

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'hkhs3720/'  
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 Items
available?">
</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 itemList:
        Tabl=tabl+'''<TR
><td></td><TD>'+str(itm.ItemID)+'</TD><TD>'+itm.ItemDesc+'</TD><TD>'+itm.itemCat.ItemCatDesc+'</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 itemList:
            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):

```

```

l1ist=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.ReqQty
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.ReqDate)+"</TD><TD>"+str(i
tm.ReqQty)+"</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):
```

```
l1ist=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.ReqDate)+'</TD><TD>'+str(i
tm.issueDate)+'</TD>'
    Tbl=tbl+'''<TD>'+str(itm.ReqQty)+'</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/FVzBcNJ7UAyJxM6wuuqIj61tLrc4wSX0szH/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/FVzBcNJ7UAyJxM6wquqlj61tLrc4wSX0szH/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+NdbTt13hSJ2lnve8agRGXTTyNaBYmCR/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

</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

</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

</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

</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>