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#include <iostream>

#include <fstream>

#include <sstream>

#include <string>

#include <openssl/ssl.h>

#include <openssl/bio.h>

#include <openssl/err.h>


#define SERVER_URL "https://seg-receiver.example.com:443/api/receive"

#define CERT_FILE "seg_sender.crt"

#define KEY_FILE "seg_sender.key"

#define CA_FILE "rootCA.pem"


void send_xml(const std::string& xml_file) {

    SSL_CTX* ctx = SSL_CTX_new(TLS_client_method());

    if (!ctx) {

        std::cerr << "SSL context creation failed!\n";

        exit(EXIT_FAILURE);

    }


    // Load certificates

    if (!SSL_CTX_load_verify_locations(ctx, CA_FILE, nullptr) ||

        !SSL_CTX_use_certificate_file(ctx, CERT_FILE, SSL_FILETYPE_PEM) ||

        !SSL_CTX_use_PrivateKey_file(ctx, KEY_FILE, SSL_FILETYPE_PEM)) {

        std::cerr << "SSL certificate configuration failed!\n";

        SSL_CTX_free(ctx);

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        exit(EXIT_FAILURE);
    }

    BIO* bio = BIO_new_ssl_connect(ctx);
    SSL* ssl = nullptr;

    if (!bio || BIO_set_conn_hostname(bio, SERVER_URL) <= 0) {
        std::cerr << "Failed to connect to server!\n";
        BIO_free_all(bio);
        SSL_CTX_free(ctx);
        exit(EXIT_FAILURE);
    }

    BIO_do_connect(bio);
    BIO_get_ssl(bio, &ssl);
    SSL_set_mode(ssl, SSL_MODE_AUTO_RETRY);

    // Read XML file
    std::ifstream file(xml_file);
    if (!file.is_open()) {
        std::cerr << "Error opening XML file.\n";
        BIO_free_all(bio);
        SSL_CTX_free(ctx);
        exit(EXIT_FAILURE);
    }

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std::ostringstream buffer;

buffer << file.rdbuf(); // Read entire file into buffer
file.close();

// Send XML data securely
std::string xml_data = buffer.str();
BIO_write(bio, xml_data.c_str(), xml_data.size());

std::cout << "Document sent successfully!\n";

BIO_free_all(bio);
SSL_CTX_free(ctx);
}

int main(int argc, char* argv[]) {
    if (argc < 2) {
        std::cerr << "Usage: " << argv[0] << " <XML-file>\n";
        return EXIT_FAILURE;
    }

    send_xml(argv[1]);
    return EXIT_SUCCESS;
}

```