

# MATLAB Builder NE

## for Microsoft .NET Framework

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### Deploy MATLAB code as .NET or COM components

MATLAB Builder™ NE lets you create .NET and COM components from [MATLAB®](#) programs that include MATLAB math and graphics and GUIs developed with MATLAB. You can integrate these components into larger .NET, COM, and Web applications and deploy them royalty-free to computers that do not have MATLAB installed using the [MATLAB Compiler Runtime \(MCR\)](#) that is provided with MATLAB Compiler™.

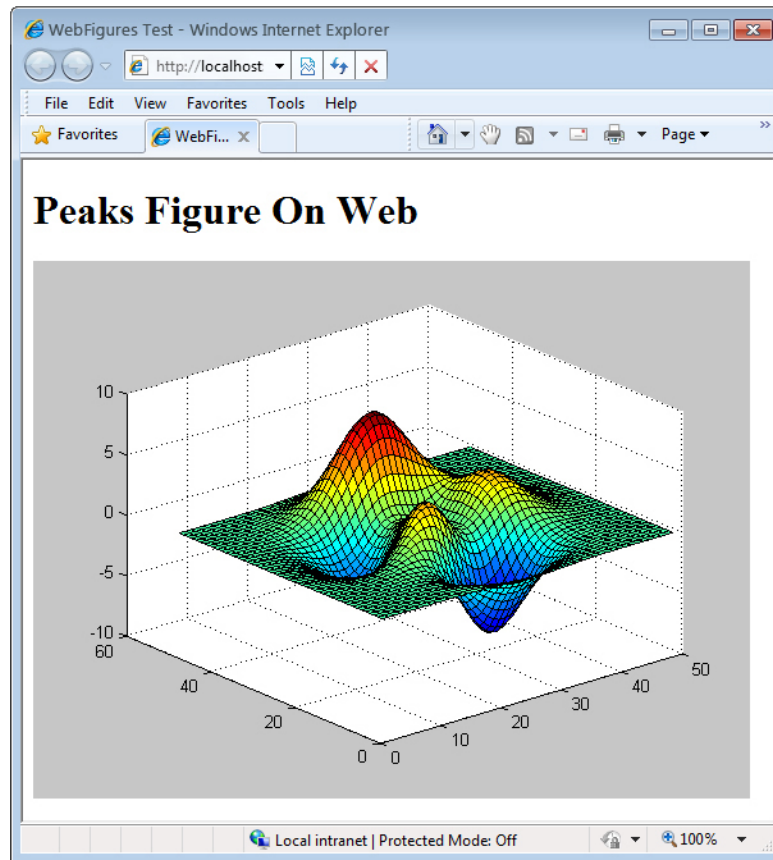
Using [MATLAB Compiler](#), MATLAB Builder NE encrypts your MATLAB programs and then generates .NET or COM wrappers around them so that they can be accessed just like native .NET and COM components.

The components created by the builder run against the MATLAB Compiler Runtime (MCR), the full set of libraries that supports all features of the MATLAB language and most related toolboxes. The MCR is provided with MATLAB Compiler. To run your .NET and COM components, you must distribute the MCR with them. Components created with MATLAB Builder NE and the MCR can be deployed royalty-free.

For Web applications, the builder generates WebFigures that enable in-browser zoom, pan, and rotation of MATLAB figures.

#### Key Features

- Royalty-free desktop and Web deployment of .NET and COM components to computers that do not have MATLAB installed
- Components callable from Common Language Specification (CLS)-compliant languages, including C#, F#, VB.NET, or ASP.NET, and COM-compliant technology, including Visual Basic®, ASP, or Excel®
- Type-safe automatic conversion to and from native .NET, COM, and MATLAB data types
- Direct passing of .NET objects to and from a compiled MATLAB function
- Windows Communication Foundation (WCF) support with Web or enterprise service-oriented architecture (SOA)
- .NET remoting for interprocess communication
- WebFigures interface for MATLAB figure zooming, rotating, and panning



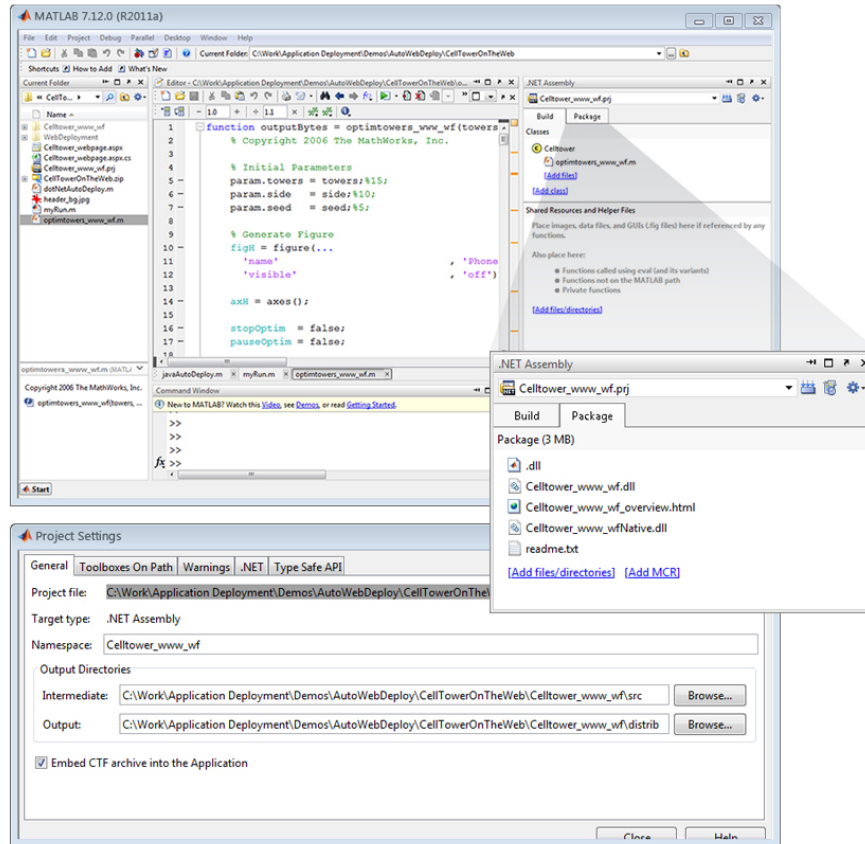
A .NET Web application for visualizing a surface plot generated by the MATLAB *peaks* function.

## Building and Packaging Components

You use [MATLAB](#), a high-level matrix-optimized language with built-in math, graphics, and data analysis functions to prototype, develop, and test your applications. Working with [MATLAB Compiler](#), the builder packages MATLAB code as a standard .NET or COM component and encrypts the code to protect your intellectual property. You can integrate the component with existing .NET or COM code for desktop or Web deployment. You can also modify the original code in MATLAB and then rebuild and redeploy the component.

The Deployment Tool is the MATLAB Compiler graphical user interface. You use it to build MATLAB functions into a .NET assembly or a COM object and package the component for deployment. You can:

- Select the type of component to build, either .NET or COM
- Add MATLAB code files and MEX-files to be accessed as public methods of your component
- Specify a .NET interface defining the generated type-safe API
- Set properties for building and packaging
- Build, test, and edit the component as necessary
- Package the component and the MCR (optional) for distribution to programmers or end users



Using the Deployment Tool to create a .NET assembly from a MATLAB program that calculates optimal cell tower locations.

## Accessing .NET or COM Components

After instantiating an object from a [MATLAB](#) based component, you can access the object methods from your application just as you access the methods of any other .NET or COM class. The .NET and COM data types passed to MATLAB functions are automatically converted to MATLAB data types. You can directly pass .NET objects to and from the MATLAB based component. The builder also provides data conversion classes to manually convert data and manage output data, as well as a .NET type-safe interface to convert MATLAB data types to and from .NET native data types.

## Deploying .NET or COM Components

You can integrate a [MATLAB](#) based component into an existing .NET or COM application by installing the component and the MCR on the target computer. For server applications, end users can access the application without installing MATLAB or the MCR on their individual computers.

With builder support for the .NET Remoting API, you can run your class as a persistent service or execute your component across multiple processes. You can integrate a MATLAB based .NET component with a service-oriented Web application using the Windows Communication Foundation (WCF) API.

Your components and the MCR can be distributed royalty-free.

## Resources

### Product Details, Demos, and System Requirements

[www.mathworks.com/products/netbuilder](http://www.mathworks.com/products/netbuilder)

### Trial Software

[www.mathworks.com/trialrequest](http://www.mathworks.com/trialrequest)

### Sales

[www.mathworks.com/contactsales](http://www.mathworks.com/contactsales)

### Technical Support

[www.mathworks.com/support](http://www.mathworks.com/support)

### Online User Community

[www.mathworks.com/matlabcentral](http://www.mathworks.com/matlabcentral)

### Training Services

[www.mathworks.com/training](http://www.mathworks.com/training)

### Third-Party Products and Services

[www.mathworks.com/connections](http://www.mathworks.com/connections)

### Worldwide Contacts

[www.mathworks.com/contact](http://www.mathworks.com/contact)