

# Detailed Comparison of LabVIEW Editions

	LabVIEW Base	LabVIEW Full	LabVIEW Professional
<b>Summary</b>	LabVIEW Base provides rapid access to real-world I/O through an intuitive and highly productive programming approach that simplifies data visualization.	LabVIEW Full provides over 950 data analytics algorithms to turn acquired data into business insights. LabVIEW Full includes all LabVIEW Base features.	LabVIEW Professional enables engineering applications developer teams to validate, deploy, or create. LabVIEW Professional includes all LabVIEW Full features.
<b>OS Support</b>			
Windows	✓	✓	✓
Mac	—	✓	✓
Linux	—	✓	✓
<b>Standard Service Program</b>			
Includes LabVIEW NXG	✓	✓	✓
One year of technical support	✓	✓	✓
One year of software upgrades	✓	✓	✓
Access to Software Technology Preview	✓	✓	✓
Access to 24/7 online training courses	LabVIEW Core 1,2	LabVIEW Core 1, 2, 3, and more <sup>1</sup>	LabVIEW Core 1, 2, 3, and more <sup>2</sup>
Subscription license available	✓	—	—
<b>Hardware Integration</b>			
Acquiring data from NI hardware	✓	✓	✓
Acquiring data from third-party hardware	✓	✓	✓
Deploying to real-time hardware	—	Requires LabVIEW Real-Time Module	Requires LabVIEW Real-Time Module
Deploying to FPGA hardware	—	Requires LabVIEW FPGA Module	Requires LabVIEW FPGA Module
<b>Programming Environment</b>			
Native graphical programming	✓	✓	✓
Multithreaded code execution	✓	✓	✓
Code debugging	✓	✓	✓
Event-driven programming	✓	✓	✓
Object-oriented programming	—	✓	✓
<b>Mathematics</b>			
Standard math functions	✓	✓	✓
Probability and statistics	✓	✓	✓
Linear algebra	—	✓	✓
Curve fitting	—	✓	✓
Differential equations	—	✓	✓
Interpolation and extrapolation	—	✓	✓
Calculus	—	✓	✓

<sup>1</sup> LabVIEW Full also includes Object-Oriented Design and Programming in LabVIEW. <sup>2</sup> LabVIEW Professional includes Object-Oriented Design and Programming in LabVIEW and Advanced Architectures in LabVIEW.

<sup>3</sup> Add-ons provide all functionality for a feature, but you must purchase them separately.

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**Summary**

LabVIEW Base provides rapid access to real-world I/O through an intuitive and highly productive programming approach that simplifies data visualization.

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LabVIEW Professional enables engineering applications developer teams to validate, deploy, or create. LabVIEW Professional includes all LabVIEW Full features.

**Signal Processing and Control**

Signal measurements	—	✓	✓
Signal generation	—	✓	✓
PID and fuzzy logic	—	✓	✓
Signal conditioning and filtering	—	✓	✓
Windowing	—	✓	✓
Signal operations	—	✓	✓
Transforms	—	✓	✓
Wavelet analysis	—	Requires LabVIEW Advanced Signal Processing Toolkit	Requires LabVIEW Advanced Signal Processing Toolkit
Time series analysis	—	Requires LabVIEW Advanced Signal Processing Toolkit	Requires LabVIEW Advanced Signal Processing Toolkit
Vision analysis	—	Requires Vision Development Module	Requires Vision Development Module
Model-based control and simulation	—	Requires LabVIEW Control Design and Simulation Module	Requires LabVIEW Control Design and Simulation Module

**Read, Write, Share Data**

Read and write to file	✓	✓	✓
Network communications	✓	✓	✓
Visualize and analyze image files	—	Requires Vision Development Module	Requires Vision Development Module
Web services	—	✓	✓
Report generation for Microsoft Office	Requires LabVIEW Report Generation Toolkit	Requires LabVIEW Report Generation Toolkit	✓
Database connectivity	Requires LabVIEW Database Connectivity Toolkit	Requires LabVIEW Database Connectivity Toolkit	✓

**Software Engineering Tools**

Graphical diff and merge	—	—	✓
Dynamic code analysis	Requires LabVIEW Desktop Execution Trace Toolkit	Requires LabVIEW Desktop Execution Trace Toolkit	✓
Static code analysis	Requires LabVIEW VI Analyzer Toolkit	Requires LabVIEW VI Analyzer Toolkit	✓
Unit testing framework	Requires LabVIEW Unit Test Framework Toolkit	Requires LabVIEW Unit Test Framework Toolkit	✓

**Software Interoperability and Code Integration**

Call DLLs and .NET assemblies	✓	✓	✓
Integrate text-based source code (C/C++, Python, and more)	✓	✓	✓
Integrate your code created with The MathWorks, Inc. MATLAB® software/Octave	—	Requires LabVIEW MathScript RT Module	Requires LabVIEW MathScript RT Module
Design application with UML-based statecharts	Requires LabVIEW Statechart Module	Requires LabVIEW Statechart Module	Requires LabVIEW Statechart Module

**Code Deployment and Distribution**

Build executables	Requires LabVIEW Application Builder Module	Requires LabVIEW Application Builder Module	✓
Build shared libraries	Requires LabVIEW Application Builder Module	Requires LabVIEW Application Builder Module	✓
Build installers	Requires LabVIEW Application Builder Module	Requires LabVIEW Application Builder Module	✓
Control programs remotely through Internet	—	✓	✓

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