

Team Name: Java 01

Project Title: Command-Line Tool

Project Overview:

Build a command-line utility that performs a specific task, such as file compression or text manipulation.

Project Objective:

The primary objective of our command-line utility is to provide users with a convenient and efficient tool for performing specific tasks without the need for a graphical user interface (GUI). This enhances flexibility, automation capabilities, and ease of use for users who prefer command-line interactions.

Project Team:

- **PALLA SIVA SAI** - Developer
Email: psairabel143@gmail.com
Phone: 9703288210
- **Shubhendu Bordia (Team Lead)** - Project Manager
Email: shubhendubordia2002@gmail.com
Phone: 9109770802
- **Milan Kumar Sahoo** - Developer
Email: milankumarsahoo2002@gmail.com
Phone: 8260894015

Project Technologies:

- Programming Language: Java
- Command-Line Argument Handling: argparse module
- Encryption Library: Java Cryptography Architecture (JCA)
- Compression Libraries: GZIP or ZIP libraries
- Image Processing Library: Java Advanced Imaging (JAI)

Project Features:

- File Compression: Our utility will support file compression using standard compression algorithms such as GZIP or ZIP. Users can specify the input file(s) to be compressed and the output location.
- Text Manipulation: The utility will offer functionalities for text manipulation, including string search and replace, text extraction, and formatting options.
- File Encryption/Decryption: We plan to integrate encryption and decryption capabilities using cryptographic algorithms such as AES (Advanced Encryption Standard). This will enable users to secure sensitive files with passwords.
- Image Processing: As an additional feature, we aim to include image processing functionalities, such as resizing, conversion between image formats, and applying filters/effects.

Project Setup:

- Install Java Development Kit (JDK) on your system.
- Clone the project repository from GitHub using the provided URL.
- Open the terminal/command prompt and navigate to the project directory.
- Compile the Java source files using the javac command.
- Run the command-line utility using the java command followed by the appropriate arguments.

Development Approach:

- Requirements Gathering: We will gather detailed requirements from stakeholders to ensure the utility meets user expectations.
- Design and Architecture: We will design a modular and extensible architecture for the utility, allowing for easy integration of new features in the future.
- Implementation: Each team member will be responsible for implementing specific functionalities and modules of the utility, following coding best practices and design patterns.

- **Testing:** We will conduct thorough testing, including unit testing, integration testing, and user acceptance testing, to ensure the utility is robust and free of defects.
- **Documentation:** Comprehensive documentation will be provided, including installation instructions, usage guidelines, command syntax, and troubleshooting tips.
- **Version Control and Collaboration:** We will use Git for version control, enabling seamless collaboration among team members and tracking changes effectively.

Project Resources/Reference:

- Java Development Kit (JDK) documentation
- argparse module documentation for Java
- Git version control system

Project Risks:

- Limited experience with command-line utilities may lead to longer development time. Mitigation: Conduct thorough research and collaborate closely within the team.
- Compatibility issues with different operating systems. Mitigation: Test the utility on multiple platforms during development.

Conclusion:

Our Java command-line utility project aims to deliver a versatile and user-friendly tool that simplifies complex tasks through command-line interactions. We are committed to building a high-quality and reliable utility that meets the needs of our users and contributes to a seamless computing experience.

Additional Comments:

Thank you for considering our project proposal. We are excited to work on building a robust and efficient command-line utility.