### MATLAB<sup>®</sup> Web App Server<sup>™</sup> Release Notes

# MATLAB®



R

#### **How to Contact MathWorks**



Latest news:

Phone:

www.mathworks.com

Sales and services: www.mathworks.com/sales\_and\_services

User community: www.mathworks.com/matlabcentral

Technical support: www.mathworks.com/support/contact\_us



 $\mathbf{\mathbf{X}}$ 

508-647-7000

#### The MathWorks, Inc. 1 Apple Hill Drive Natick, MA 01760-2098

MATLAB<sup>®</sup> Web App Server<sup>™</sup> Release Notes

© COPYRIGHT 2020-2023 by The MathWorks, Inc.

The software described in this document is furnished under a license agreement. The software may be used or copied only under the terms of the license agreement. No part of this manual may be photocopied or reproduced in any form without prior written consent from The MathWorks, Inc.

FEDERAL ACQUISITION: This provision applies to all acquisitions of the Program and Documentation by, for, or through the federal government of the United States. By accepting delivery of the Program or Documentation, the government hereby agrees that this software or documentation qualifies as commercial computer software or commercial computer software documentation as such terms are used or defined in FAR 12.212, DFARS Part 227.72, and DFARS 252.227-7014. Accordingly, the terms and conditions of this Agreement and only those rights specified in this Agreement, shall pertain to and govern the use, modification, reproduction, release, performance, display, and disclosure of the Program and Documentation by the federal government (or other entity acquiring for or through the federal government) and shall supersede any conflicting contractual terms or conditions. If this License fails to meet the government's needs or is inconsistent in any respect with federal procurement law, the government agrees to return the Program and Documentation, unused, to The MathWorks, Inc.

#### Trademarks

MATLAB and Simulink are registered trademarks of The MathWorks, Inc. See www.mathworks.com/trademarks for a list of additional trademarks. Other product or brand names may be trademarks or registered trademarks of their respective holders.

#### Patents

 $MathWorks\ products\ are\ protected\ by\ one\ or\ more\ U.S.\ patents.\ Please\ see\ www.mathworks.com/patents\ for\ more\ information.$ 

## Contents

#### R2023a

Authentication: Regulate whether a user who is already logged-in to an OIDC-based identity provider (IdP) must re-authenticate	1-2
Authentication: Version number for OIDC webapps_authn.json file is now   1.3.0	1-2

#### R2022b

Server Management: Run MATLAB web apps in Docker containers	2-2
Server Management: Start web app in full-screen mode	2-2
Server Management: Show web app session footer and logs	2-2

#### R2022a

Server Management: Support for customizing web app behavior to each	
user	3-2

#### R2021b

Server Management: Customize apps home page	4-2
Deployment: Deploy web apps directly to the server from within App Designer	4-2

Policy-Based Access: Specify a policy to determine access to web apps on the server	5-2
Server Management: Create folders to organize web apps	5-2
Server Management: Restart server using webapps-restart	5-2

#### R2020b

Authentication: OIDC authentication schema supports URL redirection	
	6-2

#### R2020a

Authentication: Control server access using LDAP and OIDC authentication	7-2
Role-Based Access: Assign roles to users accessing the server	7-2
Command-Line Scripts: Manage the server using command-line scripts	7-2
Web Apps: Support for web apps developed in any MATLAB release starting with R2019b	7-2
Simulink Simulations: Run web apps containing Simulink simulations using Simulink Compiler	7-2

### R2023a

Version: 1.6 New Features Bug Fixes Compatibility Considerations

### Authentication: Regulate whether a user who is already logged-in to an OIDC-based identity provider (IdP) must re-authenticate

When using OIDC authentication, you can specify whether you want a user who is already logged-in to an identity provider (IdP) to re-authenticate, or not, by setting the "prompt" field in the webapps\_authn.json authentication file to "true" or "false" respectively. You must update the version number of the webapps\_authn.json authentication file to 1.3.0 to use this functionality.

For details, see "OIDC Authentication".

### Authentication: Version number for OIDC webapps\_authn.json file is now 1.3.0

The version number for the OIDC webapps\_authn.json authentication file is now 1.3.0.

#### **Compatibility Considerations**

The ability to regulate whether a user who is already logged-in to an OIDC-based identity provider (IdP) must re-authenticate is supported only while using version 1.3.0 of the webapps\_authn.json file starting in R2023a.

### R2022b

Version: 1.5 New Features Bug Fixes Compatibility Considerations

#### Server Management: Run MATLAB web apps in Docker containers

On Linux<sup>®</sup> systems, you can run MATLAB<sup>®</sup> web apps in Docker<sup>®</sup> containers. Execute the webapps-containers command from a system terminal to setup the environment required to run MATLAB web apps in Docker containers. For details, see webapps-containers.

#### **Compatibility Considerations**

- To run MATLAB web apps in Docker containers, you must use MATLAB Runtime R2022b or higher. Earlier versions of MATLAB Runtime are not supported. However, you can continue to use versions of MATLAB Runtime going back to R2019b if you are not planning on running web apps in containers.
- Available only on Linux systems.
- Requires an installation of Docker on the machine running the server.

#### Server Management: Start web app in full-screen mode

You can configure the server to start web apps in full-screen mode by setting the app\_session\_fullscreen key to true in the server configuration. For details, see webapps-config.

#### Server Management: Show web app session footer and logs

You can configure the server to show a web app session's footer and logs to specific users. Set the app\_session\_show\_footer key in the server configuration to all, authors, or none. For details, see webapps-config.

### R2022a

Version: 1.4

**New Features** 

### Server Management: Support for customizing web app behavior to each user

You can support customizing web app behavior to each user by creating a file named userinfo.json and placing it in the webapps\_private folder on the server. App authors can use the compiler.UserInfo (MATLAB Compiler) function within their MATLAB app code to retrieve user-specific details from the userinfo.json file and customize the web app. Customization involves any user-specific behavior the app author deems necessary. For example:

- Loading user-specific data or configurations to a web app
- Enabling user-specific UI components while disabling others

For details, see Customize Web App Behavior Based on User.

### R2021b

Version: 1.3

**New Features** 

#### Server Management: Customize apps home page

You can customize the apps home page by changing the title, background color, font type, and font size of the banner.

For details, see Customize MATLAB Web App Server Apps Home Page.

### Deployment: Deploy web apps directly to the server from within App Designer

Once you have MATLAB Compiler<sup>™</sup> installed on the system running MATLAB, package your MATLAB app into a web app from within App Designer by clicking **Share** in the **Designer** tab and selecting **Web App**. In the packaging dialog, specify the server URL to directly deploy your web app to the server once packaging is complete. For details, see Ways to Share Apps (MATLAB).

Authentication must be enabled on the server for this functionality to work. For details, see Authentication.

### R2021a

Version: 1.2

**New Features** 

### Policy-Based Access: Specify a policy to determine access to web apps on the server

You can specify a policy with rules to stipulate access to web apps on the server. The rules within a policy can establish which authenticated subjects have access to specific resources on the server. Subjects are usually users and resources are apps or folders. In addition, the rules can indicate the type of interaction permitted between subjects and resources. Two types of actions are supported: execute and modify. The execute action lets a subject run all web apps in a specified folder. The modify action lets the subject upload or delete a web app to or from a folder if the subject is assigned the role of Author in the webapps\_app\_roles.json role-based access file. Only a single policy with multiple rules is supported. For more information, see Policy-Based Access.

#### Server Management: Create folders to organize web apps

You can create folders within the apps root folder of the server to organize your web apps. Only folders created at the root level are displayed on the web apps home page. Subfolders are not supported and are not displayed on the home page, even if they exist. You must use the webapps - appdir command-line interface to create folders. Otherwise, any folders you create will not have the required permissions. While creating folders within the apps root folder is optional, doing so lets you organize your web apps and apply policy-based access to web apps contained within the folders. For more information, see Create Folders to Organize Web Apps.

#### Server Management: Restart server using webapps-restart

Restart MATLAB Web App Server<sup>™</sup> using the webapps - restart command. You can use the webapps - restart command to restart the server after changing server configurations.

### R2020b

Version: 1.1

**New Features** 

#### Authentication: OIDC authentication schema supports URL redirection

The JSON schema for OIDC authentication now supports URL redirection. For details, see Authentication.

### R2020a

Version: 1.0

**New Features** 

### Authentication: Control server access using LDAP and OIDC authentication

You can validate user credentials and control which users can access the server by using authentication. MATLAB Web App Server supports authentication using Lightweight Directory Access Protocol (LDAP) and OpenID Connect (OIDC). To use authentication with the server, you create a JSON file using a prescribed schema and place it in a designated folder. For more information, see Authentication.

#### Role-Based Access: Assign roles to users accessing the server

You can decide which users can author apps and upload them to the server and which ones can run them by using role-based access. MATLAB Web App Server supports two roles for role-based access: Author and User. An author can add, delete, and run web apps from MATLAB Web App Server, and a user can only run web apps from the MATLAB Web App Server home page. To use role-based access, you create a JSON file using a prescribed schema and place it in a designated folder. For more information, see Role-Based Access.

#### **Command-Line Scripts: Manage the server using command-line scripts**

You can set up, configure, and manage MATLAB Web App Server using the command-line interface. For more information, see Server Management.

The development version of MATLAB Web App Server in MATLAB Compiler has a graphical server application to manage the server. However, the MATLAB Web App Server product comes with a command-line interface that is convenient for system administrators to set up and manage the server. For information on upgrading from the development version, see Upgrading to MATLAB Web App Server Product.

### Web Apps: Support for web apps developed in any MATLAB release starting with R2019b

Run web apps developed in any MATLAB release starting with R2019b. To run web apps, the server requires MATLAB Runtime. Releases of MATLAB Runtime starting from R2019b up until the most recent release are supported.

### Simulink Simulations: Run web apps containing Simulink simulations using Simulink Compiler

You can run web apps containing Simulink<sup>®</sup> simulations by using Simulink Compiler. Using the APIs in Simulink Compiler, you can execute a Simulink simulation within a MATLAB app. Package an app as a web app using MATLAB Compiler and deploy the app to MATLAB Web App Server. For an example, see Simulink Simulation Web App.