

WEB DEVELOPMENT

DJANGO MIDDLEWARE

Library

- ✓ Middleware is a lightweight plugin that processes during request and response execution.
- ✓ Middleware is used to perform a function in the application.
- ✓ The functions can be a security, session, csrf protection, authentication etc.
- ✓ Django provides various built-in middleware and also allows us to write our own middleware.
- ✓ Middleware purpose is to alter request and response information.

1. PROJECT: CREATE A WEB APPLICATION WITH MIDDLEWARE

1. Create project , application and run the server.

```
C:\Windows\system32\cmd.exe - python manage.py runserver  
D:\Django>django-admin startproject project6  
D:\Django>cd project6  
D:\Django\project6>python manage.py startapp apps  
D:\Django\project6>python manage.py runserver  
Watching for file changes with StatReloader  
Performing system checks...  
  
System check identified no issues (0 silenced).  
You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations f  
or app(s): admin, auth, contenttypes, sessions.  
Run 'python manage.py migrate' to apply them.  
January 21, 2022 - 15:50:07  
Django version 4.0.1, using settings 'project6.settings'  
Starting development server at http://127.0.0.1:8000/  
Quit the server with CTRL-BREAK.
```

WEB DEVELOPMENT

2. Add application name in settings file

```
settings.py
# Build paths inside the project like this: BASE_DIR / 'subdir'.
BASE_DIR = Path(__file__).resolve().parent.parent

# Quick start development settings - unsuitable for production
# See https://docs.djangoproject.com/en/4.0/howto/deployment/checklist/

# SECURITY WARNING: keep the secret key used in production secret!
SECRET_KEY = 'django-insecure-ag2zxi8zva^q#2g@i7m-l((3x_40c)ty0m5!n%5$p qvsncusn'

# SECURITY WARNING: don't run with debug turned on in production!
DEBUG = True

ALLOWED_HOSTS = []

# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'mapp'
]
```

3. Configure Views file.

```
views.py
from django.shortcuts import render
from django.http import HttpResponse
# Create your views here.
def hello(request):
    print('This line printed by view function while processing request')
    return HttpResponse('<h1>APPLICATION RUNNING SUCCESSFULLY</h1>')
```

4. Configure url file

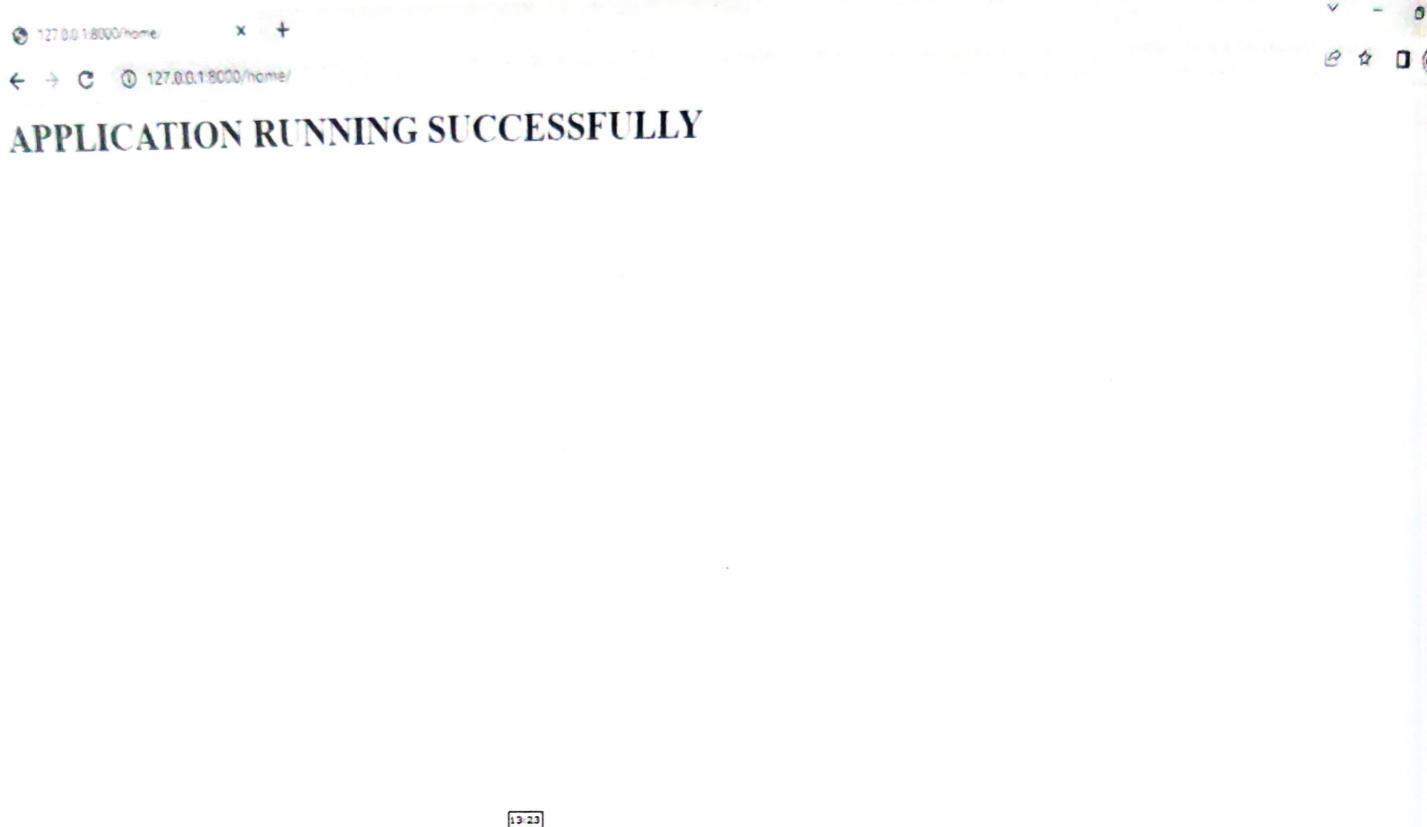
```
urls.py
from django.contrib import admin
from django.urls import path
from mapp import views
urlpatterns = [
    path('admin/', admin.site.urls),
    path('home/', views.hello)
]
```

5. Run the server.

```
Administrator: C:\Windows\system32\cmd.exe - python manage.py runserver
D:\Django\middlepro1>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...
System check identified no issues (0 silenced).
You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations f
or app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.
April 25, 2022 - 21:14:18
Django version 4.0.3, using settings 'middlepro1.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
Not Found: /
[25/Apr/2022 21:14:33] "GET / HTTP/1.1" 404 2168
Not Found: /favicon.ico
[25/Apr/2022 21:14:34] "GET /favicon.ico HTTP/1.1" 404 2219
[25/Apr/2022 21:14:38] "GET /home HTTP/1.1" 301 0
This line printed by view function while processing request
[25/Apr/2022 21:14:38] "GET /home/ HTTP/1.1" 200 41
D:\Django\middlepro1\mapp\views.py changed, reloading.
Watching for file changes with StatReloader
Performing system checks...
13:23
System check identified no issues (0 silenced).
```

WEB DEVELOPMENT

6. Verify in browser.



7. Create middle.py file

```
middle.py
```

```
from django.http import HttpResponse
class Testing(object):
    def __init__(self,get_response):
        self.get_response=get_response

    def __call__(self,request):
        return HttpResponse('<h1>APPLICATION HAS STOPPED</h1>')
```

WEB DEVELOPMENT

8. Add middleware name in settings file

settings.py

```
'django.contrib.auth',
'django.contrib.contenttypes',
'django.contrib.sessions',
'django.contrib.messages',
'django.contrib.staticfiles',
'mapp'

]

MIDDLEWARE = [
    django.middleware.security.SecurityMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
    'django.contrib.messages.middleware.MessageMiddleware',
    'django.middleware.clickjacking.XFrameOptionsMiddleware',
    'mapp.middle.Testing'
]
```

application file class name

OUTPUT:



APPLICATION HAS STOPPED

2. PROJECT: CREATE A WEB APPLICATION WITH MIDDLEWARE

1. Create project , application.

```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.22000.613]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Mani>d:

D:\>cd Django

D:\Django>django-admin startproject middlepro2

D:\Django>cd middlepro2

D:\Django\middlepro2>python manage.py startapp mapp

D:\Django\middlepro2>
```

2. Add application name in settings file

```
settings.py
# See https://docs.djangoproject.com/en/4.0/howto/deployment/checklist/
# SECURITY WARNING: keep the secret key used in production secret!
SECRET_KEY = 'django-insecure--w^!l4lt_e(psvr^j0*4@at*wnorf3xtk_rz6#@rn)51ck77a7'

# SECURITY WARNING: don't run with debug turned on in production!
DEBUG = True

ALLOWED_HOSTS = []

# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'mapp'
]
```

3. Configure Views file.

views.py

```
from django.shortcuts import render
from django.http import HttpResponse
def hello(request):
    return HttpResponse('<h1>WELCOME TO SYSTECH GROUP</h1>')
```

4. Configure url file

urls.py

```
from django.contrib import admin
from django.urls import path
from mapp import views
urlpatterns = [
    path('admin/', admin.site.urls),
    path('home/', views.hello)
]
```

5. Create middle.py file

middle.py

```
from django.http import HttpResponse
class Testing(object):
    def __init__(self,get_response):
        self.get_response=get_response
    def __call__(self,request):
        return HttpResponse('<h1>PAGE HAS STOPPED</h1>')
```

6. Add middleware name in settings file

```
MIDDLEWARE = [
    'django.middleware.security.SecurityMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
    'django.contrib.messages.middleware.MessageMiddleware',
    'django.middleware.clickjacking.XFrameOptionsMiddleware',
    'mapp.middle.Testing'
]
```

7. Run the server.

```
Administrator C:\Windows\system32\cmd.exe - python manage.py runserver
```

```
D:\Django\middlepro2>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations f
or app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.

April 26, 2022 - 12:52:29
Django version 4.0.3, using settings 'middlepro2.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
[26/Apr/2022 12:53:01] "GET /home/ HTTP/1.1" 200 25
[26/Apr/2022 12:53:01] "GET /favicon.ico HTTP/1.1" 200 25
```

8. Verify in browser



9. Configure Views file

views.py

```
from django.shortcuts import render
from django.http import HttpResponse
def hello(request):
    print(100/0)
    return HttpResponse('<h1>WELCOME TO SYSTECH GROUP</h1>')
```

if

10. Add process_exception in middle file

middle.py

```
from django.http import HttpResponse
class Testing(object):
    def __init__(self, get_response):
        self.get_response = get_response
    def __call__(self, request):
        response = self.get_response(request)
        return response
    def process_exception(self, request, exception):
        s = '<h1>TECHNICAL ISSUES</h1>'
        return HttpResponse(s)
```

11. Run the server

```
Administrator: C:\Windows\system32\cmd.exe - python manage.py runserver
D:\Django\middlepro2>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...
```

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations for your app(s): admin, auth, contenttypes, sessions.

Run 'python manage.py migrate' to apply them.

April 26, 2022 - 15:29:31

Django version 4.0.3, using settings 'middlepro2.settings'

Starting development server at http://127.0.0.1:8000/

Quit the server with CTRL-BREAK.

12. Verify in browser.



13. Configure Views file.

views.py

```
from django.shortcuts import render
from django.http import HttpResponse
def hello(request):
    print(100/3)
    return HttpResponse('<h1>WELCOME TO SYSTECH GROUP</h1>')
```

OUTPUT:



WELCOME TO SYSTECH GROUP

3. PROJECT: CREATE A WEB APPLICATION WITH MIDDLEWARE

1. Create project , application.

```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.22000.613]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Mani>d:

D:\>cd Django

D:\Django>django-admin startproject middproject3

D:\Django>cd middproject3

D:\Django\middproject3>python manage.py startapp mapp

D:\Django\middproject3>
```

2. Create middle.py file.

```
middle.py

from django.http import HttpResponse
class Add(object):
    def __init__(self,get_response):
        self.get_response=get_response

    def __call__(self,request):
        response=self.get_response(request)
        return response

    def process_exception(self, request, exception):
        s='<h1>Process Error</h1>'
        return HttpResponse(s)
```

WEB DEVELOPMENT

3. Add application and middle file name in settings file

```
settings.py
31 # Application definition
32 INSTALLED_APPS = [
33     'django.contrib.admin',
34     'django.contrib.auth',
35     'django.contrib.contenttypes',
36     'django.contrib.sessions',
37     'django.contrib.messages',
38     'django.contrib.staticfiles',
39     'mapp'
40 ]
41 ]
42 MIDDLEWARE = [
43     'django.middleware.security.SecurityMiddleware',
44     'django.contrib.sessions.middleware.SessionMiddleware',
45     'django.middleware.common.CommonMiddleware',
46     'django.middleware.csrf.CsrfViewMiddleware',
47     'django.contrib.auth.middleware.AuthenticationMiddleware',
48     'django.contrib.messages.middleware.MessageMiddleware',
49     'django.middleware.clickjacking.XFrameOptionsMiddleware',
50     'mapp.middle.Add'
51 ]
52 ]
53 ]
```

4. Configure Views file

```
views.py
from django.shortcuts import render
from django.http import HttpResponse
def testing(request):
    a=30
    b=50
    c=a+b
    x='<h1>A VALUE IS... '+str(a) +'B VALUE IS... '+str(b) +'SUM VALUE IS... '+str(c) + '</h1>'
    return HttpResponse(x)
```

5. Configure url file

urls.py

```
from django.contrib import admin
from django.urls import path
from mapp import views
urlpatterns = [
    path('admin/', admin.site.urls),
    path('home/', views.testing)
]
```

6. Run the server.

■ Select Administrator C:\Windows\system32\cmd.exe - python manage.py runserver

```
D:\Django\middproject3>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...
```

```
System check identified no issues (0 silenced).
```

```
You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations
or app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.
April 26, 2022 - 16:19:32
Django version 4.0.3, using settings 'middproject3.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
```

WEB DEVELOPMENT

7. Verify in browser



8. Configure Views file

```
views.py
```

```
from django.shortcuts import render
from django.http import HttpResponseRedirect
def testing(request):
    a="30"
    b=50
    c=a+b
    x='<h1>A VALUE IS... '+str(a) +'B VALUE IS... '+str(b) +'SUM VALUE IS... '+str(c)+'
```

OUTPUT:



4. PROJECT: CREATE A WEB APPLICATION WITH MIDDLEWARE

1. Create project , application.

```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.22000.613]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Mani>d:

D:\>cd Django

D:\Django>django-admin startproject midproject4

D:\Django>cd midproject4

D:\Django\midproject4>python manage.py startapp mapp

D:\Django\midproject4>
```

2. Create middle.py file.

middle.py

```
from django.http import HttpResponseRedirect
class Big(object):
    def __init__(self, get_response):
        self.get_response = get_response

    def __call__(self, request):
        response = self.get_response(request)
        return response

    def process_exception(self, request, exception):
        s = '<h1>Process Error</h1>'
        return HttpResponseRedirect(s)
```

3. Add application and middle file name in settings file

settings.py

```
# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'mapp'
]

MIDDLEWARE = [
    'django.middleware.security.SecurityMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
    'django.contrib.messages.middleware.MessageMiddleware',
    'django.middleware.clickjacking.XFrameOptionsMiddleware',
    'mapp.middle.Big'
]
```

4. Configure Views file

```
views.py  
x  
from django.shortcuts import render  
from django.http import HttpResponse  
def testing(request):  
    a=5  
    b=10  
    if a>b:  
        s="A is Big"  
    else:  
        s="B is Big"  
    x='<h1><font color="red">A IS... '+ str(a) +' B IS... '+ str(b) +' '+ str(s)+ '</font></h1>'  
    return HttpResponse(x)
```

5. Configure url file

```
urls.py  
•  
from django.contrib import admin  
from django.urls import path  
from mapp import views  
urlpatterns = [  
    path('admin/', admin.site.urls),  
    path('index/', views.testing)  
]
```

WEB DEVELOPMENT

6. Run the server.

```
Administrator: C:\Windows\system32\cmd.exe python manage.py runserver  
D:\Django\midproject4>python manage.py runserver  
Watching for file changes with StatReloader  
Performing system checks...
```

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations if
or app(s): admin, auth, contenttypes, sessions.

Run 'python manage.py migrate' to apply them.

```
April 26, 2022 - 16:32:52  
Django version 4.0.3, using settings 'midproject4.settings'  
Starting development server at http://127.0.0.1:8000/  
Quit the server with CTRL-BREAK.
```

Front

SS

Backend

Frontend
model

ORM

CRUD

CSV

Template
Session
Model

User Data

OUTPUT:

```
127.0.0.1:8000/index/ x +  
← → C ① 127.0.0.1:8000/index/
```

A IS... 5 B IS... 10 B is Big