ProTune^{TM} Off-Line Tuning Application User Manual

Version 1.8

February 21, 2025

Contents

I.   Introduction

The ProTune^{TM} Off-Line Tuning Application provides a simple point and click interface manually tune tunable DWDM transceivers.

This guide provides an overview of operating the ProTune^{TM} Off-Line Tuning Application.

Revision History:

Version	Description	Dates
1.0	Initial user manual	July 2019
1.1	Updates to product name	August 28, 2019
1.2	Feature update	November 06, 2020
1.3	Updated link to device drivers	September 01, 2021
1.4	Added support for the SFP Tuning Dongle	November 10, 2021
1.5	Added steps under "Tuning Operations"	December 21, 2022
1.6	Windows 11 update	May 09, 2023
1.7	Updated driver link	December 14, 2023
1.8	OpenWebStart and Microsoft's OpenJDK Version 11	February 21, 2025

1. Release Notes

1.0 – Initial release of tuning software.

1.1 – Updates to product name and to installation.

1.2 – New GUI features – Laser on/off, Read Rx, and DOM thresholds.

1.3 – Updated the link to device drivers because the previous link had expired.

1.4 – Added support for the SFP Tuning Dongle and updated the note under "Required Hardware" to include the SFP Tuning Dongle alongside the ProTune^{TM} Tuning Appliance.

1.5 – Added additional steps and images under "Tuning Operations" to account for initializing time before tuning.

1.6 – Added Windows 11 functionality.

1.7 – Updated driver link in "System Requirements."

1.8 – Added additional steps to address OpenWebStart and Microsoft's OpenJDK Version 11.

II.   Required Hardware

The ProTune^{TM} Off-Line Tuning Application is compatible with either the ProTune^{TM} Tuning Appliance or the SFP Tuning Dongle.

1.   *ProTune^{TM} Tuning Appliance*

PL-PROTUNE-KIT

- Soft-side carry case
- ProTune^{TM} Tuning and Coding Appliance
- USB 2.0 to Micro USB Cable

PL-PROTUNE-KIT-PELI

- Rugged hard-side carry case
- ProTune^{TM} Tuning and Coding Appliance
- USB 2.0 to Micro USB Cable

2.   *SFP Tuning Dongle*

PL-SFPTUNE-V1

- Single-slot SFP tuning device
- USB-A interface
- USB-A to USB-C cable

III. System Requirements

1. Hardware

The ProTune^{TM} appliance requires a PC with a USB 2.0 (minimum) port. The USB 2.0 port must be set to "High Power Device," type allowing 2.5W power output. (Default on most PCs) An external power supply is not required.

2. Software

The ProTune^{TM} Off-Line Tuning Application requires Microsoft Windows 7 or later. Mac support is only available via a virtualized instance of Windows on Parallels or VMWare. Linux or other operating systems are not supported by ProTune^{TM}. Google Chrome, Mozilla Firefox, or Internet Explorer are required for software installation.

3. Drivers

Microsoft Windows 8, 10, & 11 - Drivers will be automatically installed by Windows Update when you connect the appliance. (Internet connection required.)
For the manual installation of drivers, please download the drivers by following this link: https://www.prolabs.com/assets/uploads/docs/CDM21228_Setup.zip.

IV.   System Setup and Installation

Download the .zip file that includes both the application and .dll file from www.prolabs.com.

Save the folder "ProTune Off-Line Tuning Application" locally to your laptop or PC.

No additional installation steps are required.

Connect the ProTune™ appliance to your PC and then launch the ProTune™ Off-Line Tuning Application software by double clicking on the executable in the folder. Without a transceiver inserted into the appliance, the ProTune™ Off-Line Tuning Application software interface will not be populated.

Figure 1 – Application Interface

V. ProTune^{TM} Appliance Interfaces

1) The ProTune^{TM} appliance accepts SFP, SFP+, XFP, QSFP+ and QSFP28 transceivers. Three clearly marked slots on the front of the appliance each have a small LED that will illuminate when a transceiver is seated properly. Only SFP+ and XFP tunable transceivers support tunable DWDM functionality.

Figure 2 – ProTune^{TM} Appliance

2) Upon inserting a tunable transceiver into the appliance, the application interface will display the DWDM wavelength options offered by the transceiver.

Figure 3 – ProTune^{TM} Off-Line Tuning Application Interface

3) ProTune^{TM} Off-Line Tuning Application will indicate both the 50GHz and 100GHz wavelength options available for the inserted transceiver.

VI.   Tuning Operations

1. Tuning a Transceiver

1) Once the ProTune^{TM} Off-Line Tuning Application has been successfully launched, insert the desired SFP+ or XFP transceiver into the appropriate port labeled on the ProTune^{TM} appliance.

2) After inserting the transceiver, the "Tune" button will be locked and marked as "Initializing" while the module initializes.

Figure 4 – ProTune^{TM} Off-Line Tuning Application Interface - Initializing

3) Once the module is ready to tune, the "Tune" function will be marked with "Tune" rather than "Intializing."
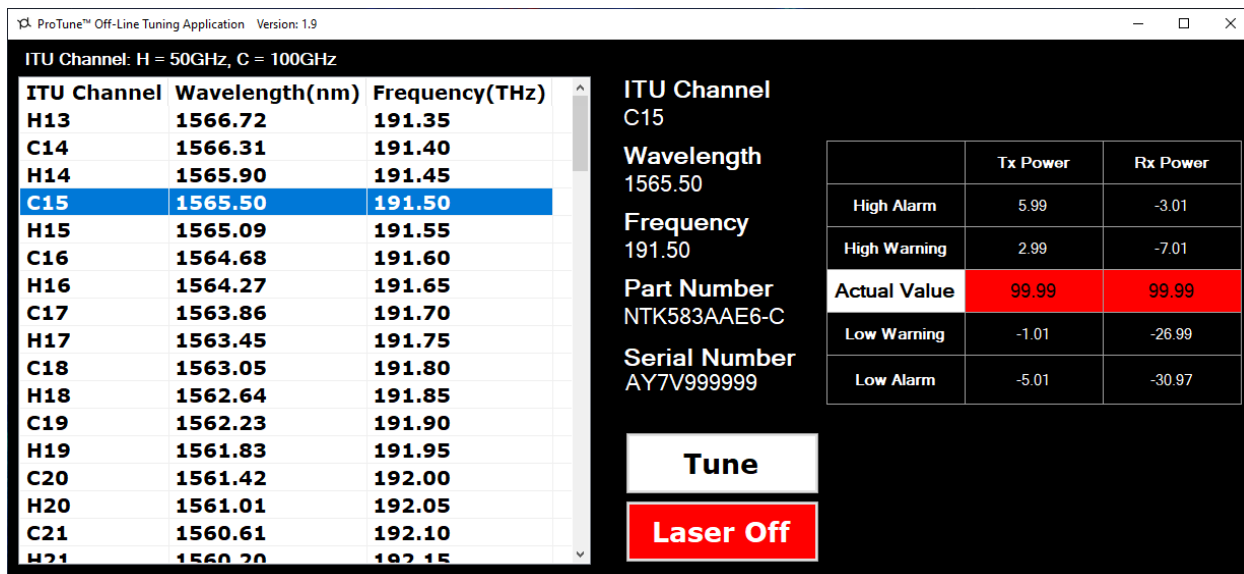

Figure 5 – ProTune^{TM} Off-Line Tuning Application Interface – Ready to Tune

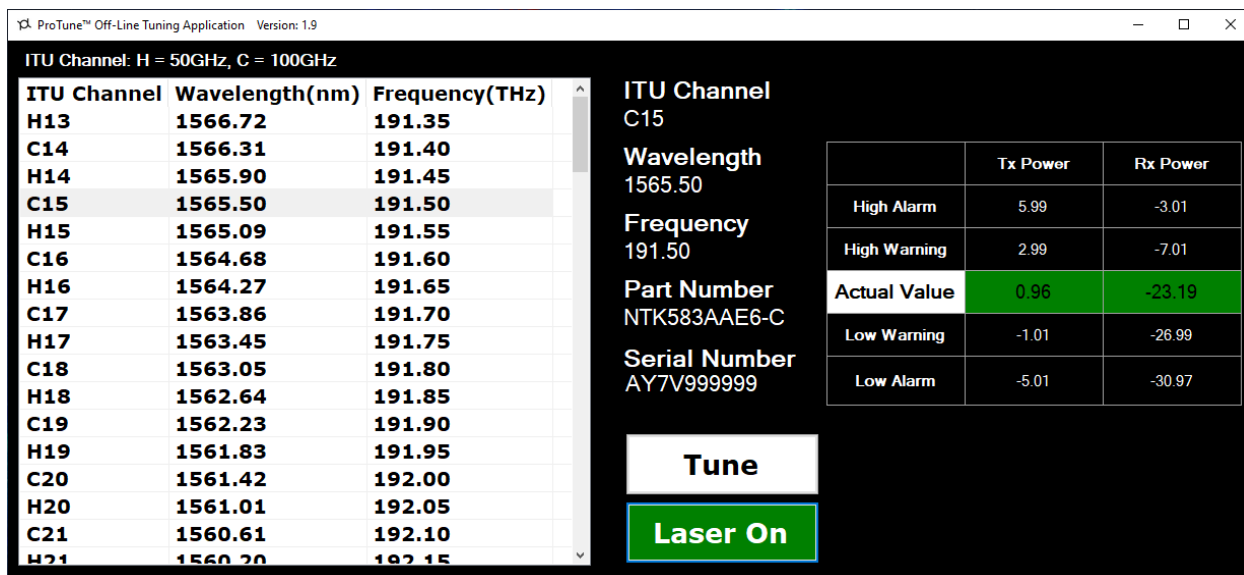4) At this time, the user can now choose to "Tune" the module.

Figure 6 – ProTune^{TM} Off-Line Tuning Application Interface – Tune

5) Scroll to the desired wavelength.

Figure 7 – Example Selection of Wavelength Options

6) Choose the wavelength and click on the "Tune" button. The transceiver is now tuned to the desired wavelength.

VII.   Additional Operations

1.   Transceiver Launch

The ProTune™ Off-Line Tuning Application supports the launch and reading of transceiver optical levels. This functionality can be used for testing optical fiber links for validating engineered link budgets, loop backs, and other field operations.

1) Upon inserting a transceiver into the appropriate slot on the ProTune™ appliance, click on the "Laser Off" icon. The icon will turn green when the laser has been activated.
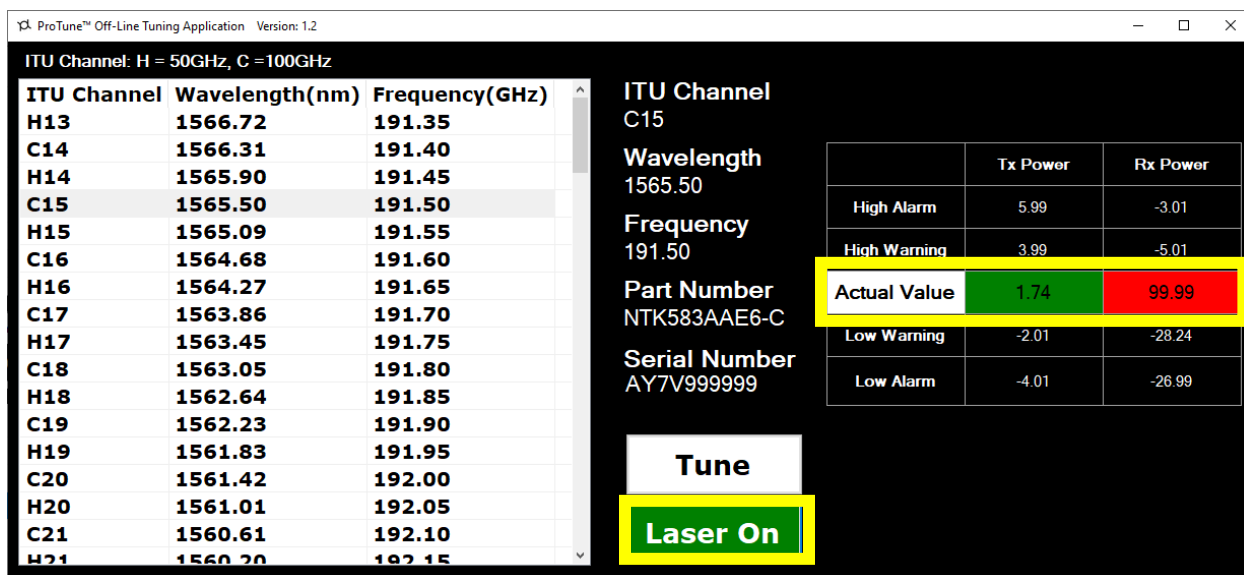

Figure 8 – ProTune^{TM} Off-Line Tuning Application Interface – Laser Activated

2) The application will read actual laser power of the Digital Optical Monitoring (DOM) supplied by the transceiver.

3) Should the transceiver receive port be connected to a transmit port, the application will read the Rx power DOM measurement.

   Note: Follow safe fiber optic handling procedures, per local practice. If proper optical power budget safety considerations are not followed, damage to the transceiver could occur.

4) The application will also display the alarm thresholds read directly from the transceiver.

5) Actual values highlighted by "Green" will indicate laser power levels are within the transceiver alarm thresholds.

6) Actual values highlighted by "Orange" will indicate laser power levels are outside of warning thresholds.

7) Actual values highlighted by "Red" will indicate laser power are outside of transceiver alarm thresholds.

# VIII. OpenWebStart and Microsoft's OpenJDK Version 11 Install Guide

1) Install OpenWebStart and Microsoft's OpenJDK Version 11. Install the links below as an admin.
    a. OpenWebStart (Version 1.10.1 - latest tested version)
       Direct:
       https://github.com/karakun/OpenWebStart/releases/download/v1.10.1/OpenWebStart_windows-x64_1_10_1.exe
       Home Download Page: https://openwebstart.com/download/
    b. Microsoft OpenJDK 11 (Version 11.0.25 - note install path during install)
       Direct: https://aka.ms/download-jdk/microsoft-jdk-11.0.25-windows-x64.msi
       Home Download Page: https://learn.microsoft.com/en-us/java/openjdk/download#openjdk-11

2) Access "OpenWebStart settings" which can be found in the start menu after installation.
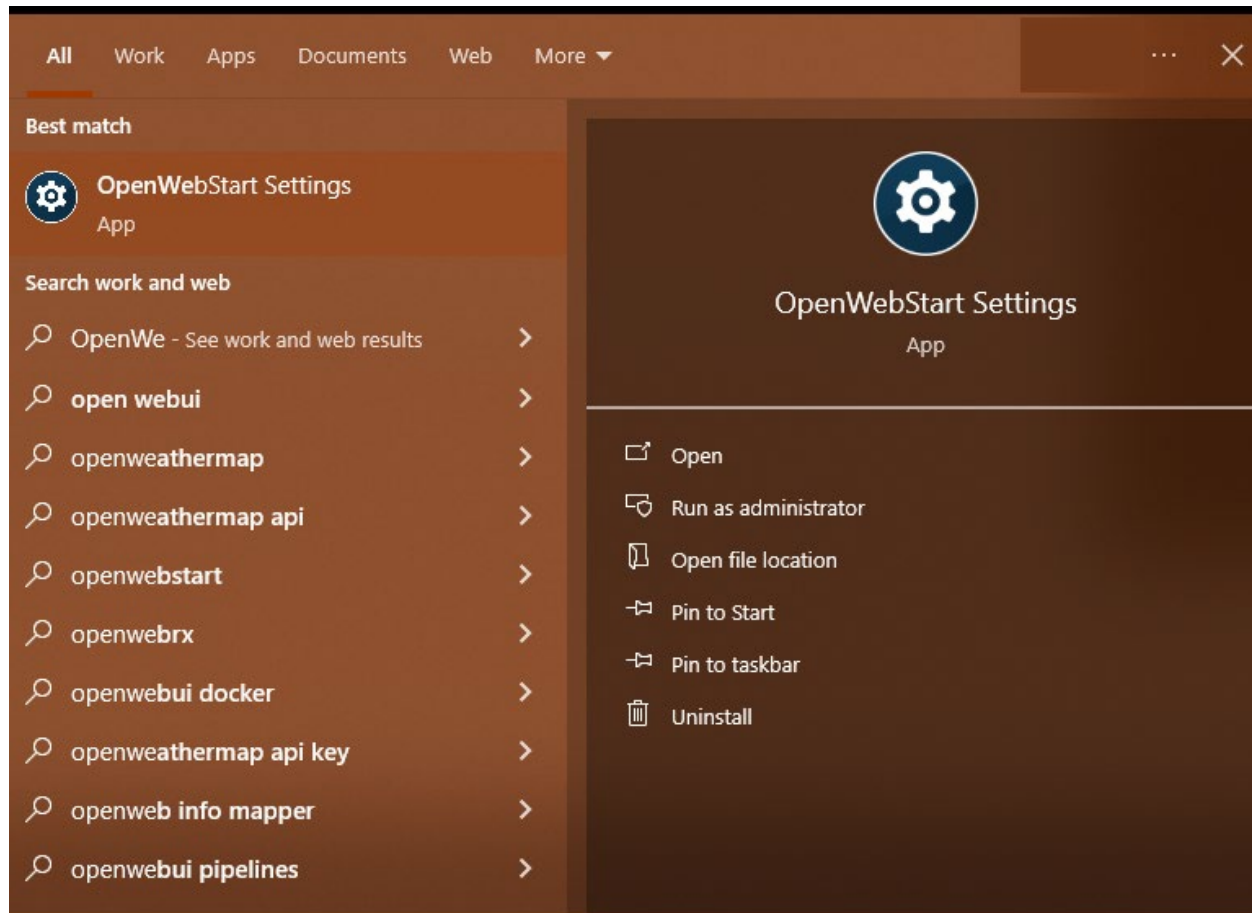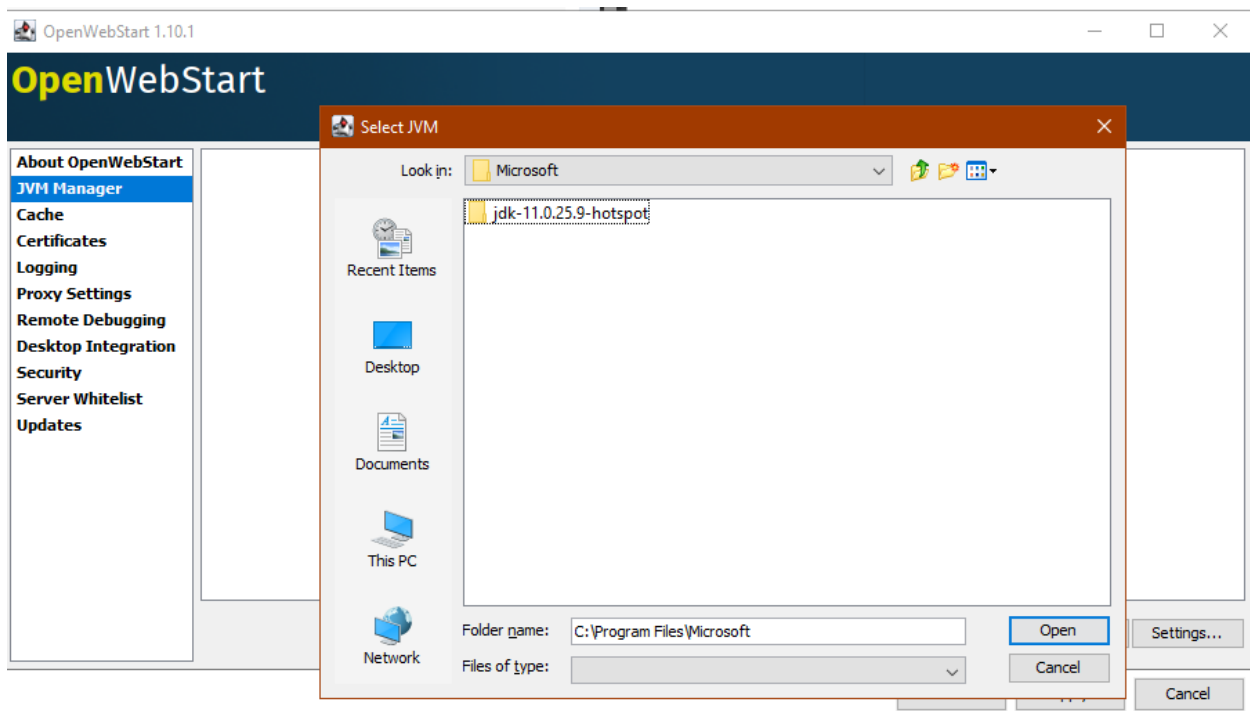
3) In the window that opens, go to "JVM Manager" tab and select "Add Local."
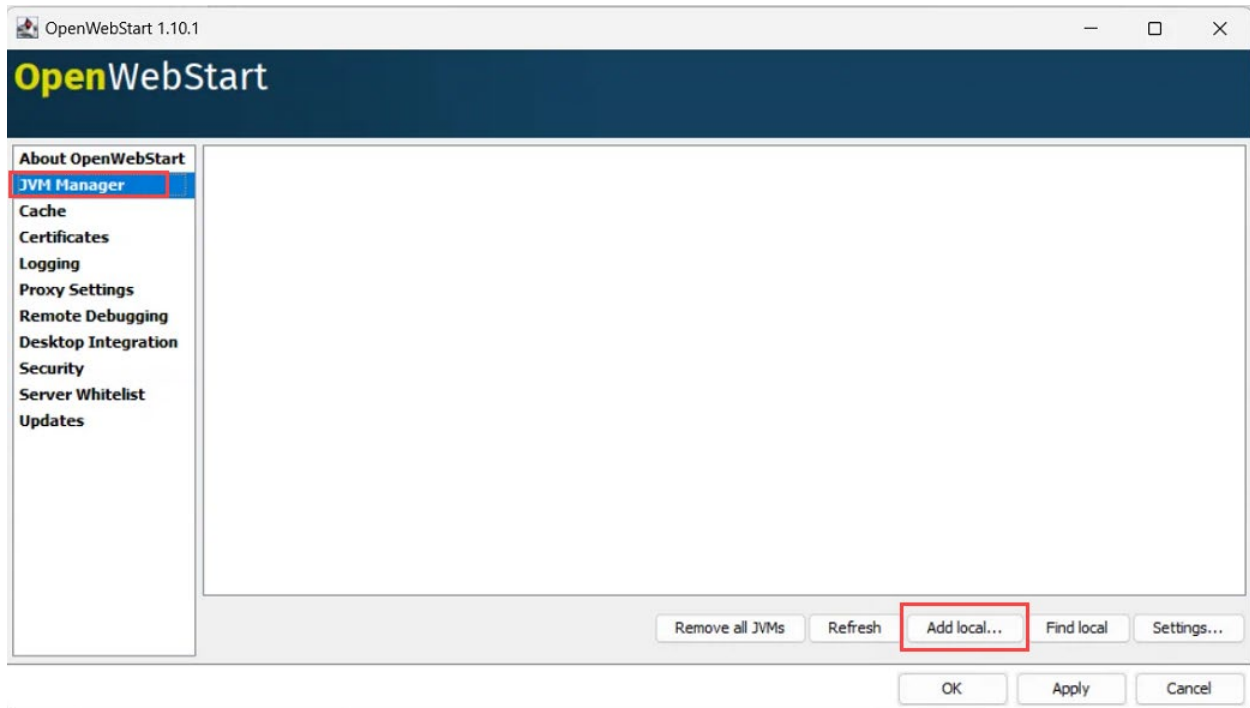
4) If Microsoft's OpenJDK was installed as admin on a Windows 11 machine, the path for the home folder should be as follows: C:\Program Files\Microsoft.
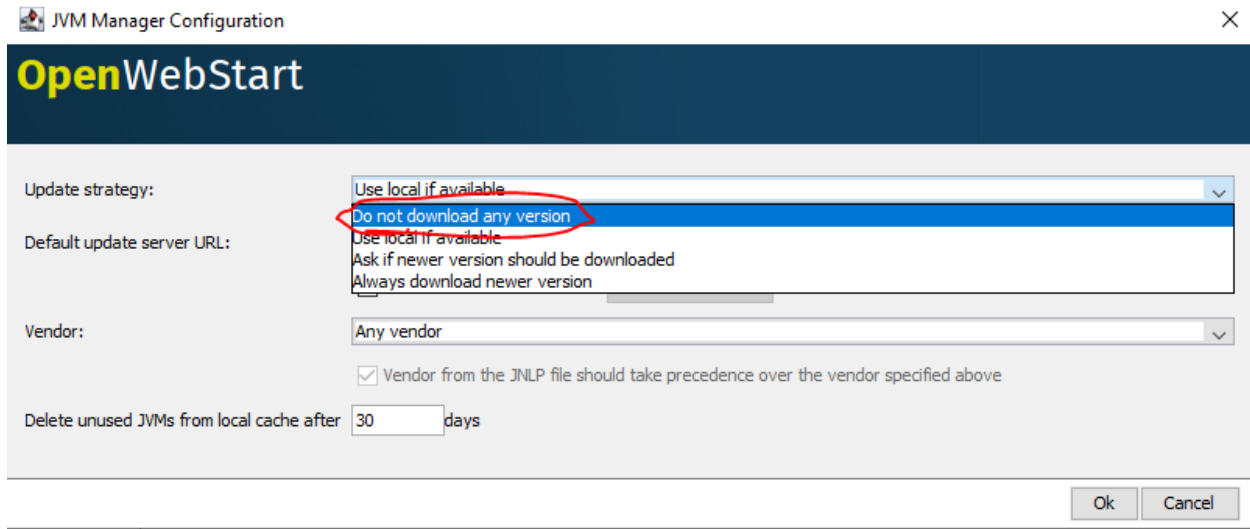
5) Click "Open" and it should appear in the JVM Manager, as seen below. If there are other JVMs listed, be sure to deactivate them. This can be done by clicking the "…" and selecting "Deactivate JVM."
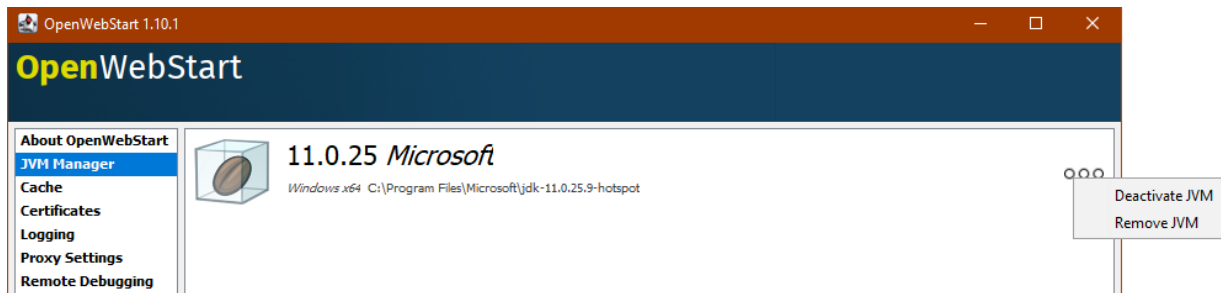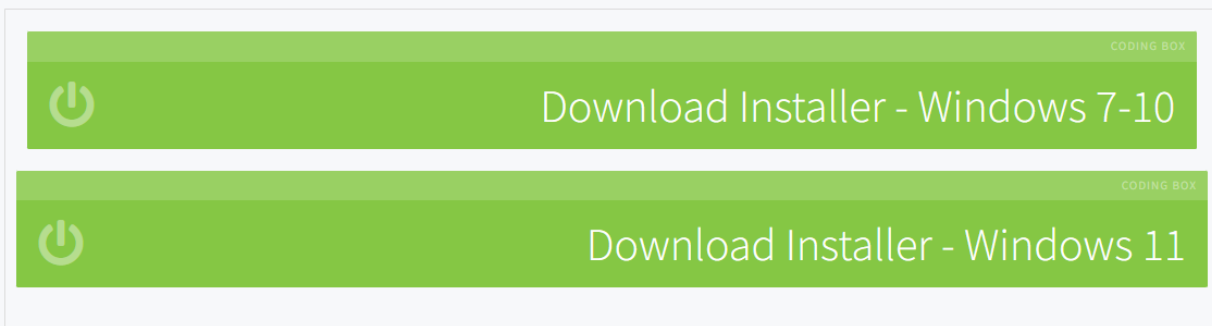

6) In the bottom right, click on settings.
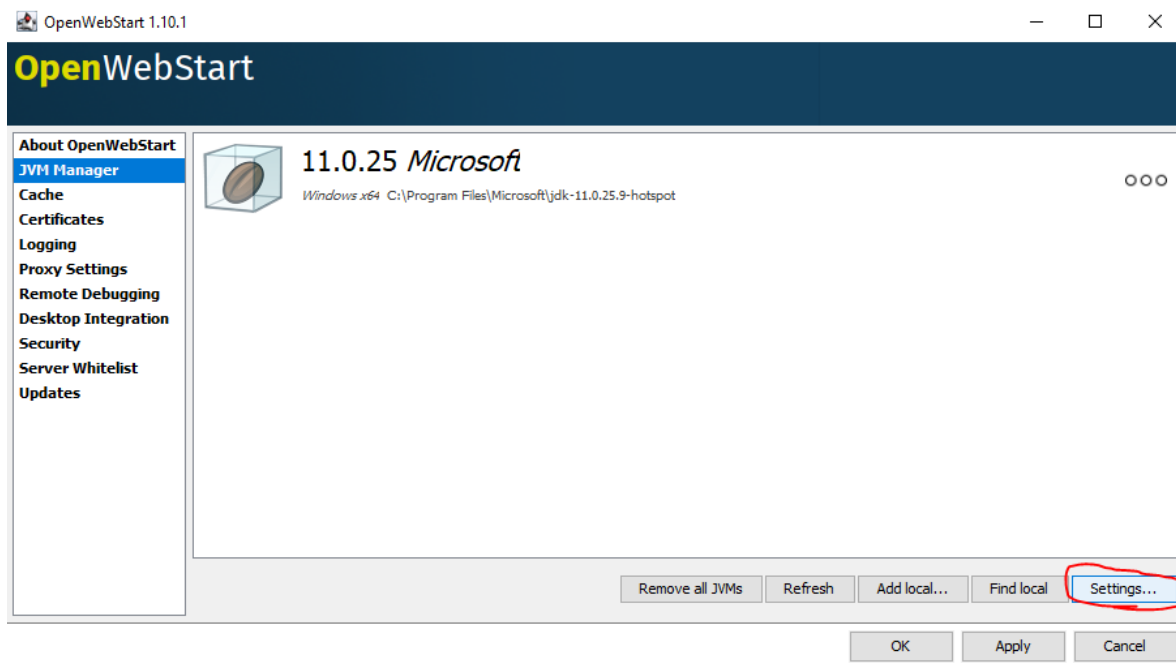
7) Under update strategy, select "do not download any version."

8) You can now install ProTune using the Windows 11 installer. Log in to your account at protune.prolabs.com and select "Download Installer – Windows 11."

9) After the installer downloads, double-click the jnlp file to begin the ProTune installation process

    a. Please note: if the icon associated with the jnlp file does not match what is seen below, you may need to right-click the jnlp file, select "Open With…" and choose "OpenWebStart" as the application to use.
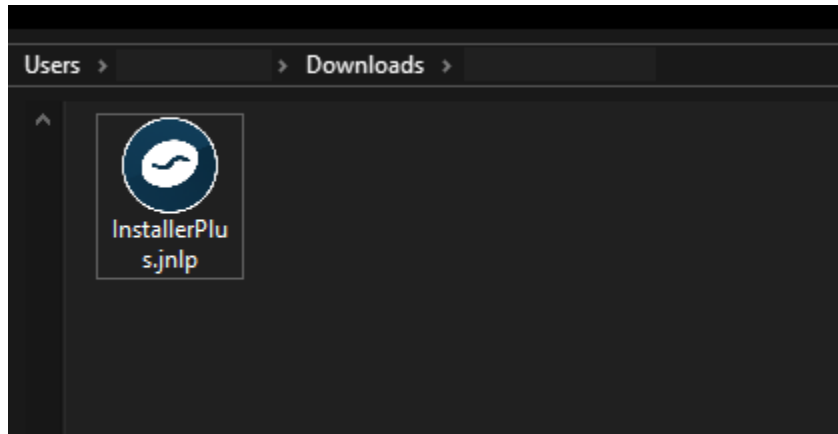
IX. ProTune Off-Line Tuning Application Technical Support

E-mail: support@prolabs.com
Phone: + 1 877 957 9144
Web: https://www.prolabs.com/support/tech-support