Settings Module Documentation

Overview

The `Settings` class manages user preferences for the application.
It supports:

- Dark mode toggle
- Language selection
- Notifications enable/disable
- JSON serialization/deserialization

This allows easy saving and loading of user settings.

Header File

```
Backend/Settings.h

#include <string>
#include "json.hpp"
```

Class: `Settings`

Constructors

Constructor	Description
`Settings()`	Default constructor. Initializes settings with default values: darkMode=false, language="en", notificationsEnabled=true.
`Settings(const std::string& jsonStr)`	Initializes settings from a JSON string. Invalid JSON will be ignored, and defaults will be used.

Getters / Setters

Method	Description
`bool getDarkMode() const`	Returns whether dark mode is enabled.
`void setDarkMode(bool mode)`	Enables or disables dark mode.
`std::string getLanguage() const`	Returns the current language.
`void setLanguage(const std::string& lang)`	Sets the language (e.g., `"en"`, `"fa"`).
`bool getNotificationsEnabled() const`	Returns whether notifications are enabled.
`void setNotificationsEnabled(bool enabled)`	Enables or disables notifications.

JSON Serialization

Method	Description
`nlohmann::json toJson() const`	Returns a JSON object representing the current settings.
`void fromJson(const nlohmann::json& j)`	Loads settings from a JSON object.
`void fromJson(const std::string& jsonStr)`	Loads settings from a JSON string. Invalid JSON is ignored.

Static Methods

Method	Description
`static Settings defaultSettings()`	Returns a `Settings` object with default values.

Example Usage

```
#include "Settings.h"
#include <iostream>

int main() {
    // Create default settings
    Settings s;

    // Enable dark mode
    s.setDarkMode(true);

    // Change language to Persian
    s.setLanguage("fa");

    // Disable notifications
    s.setNotificationsEnabled(false);

    // Serialize to JSON
    nlohmann::json j = s.toJson();
    std::cout << j.dump(4) << std::endl;

    // Load from JSON string
    std::string jsonString =
R"({"darkMode":true,"language":"en","notificationsEnabled":true})";
    s.fromJson(jsonString);

    return 0;
}
```

Notes

- JSON parsing errors are ignored silently.
- Default values are:
  - `darkMode = false`
  - `language = "en"`
  - `notificationsEnabled = true`