

INVENTORY MANAGEMENT SYSTEM FOR RETAILERS

Domain: Cloud Application Development

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CREATE FLASK PROJECT

PHYTHON

- APPLICATION.PY

From flask import Flask, render_template, jsonify, request, redirect, flash, Markup, url_for, session

From models import *
From datetime import date
Folder_name="static"

App = Flask(_name_)

App.config*"SQLALCHEMY_DATABASE_URI"+ =
"postgresql://postgres:password@localhost:5432/inventoryDB"
App.config*"SQLALCHEMY_TRACK_MODIFICATIONS"+ = False
App.secret_key = b'hkabs3720/'
Db.init_app(app)

@app.route("/")
Def index():
Return render_template("index.html")

@app.route("/logout")
Def logout():
Return render_template("index.html")

```
@app.route("/dashboard", methods=["POST"])
def dashboard():
```

```
    Unam = request.form.get("username")
    Pwd = request.form.get("password")
```

```
    Ulist=user_tbl.query.filter_by(userName=unam).first()
    Session['username']+= unam
    Session['userid']+= ulist.userID
    Session['utype']+= ulist.userType
    If ulist.pwd==pwd:
        # uid=ulist.userid
        Return render_template("dashboard.html")
    Else:
        Return render_template("index.html")
```

```
@app.route("/saveItemCategory", methods=["POST"])
def saveItemCategory():
```

```
    Idesc = request.form.get("ItemCategoryDesc")
    ItemCategor = ItemCategory(ItemCatDesc=idesc)
    Db.session.add(ItemCategor) Db.session.commit()
    Text=idesc+'record Saved Successfully'
    Return render_template("dashboard.html", text=text)
```

```
@app.route("/ItemsCategory")
```

```
def ItemsCategory():
```

```
    catList=ItemCategory.query.all()
    tabl=""<div class="form-group">
        <table class="table table-bordered border-success"><TH>
            <TD>Item Category ID</TD>
            <TD>Item Category Name</TD></TH>""
    For itm in catList:
        Tabl=tabl+"<TR"
    ><td></td><TD>"+str(itm.ItemCatID)+"</TD><TD>"+itm.ItemCatDesc+"</TD></TR>"
        Tabl=tabl+"</TABLE></div>"
    Strg=""<form action="/saveItemCategory" method="post">
        <div class="text-center"><h5>Add Item Category</h5></div><hr>
    <div class="mb-3">
        <label for="ItemCategoryDesc" class="form-label">Item Category Description</label>
        <input type="text" class="form-control" name="ItemCategoryDesc" placeholder="Enter
    Item Category Name">
    </div>
    <div class="col-12">
```

```

        <button type="submit" class="btn btn-success mb-3">Save Item Category</button>
    </div>

```

```

</FORM>

```

```

<BR>

```

```

''' + tabl

```

```

    Text= Markup(strg)

```

```

    Return render_template("dashboard.html", text=text)

```

```

@app.route("/saveItem",

```

```

methods=*"POST"+)Def saveItem():

```

```

    icatID = int(request.form.get("ItemCatID"))

```

```

    itmNam = request.form.get("ItemName")

```

```

    AvAmt = int(request.form.get("AvailAmt"))

```

```

    ItemMas = ItemMaster(ItemCatID=icatID, ItemDesc=itmNam,AvailAmt=AvAmt )

```

```

    Db.session.add(ItemMas)

```

```

    Db.session.commit()

```

```

    Text=itmNam+' record Saved Successfully'

```

```

    Return render_template("dashboard.html", text=text)

```

```

@app.route("/Items")

```

```

Def Items():

```

```

    itmList= ItemMaster.query.all()

```

```

    tabl="""<div class="form-group">

```

```

        <table class="table table-bordered border-success" ><TH>

```

```

        <TD>Item ID</TD>

```

```

        <TD>Item Category</TD>

```

```

        <TD>Item Name</TD></TH>"""

```

```

    For itm in itmList:

```

```

        Tabl=tabl+"<TR>

```

```

><td></td><TD>"+str(itm.ItemID)+"</TD><TD>"+itm.ItemDesc+"</TD><TD>"+itm.itemCat.ItemCatDesc+"</TD></TR>"

```

```

        Tabl=tabl+"</TABLE></div>"

```

```

    catList= ItemCategory.query.all()

```

```

    dd="""<div class="form-group">

```

```

        <select class="form-control" name="ItemCatID">"""

```

```

    For cat in catList:

```

```

        Dd=dd+"<option value='"+str(cat.ItemCatID)+"'>"+cat.ItemCatDesc +"</option>"

```

```

        Dd=dd+ """</select>

```

```

</div>"""

```

```

Strg="""<form action="/saveItem" method="post">

```

```

<div class="text-center"><h5>Add Items</h5></div><hr>
<div class="mb-3">
  <label for="ItemCatID" class="form-label">Item Category </label>""+dd+""

</div>
<div class="mb-3">
  <label for="ItemName" class="form-label">Item Description</label>
  <input type="text" class="form-control" name="ItemName" placeholder="Enter Item
Name">
</div>
<div class="mb-3">
  <label for="AvailAmt" class="form-label">Available Amount</label>
  <input type="text" class="form-control" name="AvailAmt" placeholder="How many Itemsavailable?">
</div>
<div class="col-12">
  <button type="submit" class="btn btn-success mb-3">Save Item</button>
</div>
</FORM>
<BR>
""+tabl

```

```

Text=Markup(strg)
Return render_template("dashboard.html", text=text)

```

```

@app.route("/UpdateItems", methods=["POST"])
Def UpdateItems():
  iID = int(request.form.get("ItemID"))
  aDate = request.form.get("AddDate")
  aQty = int(request.form.get("AddQty"))
  vName = request.form.get("VendorName")
  altems = AddItem(AddDate=aDate, AddQty=aQty, VendorName=vName, ItemID=iID)
  upVal = ItemMaster.query.filter_by(ItemID=iID).first()
  newUnits= upVal.AvailAmt
  upVal.AvailAmt = newUnits+aQty
  db.session.add(altems)
  db.session.commit()
  text=str(aQty)+' '+upVal.ItemDesc+' Added Successfully'
  return render_template("dashboard.html", text=text)

```

```

@app.route("/AddItems")
Def AddItems():
  itmList= ItemMaster.query.all()
  tabl=""<div class="form-group">

```

```

        <table class="table table-bordered border-success" ><TH>
        <TD>Item ID</TD>
        <TD>Item Category</TD>

        <TD>Item Name</TD>
        <TD>Items Available</TD></TH>""
    For itm in itmList:
        Tabl=tabl+"<TR>
        ><td></td><TD>"+str(itm.ItemID)+"</TD><TD>"+itm.ItemDesc+"</TD><TD>"+itm.itemCat.Ite
        mCatDesc+"</TD><TD>"+str(itm.AvailAmt)+"</TD></TR>"
        Tabl=tabl+"</TABLE></div>"
        Dd=""<div class="form-group">
            <select class="form-control" name="ItemID">""
        For itm in itmList:
            Dd=dd+"<option value='"+str(itm.ItemID)+"'>"+itm.ItemDesc +"</option>"Dd=dd+
            ""</select>
        </div>""
        Strg=""<form action="/UpdateItems" method="post">
        <div class="text-center"><h5>Items Available</h5></div><hr>
        <div class="mb-3">
            <label for="ItemID" class="form-label">Select Item </label>""+dd+""
        </div>
        <div class="mb-3">
            <label for="AddDate" class="form-label">Select Date</label>
            <input type="date" class="form-control" Name="AddDate" placeholder="Enter Date of
            Adding Items in Inventory">
        </div>
        <div class="mb-3">
            <label for="AddQty" class="form-label">Items Count</label>
            <input type="text" class="form-control" name="AddQty" placeholder="Items Count">
        </div>
        <div class="mb-3">
            <label for="VendorName" class="form-label">Vendor Name</label>
            <input type="text" class="form-control" name="VendorName" placeholder="Vendor
            Name">
        </div>
        <div class="col-12">
            <button type="submit" class="btn btn-success mb-3">Save Item</button>
        </div>
    </FORM><BR>
    ""+tabl
    Text=Markup(strg)
    Return render_template("dashboard.html", text=text)

```

```
@app.route("/issUpdt/<int:tid>")
```

```
Def issUpdt(tid):
```

```
    llist=request_tbl.query.filter_by(reqID=tid).first()
    upVal="I"
    ilist.Status=upVal
    ilist.issueDate= date.today()
    imlist=ItemMaster.query.filter_by(ItemID=ilist.ItemID).first()
    currCnt=imlist.AvailAmt
    imlist.AvailAmt=currCnt-ilist.RegQty
    db.session.commit()
    text="Item Issued"
    return render_template("dashboard.html", text=text)
```

```
@app.route("/itemIssue")
```

```
Def itemIssue():
```

```
    itmList= request_tbl.query.filter_by(Status=None,)
    strg=""<Form><div class="form-group">
        <table class="table table-bordered border-success" ><TH>
            <TD>Item Name</TD>
            <TD>Date of Request</TD>
            <TD>Quantity Requested</TD>
            <TD>User Name</TD>
            <TD>Issue</TD></TH>""
    For itm in itmList:
        Strg=strg+"<TR>
            ><td></td><TD>" +str(itm.item.ItemDesc)+"</TD><TD>" +str(itm.RegDate)+"</TD><TD>" +str(i
            tm.RegQty)+"</TD>"
            Strg=strg+"<TD>" +str(itm.user.userName)+"</TD><TD>"
            Strg=strg+"<div class=\"col-12\"><a href=\"+
            url_for('issUpdt',tid=itm.reqID)+'>Issue</a></div></TD></TR>"
            Strg=strg+"</TABLE></div></FORM>"

    Text=Markup(strg)
    Return render_template("dashboard.html", text=text)
```

```
@app.route("/retUpdt/<int:tid>")
```

```
Def retUpdt(tid):
```

```
    llist=request_tbl.query.filter_by(reqID=tid).first()
    upVal="R"
    ilist.Status=upVal
    ilist.returnDate= date.today()
```

```

imlist=ItemMaster.query.filter_by(ItemID=ilist.ItemID).first()
currCnt=imlist.AvailAmt imlist.AvailAmt=currCnt+ilist.ReqQty
db.session.commit()
text="Item Returned"

```

```

return render_template("dashboard.html", text=text)

```

```

@app.route("/itemReturn")Def

```

```

itemReturn():

```

```

    itmList= request_tbl.query.filter_by(Status="I",userID=session*'userid'+)

```

```

    strg=""<Form><div class="form-group">

```

```

        <table class="table table-bordered border-success" ><TH>

```

```

        <TD>Item Name</TD>

```

```

        <TD>Date of Issue</TD>

```

```

        <TD>Quantity Issued</TD>

```

```

        <TD>Return</TD></TH>"" For

```

```

    itm in itmList:

```

```

        Strg=strg+"<TR>

```

```

><td></td><TD>"+str(itm.item.ItemDesc)+"</TD><TD>"+str(itm.issueDate)+"</TD><TD>"+str

```

```

(itm.ReqQty)+"</TD>"

```

```

        Strg=strg+"<TD><div class=\"col-12\"><a href=\"+

```

```

url_for('retUpdt',tid=itm.reqID)+">Return</a></div></TD></TR>" Strg=strg+"</TABLE></div></FORM>"

```

```

    Text=Markup(strg)

```

```

    Return render_template("dashboard.html", text=text)

```

```

@app.route("/saveRequest", methods=["POST"]+)

```

```

Def saveRequest():

```

```

    iID = int(request.form.get("ItemID"))

```

```

    rDate = request.form.get("reqDate")

```

```

    rQty = request.form.get("reqQuantity")

```

```

    uid = session*"userid"+

```

```

    dept = request.form.get("depttName")

```

```

    rItems = request_tbl(ReqDeptt=dept, ReqDate=rDate,ItemID=iID, ReqQty=rQty, userID=uid)

```

```

    db.session.add(rItems)

```

```

    db.session.commit()

```

```

    text=str(iID)+' '+str(rQty)+' Requested Successfully'

```

```

    return render_template("dashboard.html", text=text)

```

```

@app.route("/itemRequest")Def

```

```

itemRequest():

```

```

    itmList= ItemMaster.query.all()

```

```

    dd=""<div class="form-group">

```

```

        <select class="form-control" name="ItemID">'''
For itm in itmList:
    Dd=dd+"<option value='"+str(itm.ItemID)+"'>"+itm.ItemDesc+"</option>"Dd=dd+
'''</select>

</div>'''

itmList= request_tbl.query.filter_by(userID=session*'userid'+)
tbl='''<DIV><table class="table table-bordered border-success" ><TH>
    <TD>Item Name</TD>
    <TD>Date of Request</TD>
    <TD>Date of Issue</TD>
    <TD>Quantity Issued</TD></TH>'''
For itm in itmList:
    Tbl=tbl+"<TR>
<td></td><TD>"+str(itm.item.ItemDesc)+"</TD><TD>"+str(itm.RegDate)+"</TD><TD>"+str(i
tm.issueDate)+"</TD>"
    Tbl=tbl+"<TD>"+str(itm.RegQty)+"</TD></TR>"
    Tbl=tbl+"</TABLE></div>"
    Strg='''<form action="/saveRequest" method="post">
<div class="text-center"><h5>Request Item</h5></div><hr>
<div class="mb-3">
    <label for="ItemID" class="form-label">Select Item </label>''' +dd+'''
</div>
<div class="mb-3">
    <label for="reqDate" class="form-label">Request Date</label>
    <input type="date" class="form-control" name="reqDate" placeholder="Select Request
Date">
</div>
<div class="mb-3">
    <label for="reqQty" class="form-label">Request Quantity</label>
    <input type="number" class="form-control" name="reqQuantity" placeholder="Items
Count">
</div>
<div class="mb-3">
    <label for="depttName" class="form-label">Department</label>
    <input type="text" class="form-control" name="depttName" placeholder="Department ">
</div>
<div class="col-12">
    <button type="submit" class="btn btn-success mb-3">Request Item</button>
</div>
</FORM><BR>
''' +tbl
    Text=Markup(strg)

```



```
Return render_template("dashboard.html", text=text)
```

Models.py

```
Import os
```

```
From flask import Flask
```

```
From flask_sqlalchemy import SQLAlchemy
```

```
Db = SQLAlchemy()
```

```
Class ItemCategory(db.Model):
```

```
    __tablename__="ItemsCategory"
```

```
    ItemCatID = db.Column(db.Integer, primary_key=True)
```

```
    ItemCatDesc =db.Column(db.String,nullable=False)
```

```
Class ItemMaster(db.Model):
```

```
    __tablename__="ItemMaster"
```

```
    ItemID = db.Column(db.Integer, primary_key=True)
```

```
    ItemCatID = db.Column(db.Integer,db.ForeignKey("ItemsCategory.ItemCatID"),  
nullable=False)
```

```
    ItemDesc = db.Column(db.String,nullable=False)
```

```
    AvailAmt = db.Column(db.Integer,nullable=False)
```

```
    itemCat = db.relationship("ItemCategory", backref="itemCat", lazy=True)
```

```
class AddItem(db.Model):
```

```
    __tablename__="AddItems"
```

```
    transID=db.Column(db.Integer, primary_key=True)
```

```
    ItemID = db.Column(db.Integer,db.ForeignKey("ItemMaster.ItemID"), nullable=False)
```

```
    AddQty = db.Column(db.Integer, nullable=False)
```

```
AddDate = db.Column(db.Date,nullable=False)
VendorName = db.Column(db.String,nullable=False)
```

```
Class request_tbl(db.Model):
```

```
    __tablename__="request_tbl"
    reqID=db.Column(db.Integer, primary_key=True)
    ReqDeptt=db.Column(db.String,nullable=False)
    ReqDate =db.Column(db.Date,nullable=False)
    ItemID = db.Column(db.Integer,db.ForeignKey("ItemMaster.ItemID"), nullable=False)
    ReqQty = db.Column(db.Integer, nullable=False)
    userID = db.Column(db.Integer,db.ForeignKey("user_tbl.userID"), nullable=False)
    Status=db.Column(db.String,nullable=False)
    issueDate=db.Column(db.Date,nullable=False)
    returnDate=db.Column(db.Date,nullable=False)
    item = db.relationship("ItemMaster", backref="item", lazy=True)
    user = db.relationship("user_tbl", backref="user", lazy=True)
```

```
class user_tbl(db.Model):
```

```
    __tablename__="user_tbl"
    userID=db.Column(db.Integer, primary_key=True)
    userName=db.Column(db.String,nullable=False)
    pwd=db.Column(db.String,nullable=False)
    userType=db.Column(db.String,nullable=False)
```

index.html

```
<HTML>
```

```
<head>
```

```

<link href=https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/css/bootstrap.min.css
rel="stylesheet" integrity="sha384-
BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wuqlj61tLrc4wSX0szH/Ev+nYRRuWlolflfl" crossorigin="anonymous">

<script src=https://cdn.jsdelivr.net/npm/@popperjs/core@2.6.0/dist/umd/popper.min.js
integrity="sha384-
KsvD1yqQ1/1+IA7gi3P0tyJcT3vR+NdBTt13hSJ2Inve8agRGXTTyNaBYmCR/Nwi"
crossorigin="anonymous"></script>

<script src=https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/js/bootstrap.min.js
integrity="sha384-
nsg8ua9Haw1y0W1btsyWgBklPnCUAFLuTMS2G72MMONqmOymq585AcH49TLBQObG"
crossorigin="anonymous"></script>

</head>

<body>

<div class="row" style="height:50%; margin-top:5%; ">

    <div class="col-4" >

        </div>

        <div class="col-4" style="border-style:solid; border-color:grey; border-width:1px;box-
shadow: 10px 10px 10px grey;padding-top:10px">

            <form action=",, url_for('dashboard')--" method="post">

                <div class="form-group mx-sm-3 mb-2">

                    <label for="username" class="sr-only">User Name</label>

                    <input type="text" class="form-control" name="username" placeholder="User Name">

                </div>

                <div class="form-group mx-sm-3 mb-2">

                    <label for="inputPassword2" class="sr-only">Password</label>

                    <input type="password" class="form-control" name="password" placeholder="Password">

                </div>

                <button type="submit" class="btn btn-primary mb-2">Confirm identity</button>

            </form>

        </div>

```

<body>

Dashboard.html

<HTML>

<head>

<link href=<https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/css/bootstrap.min.css>
rel="stylesheet" integrity="sha384-BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wuqlj61tLrc4wSX0szH/Ev+nYRRuWlolflfl" crossorigin="anonymous">

<script src=<https://cdn.jsdelivr.net/npm/@popperjs/core@2.6.0/dist/umd/popper.min.js>
integrity="sha384-KsvD1yqQ1/1+IA7gi3P0tyJcT3vR+NdBTt13hSJ2Inve8agRGXTTyNaBYmCR/Nwi"
crossorigin="anonymous"></script>

<script src=<https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/js/bootstrap.min.js>
integrity="sha384-nsg8ua9Haw1y0W1btsyWgBklPnCUAFLuTMS2G72MMONqmOymq585AcH49TLBQObG"
crossorigin="anonymous"></script>

</head>

<body>

<div>

<div style="height: 10px; background-color: rgba(0,0,0,0.8);">

<div class="col-12">

</div>

</div>

<div style="height: 2px; background-color: rgba(0,0,0,0.8);">

<div class="col-12">

</div>

</div>

<div class="container overflow-hidden">

```
<div style="height: 2px; background-color: rgba(255,255,255,0.8);">
```

```
<div class="col-12">
```

```
</div>
```

```
</div>
```

```
<div style="height: 50px; background-color: #ADFF2F; padding-left:30%;padding-top:10px">
```

```
<h3>Inventory- Issues and Returns</h3>
```

```
</div>
```

```
<div style="height: 2px; background-color: rgba(5,6,0,0.8);"></div>
```

```
</div>
```

```
<div class="row" style="height:100%">
```

```
<div class="col-2" style="border-style:solid; border-color:grey; border-width:1px; text-align:left">
```

```
<div class="col-12">
```

```
{% if session*'utype'+ =='Admin' %}
```

```
<div style="width:100%;" >
```

```
<a href=",,url_for('ItemsCategory')--" style="background-color: #ADFF2F;;
```

```
Color: black;border-bottom-style:solid;
```

```
Padding: 14px 25px;
```

```
Text-align: center; Text-
```

```
decoration: none;
```

```
Display: inline-block;width:100%">Add Item Category</a>
```

```
</div>
```

```
<div style="width:100%;">
```

```
<a href=",,url_for('Items')--" style="background-color: #ADFF2F;;
```

```
Color: black;border-bottom-style:solid;
```

```
Padding: 14px 25px;
Text-align: center; Text-
decoration: none;
Display: inline-block; width: 100% ">Add an Item</a>
```

```
</div>
```

```
<div style="width: 100%; ">
```

```
<a href="„url_for('AddItems')--" style="background-color: #ADFF2F;;
```

```
Color: black; border-bottom-style: solid;
```

```
Padding: 14px 25px;
```

```
Text-align: center; Text-
```

```
decoration: none;
```

```
Display: inline-block; width: 100%">Add Items</a>
```

```
</div>
```

```
<div style="width: 100%; ">
```

```
<a href="„url_for('itemIssue')--" style="background-color: #ADFF2F;;
```

```
Color: black; border-bottom-style: solid;
```

```
Padding: 14px 25px;
```

```
Text-align: center; Text-
```

```
decoration: none;
```

```
Display: inline-block; width: 100%">Item Issue</a>
```

```
</div>
```

```
{% endif %}
```

```
{% if session*'utype' + != 'Admin' %}
```

```
<div style="width: 100%; ">
```

```
<a href="„url_for('itemReturn')--" style="background-color: #ADFF2F;
```

```
Color: black; border-bottom-style: solid;
```

Padding: 14px 25px;

Text-align: center; Text-

decoration: none;

Display: inline-block; width: 100%;>Item Return

</div>

<div style="width: 100%;">

<a href="„url_for('itemRequest')--" style="background-color: #ADFF2F;

Color: black; border-bottom-style: solid;

Padding: 14px 25px;

Text-align: center;

Text-decoration: none;

Display: inline-block; width: 100%;>Item Request

</div>

{% endif %}

</div>

</div>

<div class="col-8" style="border-style: solid; border-color: grey; border-width: 1px; padding-top: 10px">

{% block body %}

{{text}}

{% endblock %}

</div>

<div class="col-2" style="border-style: solid; border-color: grey; border-width: 1px">

logout „session*'username'+--!

</div>

</div>

</div>

</div>

</div>

</body>

</HTML>