

MATLAB Compiler

Build standalone executables and software components from MATLAB code

Introduction

MATLAB Compiler™ lets you share your [MATLAB®](#) application as an executable or a shared library. Executables and libraries created with MATLAB Compiler use a runtime engine called the [MATLAB Compiler Runtime \(MCR\)](#). The MCR is provided with MATLAB Compiler for distribution with your application and can be deployed royalty-free.

MATLAB Compiler lets you run your MATLAB application outside the MATLAB environment. This architecture significantly reduces application development time by eliminating the need to manually translate your code into a different language. If you are building a standalone application, MATLAB Compiler produces an executable for your end users. If you need to integrate into C or C++, MATLAB Compiler provides an interface to use your code as a shared library.



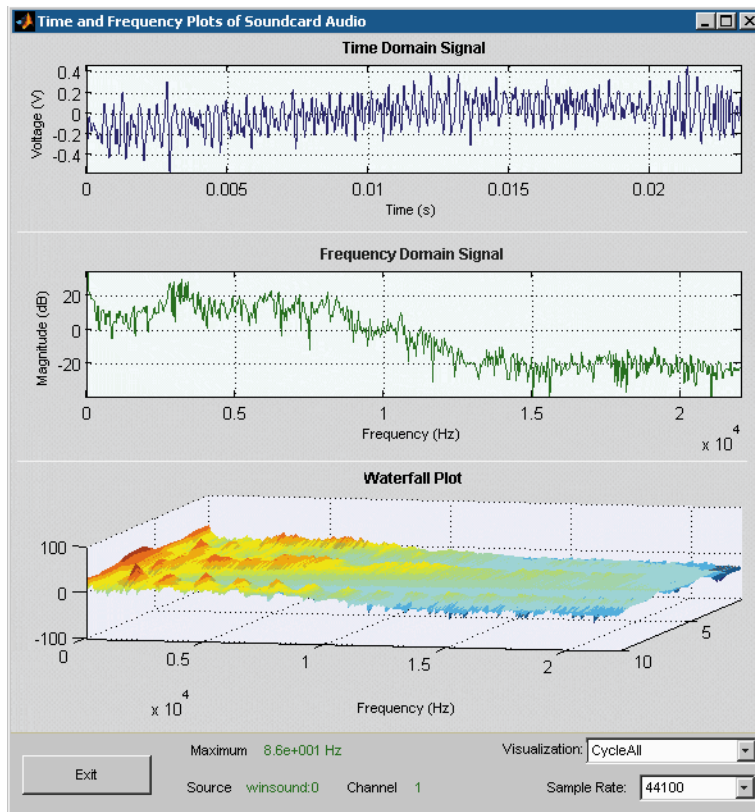
[Getting Started with MATLAB Compiler](#) 2.36

Build standalone executables from MATLAB code and deploy to a machine without MATLAB installed.

If you need to integrate into other development languages, MATLAB builder products (available separately) let you package your MATLAB applications as software components, such as Java™ classes, .NET components, or Excel® add-ins, for use within other applications. You can use the graphical Deployment Tool to package and encrypt your code.

Key Features

- Packages MATLAB® applications as executables and shared libraries
- Lets you distribute standalone executables and software components royalty-free
- Lets you incorporate MATLAB based algorithms into applications developed using other languages and technologies
- Encrypts MATLAB code so that it cannot be viewed or modified



Spectrum-analysis application, deployed and running outside MATLAB on Windows. The application, developed in MATLAB, directly acquires signals from a data-acquisition board and performs data analysis and plotting.

Working with MATLAB® Compiler™

You can use the high-level, matrix-optimized MATLAB language and built-in math, graphics, and data analysis functions to rapidly prototype, develop, and test your applications and functions. Once the applications and functions are complete, you can use MATLAB Compiler to package them as executables or shared libraries that are callable from C or C++, eliminating the need to recode in a different language.

To run your executable or shared library, the end user must first install the MCR on target machines. The MCR supports the full MATLAB language and lets you include functions from MATLAB toolboxes.

Building and Packaging an Application or Library

Using MATLAB Compiler, you can automatically package your MATLAB application into:

- Standalone applications
- C or C++ libraries (DLLs in Windows®, shared libraries in Linux® and UNIX®)
- Software components, such as Java classes, .NET assemblies, or Excel add-ins for use within other applications (with MATLAB builder products)

The Deployment Tool is a graphical user interface (GUI) that comes with MATLAB Compiler. It offers a graphical alternative to using the MATLAB command-line interface to build and package components for deployment on a different computer. With the Deployment Tool you can:

- Designate your main MATLAB function
- Add any supporting files that will not be automatically found through dependency checking, such as data files or images

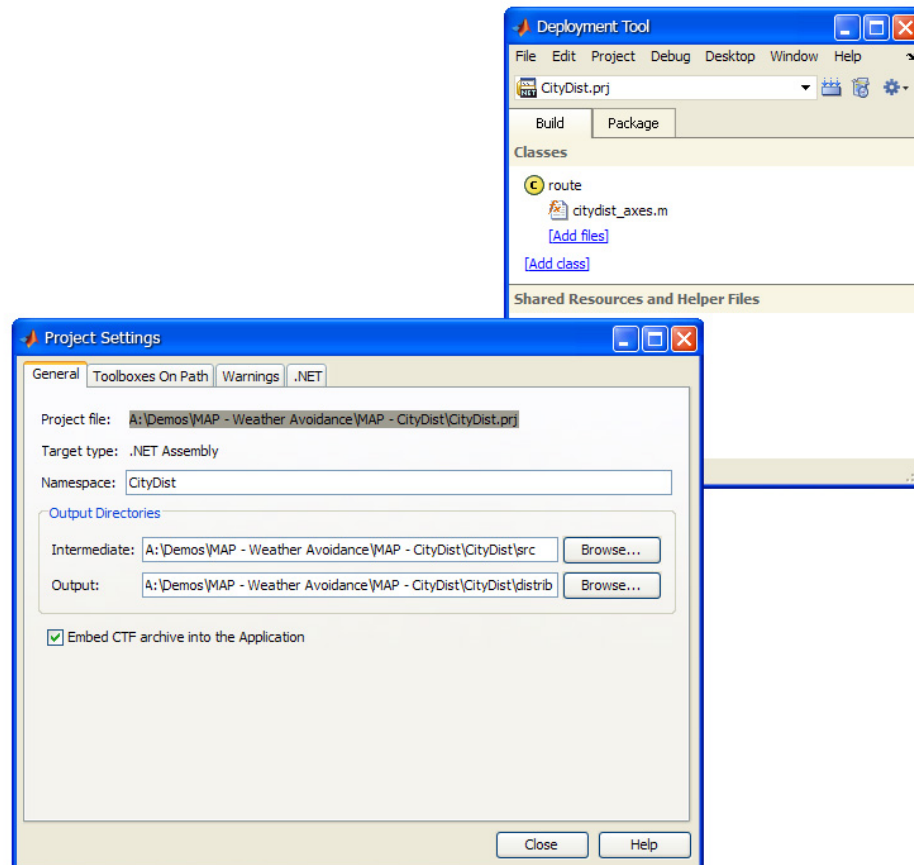
- Save compilation and packaging preferences

When you build the application or component, MATLAB Compiler determines which MATLAB functions are necessary to support the files you have included and encrypts your code. It then wraps the files as an executable or component.

Distributing Your Application or Component

After creating your application with MATLAB Compiler, you can distribute it to end users, who can run it independently of MATLAB. Within the Deployment Tool, you can package the MCR along with your application and its supporting files.

If you create a shared library, MATLAB Compiler produces a header file that you include in your C or C++ application and a library file to link with your application. Special data types are available to pass native MATLAB arrays to and from your library components built with MATLAB Compiler.



The Deployment Tool, the graphical user interface for MATLAB Compiler that organizes all your files into a project and then builds and packages them for deployment.

Compiling MATLAB® and Toolboxes

MATLAB Compiler supports the full MATLAB language and most MATLAB toolboxes, with some exceptions. For details on compilable features and products, visit the [MATLAB Compiler support page](#).

Resources

Product Details, Demos, and System Requirements

www.mathworks.com/products/compiler

Trial Software

www.mathworks.com/trialrequest

Sales

www.mathworks.com/contactsales

Technical Support

www.mathworks.com/support

Online User Community

www.mathworks.com/matlabcentral

Training Services

www.mathworks.com/training

Third-Party Products and Services

www.mathworks.com/connections

Worldwide Contacts

www.mathworks.com/contact