

Project Development Phase Sprint - 3

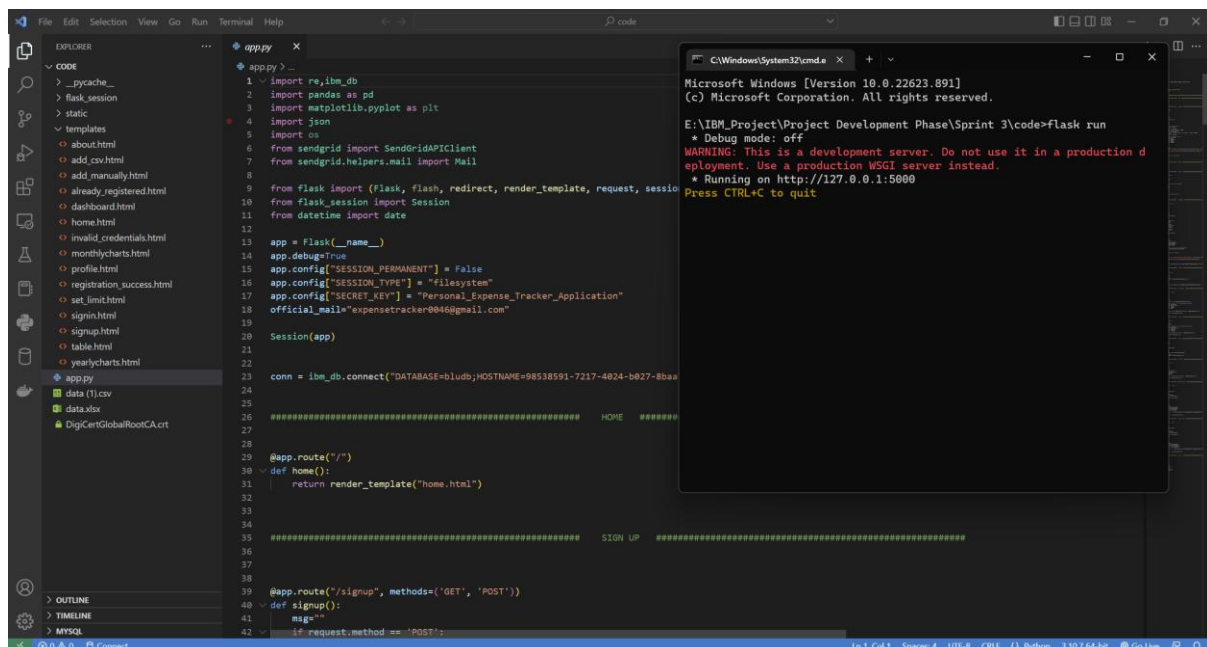
| | |
|--------------|--|
| Date | 18 November 2022 |
| Team ID | PNT2022TMID03865 |
| Project Name | Project – Personal Expense Tracker Application |

In this Sprint, We made frontend and backend integrated. And we have add automation of email to registered mail using SendGrid and Watson assistance is added to assist users if any issues arises.

1. All the services mentioned in the dashboard are integrated with the backend IBM DB2.
2. IBM Watson Assistance Chatbot is added to all the pages in the application which can help the user if any help needed. In Chatbot there are navigation solutions which help the user to locate all the services.
3. SendGrid is used to send emails when a new user is registered and if the user exceeds the usage of expense limits.

Sprint- 3 Screenshots:

Running Flask Application:



```
File Edit Selection View Go Run Terminal Help
EXPLORER
CODE
  > _pycache_
  > flask_session
  > static
  > templates
    > about.html
    > add_exp.html
    > add_manually.html
    > already_registered.html
    > dashboard.html
    > home.html
    > invalid_credentials.html
    > monthlycharts.html
    > profile.html
    > registration_success.html
    > set_limit.html
    > signin.html
    > signup.html
    > table.html
    > yearlycharts.html
  > app.py
  > data (1).csv
  > data.xlsx
  > DigiCertGlobalRootCA.crt
  > OUTLINE
  > TIMELINE
  > MYSQL
  > Connect

app.py
1 import re, ibm_db
2 import pandas as pd
3 import matplotlib.pyplot as plt
4 import json
5 import os
6 from sendgrid import SendGridAPIClient
7 from sendgrid.helpers.mail import Mail
8
9 from flask import Flask, flash, redirect, render_template, request, session
10 from flask_session import Session
11 from datetime import date
12
13 app = Flask(__name__)
14 app.debug = True
15 app.config["SESSION_PERMANENT"] = False
16 app.config["SESSION_TYPE"] = "filesystem"
17 app.config["SECRET_KEY"] = "Personal_Expense_Tracker_Application"
18 official_email = "expensetracker0046@gmail.com"
19
20 Session(app)
21
22 conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=98538591-7217-4024-b027-8baa
23
24
25
26 ##### HOME #####
27
28
29 @app.route("/")
30 def home():
31     return render_template("home.html")
32
33
34
35 ##### SIGN UP #####
36
37
38
39 @app.route("/signup", methods=['GET', 'POST'])
40 def signup():
41     msg = ""
42     if request.method == 'POST':
```

```
Microsoft Windows [Version 10.0.22623.891]
(c) Microsoft Corporation. All rights reserved.

E:\IBM_Project\Project Development Phase\Sprint 3\code>flask run
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production d
ployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
```

IBM Watson Assistance Chatbot:

The screenshot shows the 'Home' dashboard of the IBM Watson Assistant interface. At the top, there's a navigation bar with 'IBM Watson Assistant', 'Lite', 'Upgrade', and 'Personal Expenditures...'. The main content area is divided into several sections:

- Assistant details:** Assistant name: Personal Expense Tracker ChatBot, Description: This Chatbot helps in users in Personal Expense Tracker Application, Assistant language: English (US).
- Task tracker:** A list of tasks with progress bars: 'Enhance your assistant' (16%), 'Test and refine your assistant' (25%), and 'Deploy your assistant' (100%).
- Live assistant status:** A central area showing 'Channels' (Web chat) and 'Resolution Methods' (V1, 11/18/2022 02:05AM, Live).
- Extensions:** A section for 'Search' powered by IBM Watson Discovery, with a 'Try Plus Plan' button.
- Actions:** A table with columns: Name, Last edited, Examples Count, and Status.

Preview:

The screenshot shows the 'Preview assistant' interface. At the top, there's a navigation bar with 'IBM Watson Assistant', 'Lite', 'Upgrade', and 'Personal Expenditures...'. The main content area is divided into several sections:

- Preview assistant:** A central area showing a 'Sample website' with a chatbot interface. The chatbot says: 'Hi! I'm a PETA's virtual assistant. How can I help you today?'. Below this, there are three example buttons: 'Example: Login', 'Example: Signup', and 'Example: Add data'. At the bottom, there's a text input field with 'Type something...' and a 'Send' button.
- Actions:** A table with columns: Name, Last edited, Examples Count, and Status.

Some actions:

IBM Watson Assistant Lite Upgrade Personal Expens... Learning center

PETA

Customer starts with:
Hello

12 total steps 1 end step 1 re-ask step

Conversation steps

1 Welcome, How can I help you?
Create account Login +7
Continue to next step

1 is Create account
You can register using email id and password. Registration need Name, email id, mobile no...
Confirmation
Continue to next step

1 is Login
You can login using email id and password.
 Do you need any further assistance?
Confirmation
Continue to next step

1 is Logout
You can logout by using a dropdown at right top corner of the application.
 Do you need any...
Confirmation
Continue to next step

New step +

Step 1 is taken without conditions

Assistant says

Welcome, How can I help you?

Choose an option

Edit response Edit validation

And then

Continue to next step

Preview

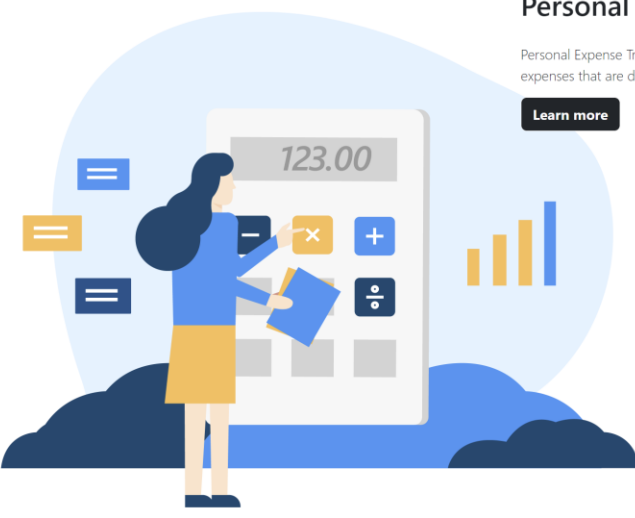
Chatbot integrated with Application:

Personal Expense Tracker Application Home About Register Login

Personal Expense Tracker Application

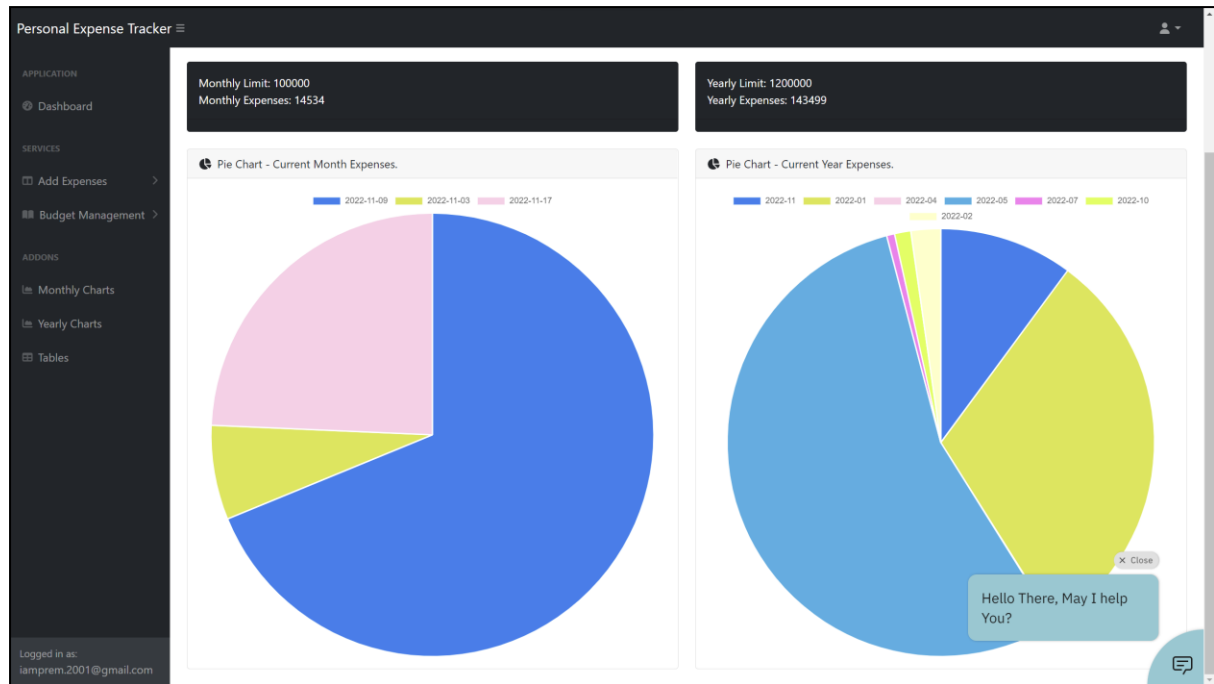
Personal Expense Tracker is an application which helps the customer to track and manage all the expenses that are done by them.

Learn more



Close

Hello There, May I help You?



SendGrid Account Activity:

Expense Tracker

Activity Feed

Timezone: UTC+05:30 - Chennai, Kolkata, Mumbai, New Delhi

Export CSV

Search emails by:

To email address: lamprem.2001

Dates: 2022/11/15 - 2022/11/18

Clear Search

| STATUS | MESSAGE | LAST EVENT RECEIVED | OPENS | CLICKS |
|-----------|---|--------------------------------|-------|--------|
| Delivered | To: lamprem.2001@gmail.com Expense Limit reached | 2022/11/18 5:42pm UTC+05:30 | 6 | 0 |
| Delivered | To: lamprem.2001@gmail.com Registration Successful | 2022/11/18 5:42pm UTC+05:30 | 1 | 0 |

REPUTATION: 75%

VIEW ACCOUNT USAGE

SendGrid Automated Emails:

If new user registered:

The screenshot displays the 'Expense Tracker' application interface. On the left is a sidebar with navigation links: Dashboard, Email API, Marketing, Design Library, Stats, Activity, Suppressions, Settings, and Twilio SMS. The main area is titled 'Activity Feed' and contains a search bar and a table of email activities. The table has columns for 'STATUS' and 'MESSAGE'. Two entries are visible, both marked as 'Delivered'. The first message is 'Expense Limit reached' and the second is 'Registration Successful'. On the right, an 'Email Information' panel is open, showing details for the 'Registration Successful' email. It includes fields for 'To' (iamprem.2001@gmail.com), 'From' (expensetracker0046@gmail.com), and 'Subject' (Registration Successful). Below this, an 'Event History' section shows a timeline of events: 'Received by SendGrid', 'Processed' (2022/11/18 5:41pm UTC+05:30), 'Received by gmail-smtp-in1.google.com', 'Delivered' (2022/11/18 5:41pm UTC+05:30), and 'Opened' (2022/11/18 5:42pm UTC+05:30).

| STATUS | MESSAGE |
|-----------|---|
| Delivered | To: iamprem.2001@gmail.com Expense Limit reached |
| Delivered | To: iamprem.2001@gmail.com Registration Successful |

Email Information

Details

To: iamprem.2001@gmail.com
From: expensetracker0046@gmail.com
Subject: Registration Successful
[More Details](#)

Event History

- Received by SendGrid
- Processed 2022/11/18 5:41pm UTC+05:30
- Received by gmail-smtp-in1.google.com
- Delivered 2022/11/18 5:41pm UTC+05:30
- Received by iamprem.2001@gmail.com
- Opened 2022/11/18 5:42pm UTC+05:30

Registration Confirmation Mail:

The screenshot shows a Gmail inbox with a 'Registration Successful' email from 'expensetracker0046@gmail.com'. The email content reads: 'Hello Prem Kashyap, Welcome to Personal Expense Tracker Application (PETA) . Hope we have a great journey ahead.' The email is marked as 'Received via sendgrid.net' and was received at 5:41 PM (1 hour ago). The Gmail interface includes a sidebar with 'Compose', 'Inbox', 'Starred', 'Snoozed', 'Sent', 'Drafts', and 'More' options, as well as a 'Labels' section. The email is displayed in a clean, modern layout with a light blue header and a green footer.

Registration Successful

expensetracker0046@gmail.com via sendgrid.net
to me

5:41 PM (1 hour ago)

Hello Prem Kashyap,
Welcome to Personal Expense Tracker Application (PETA) .
Hope we have a great journey ahead.

Reply Forward

If Expense limit exceeds:

The screenshot displays the 'Expense Tracker' interface. On the left is a sidebar with navigation links: Dashboard, Email API, Marketing, Design Library, Stats, Activity, Suppressions, Settings, and Twilio SMS. The main area is titled 'Activity Feed' and contains a search bar and a table of email activities. The table has columns for 'STATUS' and 'MESSAGE'. Two entries are shown, both with a 'Delivered' status. The first message is 'Expense Limit reached' and the second is 'Registration Successful', both sent to 'lamprem.2001@gmail.com'. On the right, an 'Email Information' panel is open, showing details for the 'Expense Limit reached' email. It includes fields for 'To' (lamprem.2001@gmail.com), 'From' (expensetracker0046@gmail.com), and 'Subject' (Expense Limit reached). Below this is an 'Event History' section showing a timeline of events: 'Received by SendGrid', 'Processed' (2022/11/18 5:10pm UTC+05:30), 'Received by gmail-smtp-in.l.google.com', 'Delivered' (2022/11/18 5:10pm UTC+05:30), and three 'Opened' events (2022/11/18 5:10pm, 5:25pm, and 5:25pm UTC+05:30).

| STATUS | MESSAGE |
|-----------|---|
| Delivered | To: lamprem.2001@gmail.com Expense Limit reached |
| Delivered | To: lamprem.2001@gmail.com Registration Successful |

Email Information

Details

To: lamprem.2001@gmail.com

From: expensetracker0046@gmail.com

Subject: Expense Limit reached

[More Details](#)

Event History

- Received by SendGrid
- Processed 2022/11/18 5:10pm UTC+05:30
- Received by gmail-smtp-in.l.google.com
- Delivered 2022/11/18 5:10pm UTC+05:30
- Opened 2022/11/18 5:10pm UTC+05:30
- Opened 2022/11/18 5:25pm UTC+05:30
- Opened 2022/11/18 5:25pm UTC+05:30

Expense Alert mail:

The screenshot shows a Gmail inbox with a single email titled 'Expense Limit reached'. The email is from 'expensetracker0046@gmail.com' and was received via 'sendgrid.net'. The body of the email states: 'Monthly expense limit reached. Please use money carefully or increase budget limit.' Below the text are 'Reply' and 'Forward' buttons. The email is marked as 'Inbox' and '1' message. The Gmail interface includes a search bar, a left sidebar with navigation links (Compose, Inbox, Starred, Snoozed, Sent, Drafts, More, Labels), and a right sidebar with various icons.

Expense Limit reached Inbox x

expensetracker0046@gmail.com via sendgrid.net to me

5:10 PM (2 hours ago)

Monthly expense limit reached.
Please use money carefully or increase budget limit.

[Reply](#) [Forward](#)