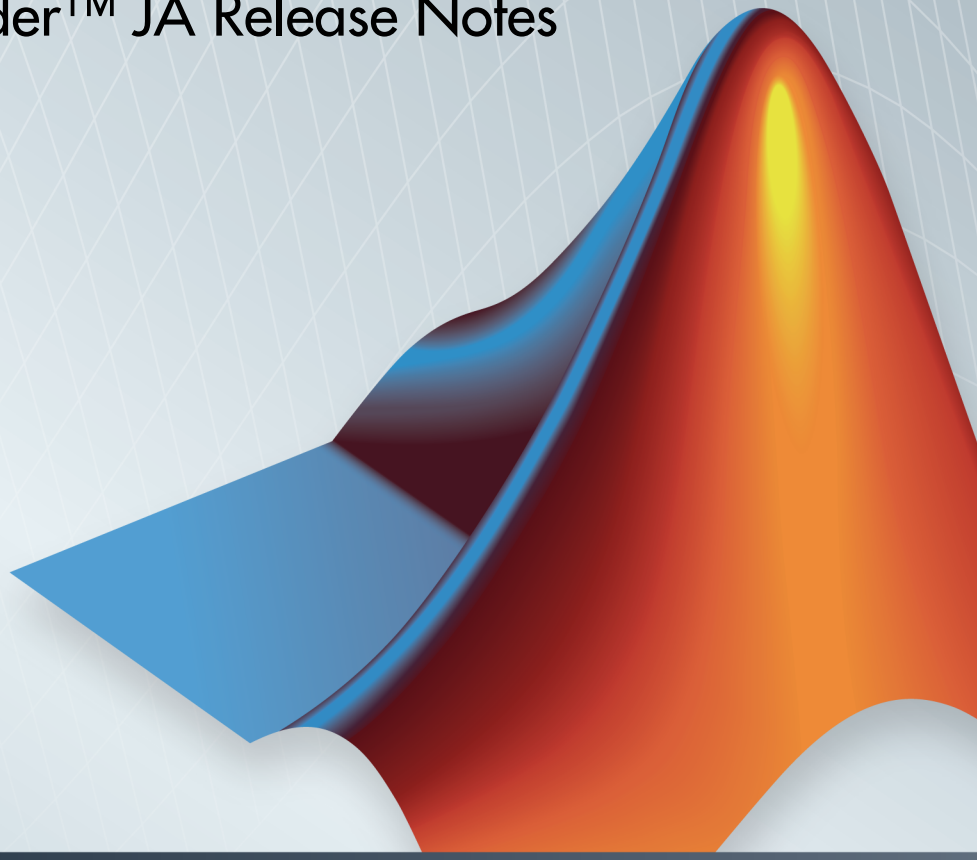
# MATLAB® Builder™ JA Release Notes



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*MATLAB® Builder™ JA Release Notes*

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# R2014b

## Deployable classes for Hadoop using MATLAB MapReduce

MATLAB® Builder™ JA includes a MapReduce compiler app that packages MapReduce applications for deployment against Hadoop®. The applications can be compiled into packages for use in developing other applications.

# R2014a

## Faster packaging of compiled libraries

MATLAB Compiler™ uses an new dependency resolution function that is faster.

## Compatibility Considerations

The new dependency resolution function requires that p-code being used in a compiled function has an associated `.m` file containing the original source for the p-code.

# R2013b

## Java 1.7 support, while Java 1.6 is not supported

Applications built using Java objects generated by this release will need to use Java 7.

## Automatic download of version and platform-specific MATLAB Compiler Runtime from MathWorks website

The MATLAB Compiler apps generate a platform specific installer that will automatically download and install the proper MATLAB Compiler Runtime if it is needed.

## Toolstrip-style user interface for MATLAB Compiler apps

The MATLAB Compiler apps use a toolstrip for commonly used interface components and required input fields.

## Customizable installers for deployed applications and libraries, including graphics, splash screen, and icons

The MATLAB Compiler apps have fields for supplying custom graphics, icons, developer profile details, and version numbers to the generated installer.

# R2013a

**Version: 2.2.6**

**Bug Fixes**

# R2012b

**Version: 2.2.5**

**Bug Fixes**

## MWArray API Documentation

Auto-generated Javadoc documentation for `MWArray` is now available in the product build at *`matlab_root`*`help/toolbox/javabuilder/MWArrayAPI`.

# R2012a

## MATLAB Compiler Runtime (MCR) Now Available for Web Download

The MATLAB Compiler Runtime (MCR) is now available for downloading from the Web to simplify the distribution of your applications or components created with the MATLAB® Compiler.

Direct your end users to the MATLAB Compiler product page to download the MCR, as opposed to redistributing or packaging it with your applications or components.

## Changes in MCR User Data Interface Arguments for Compiling Parallel Computing Toolbox Applications

Parallel Computing Toolbox™ configurations are now referred to as *parallel profiles*, as of R2012a.

See Profiles in Compiled Applications in the Parallel Computing Toolbox Release Notes for complete information.

## Compatibility Considerations

The older MCR User Data Interface argument `ParallelConfigurationFile` and MAT files will still be supported until Parallel Computing Toolbox documentation states otherwise, but note that if you use the `ParallelConfigurationFile` argument, you must supply a configuration `.mat` file, rather than a profile `.settings` file. If the `ParallelProfile` argument is used, a configuration `.mat` file or a profile `.settings` file can be used.

# R2011b

Version: 2.2.3

New Features

Bug Fixes

## Faster Installation of MATLAB Compiler Runtime (MCR) with Improved MCR Installer

The Application Deployment products now feature faster installation of the MATLAB Compiler Runtime (MCR) through improved MCR Installer technology. In addition to improved performance, the new installer provides a common interface for all platforms.

## Support for Graphics Processing Unit (GPU) in Parallel Computing Toolbox Applications

MATLAB Compiler generated executables and components now benefit from better performance when used with Parallel Computing Toolbox applications. The improvement is due to support of the Graphics Processing Unit (GPU) feature.

For more information, see GPU Computing in the Parallel Computing Toolbox User's Guide, as well as the Parallel Computing Toolbox examples in the deployment user's guides for additional information about compiling your deployable application with GPU.

# R2011a

Version: 2.2.2

New Features

Bug Fixes

## Local Worker Support for Parallel Computing Toolbox Applications

MATLAB Compiler and the builders now support local workers in Parallel Computing Toolbox applications.

For information about this feature, see Use a Local Cluster for general information on Local Workers. Also, see the Parallel Computing Toolbox User's Guide for information about working with compilable PCT applications.

# R2010bSP1

**Version: 2.2.1**

**Bug Fixes**

# R2010b

## Include the MCR Installer from a Link on Your Local Network

This feature lets you add a link to an MCR Installer residing on a local area network. Adding this link allows you to invoke the installer over the network, as opposed to copying the installer physically into each deployable package.

See Packaging (Optional) in the MATLAB Compiler User's Guide, or in your respective Builder product User's Guide, for more details.

## Tool Tips Available for WebFigures

Tool tips are now available for your convenience, as you work with WebFigures. See your product User's Guide and Example Guide for more information about WebFigures.

## Changes to MWApplication Methods

In this release, `MWApplication.initializeApplication` is being deprecated. It is being replaced by `MWApplication.initialize`.

In addition, `MWApplication.terminate` is being added for special configurations where JVM shutdown hooks are not expected to run.

## Compatibility Considerations

Calls to `MWApplication.initializeApplication` will generate warnings for R2010b. Make appropriate changes to your code as soon as possible.

For detailed information, see the Javadoc link `com.mathworks.toolbox.javabuilder` on the MATLAB Builder JA product roadmap.

# R2010a

Version: 2.1

New Features

Bug Fixes

## Deployment Tool Now Available from Command Line

You can now invoke the Deployment Tool GUI from the command line. See Using the Deployment Tool from the Command Line in the MATLAB Compiler User's Guide for more information.

## Native Data Types Available for Cell Arrays and Data Structures

MATLAB Programmers now have the option of using native Java® data types for cell array and data structure handling. These native types provide data in a more useful, easy-to-process output. See Using Native Java with Cell Arrays and Struct Arrays for more information about using the feature with MATLAB Builder JA.

# R2009b

## Redesigned Deployment Tool GUI

The new Deployment Tool (`deploytool`) interface features intuitive task-based navigation, a cancellable progress dialog, fast loading of previously-created projects, and ability to add supporting files as folders. The GUI also features new context sensitive help.

## Alternate Graphic Renderers Now Available

Graphic renderers Z-Buffer and OpenGL are now available for invocation. See Supported Renderers for WebFigures for more information.

## Mac 64-Bit Support Available

Support for Macintosh 64-bit processors is now available.

## JRE Auto-Detection Available for Web Applications

The Java Runtime (JRE) auto-detection code (previously available for MATLAB Builder JA components) is now available to Web applications, through support on Web servers.

## New Video Demo Available

Watch a video about deploying applications using MATLAB Builder JA.

## New Format for Deployment Tool Projects

As of this release, deployment projects are being created in a new file format.

## Compatibility Considerations

If you have projects that were created with the Deployment Tool prior to R2009b, those projects will continue to work. However, projects created or changed in R2009b cannot be opened in previous versions of Deployment Tool (`deploytool`). Recreate old projects with Deployment Tool to ensure they function properly.

# R2009a

Version: 2.0.3

New Features

Bug Fixes

## Reduced MCR Size Saves on Transfer Time

MCR copying and transfer time has been improved by 50% following a reduction in the file's contents. The change will not reduce processor time or memory consumption since the deleted files were not loaded into RAM.

## Customized readme.txt Produced with Each Compilation

An enhanced version of the `readme.txt` file, which is generated with each successful compilation, is now customized to include specific instructions about MATLAB Builder JA deployment requirements.

## Ability to Specify Run-Time Options to the MATLAB Compiler Runtime (MCR)

You can now specify run-time options `-nojvm`, `-nodisplay`, and `-logfile` to the MATLAB Compiler Runtime (MCR). For more information about this feature, see Dynamically Specifying Run-Time Options to the MCR in the product User's Guide.

## Enhanced Javadoc

Auto-generated Sun™ Javadoc has been enhanced to include information of interest to Java developers. For more information, see Learning About Java Classes and Methods by Exploring the Javadoc in the product User's Guide.

# R2008b

## Applications Created with Parallel Computing Toolbox Now Can Be Compiled

MATLAB applications that use the Parallel Computing Toolbox are now able to be compiled. Resulting executables and components can scale to multicore and multiprocessing environments using MATLAB Distributed Computing Server. For more information, see Improving Data Access Using the MCR User Data Interface and MATLAB Builder JA in the product User's Guide.

## Warning Results When Running Figure-Generating Applications or Printing with -nojvm Flag

As of R2008b, running a figure-generating application or printing with the `-nojvm` option results in a warning message. In some cases, figure rendering may succeed, and in other cases it may not. Similarly, various MATLAB graphics functions dependent on Java, such as graphics passed with `-R -nojvm`, will not result in displayable graphics.

## Compatibility Considerations

In a future release, the `-nojvm` option will no longer support figure-generating or printing and will be removed.

## Same Name Class Objects Shared Between MCR Instances Will Not Work Correctly

If the same class name is used in two or more separate MCR instances within the same process, the object will not work correctly. This bug impacts all component based targets: C/C++ shared libraries, COM/.Net targets, and Java targets. This bug does not affect standalone executables. This is due to a bug in the MATLAB Object System and is being addressed.

# R2008a

Version: 2.0.1

New Features

Bug Fixes

## MATLAB Application Deployment Web Example Guide Available

A new publication, the *MATLAB Application Deployment Web Example Guide*, is now available from the MATLAB Compiler, MATLAB Builder JA, and MATLAB Builder NE roadmap pages. From MATLAB, select **Help > Product Help** and select the product from the left pane.

The guide provides full examples of common tasks performed by the MATLAB programmer, IT specialist, and others who play significant roles in deploying MATLAB applications to the Web.

# R2007b

Version: 2.0

New Features

Bug Fixes

Compatibility Considerations

## Support for RMI

The Sun Microsystems® Java™ native RPC mechanism, RMI, is now supported for Creating Scalable Web Applications Using RMI. RMI support enables automatic generation of interface code for Java remoting, allowing components to be started in separate processes.

## Interactive MATLAB Graphics Support (WebFigures)

Interactive graphics are now available for user-developed Web applications, using AJAX technology to enable rotating, zooming, and panning. See Deploying a Java Component Over the Web for more information.

## Enhanced CTF Archives

Output JAR files containing embedded CTF files are now produced for more convenient deployment.

## Web Deployment Documentation

The basics of Web deployment with MATLAB Builder for Java, interactive Web graphics, and performance features using RMI are now included in the User's Guide documentation.

## Enhanced Javadoc Support

Sun Microsystems® Javadoc™ is now searchable from the MathWorks Web site.

## Functions Being Removed

The following functions were removed in R2007b:

| Function Being Removed | What Happens When You Run the Function? | Use This Instead | Compatibility Considerations |
|---|---|---|---|
| `buildmcr` | Errors | `MCRInstaller.exe` (Windows), | See Distribute MATLAB Code Using |

| Function Being Removed | What Happens When You Run the Function? | Use This Instead | Compatibility Considerations |
|---|---|---|---|
| | | `MCRInstaller.bin` (UNIX), `MCRInstaller.dmg` (Mac) | the MATLAB Compiler Runtime (MCR) in the MATLAB Compiler User's Guide documentation. |
| `comtool` | Undefined Function Error | `deploytool` | Migrate to `deploytool`. |
| `dotnettool` | Undefined Function Error | `deploytool` | Migrate to `deploytool`. |
| `mxltool` | Undefined Function Error | `deploytool` | Migrate to `deploytool`. |
| `opennbl` | Undefined Function Error | `deploytool` | Migrate to `deploytool`. |
| `openmxl` | Undefined Function Error | `deploytool` | Migrate to `deploytool`. |
| `opencbl` | Undefined Function Error | `deploytool` | Migrate to `deploytool`. |

# R2007a

Version: 1.1

New Features

Bug Fixes

## Support Added for Win 64, Mac, Intel Mac, and Solaris 64

Support has been added for the following operating systems:

- Windows® 64-bit
- Macintosh
- Intel® Mac
- Solaris™ 64-bit

## Support Dropped for Solaris 2

Support has been dropped for the Solaris 2 operating system. It has been replaced by support for Solaris 64.

## Java Objects Accessible by the MATLAB Java Interface

You can now pass Java objects, by reference, to compiled MATLAB functions and be assured the objects are fully accessible by the MATLAB Java interface.

## Conversion Methods Available for Java Primitive Types

Conversion methods are now available that force MATLAB numeric array data into Java primitive numeric types.

## Image Conversion from RGB to Java AWT Format Available

Conversion of RGB image data to Java AWT image object data format is now available.

## Issues with the Microsoft Windows Vista Operating System

The following are known issues with Windows Vista™ as of this release. To resolve these issues, ensure you are logged in as Administrator.

- With User Account Control (UAC) enabled, a standard user is not able to write to a folder in the `c:\Program Files` folder. See the MATLAB Release Notes for more details regarding this issue.

- With User Account Control (UAC) enabled, a standard user is not able to register DLLs. When `mbuild -setup` attempts to register `mwcomutil.dll`, the following errors are displayed:

```
Trying to update options file:
  C:\Users\qe\AppData\Roaming\MathWorks\MATLAB\R2007a\compopts.bat
From template:
  C:\PROGRA~1\MATLAB\R2007a\bin\win64\mbuildopts\msvc80compp.bat

Done . . .

--> "C:\PROGRA~1\MATLAB\R2007a\bin\win64\mwregsvr C:\PROGRA~1\MATLAB\R2007a\bin\
win64\mwcomutil.dll"

Error: DllRegisterServer in C:\PROGRA~1\MATLAB\R2007a\bin\win64\mwcomutil.dll
failed
Undefined subroutine &mexsetup::expire called at C:\PROGRA~1\MATLAB\R2007a\bin\/
mexsetup.pm line 839.
```

  This is also the case when MATLAB Builder for Excel invokes `mbuild` in an attempt to register DLLs after a compilation completes.

- The following message is displayed when MATLAB Builder for .NET, attempts to install a DLL into the Global Assembly Cache from a network location:

```
Unhandled Exception: System.IO.FileLoadException: could not load file or assembly
'GACInstaller, Version=1.0.2568.30711, Culture=neutral, PublicKeyToken=null' or
one of its dependencies. Failed to grant permission to execute. (Exception from
HRESULT: 0x80131418)
File name: 'GACInstaller, Version=1.0.2568.30711, Culture=neutral,
PublicKeyToken=null' ---> System.Security.Policy.PolicyException: Execution
permission cannot be acquired.
   at System.Security.SecurityManager.ResolvePolicy(Evidence evidence,
PermissionSet reqdPset, PermissionSet optPset, PermissionSet denyPset,
PermissionSet& denied, Boolean checkExecutionPermission)
   at System.Security.SecurityManager.ResolvePolicy(Evidence evidence,
PermissionSet reqdPset, PermissionSet optPset, PermissionSet denyPset,
PermissionSet& denied, Int32& securitySpecialFlags, Boolean
checkExecutionPermission)
```

- Printing from a compiled application is not currently available with Microsoft Windows Vista. The following message is displayed if you attempt to print on systems with the Microsoft Windows Vista 32-bit operating system installed:

```
PrintImage Error
StartPage failed with error 6: The handle is invalid.
```

  Printing with Vista 64-bit installed results in an error message that lists a manifest as missing. Please check `http://www.mathworks.com/support/` for updates on these issues.

# R2006b

**Version: 1.0**

**New Features**

## Introducing MATLAB Builder for Java

MATLAB Builder for Java® is an extension to MATLAB Compiler software. Use this builder to wrap MATLAB functions into one or more Java classes that comprise a Java package. Each of the MATLAB functions is encapsulated as a method of a Java class and can be invoked from within a Java application.

When you distribute the application to your users, you must include supporting files generated by the builder as well as the MATLAB Component Runtime (MCR), which is provided by the product. Your users do not have to purchase and install MATLAB.

## Support for MATLAB Features in Java

MATLAB Builder for Java provides robust data conversion, indexing, and array formatting capabilities to preserve the flexibility of MATLAB when called from Java code. To support the MATLAB data types, the builder provides the `MWArray` class hierarchy. You can use `MWArray` and other Java class members in your application to convert native arrays to MATLAB arrays and vice versa. builder also provides automatic data conversion for passing arguments that are Java types.

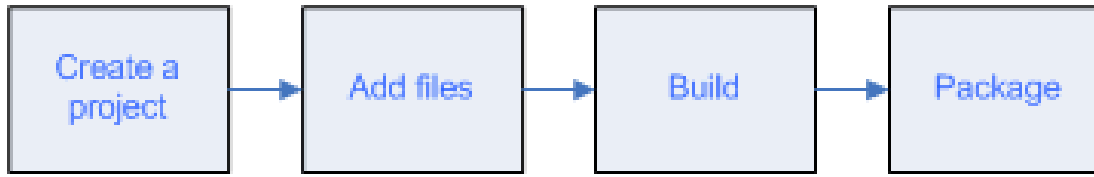
MATLAB Builder for Java provides custom error handling so that errors originating from MATLAB functions are reported as standard exceptions. The error description contains specific references to the MATLAB code, thus simplifying the debugging process.

## Deployment Tool User Interface

To use the builder, open the Deployment Tool by issuing the following MATLAB command:

```
deploytool
```

You can use the Deployment Tool to create a project that encapsulates MATLAB code. You can perform the following tasks using the Deployment Tool:



## Known Issues

The following issue is known and a patch to fix the problem is available at the linked bug report.

### Data Returned by toArray Referencing Sparse Format May Be Corrupt

The data returned by calling `toArray` on a `MWNumericArray` or `MWLogicalArray` object that references a MATLAB array stored in sparse format may be incorrect or corrupted. More information and a patch that corrects this issue can be found at the Customer Bug Reports area of the MathWorks Web site: `http://www.mathworks.com/support/bugreports/?product=MJ&release=R2006b`. At the Bug Reports page, select **R2006b** in the Release list, and select **MATLAB Builder for Java** in the Product list.

This bug does not affect normal (nonsparse) arrays, nor does it affect other methods of retrieving data from a sparse array, such as `get`, `getDouble`, and `getData`.