



# Interactions avec les utilisateurs: les formulaires et les erreurs

# Des formulaires de recherche avec la méthode GET

# Recherche simple fulltext



# Recherche simple fulltext: configuration de l'environnement

```
pip install flask-wtf
```

```
# .env

...
WTF_CSRF_ENABLE=True
SECRET_KEY=j6SscbFozFFp0muAcNmMPP8cNv1CcpEd
```

# Recherche simple fulltext: formulaire de la barre de navigation

```
<!-- templates/partials/formulaires/recherche_rapide.html-->

<form class="form-inline" action="{{url_for('recherche_rapide')}}">
    <input class="form-control" type="search" name="chaine"
        placeholder="Recherche" aria-label="Recherche">
    <button class="btn btn-outline-info" type="submit">Rechercher</button>
</form>
```

```
<!-- templates/partials/conteneur.html-->

<nav>
    ...
    <div align="right">% include "partials/formulaires/recherche_rapide.html" %</div>
</nav>
```

# Recherche simple fulltext: route

```
# app/routes/generales.py
...
from flask import request
@app.route("/recherche_rapide")
@app.route("/recherche_rapide/<int:page>")
def recherche_rapide(page=1):
    chaine = request.args.get("chaine", None)
    if chaine:
        resources = db.session.execute("""select a.id from country a
                                         inner join country_resources b on b.id = a.id
                                         inner join resources c on c.name = b.resource
                                         and (c.name like '%"""+chaine+"%"' or c.id like '%"""+chaine+"%"')
                                         """).fetchall()
        maps = db.session.execute("""select a.id from country a
                                    inner join country_map b on b.id = a.id
                                    inner join map c on c.name = b.map_ref
                                    and (c.name like '%"""+chaine+"%"' or c.id like '%"""+chaine+"%"')
                                    """).fetchall()
    Maxime Challon --  EnC --  Atos
```

# Recherche simple fulltext: route

```
resultats = Country.query.filter(  
    or_()  
        Country.name.ilike("%"+chaine+"%"),  
        Country.type.ilike("%"+chaine+"%"),  
        Country.Introduction.ilike("%"+chaine+"%"),  
        Country.id.in_([r.id for r in resources] + [m.id for m in maps])  
    )  
    .distinct(Country.name).order_by(Country.name).\  
    paginate(page=page, per_page=app.config["PAYS_PER_PAGE"])  
else:  
    resultats = None  
return render_template("pages/resultats_recherche_pays.html",  
    sous_titre= "Recherche | " + chaine, donnees=resultats,requete=chaine)
```

# Recherche simple fulltext: affichage des résultats

```
<!--templates/pages/resultats_recherche_pays.html-->

...
{{pays.Introduction.replace(requete, '<span style="background-color: yellow;">
    {}
</span>'.format(requete)) | safe}}
...
<a href="{{ url_for('recherche_rapide', page=page_num, chaine=requete) }}" class="btn btn-dark">
...
```

# Recherche simple fulltext: résultat

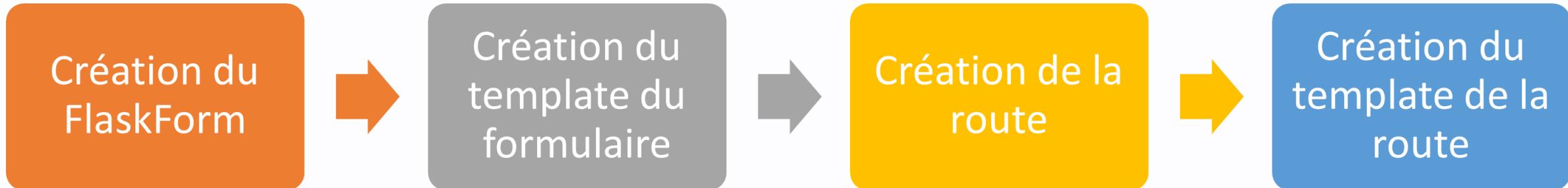
«
Cote d'Ivoire
Djibouti
Dominica
European Union
France
French Polynesia

## [Voir les données de Cote d'Ivoire](#)

Various small kingdoms ruled the area of Cote d'Ivoire between the 15th and 19th centuries, when European explorers arrived and then began to expand their presence. In 1844, France established a protectorate. During this period, many of these kingdoms and tribes fought to maintain their cultural identities - some well into the 20th century. For example, the Sanwi kingdom - originally founded in the 17th century - tried to break away from Cote d'Ivoire and establish an independent state in 1969.

Cote d'Ivoire achieved independence from France in 1960 but has maintained close ties with France. The export and production of cocoa and foreign investment drove economic growth that led Cote d'Ivoire to become one of the most prosperous states in West Africa. In December 1999, a military coup overthrew the government. In late 2000, junta leader Robert GUEI held rigged elections and declared himself the winner. Popular protests forced him to step aside, and Laurent GBAGBO was elected. In September 2002, Ivoirian dissidents and members of the military launched a failed coup that developed into a civil war. In 2003, a cease-fire resulted in rebels holding the north, the government holding the

# Des formulaires lisant les données avec POST



# Recherche multicritères: modèle de formulaire

```
# app/models/formulaires.py

from flask_wtf import FlaskForm
from wtforms import StringField, SelectField

class Recherche(FlaskForm):
    nom_pays = StringField("nom_pays", validators=[])
    ressources = SelectField('ressources', choices=[(' ', ' '), ('PET', 'pétrole'), ('GOL', 'or')])
    continents = SelectField('continents', choices=[(' ', ' '), ('Europe', 'Europe'), ('Africa', 'Afrique')])
```

# Recherche multicritères: template de formulaire de recherche

```
<!--templates/partials/formulaires/recherche.html-->

<form action="{{url_for('recherche')}}" method="post" name="recherche">
    {{ form.hidden_tag() }}

    <div class="form-group">
        <label for="nom_pays">Nom du pays recherché </label>
        {{ form.nom_pays(class_="form-control", placeholder_="Pays") }}
        <small id="nom_pays" class="form-text text-muted">Entrer tout ou partie du nom d'un
            pays</small>
    </div>
    ...
    <p><input type="submit" value="Rechercher"></p>
</form>
```

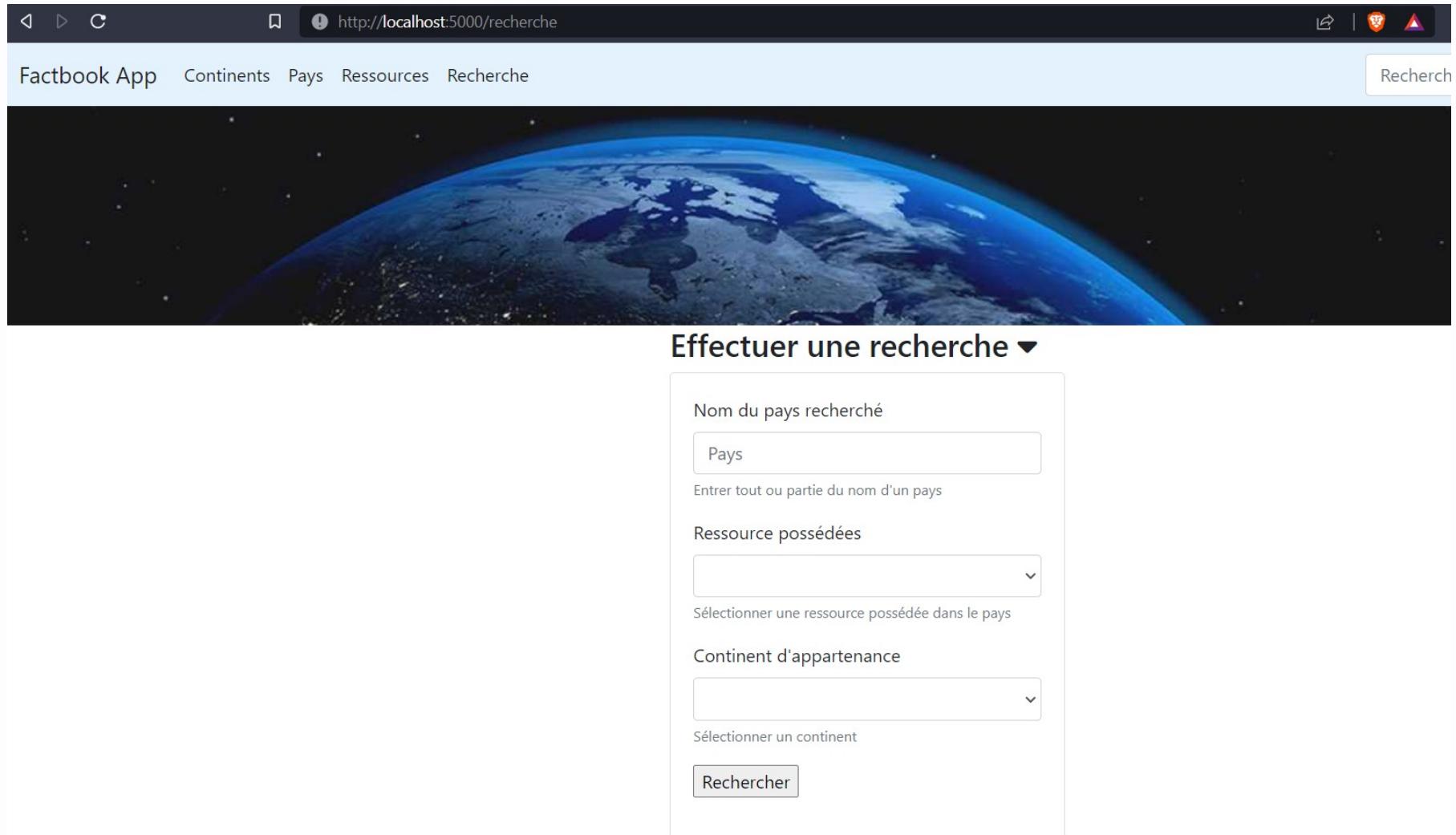
# Recherche multicritères: template des résultats

```
<!-- templates/pages/resultats_recherche.html -->

<div class="row">
    <div class="col-sm-4"></div>
    <div class="col-sm-4">

        <h3 data-toggle="collapse" data-target="#collapseExample" aria-expanded="false"
            aria-controls="collapseExample">
            Effectuer une recherche <i class="fa-solid fa-caret-down"></i>
        </h3>
        <div class="collapse show" id="collapseExample">
            <div class="card card-body">
                {% include "partials/formulaires/recherche.html" %}
            </div>
        </div>
    </div>
    <div class="col-sm-4"></div>
</div>
```

# Recherche multicritères



# Recherche multicitères: route

```
# generales.py /recherche

@app.route("/recherche", methods=['GET', 'POST'])
@app.route("/recherche/<int:page>", methods=['GET', 'POST'])
def recherche(page=1):
    form = Recherche()

    nom_pays = clean_arg(request.form.get("nom_pays", None))
    ressource = clean_arg(request.form.get("ressources", None))
    continent = clean_arg(request.form.get("continents", None))

    ...
```

# Recherche multicritères: route

```
...
donnees = []
if form.validate_on_submit():
    if nom_pays or continent or ressource:
        query_results = Country.query
    ...
    if continent:
        map = db.session.execute("""select a.id from country a
            inner join country_map b on b.id = a.id
            and map_ref == """+continent+"""
            """).fetchall()
        query_results = query_results.filter(Country.id.in_([m.id for m in map] ))
    donnees = query_results.order_by(Country.name).\
        paginate(page=page, per_page=app.config["PAYS_PER_PAGE"])
...
...
```

# Recherche multicritères: route

```
...
form.nom_pays.data = nom_pays
form.continents.data = continent
form.ressources.data = ressource

return render_template("pages/resultats_recherche.html",
                      sous_titre= "Recherche" ,
                      donnees=donnees,
                      form=form)
```

# Recherche multicritères: résultat

Tabletbook App Continents Pays Ressources Recherche

Nom du pays recherché  
 Entrer tout ou partie du nom d'un pays

Ressource possédées  
 Sélectionner une ressource possédée dans le pays

Continent d'appartenance  
 Sélectionner un continent

Recherche

## Résultats de la recherche

Afghanistan

Azerbaijan

Turkmenistan

Uzbekistan

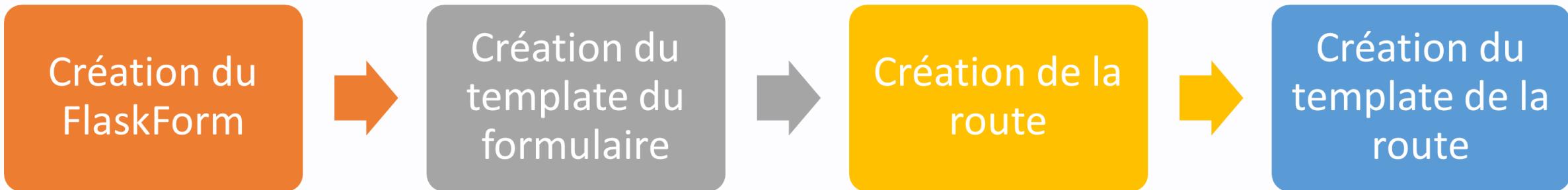
[Voir les données de Afghanistan](#)

Ahmad Shah DURRANI unified the Pashtun tribes and founded Afghanistan in 1747. The country served as a buffer between the British and Russian Empires until it won independence from nominal British control in 1919. A brief experiment in increased democracy ended in a 1973 coup and a 1978 communist coup. The Soviet Union invaded in 1979 to support the tottering Afghan communist regime, touching off a long and destructive war. The USSR withdrew in 1989 under relentless pressure by internationally supported anti-communist mujahidin rebels. A series of subsequent civil wars saw Kabul finally fall in 1996 to the Taliban, a hardline Pakistani-sponsored movement that emerged in 1994.

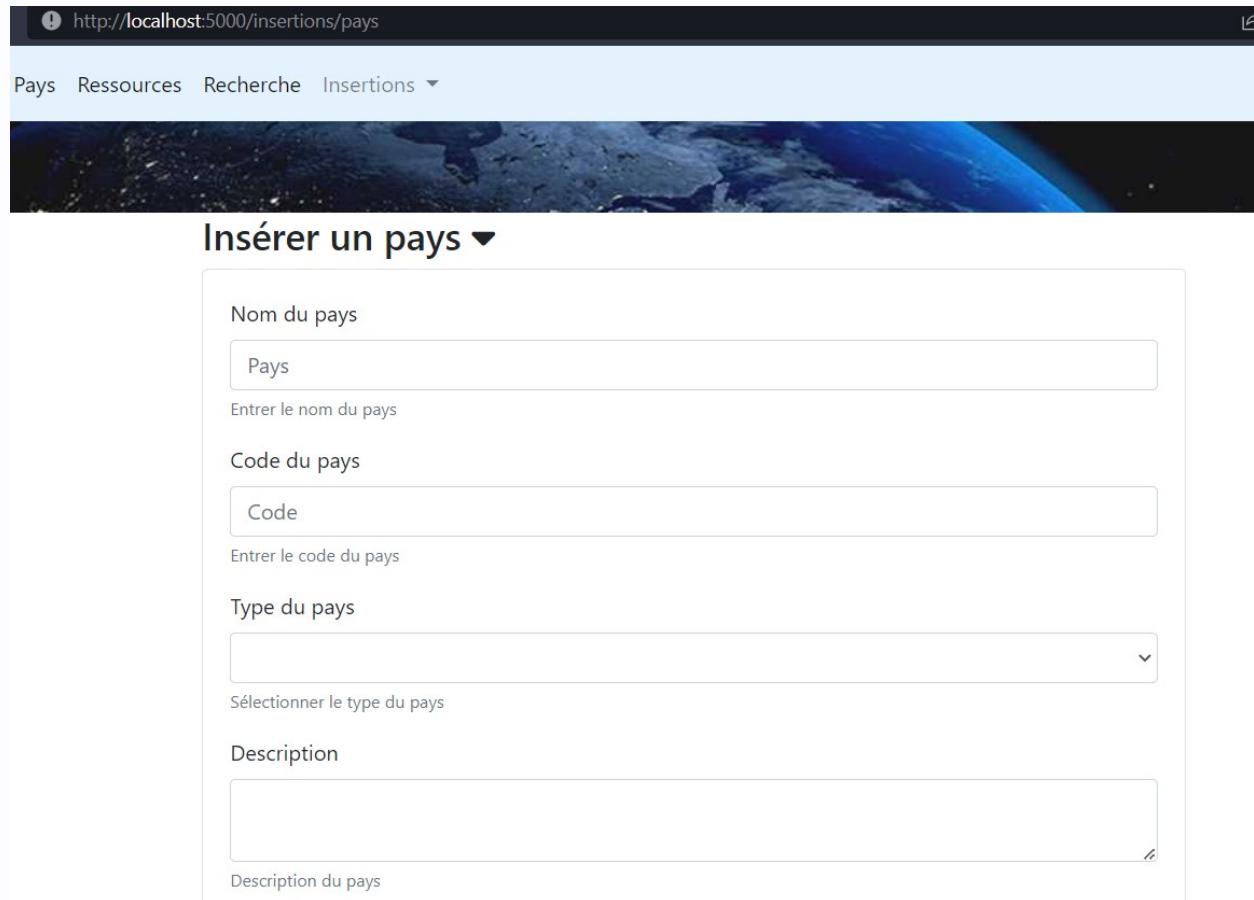
# Des formulaires agissant sur les données avec POST

# TD

Développer une route `/insertions/pays` qui permette d'ajouter un pays dans la base de données



# TD: résultat attendu



The screenshot shows a web browser window with the URL `http://localhost:5000/insertions/pays` in the address bar. The page title is "Insérer un pays". The form contains fields for "Nom du pays" (with placeholder "Pays"), "Code du pays" (with placeholder "Code"), "Type du pays" (a dropdown menu with placeholder "Sélectionner le type du pays"), and "Description" (a text area with placeholder "Description du pays"). The top navigation bar includes links for "Pays", "Ressources", "Recherche", and "Insertions". Below the navigation is a large image of Earth from space.

Insérer un pays ▾

Nom du pays

Pays

Entrer le nom du pays

Code du pays

Code

Entrer le code du pays

Type du pays

Sélectionner le type du pays

Description

Description du pays

# TD: résultat attendu

Sélectionner le type du pays

Description

Description du pays

Ressources possédées

petroleum  
natural gas  
iron ore

Sélectionner une ou plusieurs ressources possédées par le pays

Continent d'appartenance

Sélectionner un continent

**Insérer**

# TD: modèle de formulaire

```
# models/formulaires.py

...
class InsertionPays(FlaskForm):
    code_pays = StringField("code_pays", validators=[])
    nom_pays = StringField("nom_pays", validators=[])
    type = SelectField('type', choices=[('',''), ('sovereign', 'Souverain'), ..., ('other', 'Autre')])
    introduction = TextAreaField("code_pays", validators=[])
    ressources = SelectMultipleField('ressources', choices=[('',''), ('NAT', 'natural gas'), ...])
    continent = SelectField('ressources', choices=[('',''), ('Asia', 'Asie'), ...])
```

# TD: template de formulaire

```
<!-- partials/formulaires/insertion_pays.html -->

<form action="{{url_for('insertion_pays')}}" method="post" name="insertion_pays">
{{ form.hidden_tag() }}

<div class="form-group">
    <label for="nom_pays">Nom du pays </label>
    {{ form.nom_pays(class_="form-control", placeholder_="Pays") }}
    <small id="nom_pays" class="form-text text-muted">Entrer le nom du pays</small>
</div>

...
<p><input type="submit" value="Insérer"></p>
</form>
```

# TD: route

```
# routes/insertions.py /insertions/pays

@app.route("/insertions/pays", methods=['GET', 'POST'])
def insertion_pays():
    form = InsertionPays()

    if form.validate_on_submit():
        nom_pays = clean_arg(request.form.get("nom_pays", None))
        code_pays = clean_arg(request.form.get("code_pays", None))
        type = clean_arg(request.form.get("type", None))
        introduction = clean_arg(request.form.get("introduction", None))
        ressources = clean_arg(request.form.getlist("ressources", None))
        continent = clean_arg(request.form.get("continent", None))

        nouveau_pays = Country(id=code_pays, Introduction=introduction, name=nom_pays, type = type)
```

# TD: route

```
for ressource in ressources:  
    nouveau_pays.resources.append(Resources.query.filter(Resources.id == ressource).first())  
  
nouveau_pays.maps.append(Map.query.filter(Map.name==continent).first())  
  
db.session.add(nouveau_pays)  
db.session.commit()  
  
return render_template("pages/insertion_pays.html",  
                      sous_titre= "Insertion pays" ,  
                      form=form)
```

# TD: configuration de l'application

```
# app.py  
...  
from .routes import generales, insertions
```

# Gestion des erreurs

# try ... except ...

```
try:  
    # bloc du code que l'on souhaite exécuter  
    print("Tout va bien")  
except Exception as e:  
    # bloc de code à lancer lorsqu'une erreur survient dans le try  
    print("Une erreur est survenue : " + e)
```

# try ... except ...

```
# routes/insertions.py /insertions/pays

@app.route("/insertions/pays", methods=['GET', 'POST'])
def insertion_pays():
    form = InsertionPays()
    try:
        if form.validate_on_submit():
            ...
    except Exception as e :
        print(e)

    return render_template("pages/insertion_pays.html",
                          sous_titre= "Insertion pays" , form=form)
```

# flash()

```
# routes/insertions.py /insertions/pays

...
from flask import render_template, request, flash

@app.route("/insertions/pays", methods=['GET', 'POST'])
def insertion_pays():
    form = InsertionPays()
    try:
        if form.validate_on_submit():
            ...
            flash("L'insertion du pays " + nom_pays + " s'est correctement déroulée", 'info')

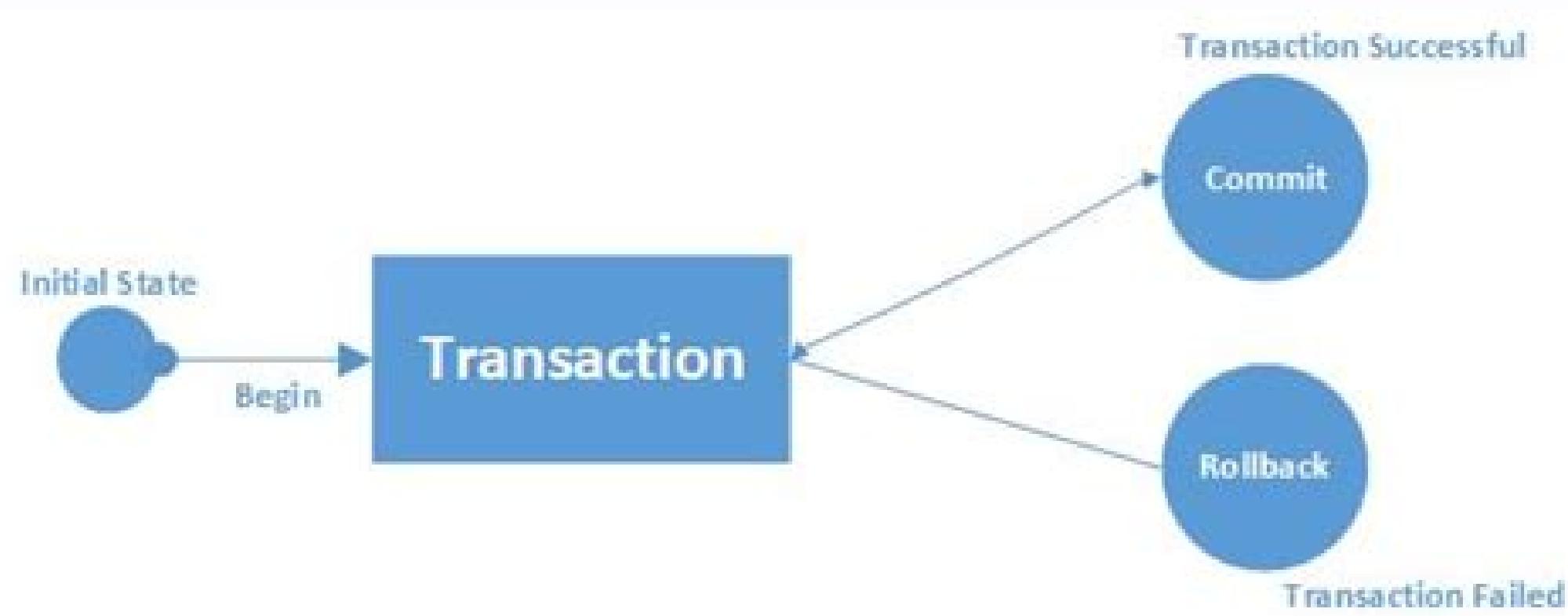
    except Exception as e :
        flash("Une erreur s'est produite lors de l'insertion de " + nom_pays + " : " + str(e), "error")
```

# flash()

```
<!-- partials/conteneur.html -->
...
<div class="container">
    {% with messages = get_flashed_messages(with_categories=true) %}
    {% if messages %}
        <div class="row">
            <div class="col">
                {% for category, message in messages %}
                    <div class="alert alert-{{category}}" role="alert">{{ message }}</div>
                {% endfor %}
            </div>
        </div>
    {% endif %}
    {% endwith %}
    <div class="row">
        <div class="col">
            {% block body %}{% endblock %}
        </div>
    </div>
</div>
...

```

# ROLLBACK



# ROLLBACK

```
# routes/insertions.py /insertions/pays
...
@app.route("/insertions/pays", methods=['GET', 'POST'])
def insertion_pays():
    form = InsertionPays()
    try:
        if form.validate_on_submit():
            ...
            db.session.add(nouveau_pays)
            db.session.commit()
    except Exception as e:
        db.session.rollback()

    return render_template("pages/insertion_pays.html",
                          sous_titre= "Insertion pays" , form=form)
```

# Redirections

```
# routes/generales.py /  
  
@app.route("/")  
def accueil():  
    return redirect(url_for("pays"))  
  
@app.route("/pays")  
@app.route("/pays/<int:page>")  
def pays(page=1):  
    ...
```