

EMAIL APP-1

COMPUTER NETWORKING

Time: 60 mins

Introduction

In this class, the students will setup the SMTP server to send email securely and handle errors and exceptions.

New Commands Introduced

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|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| • <code>import smtplib</code> | Send an email like a messenger. |
| • <code>from email.mime.text import MIMEText</code> | Adds written words (text) to your emails. |
| • <code>from email.mime.multipart import MIMEMultipart</code> | Creates emails with multiple parts, such as text and attachments. |
| • <code>smtp_server = smtplib.SMTP("smtp.gmail.com", 587)</code> | Defines SMTP server and port number to make server connection. |
| • <code>smtp_server.starttls()</code> | Makes sure that the mailbox is extra secure to protect your email content while it travels from your computer to Gmail. |
| • <code>smtp_server.login(sender_email, sender_password)</code> | Logins to the server and allows access to account mail using username and secret App Password code. |
| • <code>message = MIMEMultipart()</code> | Sets the message using MIMEMultipart() method. |
| • <code>message.attach(MIMEText(message_body, "plain"))</code> | Declares the message body as a text and attaching it to the mail using MIMEText and .attach() method. |

Vocabulary

- SMTP is a kind of postman which takes the letters from one place and makes sure that it is delivered to the destination securely.
- Exception handling is like having a backup plan for your code; for example, catching errors so they don't crash your program, like wearing a helmet while riding a bike.

Learning Objectives

Student/s should be able to:

- **Recall** how to use class and super() function to create functions and run that by calling it.
- **Explain** how to set up the SMTP server securely and create connections.
- **Demonstrate** the sending of emails by handling exceptions.

Activities

1. Class Narrative: (3 mins)

- Brief the student/s that they did a fantastic job on creating a mouse remotely on mobile and now Sarah wants to create an email app which help school to keep updated about tech fest posters to all students..

2. Concept Introduction Activity: (4 mins)

- Let the student/s undertake the explore-activity to observe how to Setup SMTP server to send email securely and handle errors and exceptions.
- Using the slides, explain that the student/s will learn:
 - to display email details.
 - to setup SMTP server to send mail.
 - to send email and handle exceptions.

3. Activity 1: Display Email Details (16 mins)

Teacher Activity: (8 mins)

- Explain about the 2-step authentication and how to get app password to securely connect with Gmail server.
- Demonstrate how to activate 2-step authentication to get app password and get the emails parameters as input and print them.

Student Activity: (8 mins)

- Guide the student/s to display the email details.

4. Activity 2: Setup SMTP Server to send mail (10 mins)

- Introduce the SMTP server and setup it securely with login credentials to print email parameters.
- Explain setting the SMTP server by using SMTP(), starttls() and login() function of smtplib library to make a secure connection with your gmail account and print details in form of gmail template.

Student Activity: (10 mins)

- Guide the student/s to set up the SMTP server and store the email details in the server template.

5. Activity 3: Send Email and Handle Exceptions (12 mins)

- Introduce to the student/s that how to send emails and handle exceptions.
- Explain how to send emails using sendmail() function of smtplib library and handle the errors by using try and except method.

Student Activity: (6 mins)

- Guide the students to send an email and handle exceptions.

6. Introduce the Post class project: (2 min)

- Send Secret Santa Emails.

7. Test and Summarize the class learnings: (5 mins)

- Check for understanding through quizzes and summarize learning after respective activities.
- Summarize the overall class learning towards the end of the class.

8. Additional activities:

- Encourage the student/s to send multiple emails with mail functionalities.
- Encourage the student/s to debug the SMTP connection parameters.

9. State the Next Class Objective: (1 min)

- In the next class, student/s will learn to add more functionality in this email app.

U.S. Standards:

CSTA: 2-AP-11, 2-AP-12, 2-AP-13, 2-AP-14, 2-AP-19

Links Table		
Activity	Activity Name	Link
Class Presentation	Email App-1	
Explore Activity	Email App-1	https://github.com/procodingclass/TN-K-M15-C118-SAS-BP

Teacher Activity 1	Display Email Details	https://github.com/procodingclass/TNK-M15-C118-TAS-BP
Teacher Reference: Teacher Activity 1 Solution	Display Email Details	https://github.com/procodingclass/TNK-M15-C118-TAS
Student Activity 1	Display Email Details	https://github.com/procodingclass/TNK-M15-C118-SAS-BP
Teacher Reference: Student Activity 1 Solution	Display Email Details	https://github.com/procodingclass/TNK-M15-C118-SAS
Teacher Activity 2	Setup SMTP Server to send mail	https://github.com/procodingclass/TNK-M15-C118-TAS-BP
Teacher Reference: Teacher Activity 2 Solution	Setup SMTP Server to send mail	https://github.com/procodingclass/TNK-M15-C118-TAS
Student Activity 2	Setup SMTP Server to send mail	https://github.com/procodingclass/TNK-M15-C118-SAS-BP
Teacher Reference: Student Activity 2 Solution	Setup SMTP Server to send mail	https://github.com/procodingclass/TNK-M15-C118-SAS
Student Activity 3	Send Email and Handle Exceptions	https://github.com/procodingclass/TNK-M15-C118-SAS-BP
Teacher Reference: Student Activity 3 Solution	Send Email and Handle Exceptions	https://github.com/procodingclass/TNK-M15-C118-SAS
Student's Additional Activity 1	Complete send mail functionalities	https://github.com/procodingclass/TNK-M15-C118-SAS-BP
Teacher Reference: Student's Additional Activity 1 Solution	Complete send mail functionalities	https://github.com/procodingclass/TNK-M15-C118-SAS
Student's Additional Activity 2	Debug the SMTP connection parameters	https://github.com/Tynker-Computer-Networks/TNK-M15-C118-SAS-BP
Teacher Reference: Student's Additional Activity 2 Solution	Debug the SMTP connection parameters	https://github.com/Tynker-Computer-Networks/TNK-M15-C118-SAS
Post Class Project	Send Secret Santa Emails	https://github.com/Tynker-Computer-Networks/TNK-M15-C118-PCP-BP
Teacher Reference: Post Class Project Solution	Send Secret Santa Emails	https://github.com/Tynker-Computer-Networks/TNK-M15-C118-PCP