

ADVANCED PYTHON PROGRAMMING

DOCKER APPLICATION DOCUMENTATION

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Docker installation:



The screenshot shows the Visual Studio Code interface with the Docker extension installed. The terminal tab is active, displaying the following command sequence:

```
@harshu2215 ~/demo-docker-website $ cat > site/static/script.js <<'EOF'
let count = 0;
const btn = document.getElementById('btn');
const display = document.getElementById('count');

btn.addEventListener('click', () => {
  count++;
  display.textContent = `You've clicked ${count} times.`;
});
EOF
@harshu2215 ~/demo-docker-website $ cat > nginx.conf <<'EOF'
events {}

http {
  include mime.types;
  default_type application/octet-stream;

  server {
    listen 80;
    server_name localhost;
}

EOF
error_page 404 /index.html;1;
@harshu2215 ~/demo-docker-website $ docker build -t docker-web-app
docker run -d -p 8080:80 docker-web-app
[+] Building 1.6s (9/9) FINISHED
[+] Loading 1.45MB
[+] Loading metadata for docker.io/library/nginx:alpine
[+] auth library/nginx:pull token for registry-1.docker.io
[+] Loading 0.0B
[+] Transferring context: 28B
[+] FROZEN
[+] Transferring docker.io/library/nginx:alpine@sha256:b3c656d55d7ad751196f21b7fd2e8d4da9cb430e32f646adcf92441b72f82b14
[+] Loading 0.0B
[+] Loading metadata for docker.io/library/nginx:alpine
[+] auth docker.io/library/nginx:pull token for registry-1.docker.io
[+] Loading 0.0B
[+] Transferring context: 1.88kB
[+] CACHED [2/3]
[+] COPY nginx.conf /etc/nginx/nginx.conf
[+] COPY site/ /usr/share/nginx/html/
[+] CACHED [3/3]
```

The Docker extension is listed in the extensions sidebar on the left.

Python code :

```
app.py > ...
6 app.secret_key = os.environ.get('SESSION_SECRET', 'dev-secret-key')
7 app.config['SQLALCHEMY_DATABASE_URI'] = os.environ.get("DATABASE_URL")
8 app.config['SQLALCHEMY_ENGINE_OPTIONS'] = {
9     "pool_recycle": 300,
10    "pool_pre_ping": True,
11 }
12
13 db.init_app(app)
14
15 def init_sample_data():
16     if Destination.query.count() == 0:
17         destinations_data = [
18             {
19                 'name': 'Bali',
20                 'country': 'Indonesia',
21                 'description': 'A tropical paradise known for beautiful beaches, rice terraces, a
spiritual culture.',
22                 'popular_activities': 'Surfing, Yoga, Temple visits, Diving',
23                 'best_season': 'April to October',
24                 'certifications': [
25                     {
26                         'name': 'PADI Open Water Diver',
27                         'category': 'Scuba Diving'
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```

```
app.py > ...
134
135     destination = Destination(**dest_data)
136     db.session.add(destination)
137     db.session.flush()
138
139     for cert_data in certs_data:
140         cert = Certification(**cert_data, destination_id=destination.id)
141         db.session.add(cert)
142
143     for tour_data in tours_data:
144         tour = Tour(**tour_data, destination_id=destination.id)
145         db.session.add(tour)
146
147     db.session.commit()
148
149     with app.app_context():
150         db.create_all()
151         init_sample_data()
152
153     @app.route('/')
154     def index():
155         destinations = Destination.query.all()
```

Html code:

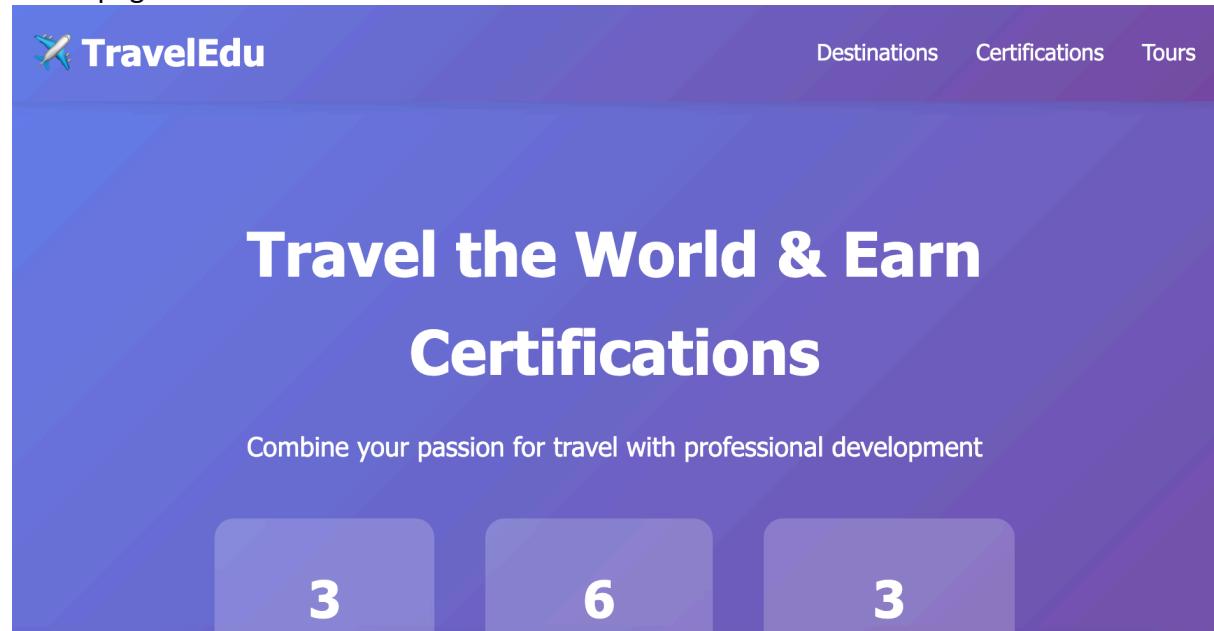
```
1  {% extends "base.html" %}  
2  
3  {% block content %}  
4  <div class="hero">  
5      <div class="hero-content">  
6          <h1>Travel the World & Earn Certifications</h1>  
7          <p>Combine your passion for travel with professional development</p>  
8          <div class="stats">  
9              <div class="stat-card">  
10                 <h3>{{ destinations|length }}</h3>  
11                 <p>Destinations</p>  
12             </div>  
13             <div class="stat-card">  
14                 <h3>{{ total_certifications }}</h3>  
15                 <p>Certifications</p>  
16             </div>  
17             <div class="stat-card">  
18                 <h3>{{ total_tours }}</h3>  
19                 <p>Tours Available</p>  
20             </div>  
21         </div>  
22     </div>  
23 </div>
```

Css code:

```
1  * {  
2      margin: 0;  
3      padding: 0;  
4      box-sizing: border-box;  
5  }  
6  
7  body {  
8      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;  
9      line-height: 1.6;  
10     color: #333;  
11     background-color: #f5f7fa;  
12  }  
13  
14 .navbar {  
15     background: linear-gradient(135deg, #667eea 0%, #764ba2 100%);  
16     padding: 1rem 0;  
17     box-shadow: 0 2px 10px rgba(0,0,0,0.1);  
18     position: sticky;  
19     top: 0;  
20     z-index: 1000;  
21  }  
22  
23 .nav-container {
```

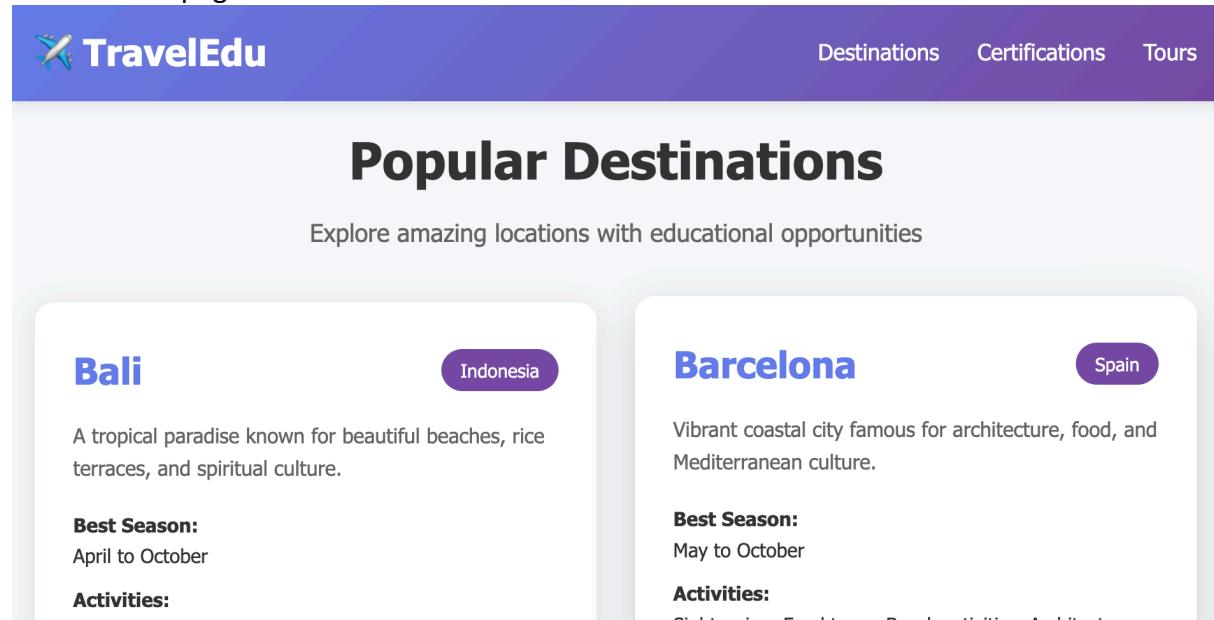
Generated application:

Home page



The screenshot shows the TravelEdu home page with a purple header featuring the logo and navigation links for Destinations, Certifications, and Tours. The main section has a blue gradient background with the text "Travel the World & Earn Certifications" and a subtitle "Combine your passion for travel with professional development". Below this are three large, rounded rectangular buttons containing the numbers 3, 6, and 3.

Destinations page



The screenshot shows the TravelEdu destinations page with a purple header featuring the logo and navigation links for Destinations, Certifications, and Tours. The main section has a light blue gradient background with the heading "Popular Destinations" and a subtitle "Explore amazing locations with educational opportunities". It features two destination cards: "Bali" (Indonesia) and "Barcelona" (Spain).

Destination	Country	Description	Best Season	Activities
Bali	Indonesia	A tropical paradise known for beautiful beaches, rice terraces, and spiritual culture.	April to October	Sightseeing, Food tours, Beach activities, Architecture
Barcelona	Spain	Vibrant coastal city famous for architecture, food, and Mediterranean culture.	May to October	Sightseeing, Food tours, Beach activities, Architecture

Available certifications in chosen location:



Destinations Certifications Tours

Available Certifications

Japanese Language Proficiency Test (JLPT)

Language

Provider: Tokyo Language School

Prepare for official Japanese language certification.

⌚ 8-16 weeks

💰 \$1500.0

📋 None

Sushi Chef Certification

Culinary Arts

Provider: Tokyo Sushi Academy

Available tours in selected location:



Destinations Certifications Tours

[Home](#) / Tokyo

Tokyo, Japan

Modern metropolis blending ancient traditions with cutting-edge technology.

📅 Best Time to Visit

March to May, September to November

🎯 Popular Activities

Temple visits, Shopping, Food experiences, Technology tours