



# Simple Gmail Mail Sender — Project Report

## 1. Introduction

Email automation is an essential requirement in modern software systems for notifications, alerts, and reporting. This project demonstrates a simple and secure method to send emails using Python and Gmail SMTP.

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## 2. Problem Statement

Manual email sending is time-consuming and inefficient for automated workflows. There is a need for a simple Python-based solution that can:

- Send emails automatically
  - Use secure authentication
  - Be easy for beginners
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## 3. Proposed Solution

The proposed system uses:

- Python smtplib
- Gmail SMTP over SSL
- App Password authentication

The system encapsulates email functionality inside a reusable function `Mail_Send()`.

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## 4. System Design

### 4.1 Architecture Flow

User Input → EmailMessage → SMTP\_SSL → Gmail Server → Receiver Inbox

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### 4.2 Module Description

#### Mail\_Send Function

Responsible for:

- Creating email object
- Setting headers
- Connecting to SMTP server
- Authenticating user
- Sending email

- Closing connection
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## 5. Implementation Details

### SMTP Configuration

- Server: smtp.gmail.com
  - Port: 465
  - Security: SSL
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### Key Python Libraries

Library	Purpose
smtplib	SMTP communication
email.message	Email construction

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## 6. Testing

### Test Case

Parameter	Value
Sender	Test Gmail
Receiver	Secondary email
Subject	Test Mail
Result	Success

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### Output

Mail Sent Successfully

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## 7. Advantages

- Simple implementation
  - Secure authentication
  - Lightweight
  - Beginner friendly
  - Easily extensible
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## 8. Limitations

- No attachment support
  - No HTML email
  - Credentials hardcoded
  - Single recipient only
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## 9. Future Scope

- Environment variable support
  - Bulk email support
  - GUI interface
  - Logging system
  - Retry mechanism
  - Docker support
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## 10. Conclusion

The Simple Gmail Mail Sender successfully demonstrates how to send emails programmatically using Python and Gmail SMTP. The project provides a strong foundation for building more advanced email automation systems.