Communications between PLC and Computer.
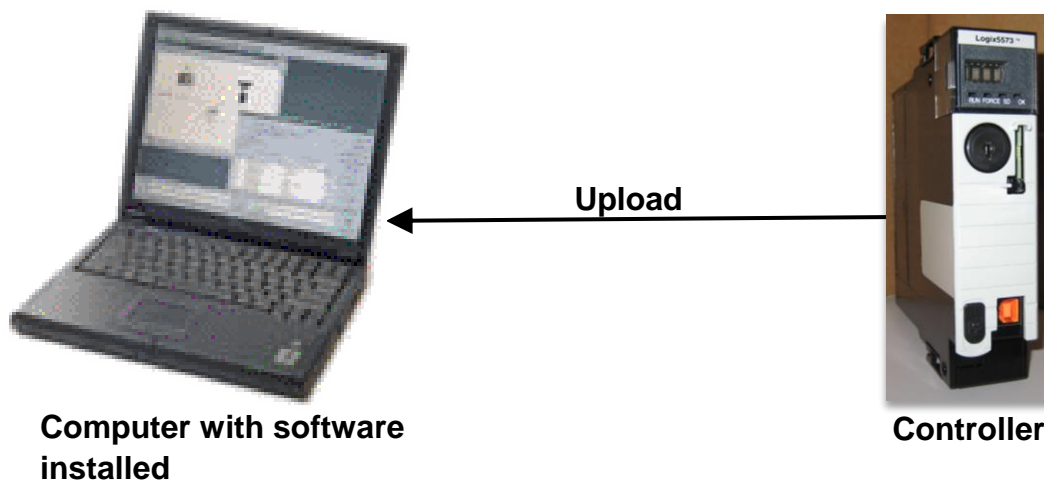
When a project is created on the computer and is ready for use, it must be downloaded to the controller.

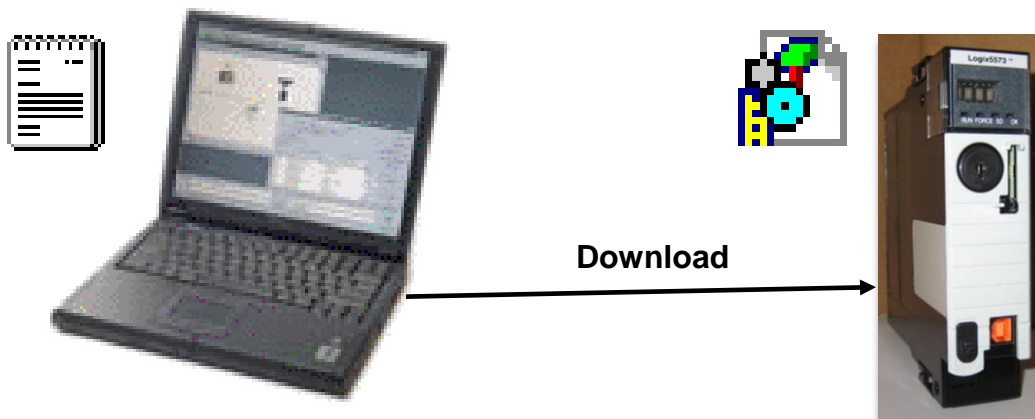**Definitions.**

OnLine. The computer is actively communicating with the controller.

Download. The project on the computer, is transferred to the controller and is ready for operation. Only do this under safe conditions as the controller suspends operation and is no longer controlling the process. If there is a project already in the controller, this will be overwritten with the download. A controller can only hold one project.

Upload. This means transferring a project from the controller to a computer when Online. This can be done when the controller is in Run mode without affecting controller operation.
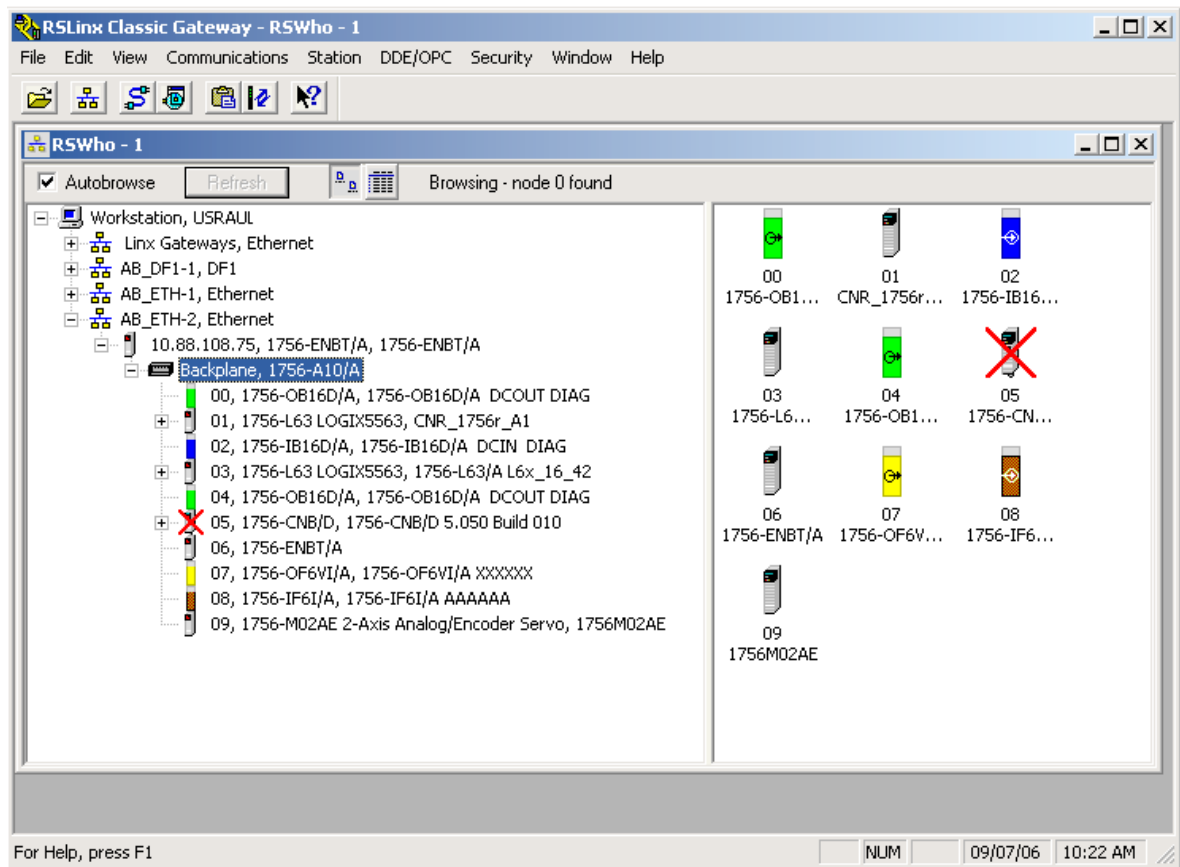
Upload

Computer with software installed

Controller

When downloading, all the program files and data are downloaded to the controller. The comments and descriptions are saved on the computer.

Download

RSLinx Classic software is the software required by a Logix5000 system to be able to communicate with other devices on the network. It is used to carry out the following tasks.

- Configure communications drivers for different network types.

- View configured networks and active nodes which will allow you to see which networks are online.

- Used for uploading, downloading, going online, updating firmware etc.

- Creating OPC topics which can be used to communicate with Factorytalkview for instance. The illustration below shows RSlinx, RSwho window where all configured networks are visible.

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Within RSlinx, each module can be seen in a chassis unlike earlier PLC models. The module properties can be viewed and in some cases configured, depending on the module type.

Modifying a Ladder Routine On Line.

On a controller there is a **Keyswitch** with three different positions.

Program. The controller is in program mode and is not controlling the process.

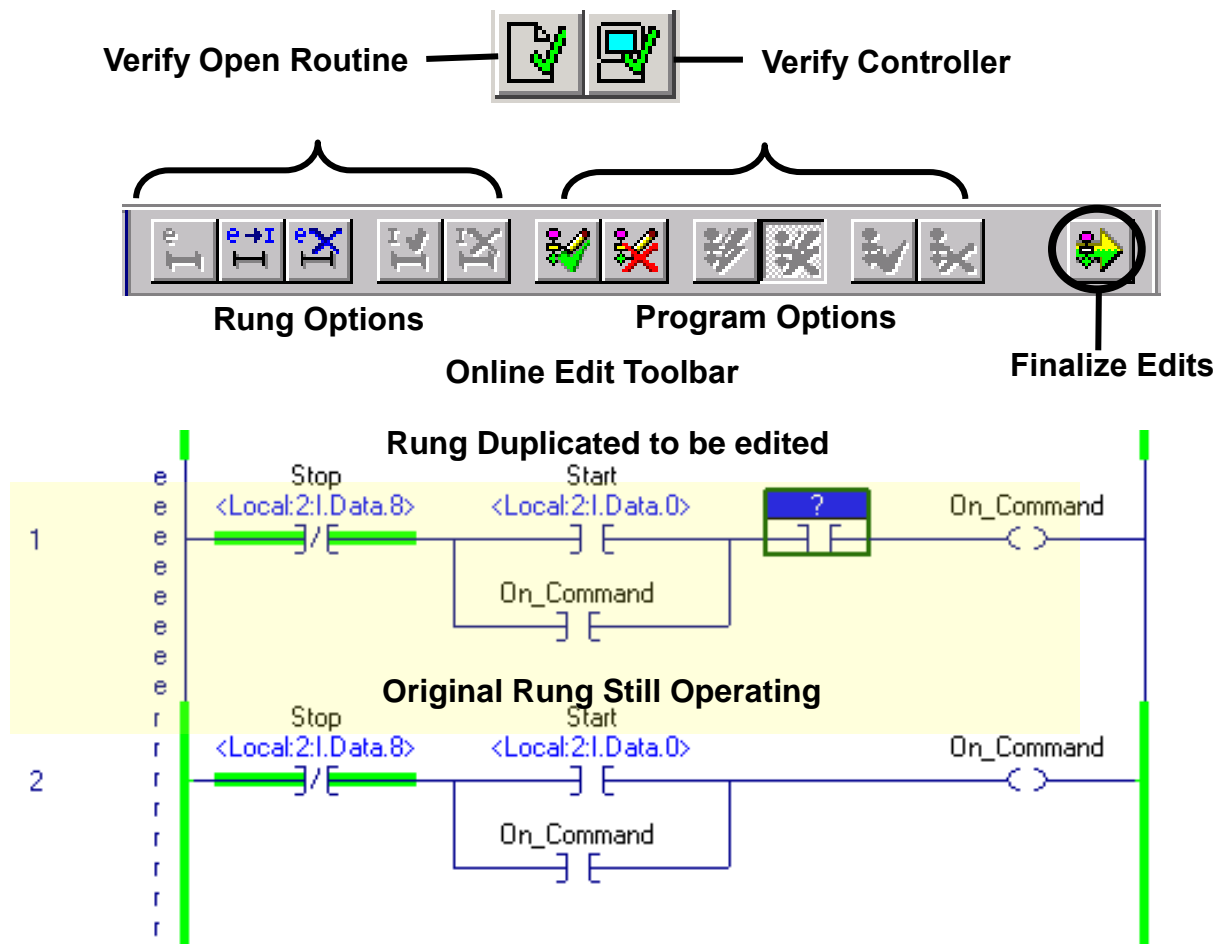**Run.** The program is running and is actively controlling the process.

Remote. In the remote position and online to the project on a computer, the mode can be changed from the computer to

Remote Run. The same as run, but has the capability of doing Online Editing while the controller is still controlling the process.

Remote Program. Exactly the same as Program mode

Remote Test. With this feature, the project can be run from the computer and it will operate as if it was in Run mode. All the rungs will operate and energize the outputs in the program, but will not operate the physical outputs in the field so a project can be tested before going "live".

Warning. Before editing Online, please ensure that permission is granted and all safety precautions have been taken. The reason being that if a mistake is made, there may be consequences.

Verify Open Routine — Verify Controller — Rung Options — Program Options — Online Edit Toolbar — Finalize Edits

Rung Duplicated to be edited

Rung 1: Stop <Local:2:I.Data.8> — Start <Local:2:I.Data.0> — ? — On_Command / On_Command

Original Rung Still Operating

Rung 2: Stop <Local:2:I.Data.8> — Start <Local:2:I.Data.0> — On_Command / On_Command

Error Messages

The following errors can prevent the project from downloading.

- Improper instruction placement

- Improper or incomplete addressing

- Tags with an invalid data type for the instruction (mismatches)

- Improper tag creation

- Empty rungs

- Shorted branches (reported in error tab as a warning). This will not prevent a download.

- Duplicate destructive bits (reported in error tab as a warning). This will not prevent a download.