

Project Development Phase Sprint - 3

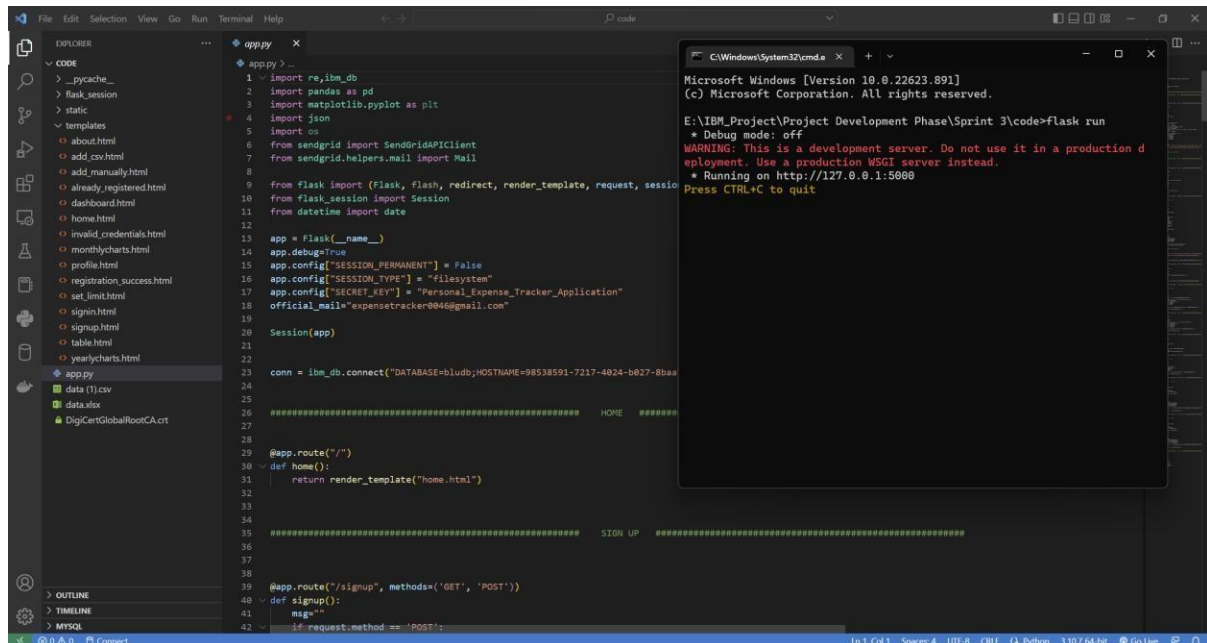
Date	18 November 2022
Team ID	PNT2022TMID47207
Project Name	Project – Personal Expense Tracker Application

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:



The screenshot displays a code editor with a file explorer on the left, a code editor in the center, and a terminal window on the right. The file explorer shows a project structure with files like `app.py`, `data (1).csv`, `data.xlsx`, and `DigiCertGlobalRootCA.crt`. The code editor shows the `app.py` file, which includes imports for `re`, `ibm_db`, `pandas`, `matplotlib.pyplot`, `os`, `sendgrid`, `flask`, `flask_session`, `datetime`, and `Session`. The code defines a Flask application, configures it with a session type of `filesystem` and a secret key, and sets up a database connection to IBM DB2. It also defines a `home` route and a `signup` route. The terminal window shows the command `flask run` being executed, with output indicating that the application is running on `http://127.0.0.1:5000`.

```
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 = "expensetracker9046@gmail.com"
19
20 Session(app)
21
22
23 conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=98538591-7217-4024-b027-8baa
24
25
26 ##### HOME #####
27
28
29 @app.route("/")
30 def home():
31     return render_template("home.html")
32
33
34 ##### SIGN UP #####
35
36
37
38
39 @app.route("/signup", methods=['GET', 'POST'])
40 def signup():
41     msg = ""
42     if request.method == 'POST':
```

IBM Watson Assistance Chatbot:

The screenshot displays the IBM Watson Assistant console interface. At the top, the header shows 'IBM Watson Assistant Lite', 'Upgrade', and 'Personal Expens...'. The main content area is divided into several sections:

- Home:** 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: 5 steps left, 11 min, 16% progress.
 - Test and refine your assistant: 3 steps left, 5 min, 25% progress.
 - Deploy your assistant: 0 steps left, 0 min, 100% progress.
- Live assistant status:** Channels section showing 'Web chat' connected to a central hub icon.
- Resolution Methods:** Content section showing 'V1' with a timestamp '11/18/2022 02:05AM' and a 'Live' status.
- Extensions:** Search extension powered by IBM Watson Discovery, with a description: 'Extend what your assistant can answer by searching your existing documents and FAQs'. A 'Try Plus Plan' link is present.
- Actions:** A table with columns: Name, Last edited, Examples Count, and Status.

Preview:

The screenshot displays the IBM Watson Assistant console interface in the 'Preview assistant' mode. The top header shows 'IBM Watson Assistant Lite', 'Upgrade', and 'Personal Expens...'. The main content area is divided into several sections:

- Preview assistant:** A section with buttons for 'Copy link to share', 'Change background', and 'Customize web chat'.
- Sample website:** A preview of the chatbot interface on a sample website. The chatbot is a dark grey box with a white header 'Hi! I'm a PETA's virtual assistant. How can I help you today?'. Below the header are three example buttons: 'Example: Login', 'Example: Signup', and 'Example: Add data'. At the bottom is a text input field with the placeholder 'Type something...' and a 'Send' button.

Some actions:

IBM Watson Assistant Lite Upgrade Personal Expend... 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...
Final confirmation
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 >

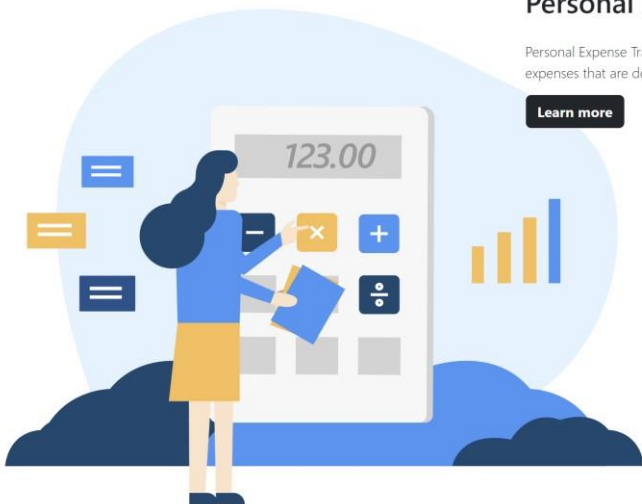
Chatbot integrated with Application:

Personal Expense Tracker Application Home About Register Login

Personal Expense Tracker Application

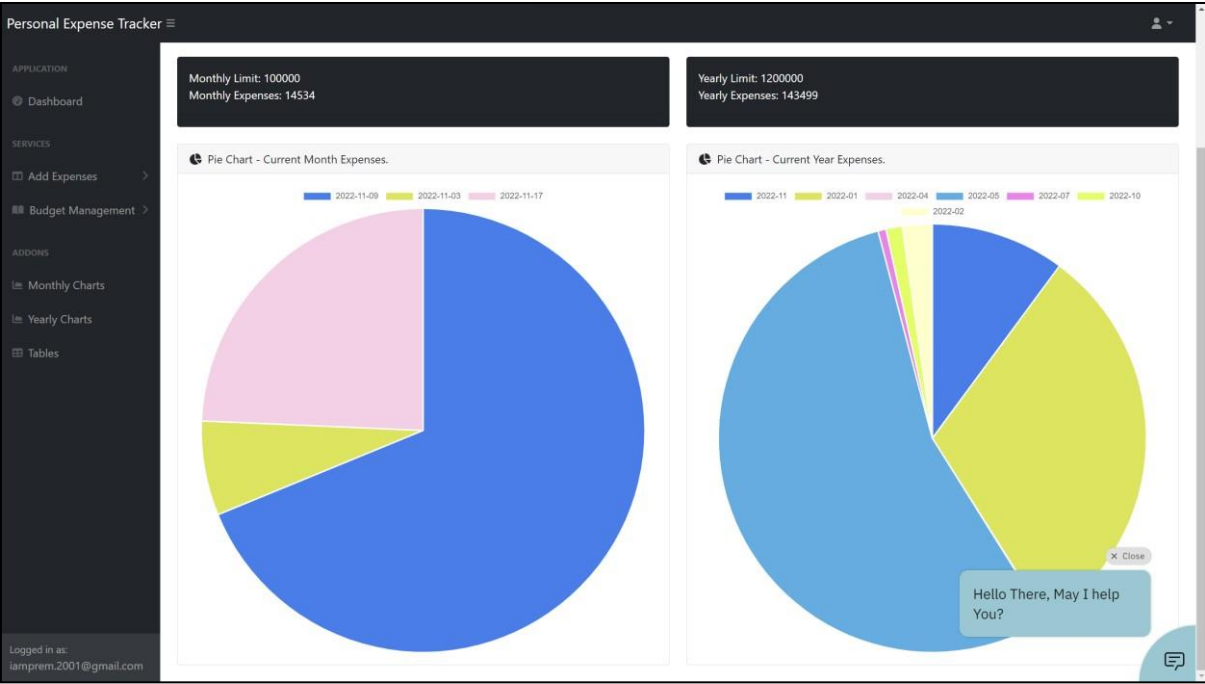
Personal Expense Tracker is an application which helps the customer to track and manage all the expenses that are done by them.

Learn more



X 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: iamprem.2001

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

Clear Search

Advanced Search

STATUS	MESSAGE	LAST EVENT RECEIVED	OPENS	CLICKS
Delivered	To: iamprem.2001@gmail.com Expense Limit reached	2022/11/18 5:42pm UTC+05:30	6	0
Delivered	To: iamprem.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 shows 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 activity logs. 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 an email sent to 'iamprem.2001@gmail.com' from 'expensetracker0046@gmail.com' with the subject 'Registration Successful'. Below the details is an 'Event History' section showing a sequence of events: 'Received by SendGrid', 'Processed' at 2022/11/18 5:41pm UTC+05:30, 'Received by gmail-smtp-in1.google.com', 'Delivered' at 2022/11/18 5:41pm UTC+05:30, and 'Received by iamprem.2001@gmail.com', 'Opened' at 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 on a desktop browser. The email is titled 'Registration Successful' and is from 'expensetracker0046@gmail.com via sendgrid.net'. The email body reads: 'Hello Prem Kashyap, Welcome to Personal Expense Tracker Application (PETA) . Hope we have a great journey ahead.' Below the email body are 'Reply' and 'Forward' buttons. The Gmail interface includes a left sidebar with 'Compose', 'Inbox', 'Starred', 'Snoozed', 'Sent', 'Drafts', and 'More' options, and a right sidebar with various app icons.

Registration Successful

expensetracker0046@gmail.com via sendgrid.net

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 shows 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. Below these is a 'REPUTATION' bar at 75% and a 'VIEW ACCOUNT USAGE' link. The main area is titled 'Activity Feed' and contains a search bar for emails by address and date. Below the search bar is a table with two columns: 'STATUS' and 'MESSAGE'. The table shows two entries: 'Delivered' for 'Expense Limit reached' and 'Delivered' for 'Registration Successful'. On the right, an 'Email Information' panel is open, showing details for an email from 'expensetracker0046@gmail.com' to 'lamprem.2001@gmail.com' with the subject 'Expense Limit reached'. Below the details is an 'Event History' section showing a timeline of events: 'Received by SendGrid', 'Processed' at 5:10pm UTC+05:30, 'Received by gmail-smtp-in1.google.com', 'Delivered' at 5:10pm UTC+05:30, and three 'Opened' events at 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-in1.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. The email is titled 'Expense Limit reached' and is from 'expensetracker0046@gmail.com' via 'sendgrid.net'. The email content reads: '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 'Unread' and 'Important'.

Expense Limit reached

expensetracker0046@gmail.com via sendgrid.net

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

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