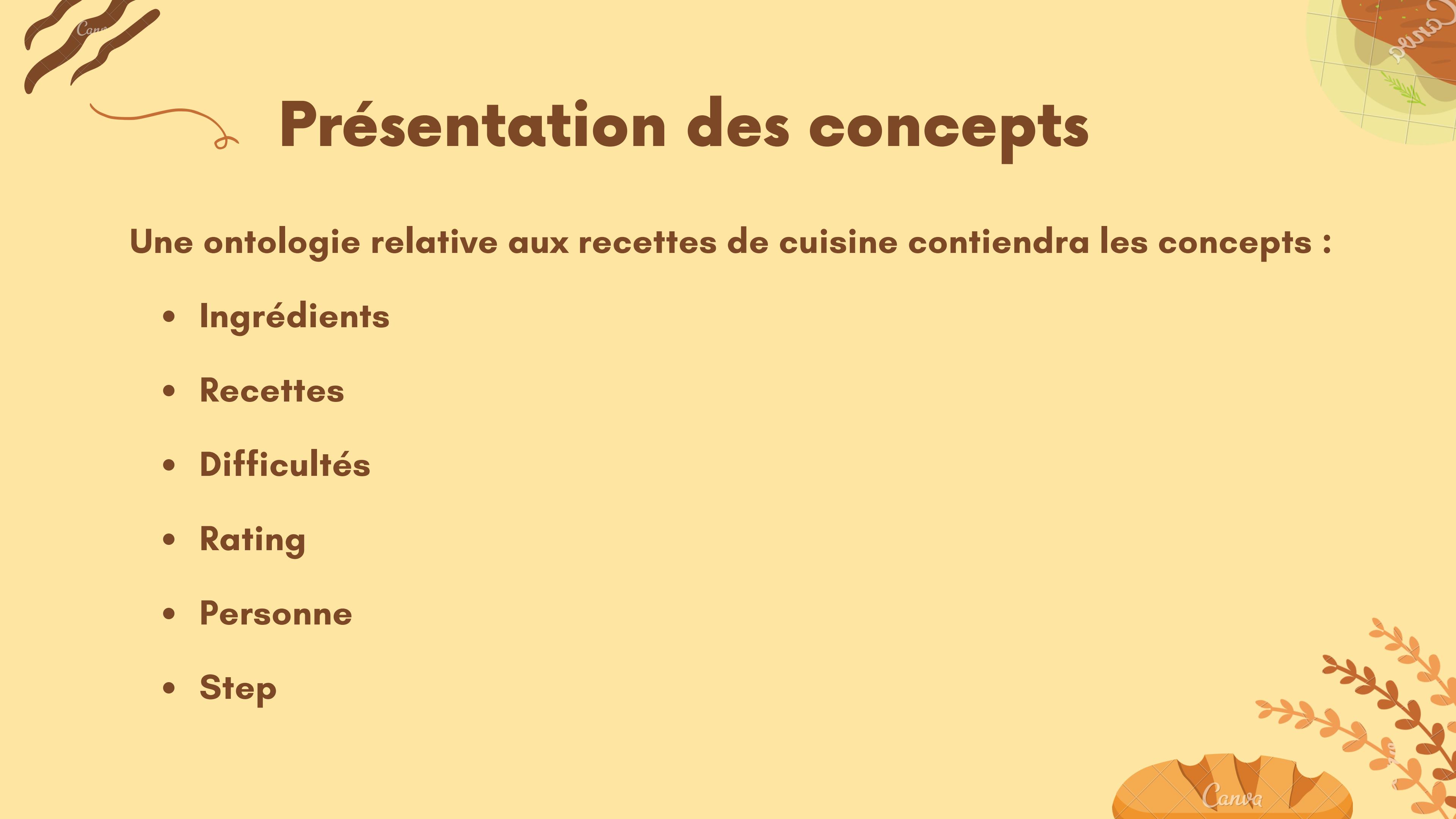
Démonstration



Présentation de la thématique

Actuellement, de nombreuses applications relatives à la cuisine numérique font leur apparition dans la vie quotidienne.

En effet, le développement de l'internet et des nouvelles technologies contribue à l'émergence d'outils permettant de partager avec des amis les coups de cœur culinaires, de créer un livre de recettes personnelles en ligne, de trouver des tutoriels vidéos de recettes étapes par étapes, de prendre des cours particuliers de cuisine en ligne, d'organiser les menus à la semaine, etc.

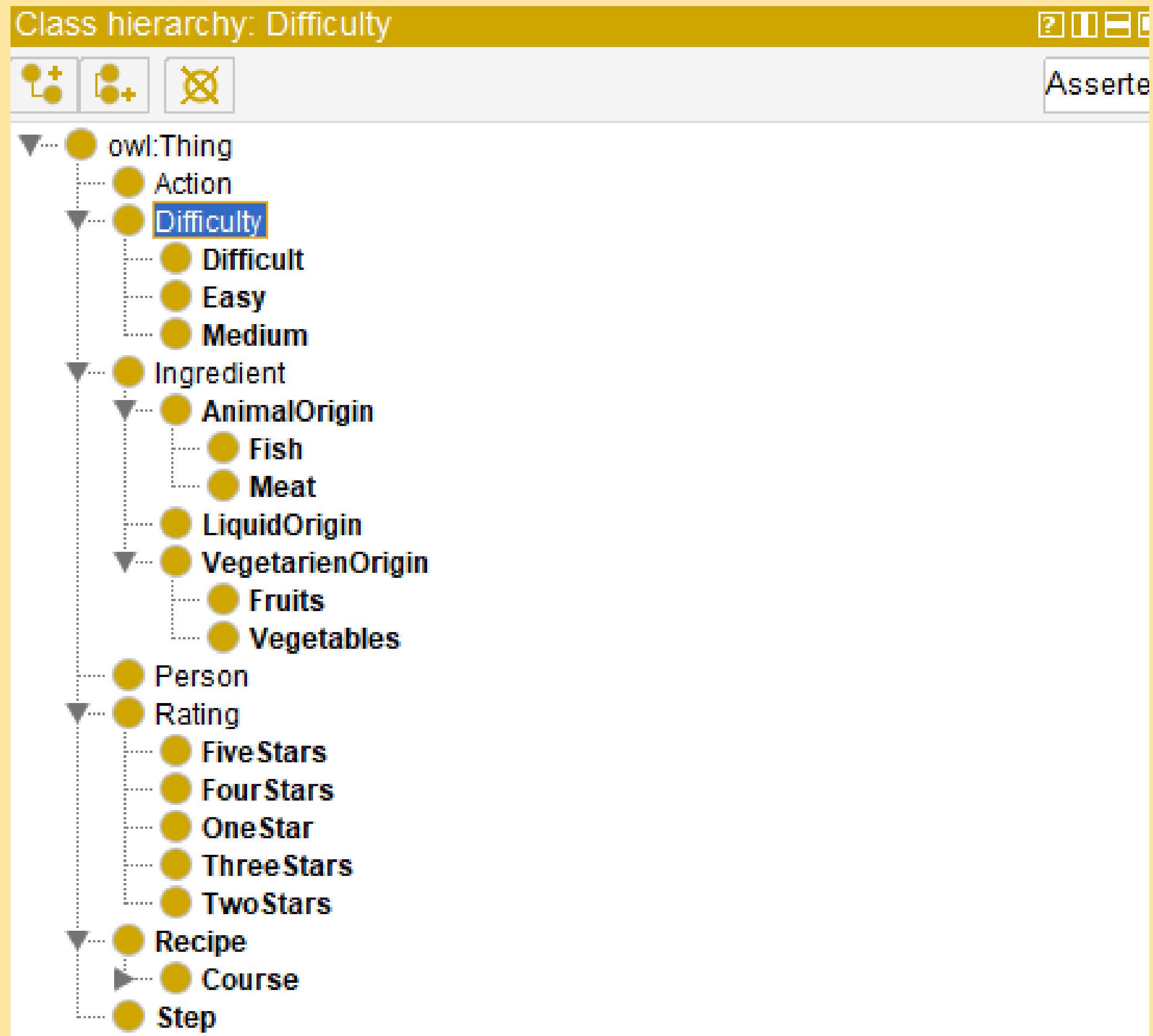


Présentation des concepts

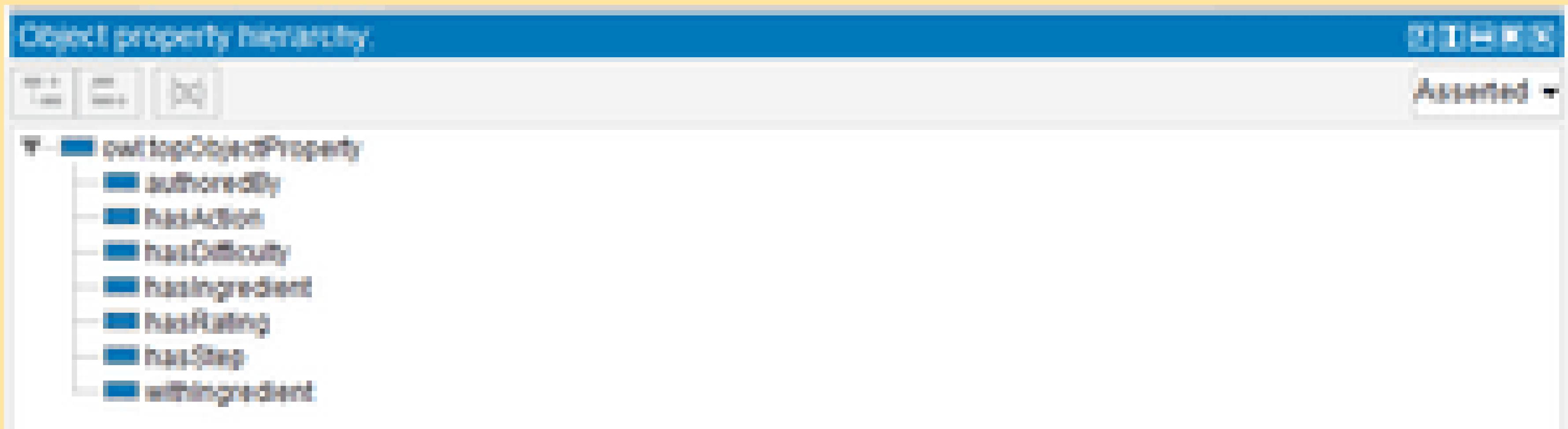
Une ontologie relative aux recettes de cuisine contiendra les concepts :

- **Ingrédients**
- **Recettes**
- **Difficultés**
- **Rating**
- **Personne**
- **Step**

Présentation des concepts



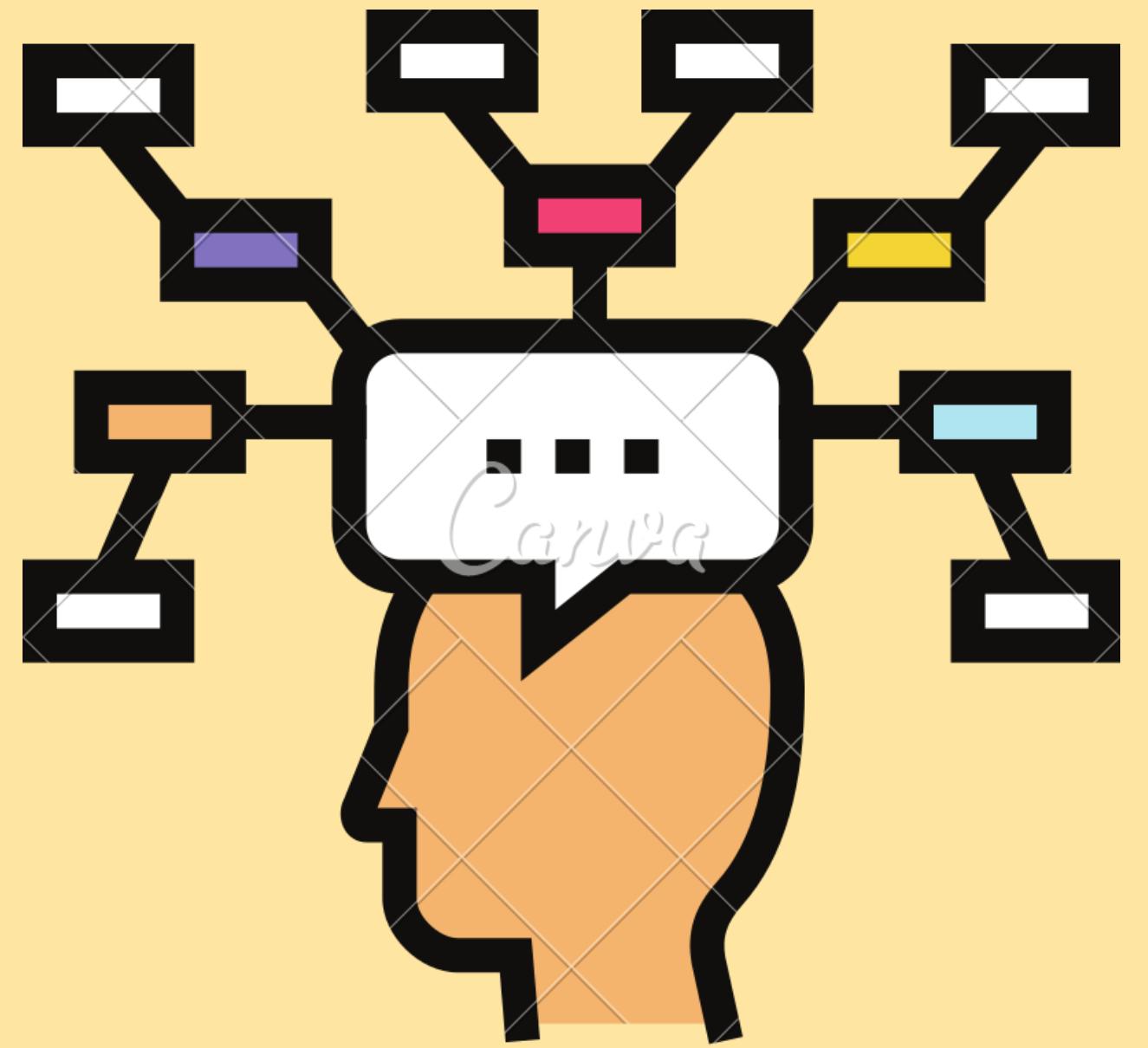
Présentation des relations



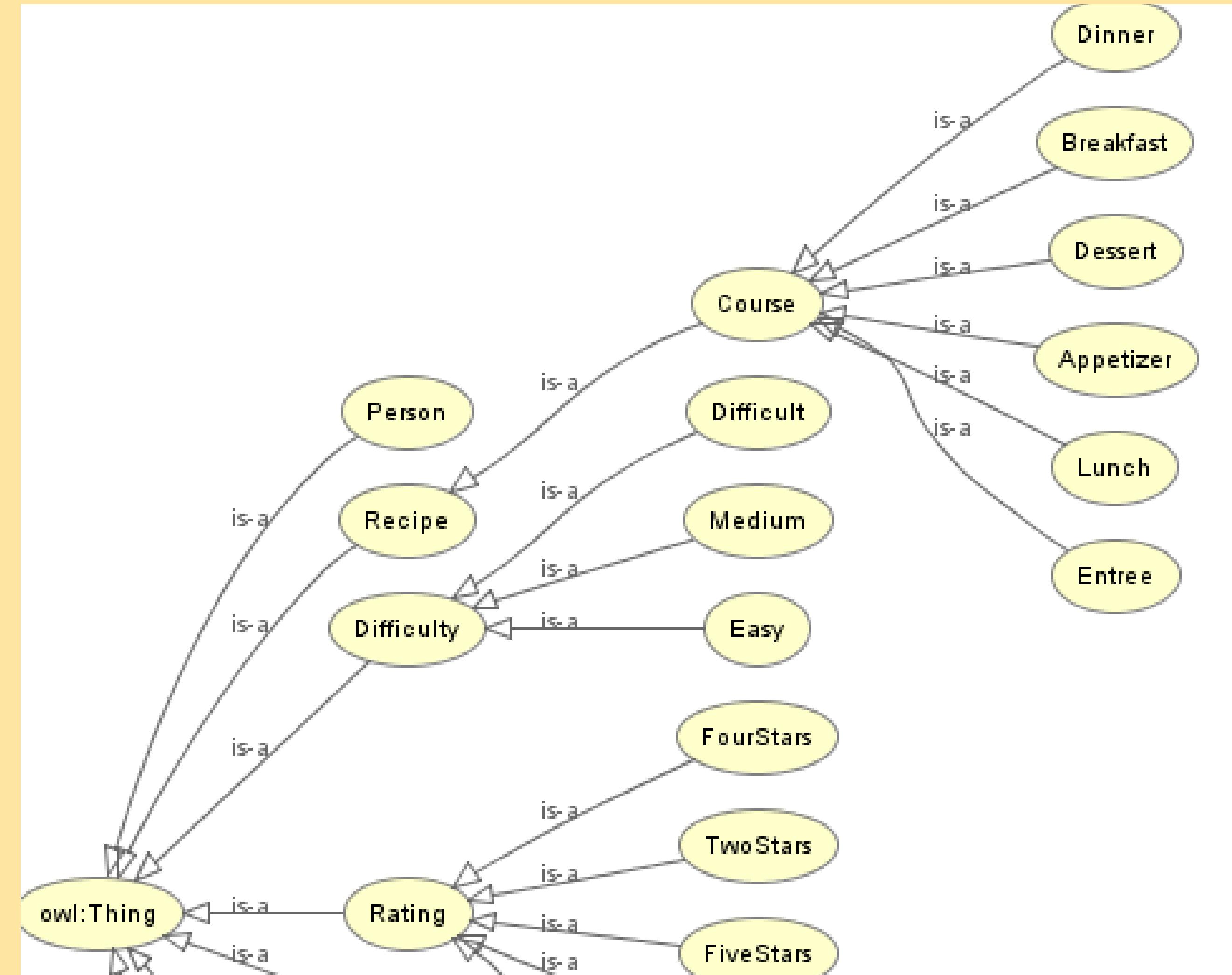
Présentation des relations

	Class	Data Property			Object Property		
	Name	Domain	Range	Name	Domain	Range	
Recipe	name	Recipe	xsd:string	hasStep	Step	xsd:string	
	cookTime	Recipe	xsd:int	hasDifficulty	Difficulty	xsd:string	
	prepTime	Recipe	xsd:int	hasRating	Rating	xsd:int	
	image	Recipe	xsd:string	hasAuthor	Author	xsd:string	
	totTime	Recipe	xsd:int	hasIngredient	Ingredient	xsd:string	
	nbPersons	Recipe	xsd:int				

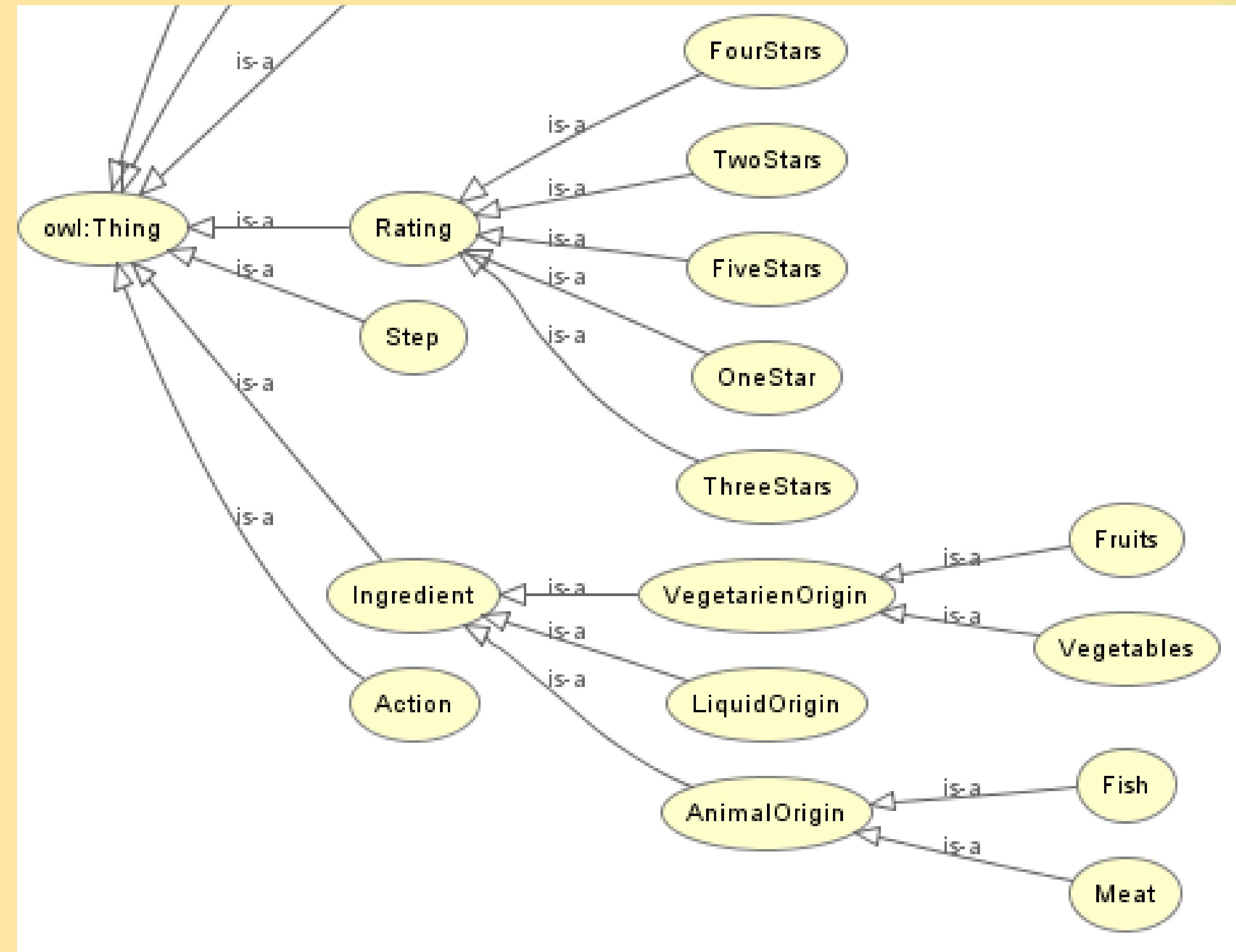
L'ontologie modélisé



L'ontologie modélisé



L'ontologie modélisée



Les requêtes SPARQL



Les requêtes SPARQL

Description : Récupération de toutes les recettes

```
1 • PREFIX recipology: <http://www.semanticsweb.org/akadem/recipologues/2022/10/recipes>
2 • PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
3 • PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
4 • SELECT ?recipe_id ?name ?cookTime ?prepTime ?url ?totalTime ?servings ?rating
5 • WHERE {
6 •   ?recipe_id rdf:type recipology:Recipe;
7 •   recipology:name ?name;
8 •   recipology:cookTime ?cookTime;
9 •   recipology:prepTime ?prepTime;
10 •  recipology:url ?url ;
11 •  recipology:totalTime ?totalTime ;
12 •  recipology:servings ?servings;
13 •  recipology:rating ?rating.
14 }
```

recipe_id	? name	? cookTime	? prepTime	? url	? rating	? servings
recipology:Recipe_3	"crepe"	"50min"	"30min"	"https://www.qiallozafferano.com/images/227-22704/nutella-crepes_360x360.jpg"	recipology:4.2	"4 persons"
recipology:Recipe_4	"Pizza Margherita"	"15min"	"30min"	"https://www.qiallozafferano.com/images/227-22719/pizza-margherita-tomato-and-mozzarella-pizza_360x360.jpg"	recipology:5	"2 persons"
recipology:Recipe_1	"Neapolitan Cassatello"	"35 min"	"40 min"	"https://www.qiallozafferano.com/images/230-23704/Neapolitan-cassatello_360x360.jpg"	recipology:4.2	"4 persons"
recipology:Recipe_2	"pasta vegetarien"	"30min"	"20min"	"https://www.qiallozafferano.com/images/324-22692/pasta-and-zucchini_360x360.jpg"	recipology:3.3	"6 personnes"

Cano

Résultat :

Récupération de tous les recettes

GET <http://localhost:8080/getRecipes>

Params Authorization Headers (0) Body Pre-request Script Tests Settings

(0) none (1) form-data (2) x-www-form-urlencoded (3) raw (4) binary (5) GraphQL (6) JSON

Body Cookies Headers (0) Text Results

Pretty Raw Preview Visualize JSON

```
1: {
2:   "id": 1,
3:   "name": "Pasta Carbonara",
4:   "cook_time": "10 min",
5:   "totTime": "10 min",
6:   "servings": "4 person",
7:   "prep_time": "5 min",
8:   "author": "Santiago_Perez",
9:   "rating": "4.5",
10:  "review_name": "Pedro",
11:  "description": "D\u00e9couvrez cette recette facile de crapes tr\u00e8s rapide \u00e0 pr\u00e9parer. Une recette simple et gourmande, avec un bouchon ou le tout moment que l'envie vous donne.",
12:  "id": 1,
13:  "url": "https://www.galleriaffaires.com/images/272-27786/metzellaustrale_260x360.jpg"
14:
15: },
16: {
17:   "id": 2,
18:   "name": "Pasta Carbonara",
19:   "cook_time": "10 min",
20:   "totTime": "10 min",
21:   "servings": "2 person",
22:   "prep_time": "5 min",
23:   "author": "Peter_Robinson",
24:   "rating": "3",
25:   "review_name": "Pizza Margherita",
26:   "description": "Although asking around they will tell you that there is only one original, the",
27:   "id": 2,
28:   "url": "https://www.galleriaffaires.com/images/272-27786/la-pizza-margherita-classica-e-siciliana.jpg"
29:
30: },
31: {
32:   "id": 3,
33:   "name": "Pasta Carbonara",
34:   "cook_time": "30 min",
35:   "totTime": "30 min",
36:   "servings": "6 person",
37:   "prep_time": "10 min",
38:   "author": "John_Doe",
39:   "rating": "4.8",
40:   "review_name": "John Doe",
41:   "description": "This is the best pasta dish I have ever had. It's so delicious and satisfying. I highly recommend it to everyone who loves pasta. The ingredients are simple but the taste is outstanding. I always make this dish when I have guests over because it's easy to prepare and everyone loves it. I hope you enjoy it as much as I do.",
```



Les requêtes SPARQL

Description : Liste des 4 recettes les plus notées

```
1: PREFIX recipology: <http://www.semanticweb.org/ontologies/2022/10/recipology>
2: PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-n3#>
3: PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
4:
5: SELECT ?name ?url ?author ?rating WHERE {
6:   ?recipe recipology:hasRating ?rating .
7:   ?recipe recipology:name ?name .
8:   ?recipe recipology:url ?url .
9:   ?recipe recipology:authoredBy ?author
10:
11: }
12: ORDER BY DESC(?rating) LIMIT 4
13:
```

<terminated> Main (4) [Java Application] C:\Program Files\Java\jdk1.8.0_313\bin\java.exe (Nov 5, 2022, 5:28:15 AM)

name	url	author	rating
"Pizza Margherita"	"https://www.giallocafferano.com/images/227-22719/pizza-margherita-tomato-and-mozzarella-pizza_360x300.jpg"	recipology:Peter_Robinson	recipology:5
"crepe"	"https://www.giallocafferano.com/images/227-22706/matella-crepes_360x300.jpg"	recipology:Sant_Lago_Fernandes	recipology:4.2
"Neapolitan Casatiello"	"https://www.giallocafferano.com/images/227-22704/neapolitan-casatiello_360x300.jpg"	recipology:Norraine	recipology:4.2
"pasta vegetarien"	"https://www.giallocafferano.com/images/226-22692/pasta-and-zucchini_360x300.jpg"	recipology:Norraine_Sanofia	recipology:3.3

Les requêtes SPARQL

Description : Liste des recettes ayant la sous classe "Dinner"

```
1 PREFIX recipology: <http://www.semanticsweb.org/2012/10/recipology>
2  PREFIX rdfs: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
3  PREFIX rdf: <http://www.w3.org/2000/01/rdf-schema#>
4
5  SELECT ?name ?url ?author ?rating WHERE {
6    ?recipe recipology:subClassOf@fr ?dinner .
7    ?recipe recipology:name ?name .
8    ?recipe recipology:url ?url .
9    ?recipe recipology:author ?author .
10   ?recipe recipology:rating ?rating
11
12 }
```

name	url	author	rating
"Pizza Margherita"	"https://www.giallonafferano.com/images/227-22719/pizza-margherita-tomato-and-mozzarella-pizza_360x360.jpg"	recipology:Peter_Robinson	recipology:5
"Seagolian Casatiello"	"https://www.giallonafferano.com/images/227-23704/seagolian-casatiello_360x360.jpg"	recipology:norraine	recipology:4.2

Les requêtes SPARQL

Description : Liste des ingrédients de chaque recette

```
1PREFIX recipeology: <http://www.semanticweb.org/ih3guo/ontology/2022/10/recipeology>
2PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
3PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
4SELECT ?recipe (group_concat(?ingredient; separator=' ', '') AS ?Ingredients)
5  ?recipe recipeology:hasIngredient ?ingredient
6
7GROUP BY ?recipe
```

Cano

Résultat :

Récupération des ingrédients de chaque recette

GET http://localhost:8080/getRecipeIngredients

Params Authorization Headers [1] Body Pre-request Script Tests Settings

none Form-data x-www-form-urlencoded raw binary GraphQL JSON

Body Cookies Headers [1] Test Results

Pretty Raw Preview Visualize JSON

```
1 [
2   [
3     {
4       "recipe_name": "Recipe_1",
5       "Ingredient": "Oil",
6       "id": 1,
7       "Ingredient": "Flour"
8     },
9     {
10       "Ingredient": "Oil",
11       "recipe_name": "Recipe_2",
12       "Ingredient": "Bacon",
13       "Ingredient": "Avocado",
14       "id": 2,
15       "Ingredient": "Salt"
16     },
17     {
18       "Ingredient": "Mashed_turkey",
19       "recipe_name": "Recipe_3",
20       "Ingredient": "Flour",
21       "Ingredient": "Beef",
22       "id": 3,
23       "Ingredient": "Water",
24       "Ingredient": "Fresh_bacon",
25       "Ingredient": "Onion",
26       "Ingredient": "Black_pepper",
27       "Ingredient": "Extra_virgin_olive_oil"
28     }
29   ]
30 ]
```

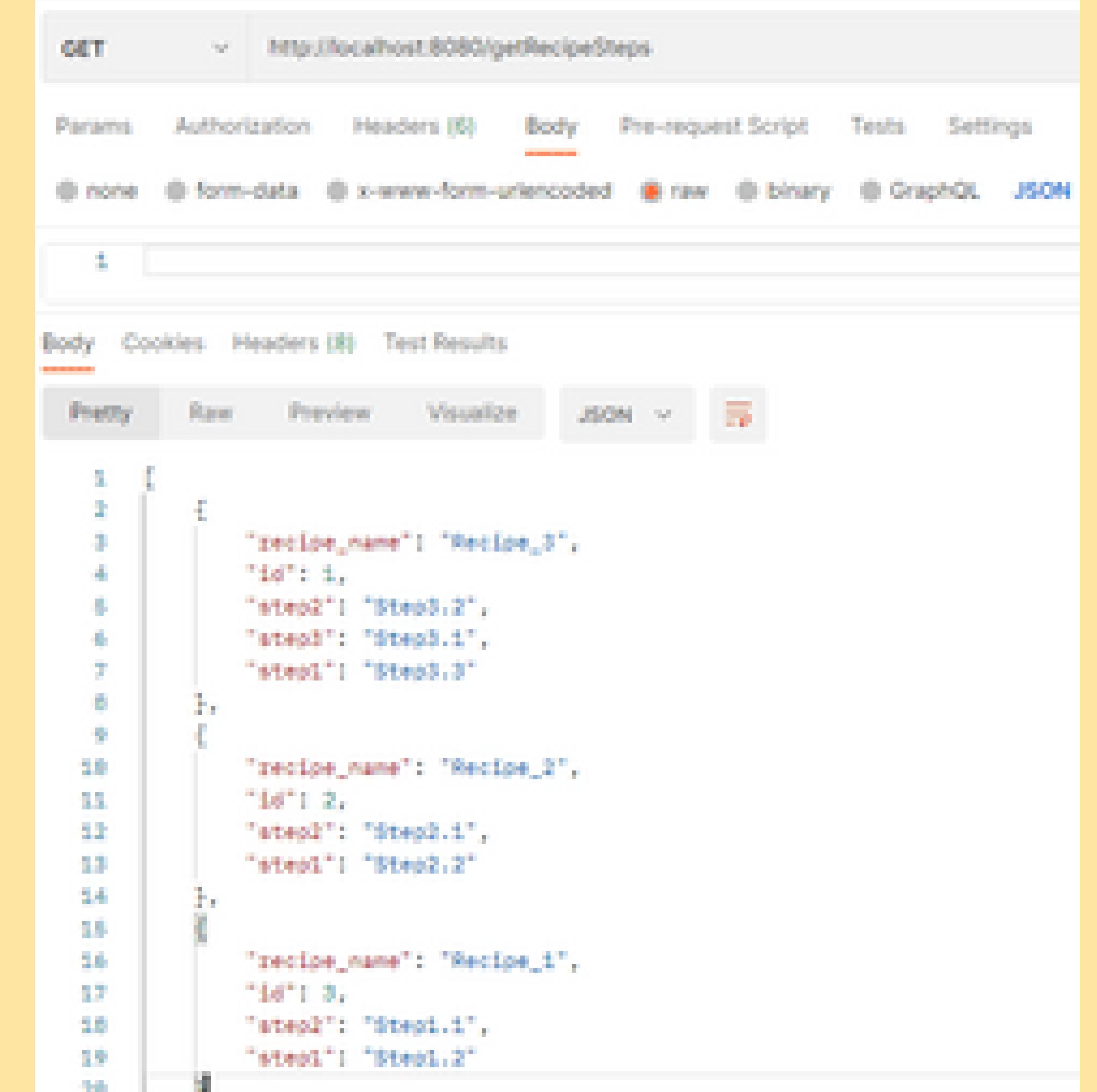
Les requêtes SPARQL

Description : Récupérations des étapes de chaque recette

```
1 PREFIX recipeLogos: <http://www.semanticweb.org/aksw/onto/recipeLogos/2022/10/recipeLogos>
2 PREFIX rdfs: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
3 PREFIX rdfs1: <http://www.w3.org/2000/01/rdf-schema#>
4 SELECT ?recipe (group_concat(?step; separator="") as ?steps) WHERE (
5   ?recipe recipeLogos:hasStep ?step
6 )
7 group by ?recipe
```

Résultat :

Récupération des étapes de chaque recette



The screenshot shows a REST client interface with the following details:

- Method:** GET
- URL:** <http://localhost:8080/api/recipes/1/steps>
- Headers:** Content-Type: application/json
- Body:** The response body is a JSON array with three elements, each representing a step for a specific recipe. The steps are:
 - Step 1: Recipe Name: Recipe_1, ID: 1, Name: Step1.1, Notes: Step1.2
 - Step 2: Recipe Name: Recipe_2, ID: 2, Name: Step2.1, Notes: Step2.2
 - Step 3: Recipe Name: Recipe_3, ID: 3, Name: Step3.1, Notes: Step3.2

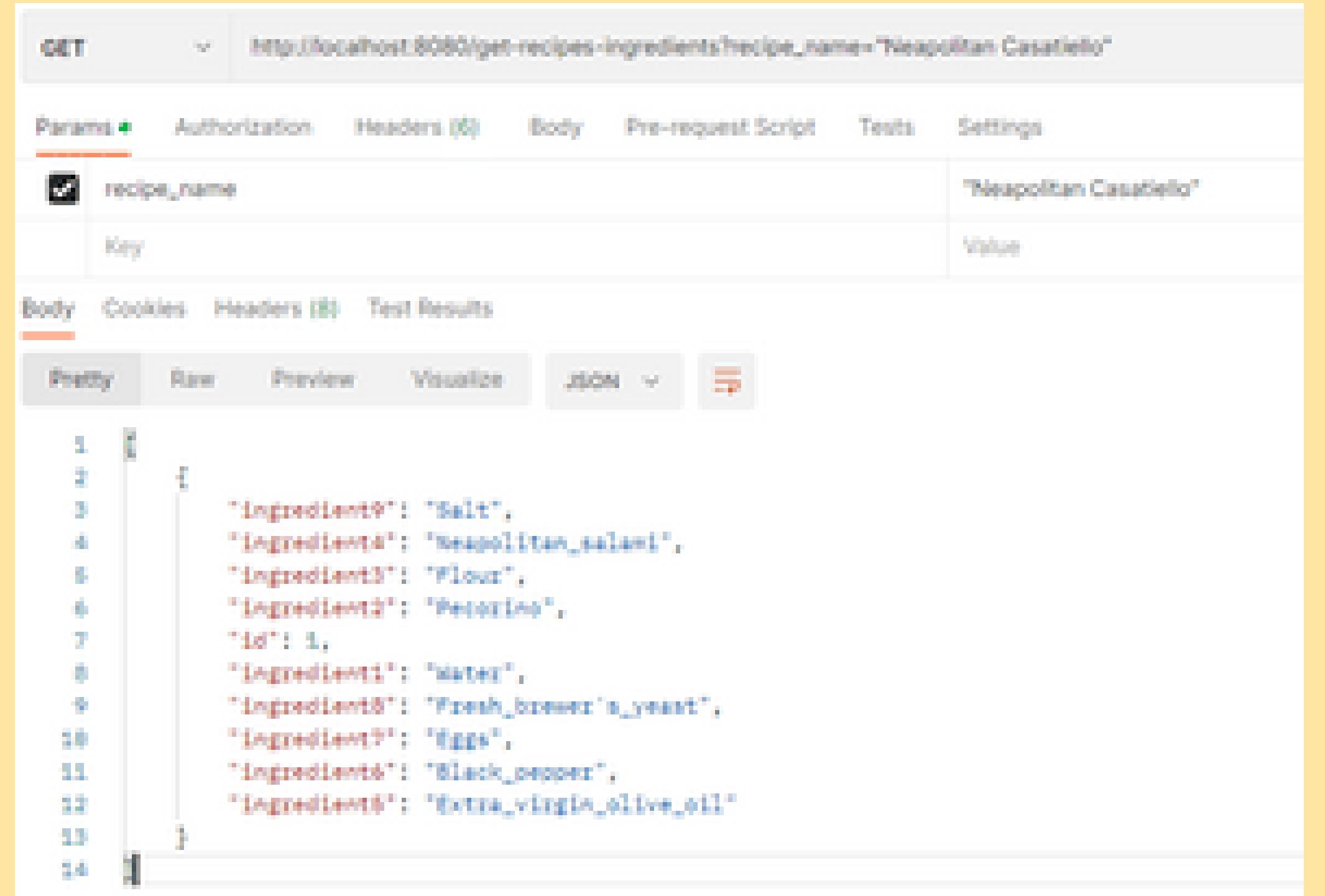
Les requêtes SPARQL

Description : Récupérations des ingrédients d'une recette

```
1: PREFIX recipology: <http://www.semanticsweb.org/2011/01/recipology>
2: PREFIX rdfs: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
3: PREFIX rdfc: <http://www.w3.org/2008/01/rdf-schema#>
4: SELECT ?recipe (group_concat(?ingredient; separator=',') as ?Ingredients) {
5:   ?recipe recipology:name "mopolite cassatello" ; recipology:hasIngredient ?ingredient .
6:
7: }
8: group by ?recipe
```

Résultat :

Récupération des ingrédients d'une recette

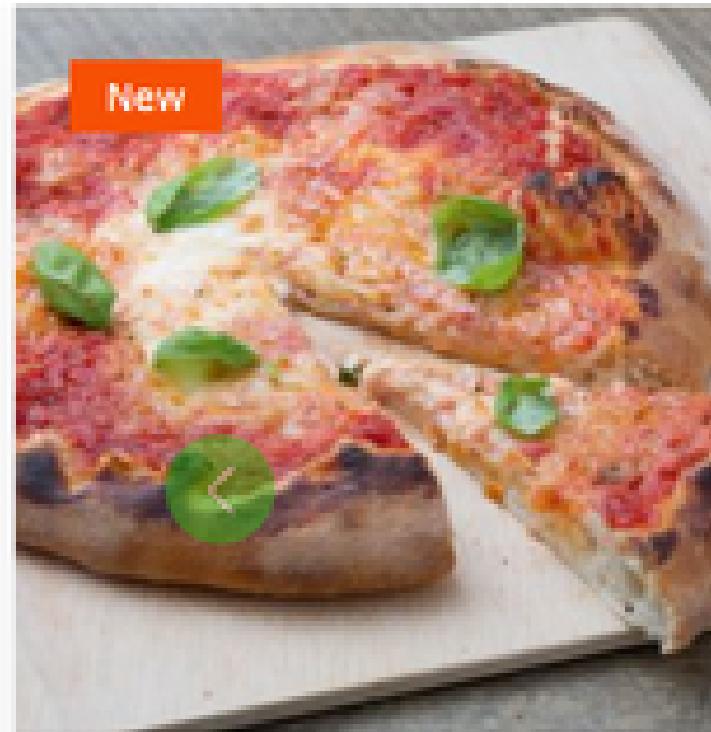


Les interfaces graphiques



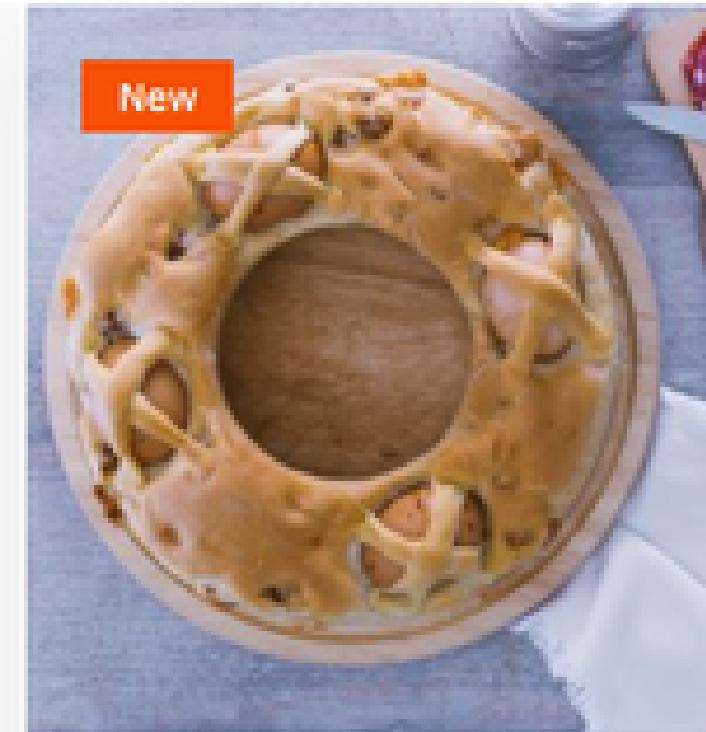
Interface : Liste des 4 recettes les plus notées

Most Rated



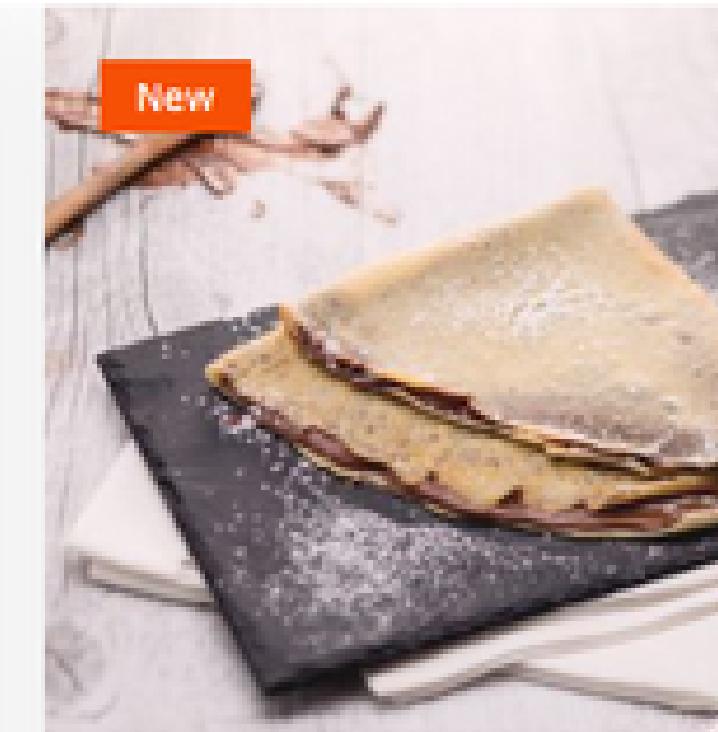
Pizza Margherita

Peter_Robinson



Neapolitan Casatiello

Roberto_Di_Pinto



crepe

Santiago_Fernandes



pasta vegetarien

Nesrine_Sanefa

Activate Windows
Go to Settings to activate Windows



Interface : Liste des recettes ayant la sous classe "Dinner" et la sous classe "Lunch"

Home About Us Products Pages Contact Us

Dinner Recipes



Pizza Margherita
[Peter_Arbinson](#)



Neapolitan Casatiello
[Roberto_Di_Pietro](#)



Lunch Recipes



pasta vegetarien
[Nourine_Saneela](#)



Activate Windows
Go to Settings to activate Windows.



Interface : Recherche Recette



Foody

Home About Us Products Pages Contact Us

Search for Recipe

Neapolitan Caulifl

Search

Interface : Résultat Recherche

Search Results



SAUCES

Neapolitan Casatiello

★★★★★

He cooks together with Roberto Di Pinto the Neapolitan casatiello, is the leavened of the Neapolitan tradition to serve and share during the Easter period.

⌚ 75 min

👤 8 persons

cook Medium

[VIEW RECIPE →](#)

Interface : Detail Recette

Neapolitan Casatiello



Neapolitan Casatiello

★★★★★

Cooking Time: 35 min

Preparation Time: 40 min

Total Time: 75 min

Difficulty: Medium

Chef: Roberto_Di_Pinto

Persons: 8 persons

Ingredients:

- Water
- Pecorino
- Flour
- Neapolitan_salami
- Extra_virgin_olive_oil
- Black_pepper
- Eggs
- Fresh_brewer's_yeast
- Salt

Acti
Go to

Démonstration





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