**User Manual: Project Initialization Script**

This manual guides you through using the project initialization script, a Bash script that automates setting up a new development project.

**What it Does**

The script simplifies project setup by:

* Creating and activating a Conda environment for managing dependencies.
* Installing project dependencies.
* Configuring Git hooks and workflow for version control.
* Optionally running tests to ensure project functionality.

**Before You Begin**

Make sure you have Git installed on your system. You can download it from <https://git-scm.com/>.

**Using the Script**

1. Open a terminal window and navigate to the directory containing the script (usually named setup.sh).
2. Run the script with the desired options. Here's the basic syntax:

Bash

./setup.sh [OPTIONS]

**Available Options**

* **Required:**
  + --git-url: Provide the Git URL of the project you want to initialize.
* **Optional:**
  + --conda-env-name: Set a custom name for the Conda environment (defaults to the repository name).
  + --run-test: Enable (default) or disable running tests after setup.
  + --test-mode: Set the test execution mode (defaults to NORMAL, use REPORT for generating a test report).
  + --dependency-source-paths: If you have local source dependencies, provide their comma-separated paths.
  + --help: Display usage information for the script.

**Example Usage**

To initialize a project from a GitHub repository called "your-repository", create a Conda environment named "myenv", and run tests in normal mode, use the following command:

Bash

./setup.sh --git-url=https://github.com/your/repository --conda-env-name=myenv --run-test=true --test-mode=NORMAL

**Understanding the Options**

* **Git URL (--git-url)**  
  This is a mandatory option. Specify the Git URL of the project you want to set up.
* **Conda Environment Name (--conda-env-name)**  
  This option allows you to choose a custom name for the Conda environment where project dependencies will be installed. If not provided, the script defaults to using the project's repository name.
* **Run Test (--run-test)**  
  By default, the script runs tests after setting up the project. Use this option (true or false) to enable or disable test execution.
* **Test Mode (--test-mode)**  
  This option controls how tests are run. The default mode (NORMAL) simply executes the tests. If you want a test report generated, use REPORT.
* **Dependency Source Paths (--dependency-source-paths)**  
  If your project relies on local source dependencies (code stored outside the main repository), provide their directory paths separated by commas using this option.
* **Help (--help)**  
  Use this option to display a quick reference of available options and their usage.

**Additional Notes**

* If you choose to generate a test report with --test-mode=REPORT, make sure a script named run.sh exists in the project directory to execute the tests.
* The script performs the following actions in sequence:
  + Installs Anaconda (if not already installed)
  + Creates a Conda environment with the chosen name
  + Installs project dependencies from defined sources
  + Runs tests (if enabled)
  + Sets up Git hooks using the pre-commit tool
  + Configures Git hooks based on the .pre-commit-config.yaml file located in the project directory. Refer to <https://pre-commit.com/#intro> pre-commit configurations.

This project initialization script streamlines the development environment setup process, saving you time and ensuring a consistent configuration.