

## Project Design Phase

### Solution Architecture

|               |   |
|---------------|---|
| Date          | 13 February 2026                                  |
| Team ID       | LTVIP2026TMIDS49772                               |
| Project Name  | TransLingua: AI-Powered Multi-Language Translator |
| Maximum Marks | 4 Marks   |

### Solution Architecture:

The solution architecture of TransLingua consists of a Streamlit-based web application that collects user input (text, source language, and target language) and validates it. The application constructs a structured translation prompt and sends it to the Google Gemini 2.5 Flash generative AI model through a secure API call.

The AI model processes the request and generates context-aware translated text. The application then formats the response and displays it clearly to the user. Temporary session data is managed using Streamlit Session State. The system can be deployed locally or on a cloud platform such as Streamlit Cloud.

### Example - Solution Architecture Diagram:

