

MATLAB® Builder™ EX 1.2

Deploy MATLAB® code as Microsoft® Excel® add-ins

MATLAB® Builder™ EX lets you integrate MATLAB® applications into your organization's Excel® workbooks as macro functions or add-ins that can be deployed royalty free. The MATLAB Builder EX product creates the add-ins by encrypting your MATLAB functions, packaging the functions as a DLL that is accessible from Excel, and generating a Microsoft® Visual Basic® for Applications (VBA) wrapper around them.

You can reference MATLAB based Excel add-ins the same way as any other Excel add-in, for easy integration into Excel. The add-ins created by the builder run against the MATLAB Compiler Runtime (MCR), which is the full set of shared libraries that support MATLAB. The MCR is provided with MATLAB Compiler for distribution with the Excel add-ins. Both the Excel add-in created in MATLAB and the MCR can be deployed royalty-free.

The VBA wrapper code can be modified in Excel, while the underlying MATLAB application is hidden from the end user. The builder also provides an API for converting between Excel and MATLAB data types.

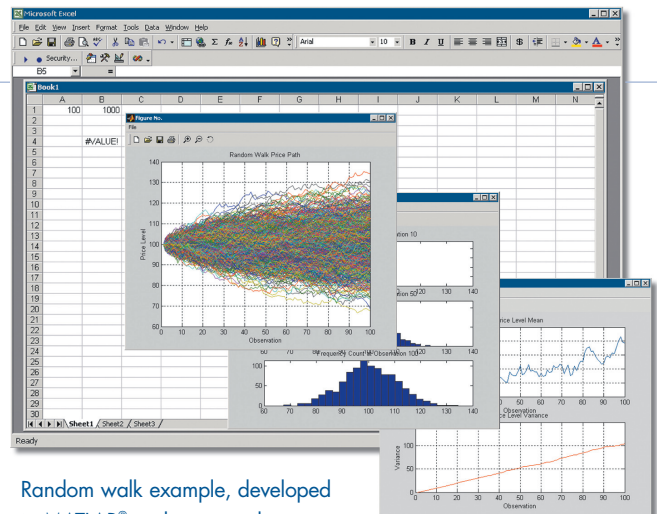
Working with MATLAB® Builder™ EX

Together, MATLAB, MATLAB Compiler, and MATLAB Builder EX enable you to develop applications using MATLAB and then deploy them as components within Excel workbooks. 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. Once the applications are complete, you can use the builder to automatically package them as Excel add-ins and integrate them into Excel workbooks.

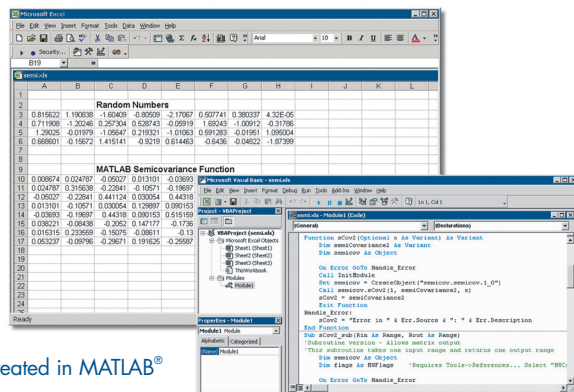
Excel® spreadsheet that references a standalone Excel add-in function created in MATLAB® to generate the covariance of a random matrix.

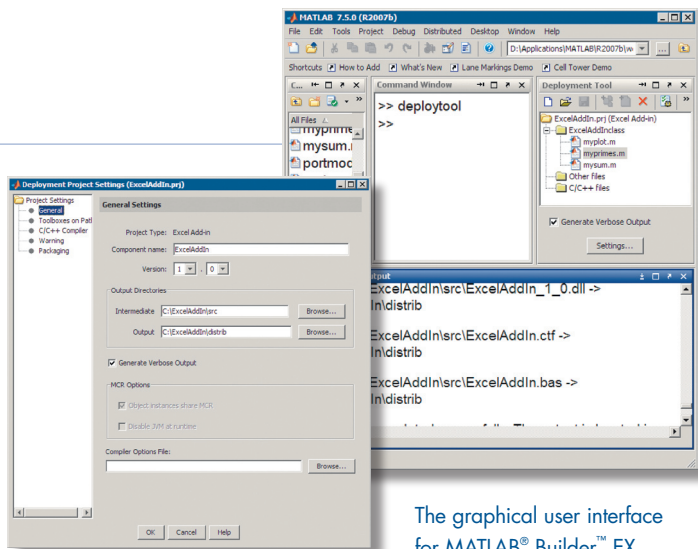
KEY FEATURES

- Packages MATLAB® applications as Excel® add-ins
- Enables royalty-free deployment of Excel add-ins that run independently of MATLAB
- Automatically creates wrapper code in Visual Basic® for Applications for MATLAB functions
- Automatically converts between Excel data types and MATLAB array data

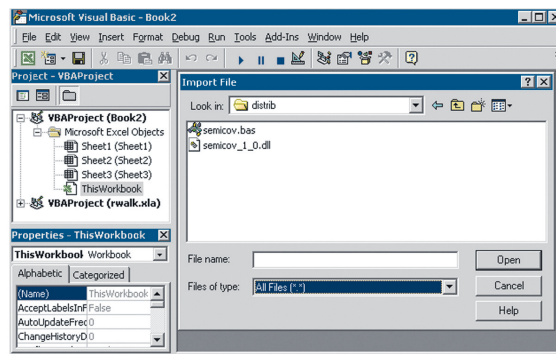


Random walk example, developed in MATLAB® and converted to a standalone Excel® add-in using MATLAB® Builder™ EX. The application uses advanced MATLAB math and graphics functionality to calculate the random price paths, histograms, and the variance and mean from a selected number of samples and realizations.





The graphical user interface for MATLAB® Builder™ EX.



A Visual Basic® for Applications (VBA) file generated with MATLAB® Builder™ EX, imported from within the VBA environment in Excel®.

The builder encrypts MATLAB code and wraps it as a COM object, with a VBA interface, that can be referenced as a standard Excel macro or add-in. This COM object can be accessed only from Excel, as a macro or add-in. By changing the application in MATLAB and then rebuilding the component, you can modify the MATLAB based component at any time.

To deploy your Excel add-in, you first install the MCR (provided with MATLAB Compiler) on target machines. The MCR is the full set of shared libraries required for executing MATLAB based components. It provides complete support for all features of the MATLAB language and most related toolboxes.

Building and Packaging Components

The Deployment Tool is a graphical user interface (GUI) that comes with MATLAB Compiler. It lets you build your MATLAB applications into Excel add-ins and then package the add-in for deployment.

From the GUI you can:

- Add M- and MEX-files to serve as externally visible methods of your Excel add-in
- Add supporting files, including the MCR, to be packaged with your add-in
- Save compilation and packaging preferences
- Automatically collect and package the files to deploy the component

Accessing Excel® Add-Ins

In Excel, you can import the .bas file and view or modify the VBA code generated by the builder to call your MATLAB functions. You can also write your own code in VBA to call the class produced by the builder. The builder includes data conversion and formatting utilities for transferring complicated data types between MATLAB and Excel.

Deploying Excel® Add-Ins

You can integrate a MATLAB based Excel add-in by installing the component, its supporting archive file, and the MCR on the target machine. Your components and the MCR can be distributed royalty-free.

Required Products

MATLAB®
MATLAB® Compiler™

Related Products

MATLAB® Builder™ JA. Deploy MATLAB code as Java™ classes

MATLAB® Builder™ NE. Deploy MATLAB code as .NET and COM components

Spreadsheet Link™ EX. Use MATLAB from Microsoft® Excel®

For more information on related products, visit www.mathworks.com/products/matlabxl

Platform and System Requirements

For platform and system requirements, visit www.mathworks.com/products/matlabxl

Resources

VISIT
www.mathworks.com

TECHNICAL SUPPORT
www.mathworks.com/support

ONLINE USER COMMUNITY
www.mathworks.com/matlabcentral

DEMOS
www.mathworks.com/demos

TRAINING SERVICES
www.mathworks.com/training

THIRD-PARTY PRODUCTS AND SERVICES
www.mathworks.com/connections

WORLDWIDE CONTACTS
www.mathworks.com/contact

E-MAIL
info@mathworks.com