

**Note for Grader:** Please ensure to clear your cookies for your local host page or open the site in incognito to ensure the site works properly

(If not the browser will think its logged in when it is not and try to access info that is not available)

### How to Run the app:

1. Start in project 12 directory
2. Run py4web apps
3. Head to your <local host port>/recipe
4. Be sure your browser is in Light Mode for optimum viewing experience

### Login page:

Sign up / Log in

(Use the terminal link on sign up to validate email when signing up)

py4web recipe

Login

Login required

Username

Password

Sign In   Sign Up   Lost Password

Made with py4web

### Homepage:

## Welcome Emma

## Add Ingredient

Name

Unit

Calories Per Unit

Description

Submit[Add New Recipe](#)

## Recipes

 Search by name...Select type ▾

## Apple Frangipan Tart

Type: Dessert Total Cal: 705



## Ingredients

 Search by name...

Name: digestive biscuits

Unit: g/6oz

Calories: 9

Description: imported

Name: butter

Unit: g/3oz

Calories: 8

Description: imported

Name: Bramley apples

Unit: g/7oz

Calories: 12

Description: imported

Name: Salted Butter

Unit: g/3oz

Calories: 19

Description: imported

## Add Ingredient

Name

Unit

Calories Per Unit

Description

Submit

## Ingredients Column:

This column allows you to add ingredients to a list.

The columns contain a search bar that allows you to search ingredients by name.

All ingredients are public and cannot be edited once added

## Ingredients

Search by name...

**Name:** digestive biscuits

**Unit:** g/6oz

**Calories:** 7

**Description:** imported

**Name:** butter

**Unit:** g/3oz

**Calories:** 1

**Description:** imported

**Name:** Bramley apples

**Unit:** g/7oz

**Calories:** 8

**Description:** imported

**Name:** Salted Butter

**Unit:** g/3oz

**Calories:** 15

**Description:** imported

## Ingredients

apples

**Name:** Bramley apples

**Unit:** g/7oz

**Calories:** 8

**Description:** imported

**Name:** Braeburn Apples

**Unit:** g

**Calories:** 9

**Description:** imported

## Recipes Column

This column contains the search bar that allows you to search recipes by name and a drop down menu that allows you to specify a type of food(from a list of all unique food types in the database).The recipe cards that match the search query will be displayed below the search bar.

### Recipes

**Select type ▾**  


If the recipe has an image, the card will display it above the recipe's description.

If the recipe does not have an image, the card will skip that section entirely and display the description.

Apam balik

Type: Dessert Total Cal: 689



Description: Malaysian cuisine  
Instructions: Mix milk, flour and egg together. Sift flour, baking powder and salt into the mixture. Stir well until all ingredients are combined evenly. Spread some batter onto the pan. Spread a thin layer of batter to the side of the pan. Cover the pan for 30-60 seconds until small air bubbles appear. Add butter, cream corn, crushed peanuts and sugar onto the pancake. Fold the pancake into half once the bottom surface is browned. Cut into wedges and best eaten when it is warm.  
Servings: 1  
Ingredients per serving:  
200 ml – Milk  
60 ml – Oil  
2 – Eggs  
1600 g – Flour  
3 tsp – Baking Powder  
1/2 tsp – Salt  
25 g – Unsalted Butter  
45 g – Sugar  
3 lbs – Peanut Butter

**Cabbage Salad**      Type: salad

**Description:**  
cabbages in salad

**Instructions:**  
chop 5 cabbage

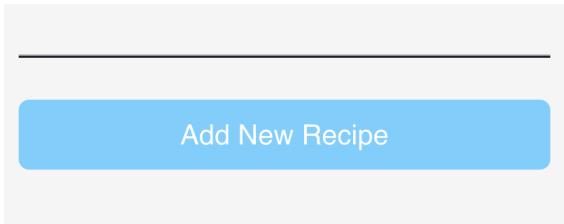
**Servings:**  
2

(TheMealDB import ^)

\* If no search query is given, it will display the oldest first.

## Adding Recipes

Under the ingredients column there is an Add Recipe Button:



Clicking reveals the Recipe maker form

New Recipe

Name

Type

Description

Instruction Steps

Servings

Image (optional)

Choose File | No file chosen

Ingredients (per serving)

digestive biscuits (g/6oz)  
 butter (g/100g)  
 Bramley apples (g/7oz)  
 Salted Butter (g/50oz)  
 caster sugar (g/50oz)  
 free-range eggs, beaten (1)

Save Cancel

You can adjust the amount of ingredients when adding them:

Ice Cream (to serve) 1

Milk (ml) 100

You can press Save to send the recipe to the database and it will give you a dialogue of the calculated calories based on your inputted ingredients.



Example Recipe Card w/ Edit Button for authorized user:

**Vanilla Milkshake** Type: Beverage Total Cal: 442 Edit

Description:

Instructions:

Servings: 1

Ingredients per serving:

- 100 ml – Milk
- 1 to serve – Ice Cream
- 10 g – Sugar
- 2 spinkling – Vanilla Extract

Pressing edit returns you to the form with fields filled out so you can update values. (#3 on Extra Credit section for example of updating fields)

We include a check to ensure the only the author can edit the recipe

```
# For edit function (CHECKS IF USER ID IS THE AUTHOR OF RECIPE)
@action("api/recipe/<rid:int>", method=["GET"])
@action.uses(db, auth.user)
def api_one_recipe(rid):
    rec = db.recipes[rid] or abort(404)

    # Check uid is right
    if rec.author != auth.user_id:
        abort(403, "You are not allowed to view this recipe")

    links = db(db.link.recipe_id == rid).select().as_list()
    return dict(recipe=rec, ingredients=links)
```

## Recipe Search API

Allows to search by recipe name, type and ingredients (see extra credit section)

```

{
  "recipes": [
    {
      "author": null,
      "description": "British cuisine",
      "id": 1,
      "image": "https://www.themealdb.com/images/media/meals/wxywrg1468235967.jpg",
      "instruction_steps": "Preheat the oven to 200C/180F/Gas 6. Put the biscuits in a large re-sealable freezer bag and bash with a rolling pin into fine crumbs. Melt the butter in a small pan, then add the biscuit crumbs and stir until well combined. Press the mixture into the base and sides of a tart tin, using the back of a spoon, press over the base and sides of the tin to give an even layer. Chill in the fridge while you make the filling.\r\n\r\nCream together the butter and sugar until light and fluffy. You can do this in a food processor if you have one. Process for 2-3 minutes. Mix in the eggs, then add the ground almonds and almond extract and blend until well combined.\r\n\r\nPeel the apples, and cut thin slices of apple. Do this at the last minute to prevent the apple going brown. Arrange the slices over the biscuit base. Spread the frangipane filling evenly on top. Level the surface and sprinkle with the flaked almonds.\r\n\r\nBake for 20-25 minutes until golden-brown and set.\r\n\r\nRemove from the oven and leave to cool for 15 minutes. Remove the sides of the tin. An easy way to do this is to stand the tin on a can of beans and push down gently on the edges of the tin.\r\n\r\nTransfer the tart, with the apples still in the tin, onto a serving plate. Serve warm with cream, cr\u00e8me fraiche or ice cream.",
      "servings": 1,
      "total_calories": 634,
      "type": "Dessert"
    },
    {
      "author": null,
      "description": "British cuisine",
      "id": 2,
      "image": "https://www.themealdb.com/images/media/meals/vxvur1511719182.jpg",
      "instruction_steps": "Heat the flour and sugar into a large bowl. Add the butter, then rub into the flour using your fingertips to make a light breadcrumb texture. Do not overwork it or the crumble will become heavy. Sprinkle the mixture evenly over a baking sheet and bake for 15 mins or until lightly coloured.\r\nMeanwhile, for the compote, peel, core and cut the apples into 2cm dice. Put the butter and sugar in a medium saucepan and melt together over a medium heat. Cook for 3 mins until the mixture turns to a light caramel. Stir in the apples and cook for 3 mins. Add the blackberries and cinnamon, and cook for 3 mins more. Cover, remove from the heat, then reheat in the oven for 5-10 mins. Serve with vanilla ice cream.",
      "servings": 1,
      "total_calories": 628,
      "type": "Dessert"
    },
    {
      "author": null,
      "description": "French cuisine",
      "id": 3,
      "image": "https://www.themealdb.com/images/media/meals/qtpewu1511702658.jpg",
      "instruction_steps": "To make the red wine jelly, put the red wine, jam sugar, star anise, clove, cinnamon stick, allspice, split vanilla pod and seeds in a medium saucepan. Stir together, then heat gently to dissolve the sugar. Turn up the heat and boil for 20 mins until reduced and syrupy. Strain into a small jar and leave to cool completely. Will keep in the fridge for up to 1 month.\r\n\r\nTake the pastry out of the fridge and leave at room temperature for 10 mins, then unroll. Heat the grill to high and heat the oven to 180C/160F/Gas 4. Cut out 2 x 13cm circles of pastry, using a plate as a guide, and place on a non-stick baking sheet. Sprinkle each circle with 1 tbsp sugar and roll the remaining sugar over the top of the circles, so they are slightly darker. Return the circles to the oven and bake for 10 mins until the pastry is golden brown and done. Remove from the oven and cool slightly. Cut into 2mm-thin slices and arrange on top of the pastry. Sprinkle over the remaining sugar and pop in the oven for 20-25 mins until the pastry is cooked through and golden, and the apples are softened. Remove and allow to cool slightly. Warm 3 tbsps of the red wine jelly in a small pan over a low heat with 1 tsp water to make it a little more runny, then brush over the top of the tarts.\r\n\r\nTip the cr\u00e8me fraiche into a bowl, sift over the icing sugar and cardamom, and mix together. Carefully lift the warm tarts onto serving plates and serve with the cardamom cr\u00e8me fra\u00e8che.",

      "name": "Chiffon Apple Tarts",
      "servings": 1,
      "total_calories": 602,
      "type": "Dessert"
    }
  ]
}

```

## Extra Credit Functionality:

### 1. Ability to Search recipes by ingredients

```

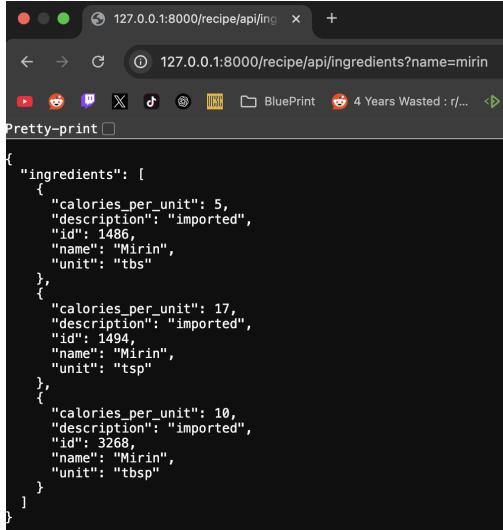
{
  "recipes": [
    {
      "author": null,
      "description": "British cuisine",
      "id": 18,
      "image": "https://www.themealdb.com/images/media/meals/wrssvt1511556563.jpg",
      "instruction_steps": "Season the beef cubes with salt and black pepper. Heat a tablespoon of oil in the frying pan and fry the meat over a high heat. Do this in three batches so that you don't overcrowd the pan, transferring the meat to a large flameproof casserole dish once it is browned all over. Add extra oil if the pan seems dry.\r\n\r\nIn the same pan, add another tablespoon of oil and cook the shallots for 4-5 minutes, then add the garlic and fry for 30 seconds. Add the bacon and fry until slightly browned. Transfer the onion and bacon mixture to the casserole dish and add the herbs.\r\n\r\nPreheat the oven to 180C/350F/Gas 4.\r\n\r\nPour the stout into the frying pan and bring to the boil, stirring to lift any stuck-on browned bits from the bottom of the pan. Pour the stout over the beef in the casserole dish and add the stock. Cover the casserole and place it in the oven for 1 hour-2 hours, or until the beef is tender and the sauce is reduced.\r\n\r\nSkim off any surface fat, taste and add salt and pepper if necessary, then stir in the cornflour paste. Put the casserole dish on the hob and forget that it will be at 190C for 1-2 minutes, stirring, until thickened. Leave to cool.\r\n\r\nIncrease the oven to 200C/400F/Gas 6. To make the pastry, put the flour and salt in a very large bowl. Grate the butter and stir it into the flour in three batches. Gradually add 325ml/11fl oz cold water. You may not need it all.\r\n\r\nStir and knead the dough until it is smooth and elastic. Set aside.\r\n\r\nKnead the dough until it is smooth and elastic. Set aside.\r\n\r\nTear off a square of foil slightly larger than the casserole, arrange it in the pan so it covers the top of the stew and trim away any excess foil. Place the lid on the casserole.\r\n\r\nRoll the rest of the pastry out until about 2cm/0.8in larger than the dish you're using. Line the dish with the pastry then pile in the filling, tucking the corners in as well. Brush the edge of the pastry with beaten egg.\r\n\r\nRoll the remaining pastry until slightly larger than your dish and gently lift over the filling, pressing the edges firmly to seal, then trim with a sharp knife. Brush with beaten egg to glaze. Put the dish on a baking tray and bake for 25-30 minutes, or until the pastry is golden-brown and the filling is bubbling.",
      "name": "Beef and Oyster pie",
      "servings": 1,
      "total_calories": 695,
      "type": "Beef"
    },
    {
      "author": null,
      "description": "French cuisine",
      "id": 21,
      "image": "https://www.themealdb.com/images/media/meals/vtqxtu1511784197.jpg",
      "instruction_steps": "Heat a large casserole pan and add 1 tbsp goose fat. Season the beef and fry until golden brown, about 3-5 mins, then turn over and fry the other side until the meat is browned all over, adding more fat if necessary. Do this in 2-3 batches, transferring the meat to a colander set over a bowl when browned.\r\n\r\nIn the same pan, fry the bacon, shallots or pearl onions, mushrooms, garlic and bouquet garni until lightly browned. Mix in the tomato pur\u00e9e and cook for a few mins, stirring into the mixture. This enriches the bourguignon and makes a great base for the stew. Return the beef and any drippings juices to the pan and set it straight over the wine and about 200ml water, so the meat cooks up from the liquid, but isn't submerged. Bring the heat down to a simmer and let it cook for 1-2 hours. If the liquid has been absorbed, add more water. You may need to add more flour. When reduced to 100C/gas 2, make a cartouche: tear off a square of foil slightly larger than the casserole, arrange it in the pan so it covers the top of the stew and trim away any excess foil. Then cook for 3 hrs. If the sauce looks watery, remove the beef and veg with a slotted spoon, and set aside. Cook the sauce over a high heat for a few mins until the sauce has thickened a little, then return the beef and vegetables to the pan.\r\n\r\nTo make the celeriac mash, peel the celeriac and cut into cubes. Heat the olive oil in a large frying pan. Tie in the celeriac and fry for 5 mins until it turns golden. Season well with salt and pepper. Stir in the rosemary, thyme, bay and cardamom pods, then pour over 200ml water, enough to nearly cover the celeriac. Turn the heat to low, partially cover the pan and leave to simmer for 25-30 mins.\r\n\r\nAfter 25-30 mins, the celeriac should be soft and most of the water will have evaporated. Drain away any remaining water, then move the herb sprigs, bay and cardamom pods. Lightly crush with a potato masher, then finish with a glug of olive oil and season to taste. Spoon the beef bourguignon into serving bowls and place a large spoonful of the celeriac mash on top. Garnish with one of the bay leaves, if you like.",
      "name": "Beef Bourguignon",
      "servings": 4,
      "total_calories": 724,
      "type": "Beef"
    },
    {
      "author": null,
      "description": "Canadian cuisine",
      "id": 29,
      "image": "https://www.themealdb.com/images/media/meals/1550441882.jpg",
      "instruction_steps": "Before you do anything, freeze your bacon slices that way when you're ready to prep, it'll be so much easier to chop!\r\n\r\nWash the potatoes and cut medium dice intoware pieces. To prevent any browning, place the already cut potatoes in a bowl filled with water.\r\n\r\nIn the meantime, heat 1-2 tablespoons of oil in a large skillet over medium-high heat."
    }
  ]
}

```

## 2. Public Search api for ingredients

Allows user to search for ingredients based on name, unit, or description

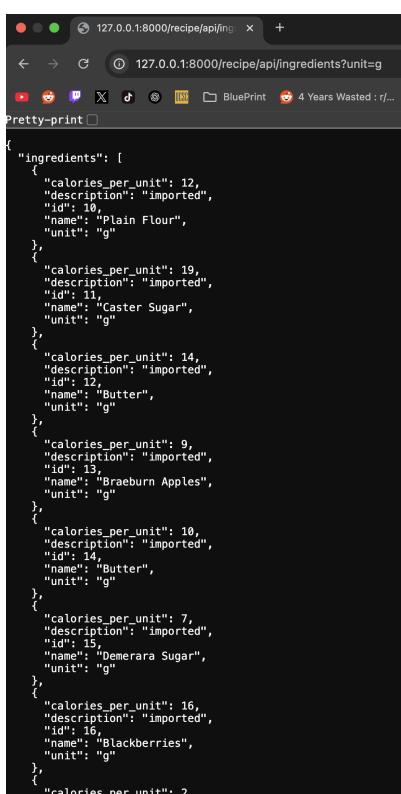
Name



A screenshot of a web browser window. The address bar shows the URL `127.0.0.1:8000/recipe/api/ingredients?name=mirin`. The page content is a JSON response with the "Pretty-print" option checked. The JSON object has a single key "ingredients" which contains an array of three items. Each item has properties: "calories\_per\_unit", "description", "id", "name", and "unit". The first item is "Mirin", the second is "Mirin", and the third is "Misin".

```
{
  "ingredients": [
    {
      "calories_per_unit": 5,
      "description": "imported",
      "id": 1486,
      "name": "Mirin",
      "unit": "tbs"
    },
    {
      "calories_per_unit": 17,
      "description": "imported",
      "id": 1494,
      "name": "Mirin",
      "unit": "tsp"
    },
    {
      "calories_per_unit": 10,
      "description": "imported",
      "id": 3268,
      "name": "Misin",
      "unit": "tbsp"
    }
  ]
}
```

Unit



A screenshot of a web browser window. The address bar shows the URL `127.0.0.1:8000/recipe/api/ingredients?unit=g`. The page content is a JSON response with the "Pretty-print" option checked. The JSON object has a single key "ingredients" which contains an array of ten items. Each item has properties: "calories\_per\_unit", "description", "id", "name", and "unit". The items include "Plain Flour", "Caster Sugar", "Butter", "Braeburn Apples", "caster sugar", "Demerara Sugar", "Blackberries", and others.

```
{
  "ingredients": [
    {
      "calories_per_unit": 12,
      "description": "imported",
      "id": 1,
      "name": "Plain Flour",
      "unit": "g"
    },
    {
      "calories_per_unit": 19,
      "description": "imported",
      "id": 11,
      "name": "Caster Sugar",
      "unit": "g"
    },
    {
      "calories_per_unit": 14,
      "description": "imported",
      "id": 12,
      "name": "Butter",
      "unit": "g"
    },
    {
      "calories_per_unit": 9,
      "description": "imported",
      "id": 13,
      "name": "Braeburn Apples",
      "unit": "g"
    },
    {
      "calories_per_unit": 10,
      "description": "imported",
      "id": 14,
      "name": "Butter",
      "unit": "g"
    },
    {
      "calories_per_unit": 7,
      "description": "imported",
      "id": 15,
      "name": "Demerara Sugar",
      "unit": "g"
    },
    {
      "calories_per_unit": 16,
      "description": "imported",
      "id": 16,
      "name": "Blackberries",
      "unit": "g"
    },
    {
      "calories_per_unit": 2
    }
  ]
}
```

Description



A screenshot of a web browser window. The address bar shows the URL `127.0.0.1:8000/recipe/api/ingredients?descrition=imported`. The page content is a JSON response with the "Pretty-print" option checked. The JSON object has a single key "ingredients" which contains an array of ten items. Each item has properties: "calories\_per\_unit", "description", "id", "name", and "unit". The items include "digestive biscuits", "butter", "Braley apples", "Salted Butter", "caster sugar", "free-range eggs, beaten", "ground almonds", and others.

```
{
  "ingredients": [
    {
      "calories_per_unit": 7,
      "description": "imported",
      "id": 1,
      "name": "digestive biscuits",
      "unit": "g/6oz"
    },
    {
      "calories_per_unit": 1,
      "description": "imported",
      "id": 2,
      "name": "butter",
      "unit": "g/3oz"
    },
    {
      "calories_per_unit": 8,
      "description": "imported",
      "id": 3,
      "name": "Braley apples",
      "unit": "g/7oz"
    },
    {
      "calories_per_unit": 15,
      "description": "imported",
      "id": 4,
      "name": "Salted Butter",
      "unit": "g/3oz"
    },
    {
      "calories_per_unit": 4,
      "description": "imported",
      "id": 5,
      "name": "caster sugar",
      "unit": "g/3oz"
    },
    {
      "calories_per_unit": 6,
      "description": "imported",
      "id": 6,
      "name": "free-range eggs, beaten",
      "unit": ""
    },
    {
      "calories_per_unit": 5,
      "description": "imported",
      "id": 7,
      "name": "ground almonds",
      "unit": "g/3oz"
    },
    {
      "calories_per_unit": 5
    }
  ]
}
```

## 3. Automatically scale ingredients when changing servings

Before

After

**Yummy** Minecraft End Sky

Type: Demo Total Cal: 103



**Description:** Demo  
**Instructions:** Hello Prof Di Pierro :D  
**Servings:** 1  
**Ingredients per serving:**  
3 g/6oz – digestive biscuits  
2 g/3oz – butter  
10 g/7oz – Bramley apples

**Yummy** Minecraft End Sky

Type: Demo Total Cal: 515



**Description:** Demo  
**Instructions:** Hello Prof Di Pierro :D  
**Servings:** 5  
**Ingredients per serving:**  
15 g/6oz – digestive biscuits  
10 g/3oz – butter  
50 g/7oz – Bramley apples

(1 vs 5 servings)