



9909Y - Wyvern

**Getting Started with Battista
Template**

About Battista Template:

Battista Template is a PROS template for team 9909 written by Ryan Battista from 9909Y Wyvern. Battista Template uses Lemlib for controlling robots and comes with Lemlib preinstalled. I hope that Battista Template can be useful in your competition season. Good luck!

Getting Started:

1. Install VSCode: <https://code.visualstudio.com>
2. Install the following extensions for VSCode from the extensions menu: PROS, clangd, and cmake
3. Follow this guide to set up PROS in VSCode (Note: The step to install the PROS CLI will likely fail when connected to the MHS network because GitHub is blocked at the time of writing this. You will probably have to install this at home):
<https://pros.cs.purdue.edu/v5/getting-started/index.html>
4. LemLib 0.5.2 is already installed (latest version at time of writing) though you may want to consider updating when future releases come out.

Project Structure:

There are many files and directories by default in Battista Template. Most of these can be ignored except for the following source code files and directories,

- src/initialize.cpp Initialization code goes here. Runs on each start.
- src/opcontrol.cpp Driver control code goes here.
- src/autonomous.cpp Autonomous code goes here.
- src/subsystemFiles Create files to control robot subsystems here.

the following configuration files,

- project.pros This is where you can set your project name and slot

and the following header files and directories:

- include/subsystemHeaders Create header files for robot subsystems here.
- include/main.h You should #include all files you create in include/subsystemHeaders here so that you only need to #include main.h in your source code files.

Resources:

- PROS First Time Users Guide (Use this to familiarize yourself with writing C/C++ code and learn how to work with PROS):
<https://pros.cs.purdue.edu/v5/getting-started/new-users.html>
- PROS Tutorials:
<https://purduesigbots.github.io/pros-doxygen-docs/tutorials.html>
- PROS API: <https://purduesigbots.github.io/pros-doxygen-docs/tutorials.html>
- Lemlib Tutorial:
https://lemlib.readthedocs.io/en/master/tutorials/1_getting_started.html
- Autonomous Pathing Web App: <https://path.jerryio.com>
- 9909Y's Think Award document for the 2024 SNE VRC regionals:
https://drive.google.com/file/d/146agL2v1KFrYLdRkO5NNRnv_wDfYFzzc/view?usp=sharing
- 9909Y's Online Git repository for Over Under (Be sure to star and follow 😊):
<https://github.com/battistary/Over-Under>
- Gif-Pros library for displaying images on the V5 brain:
<https://github.com/theol0403/gif-pros>

Advanced Resources for Further Learning:

- Introduction to PID Controllers:
https://smithcsrobot.weebly.com/uploads/6/0/9/5/60954939/pid_control_document.pdf
- Introduction to Odometry:
<http://thepilons.ca/wp-content/uploads/2018/10/Tracking.pdf>

Questions?

Feel free to email me with any programming questions at ryan-skis-18@outlook.com.

