




# Email Application

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# What is the Email Application?

- A simple console-based application built using Core Java.
- Simulates basic functionalities of an email service.
- Uses Object-Oriented Programming (OOP) principles such as encapsulation.
- Demonstrates concepts like:
  - Generating a random password
  - Setting mailbox capacity
  - Managing alternate email
  - Changing user password



# Technologies & Tools

- Core Java (JDK 17 or above)
- OOP Concepts (Encapsulation, Constructors)
- Math.random() – for password generation
- Java Classes & Methods
- Visual Studio Code – IDE
- Command Prompt / Terminal – Execution Environment
- Slide 4: Application Features




# Key Functionalities

- User creation with first name, last name, and department
- Auto-generation of professional company email
- Auto-generation of secure random password
- Set mailbox capacity
- Set and retrieve alternate email address
- Change the password securely
- Display user information



# Project Structure

- EmailApp.java (Main class)
  - Takes user input and displays output
  - Email.java (Core logic class)
  - Fields: firstName, lastName, password, department, mailboxCapacity, etc.
  - Methods:
    - generateRandomPassword()
    - setAlternateEmail()
    - changePassword()
    - showInfo()
  - Interaction through constructors and getter/setters
- 

FileEditSelectionViewGoRun...<=>EmailAppProject

EXPLORER

EMAILAPPPROJECT

- Email.class
- Email.java
- EmailApp.class
- EmailApp.java

EmailApp.java × Email.java

EmailApp.java > ...

```
1 import java.util.Scanner;
2
3 public class EmailApp {
4     Run main | Debug main | Run | Debug
5     public static void main(String[] args) {
6         try (Scanner in = new Scanner(System.in)) {
7             System.out.println(x:"New Worker: John. Department Codes:");
8             System.out.println(x:"1 for Sales");
9             System.out.println(x:"2 for Development");
10            System.out.println(x:"3 for Accounting");
11            System.out.println(x:"0 for None");
12            System.out.print(s:"Enter Department Code: ");
13            int depChoice = in.nextInt();
14            in.nextLine(); // consume newline
15            Email em1 = new Email(firstName:"John", lastName:"Doe", depChoice);
16            // Example usage
17            em1.setMailboxCapacity(capacity:1000);
18            em1.setAlternateEmail(altEmail:"john.alt@example.com");
19            em1.changePassword(newPassword:"NewPassword123");
20            em1.showInfo();
21            // Close the Scanner to avoid warning
22        }
23    }
24 }
```

> OUTLINE

> TIMELINE

> JAVA PROJECTS

> PROJECTS

> RUN CONFIGURATION

PROBLEMS

OUTPUT

PORTS

DEBUG CONSOLE

TERMINAL

powershell

+ v

...

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COMPANY EMAIL: john.doe@dev.company.com  
PASSWORD: UMG00!h@  
  
DISPLAY NAME: John Doe

< 0 0

Indexing completed.

Java: Ready

Ln 24, Col 1 Spaces: 4 UTF-8 CRLF { Java



FileEditSelectionViewGoRun...<=>EmailAppProject

EXPLORER

EMAILAPPPROJECT

- Email.class
- Email.java
- EmailApp.class
- EmailApp.java

OUTLINE

TIMELINE

JAVA PROJECTS

PROJECTS

RUN CONFIGURATION

EmailApp.javaEmail.java

Email.java > Language Support for Java(TM) by Red Hat > Email > setDepartment(int)

```
1
2 public class Email {
3     private final String firstName;
4     private final String lastName;
5     private final String department;
6     private final String email;
7     private String password;
8     private String alternateEmail;
9     private int mailboxCapacity = 500;
10
11     // Constructor to receive first name and last name
12     public Email(String firstName, String lastName, int depChoice) {
13         this.firstName = firstName;
14         this.lastName = lastName;
15
16         this.department = setDepartment(depChoice);
17         this.password = generatePassword(length:8);
18         this.email = generateEmail();
19
20         System.out.println("\nDISPLAY NAME: " + this.firstName + " " + this.lastName);
21         System.out.println("COMPANY EMAIL: " + this.email);
22         System.out.println("PASSWORD: " + this.password);
23         System.out.println("MAILBOX CAPACITY: " + this.mailboxCapacity + "MB");
24         System.out.println("ALTERNATE EMAIL: " + (this.alternateEmail != null ? this.alternateEmail : "None"));
25     }
26
```

PROBLEMS

OUTPUT

PORTS

DEBUG CONSOLE

TERMINAL

powershell

COMPANY EMAIL: john.doe@dev.company.com

PASSWORD: UMG00!h@

DISPLAY NAME: John Doe

<>00Indexing completed. Java: ReadyLn 28, Col 17Spaces: 4UTF-8CRLFJava

PROBLEMS OUTPUT PORTS DEBUG CONSOLE TERMINAL

● PS C:\Users\MANI TLSPL\Desktop\EmailAppProject> javac EmailApp.java Email.java

● PS C:\Users\MANI TLSPL\Desktop\EmailAppProject> java EmailApp

New Worker: John. Department Codes:

1 for Sales

2 for Development

3 for Accounting

0 for None

Enter Department Code: 2

DISPLAY NAME: John Doe

COMPANY EMAIL: john.doe@dev.company.com

PASSWORD: UMG00!h@

0 for None

Enter Department Code: 2

DISPLAY NAME: John Doe

COMPANY EMAIL: john.doe@dev.company.com

PASSWORD: UMG00!h@

DISPLAY NAME: John Doe

COMPANY EMAIL: john.doe@dev.company.com

PASSWORD: UMG00!h@

○ COMPANY EMAIL: john.doe@dev.company.com

PASSWORD: UMG00!h@

PASSWORD: UMG00!h@


MAILBOX CAPACITY: 500MB

Java: Ready





# Conclusion

- Learned the practical use of OOP in Java
  - Gained understanding of encapsulation and constructors
  - Built a functional command-line email simulator
  - Enhanced logical thinking and problem-solving skills
  - Can be extended into a GUI or web-based project in future
- 

The image features a light beige background with the text "Thank You" centered in a dark brown, serif font. The text is arranged in two lines: "Thank" on the top line and "You" on the bottom line. In the corners, there are stylized illustrations of leafy branches. The top right corner has branches with orange and grey leaves. The bottom left corner has branches with orange and pink leaves. The bottom right corner has a branch with pink leaves.

Thank  
You