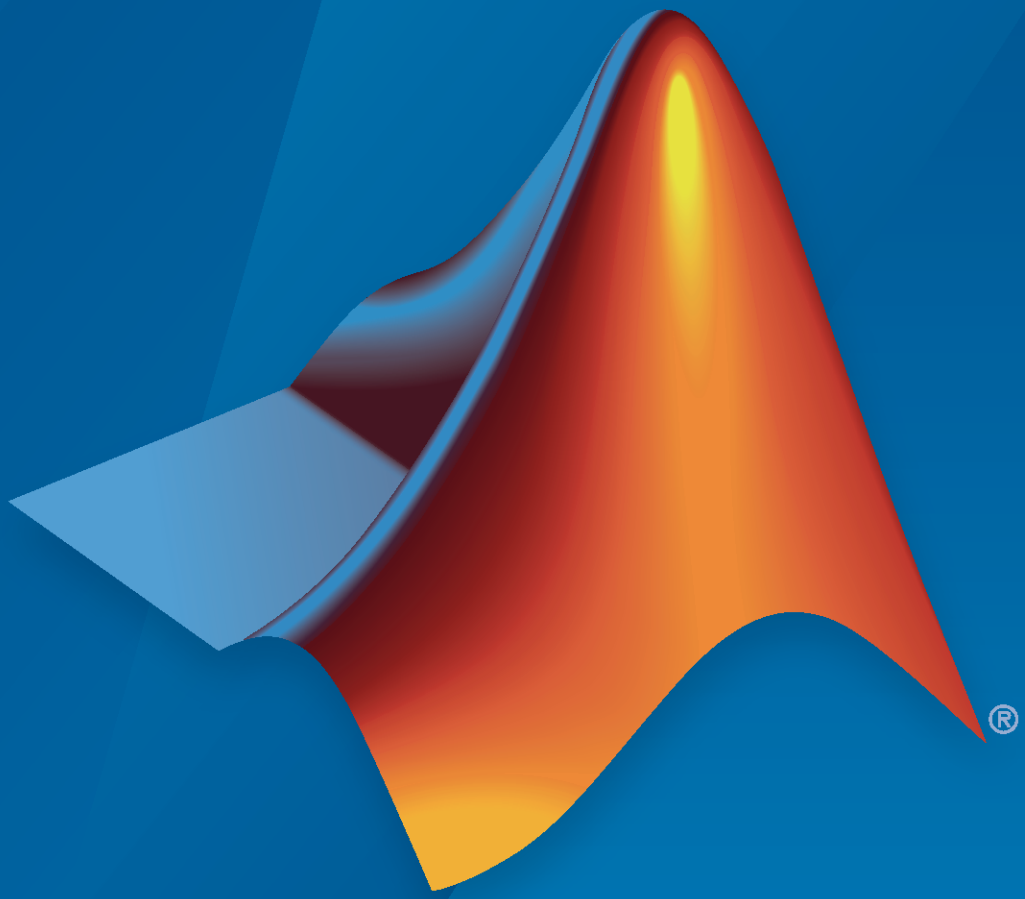
MATLAB® Web App Server™

Command-Line Interface Reference



MATLAB®

R2023a

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

MATLAB® Web App Server™ Command-Line Interface Reference

Revision History

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Contents

Server Command Line Utilities

webapps-setup

Set up MATLAB Web App Server from command line on Windows, Linux, and macOS systems

Syntax

```
webapps-setup
webapps-setup [--version | -v]
webapps-setup [--help | -h]
```

Description

`webapps-setup` sets up the MATLAB® Web App Server™ for use on the current machine.

`webapps-setup [--version | -v]` returns the version of MATLAB Web App Server installed.

`webapps-setup [--help | -h]` returns command-line help.

Examples

Set Up MATLAB Web App Server

To set up the server, at the system command line, type:

```
webapps-setup
```

```
This utility registers the MATLAB Web App Server services with the operating system.

MATLAB Web App Server requires registering two services for security purposes:
- A service to run the server
- A service to run the apps

As what user do you want to run the server service? The default user is: MwWebAppServerR2023a. >

As what user do you want to run the apps service? The default user is: MwWebAppWorkerR2023a. >

The following compatible MATLAB Runtime(s) were found on this system in the default installation
C:\Program Files\MATLAB\MATLAB Runtime\R2023a

Are these the MATLAB Runtime(s) you want MATLAB Web App Server to use [y]/n?y
MATLAB Web App Server services have been successfully registered.

To start the server, execute: webapps-start
To change the server configuration, execute: webapps-config
```

Get Version of MATLAB Web App Server

To get the version of server that is installed, at the system command line, type:

```
webapps-setup --version
```

```
MATLAB Web App Server (R2020a Release)
```

You can get the same information by using the abbreviated form of the syntax.

```
webapps-setup -v
```

Get Command-Line Help

To get help, at the system command line, type:

```
webapps-setup --help
```

```
Usage:
  webapps-setup -h [ --help ]       Display this help message
  webapps-setup -v [ --version ]    Display the version of MATLAB Web App Server
  webapps-setup                     Setup MATLAB Web App Server
```

You can get the same information by using the abbreviated form of the syntax.

```
webapps-setup -h
```

Version History

Introduced in R2020a

See Also

`webapps-config` | `webapps-runtime` | `webapps-uninstall` | `webapps-status`

Topics

“Install or Uninstall MATLAB Web App Server Product”
“Set Up MATLAB Web App Server”
“Service Information, Groups, and Folder Locations”
“Server Logs”

webapps-appdir

Create folders for organizing web apps from the command line on Windows, Linux, and macOS systems

Syntax

```
webapps-appdir add dirname
webapps-appdir update dirname
webapps-appdir [--version | -v]
webapps-appdir [--help | -h]
```

Description

`webapps-appdir add dirname` creates a folder named `dirname` within the `apps` root folder to organize web apps. The `dirname` folder is created with necessary permissions.

`webapps-appdir update dirname` updates a folder named `dirname` within the `apps` root folder with necessary permissions.

`webapps-appdir [--version | -v]` returns the version of MATLAB Web App Server that is installed.

`webapps-appdir [--help | -h]` returns command-line help.

Examples

Create New Folder

To create a folder within the `apps` root folder that has the necessary permissions, at the system command line, type:

```
webapps-appdir add VenusProgram
```

Update Existing Folder

To update an existing folder within the `apps` root folder with the necessary permissions, at the system command line, type:

```
webapps-appdir update MarsProgram
```

The `update` option sets the required permissions to an existing folder that was created using operating system-specific folder creation commands.

Input Arguments

`dirname` — Name of folder

string

Specify the name of the folder you want to create or update within the `apps` root folder with the necessary permissions.

Example: `CassiniProgram`

Tips

- The `webapps-appdir` command creates folders with the necessary permissions within the `apps` root folder. If you use operating-system specific commands to create folders, use the `webapps-appdir` command with the `update` option to set the folder with necessary permissions.

Version History

Introduced in R2021a

See Also

`webapps-restart` | `webapps-setup`

webapps-config

Configure MATLAB Web App Server from the command line on Windows, Linux, and macOS systems

Syntax

```
webapps-config get
webapps-config get keyname
webapps-config set keyname val
webapps-config help keyname
```

Description

`webapps-config get` returns the current MATLAB Web App Server configuration.

`webapps-config get keyname` returns the value associated with the key `keyname`.

`webapps-config set keyname val` assigns the value `val` to the key `keyname`.

`webapps-config help keyname` displays help for the key `keyname`.

Examples

Get Current Server Configuration

To retrieve the current server configuration, at the system command line, type:

```
webapps-config get
```

```
                      port: 9988
                 apps_path: C:\ProgramData\MathWorks\webapps\R2023a\apps
                 logs_path: C:\ProgramData\MathWorks\webapps\R2023a\logs
             logging_level: normal
     log_archive_max_size_mb: 50
        log_rotation_size_mb: 10
            maximum_sessions: 63
session_idle_timeout_minutes: 5
     startup_timeout_seconds: 45
                ssl_enabled: false
        ssl_certificate_file:
        ssl_private_key_file:
```

Get Configuration Value for Specific Key

To retrieve a configuration value for a specific key, at the system command line, type:

```
webapps-config get port
```

```
9988
```

Set Configuration Value for Specific Key

To set a configuration value for a specific key, at the system command line, type:

```
webapps-config set port 9999
```

```
Successfully changed "port". Changes will be applied the next time the server is started.
```

Verify that the port has been changed.

```
webapps-config get port
```

```
9999
```

Get Help for Specific Configuration Key

To get help for a specific configuration key, at the system command line, type:

```
webapps-config help logs_path
```

```
Folder where server logs are written
```

Enable SSL and Set Location to Certificate File and Private Key File

To enable SSL, at the system command line, type:

```
webapps-config set ssl_enabled true
webapps-config set ssl_certificate_file /home/user/my_server_certificate.pem
webapps-config set ssl_private_key_file /home/user/my_private_key.pem
```

Input Arguments

keyname — Configuration key

string

keyname	Description
`port`	Port that the server runs on.
`license`	Host name and port of the license server or a path to the license file.
`apps_path`	Path to folder containing the web apps.
`logs_path`	Path to folder containing the log files.
`logging_level`	Level of logging granularity. The options are: `'normal' | 'verbose' | 'minimal'`
`log_archive_max_size_mb`	Maximum size of all log files in megabytes (MB) in the log directory.
`log_rotation_size_mb`	Maximum size of a log file in megabytes (MB) before it rolls over into another file.
`maximum_sessions`	Maximum number of sessions allowed by server.
`session_idle_timeout_minutes`	Timeout in minutes before terminating a session when idle.
`startup_timeout_seconds`	Timeout in seconds when starting a new session.
`ssl_enabled`	Verify if SSL is enabled.
`ssl_certificate_file`	Location of the SSL certificate file.
`ssl_private_key_file`	Location of the SSL private key file.

keyname	Description
`start_nolminit`	Specify whether server can start without initializing license manager
`app_session_fullscreen`	Specify whether app sessions start in full-screen mode.
`app_session_show_footer`	Specify whether to show app session footer and logs to specific users. Users can be specified as: `all`, `authors`, `none`

`val` — Configuration value
numeric or string

keyname	val	Default Value
`port`	Port number specified as a positive integer between `1` and `65535`.	`9988`
`license`	Host name and port number of the license server or a path to the license file.	For example[a]: • `27000@myLicenseServer` • `C:\myLicenses\license.lic` • `C:\myLicenses\license.dat`

`apps_path`	Path to folder containing the web apps. Specify as a string.	• Windows®
		`C:\ProgramData\MathWorks\webapps\R20`
		• Linux®
		`/local/MathWorks/webapps/R2023a/app`
		• macOS
		`/Library/Application Support/MathWor`

`logs_path`	Path to folder containing the log files. Specify as a string.	• Windows
		`C:\ProgramData\MathWorks\webapps\R20`
		• Linux
		`/local/MathWorks/webapps/R2023a/log`
		• macOS
		`/Library/Application Support/MathWor`

`logging_level`	Level of logging granularity. Specify as a string. The options are: `'normal' | 'verbose' | 'minimal'`	`normal`

keyname	val	Default Value
`log_archive_max_size_mb`	Maximum size of all log files in megabytes (MB) in the log directory. Specify as a positive integer.	`50` MB
`log_rotation_size_mb`	Maximum size of a log file in megabytes (MB) before it will roll over into another file. Specify as a positive integer.	`10` MB
`maximum_sessions`	Maximum number of sessions allowed by server. Specify as a positive integer.	1 session per gigabyte (GB) of RAM.
`session_idle_timeout_minutes`	Timeout in minutes before terminating a session when idle. Specify as a positive integer.	`5`
`startup_timeout_seconds`	Timeout in seconds when starting a new session. Specify as a positive integer.	`45`
`ssl_enabled`	Verify if SSL is enabled specified as Boolean.	`false`
`ssl_certificate_file`	Location of the SSL certificate file. Specify as a string.	
`ssl_private_key_file`	Location of the SSL private key file. Specify as a string.	
`start_nolminit`	Specify whether server can start without initializing license manager. Specify as boolean.	`false`
`app_session_fullscreen`	Specify whether app sessions start in full-screen mode. Specify as boolean.	`false`
`app_session_show_footer`	Specify whether to show app session footer and logs to specific users. Users can be specified as: `all`, `authors`, `none`	`all`

a To know the difference between `license.lic` and `license.dat` files, see MATLAB Answers.

Version History

Introduced in R2020a

See Also

`webapps-setup` | `webapps-runtime` | `webapps-status`

Topics

“Service Information, Groups, and Folder Locations”
“Server Logs”

External Websites

What are the differences between the license.lic, license.dat, network.lic, and license_info.xml license files?

webapps-restart

Restart MATLAB Web App Server service from the command line on Windows, Linux, and macOS systems

Syntax

```
webapps-restart
webapps-restart [--version | -v]
webapps-restart [--help | -h]
```

Description

`webapps-restart` stops and starts the MATLAB Web App Server.

`webapps-restart [--version | -v]` returns the version of MATLAB Web App Server installed.

`webapps-restart [--help | -h]` returns command-line help.

Examples

Restart MATLAB Web App Server

To restart the server, at the system command line, type:

```
webapps-restart
```

Version History

Introduced in R2021a

See Also

`webapps-status` | `webapps-start` | `webapps-stop`

webapps-runtime

Configure MATLAB Runtime for use with MATLAB Web App Server from the command line on Windows, Linux, and macOS systems

Syntax

```
webapps-runtime list
webapps-runtime add runtime_path
webapps-runtime remove
webapps-runtime remove runtime_path
webapps-runtime [--version | -v]
webapps-runtime [--help | -h]
```

Description

`webapps-runtime list` returns the list of currently configured versions of MATLAB Runtime.

`webapps-runtime add runtime_path` adds the path to a MATLAB Runtime installation, specified by `runtime_path`, to the server configuration.

`webapps-runtime remove` starts an interactive prompt to remove paths to MATLAB Runtime installations from the server configuration.

`webapps-runtime remove runtime_path` removes the path to a MATLAB Runtime installation, specified by `runtime_path`, from the server configuration.

`webapps-runtime [--version | -v]` returns the version of MATLAB Web App Server that is installed.

`webapps-runtime [--help | -h]` returns command-line help.

Examples

List MATLAB Runtime Installations

To get a list of MATLAB Runtime configured for use with the server, at the system command line, type:

```
webapps-runtime list
```

```
C:\Program Files\MATLAB\MATLAB Runtime\v914
/usr/local/MATLAB/MATLAB_Runtime/v914
```

Add MATLAB Runtime Path

To add the path to a MATLAB Runtime installation to the server configuration, at the system command line, type:

```
webapps-runtime add "C:\Program Files\MATLAB\MATLAB Runtime\v98"
```

```
MATLAB Runtime configuration updated. Changes will be applied the next time the server is started.
```

Remove MATLAB Runtime Path

To remove the path to a MATLAB Runtime installation from the server configuration, at the system command line, type:

```
webapps-runtime remove "C:\Program Files\MATLAB\MATLAB Runtime\v98"
```

```
MATLAB Runtime configuration updated. Changes will be applied the next time the server is started.
```

Get Version of MATLAB Web App Server

To get the version of MATLAB Web App Server that is installed, at the system command line, type:

```
webapps-runtime --version
```

```
MATLAB Web App Server (R2023a Release)
```

Get Command-Line Help

To get help for the current command, at the system command line, type:

```
webapps-runtime --help
```

```
Usage:
  webapps-runtime -h [ --help ]          Display this help message
  webapps-runtime -v [ --version ]       Display the version of MATLAB Web App Server
  webapps-runtime list                   Lists currently configured MATLAB Runtimes
  webapps-runtime add <runtime-path>     Adds runtime-path to the MATLAB Runtime configuration
  webapps-runtime remove                 Launch interactive prompt to remove MATLAB Runtimes
                                         from the from the MATLAB Runtime configuration
  webapps-runtime remove <runtime-path>  Removes runtime-path from the MATLAB Runtime configuration
```

Input Arguments

`runtime_path` — Path to MATLAB Runtime installation

string

Specify the path to the MATLAB Runtime installation that you want to add to the server configuration or remove from the server configuration.

Example: `"C:\Program Files\MATLAB\MATLAB Runtime\v98"`

Version History

Introduced in R2020a

See Also

`webapps-config` | `webapps-status` | `webapps-setup`

Topics

“Configure Server to Use MATLAB Runtime”

webapps-uninstall

Uninstall MATLAB Web App Server services at the command line on Windows, Linux, and macOS systems

Syntax

```
webapps-uninstall
webapps-uninstall [--version | -v]
webapps-uninstall [--help | -h]
```

Description

`webapps-uninstall` removes the services associated with MATLAB Web App Server from the system. Executing `webapps-uninstall` does not uninstall the product.

`webapps-uninstall [--version | -v]` returns the version of MATLAB Web App Server that is installed.

`webapps-uninstall [--help | -h]` returns command-line help.

Examples

Uninstall MATLAB Web App Server Services

```
webapps-uninstall
```

```
Uninstallation successful.
```

Get Version of MATLAB Web App Server

To get the version of MATLAB Web App Server that is installed, at the system command line, type:

```
webapps-uninstall --version
```

```
MATLAB Web App Server (R2023a Release)
```

Get Command Line Help

To get help for the current command, at the command line, type:

```
webapps-uinstall --help
```

```
Usage:
  webapps-uninstall -h [ --help ]       Display this help message
  webapps-uninstall -v [ --version ]    Display the version of MATLAB Web App Server
  webapps-uninstall                     Uninstall MATLAB Web App Server
```

Version History

Introduced in R2020a

See Also

`webapps-status` | `webapps-config` | `webapps-stop` | `webapps-start`

Topics

“Server Startup Failures”

webapps-start

Start MATLAB Web App Server service from the command line on Windows, Linux, and macOS systems

Syntax

```
webapps-start
webapps-start [--version | -v]
webapps-start [--help | -h]
```

Description

`webapps-start` starts the MATLAB Web App Server.

`webapps-start [--version | -v]` returns the version of MATLAB Web App Server installed.

`webapps-start [--help | -h]` returns command-line help.

Examples

Start MATLAB Web App Server

To start the server, at the system command line, type:

```
webapps-start
```

Version History

Introduced in R2020a

See Also

`webapps-stop` | `webapps-status`

webapps-stop

Stop the MATLAB Web App Server service from the command line on Windows, Linux, and macOS systems

Syntax

```
webapps-stop
webapps-stop [--version | -v]
webapps-stop [--help | -h]
```

Description

`webapps-stop` stops the MATLAB Web App Server.

`webapps-stop [--version | -v]` returns the version of MATLAB Web App Server installed.

`webapps-stop [--help | -h]` returns command line help.

Examples

Stop the MATLAB Web App Server

To stop the server, at the system command line, type:

```
webapps-stop
```

Version History

Introduced in R2020a

See Also

`webapps-start` | `webapps-status`

webapps-status

Get status of MATLAB Web App Server at the command line on Windows, Linux, and macOS systems

Syntax

```
webapps-status
webapps-status [--version | -v]
webapps-status [--help | -h]
```

Description

`webapps-status` displays the status of the MATLAB Web App Server.

`webapps-status [--version | -v]` returns the version of MATLAB Web App Server installed.

`webapps-status [--help | -h]` returns command line help.

Examples

Get Status of the MATLAB Web App Server

To get the status of the server, at the system command line, type:

```
webapps-status
```

```
Server Status: Stopped
Apps Folder: C:\ProgramData\MathWorks\webapps\R2023a\apps
Logs Folder: C:\ProgramData\MathWorks\webapps\R2023a\logs
```

Version History

Introduced in R2020a

See Also

`webapps-setup` | `webapps-config`

webapps-containers

Setup environment to run MATLAB web apps in Docker containers on Linux systems

Note 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.

Syntax

```
webapps-containers [on | off]
webapps-containers status
webapps-containers config get
webapps-containers config get keyname
webapps-containers config set keyname val
webapps-containers net options
```

Description

`webapps-containers [on | off]` sets up or tears down the Docker® environment required to run MATLAB web apps in containers. You must restart the server using `webapps-restart` after executing this command for changes to take effect.

Executing `webapps-containers on`:

- Creates a base Docker image named `mw-webapps-worker` with the `TAG` name `R2023a` that consists of a Ubuntu® Linux operating system, dependent libraries, and customizations to the base image.
- Creates a network for the Docker containers.
- Enables running web apps in containers by setting the `use_for_workers` key to `1`.
- Configures the firewall so that web apps can run only within the network created for containers and cannot access the internet.

Executing `webapps-containers off` tears down the Docker environment created for running web apps. Values assigned to configuration keys are preserved.

`webapps-containers status` returns the setup status of the Docker environment. It indicates whether container use is `enabled` or `disabled` and whether the Docker base image is `present` or `missing`.

`webapps-containers config get` returns the entire container configuration.

`webapps-containers config get keyname` returns the container configuration value associated with the key `keyname`.

`webapps-containers config set keyname val` assigns the value `val` to the container configuration key `keyname`. You must restart the server using `webapps-restart` after executing this command for changes to take effect.

`webapps-containers net options` lets you modify network settings for the container network by adjusting `options`.

The options passed to the `net` parameter are not retained when the server is restarted. To retain options after restart, put them in the `/local/MathWorks/webapps/R2023a/config/webapps_private/containers-firewall-init.sh` file.

Examples

Set Up Environment to Run MATLAB Web Apps in Containers

Prepare your host machine to run MATLAB web apps in containers.

```
sudo ./webapps-containers on

Installing Docker support for MATLAB Web App Server...
Building base image, this may take a while...
Copying default containers-firewall-init.sh
Enabling firewall service ...
Applying permanent firewall settings ...
Containers support was successfully enabled.
Run "sudo /usr/local/MATLAB/MATLAB_Web_App_Server/R2023a/script/webapps-restart" to apply.
```

Check the status.

```
sudo ./webapps-containers status

Container support: enabled
Base image: present
```

Restart the server to apply changes.

```
sudo ./webapps-restart

Restarting server...

The server has started successfully.
   Homepage: http://hostname:9988/webapps/home/
Apps Folder: /local/MathWorks/webapps/R2023a/apps
Logs Folder: /local/MathWorks/webapps/R2023a/logs
```

Retrieve Container Configuration

Get the container configuration for all keys.

```
sudo ./webapps-containers config get

use_for_workers: 1
memory: 2g
volumes:
cpus:
env:
```

To retrieve configuration of a particular key, specify the `keyname`.

Preserve Docker Image Used to Instantiate Container

If you do not want to run your web apps in a containerized environment but want to preserve the Docker image used to instantiate a container, execute:

```
sudo ./webapps-containers config set use_for_workers 0

Setting "use_for_workers" successfully changed.
Run "sudo /usr/local/MATLAB/MATLAB_Web_App_Server/R2023a/script/webapps-restart" to apply.
```

Check the status.

```
sudo ./webapps-containers status

Container support: disabled
Base image: present
```

Restart the server to apply changes.

```
sudo ./webapps-restart

Restarting server...

The server has started successfully.
   Homepage: http://hostname:9988/webapps/home/
Apps Folder: /local/MathWorks/webapps/R2023a/apps
Logs Folder: /local/MathWorks/webapps/R2023a/logs
```

Enable Firewall

```
sudo ./webapps-containers net firewall on

Rules were successfully added.
```

Check the firewall rules.

```
sudo ./webapps-containers net list

Rules for webapps container network 192.168.98.0/24:
num   pkts bytes target     prot opt in     out     source               destination
1        0     0 RETURN     all  --  any    any     192.168.98.0/24      anywhere             sta
2        0     0 REJECT     all  --  any    any     192.168.98.0/24      anywhere             rej
```

Enable DNS

```
sudo ./webapps-containers net dns on

To make firewall changes that survive a reboot, put this command into a
"/local/MathWorks/webapps/R2023a/config/webapps_private/containers-firewall-init.sh" file.
```

Check the firewall rules.

```
sudo ./webapps-containers net list
```

```
Rules for webapps container network 192.168.98.0/24:
num   pkts bytes target     prot opt in     out     source               destination
1        0     0 ACCEPT     tcp  --  any    any     192.168.98.0/24      anywhere             tcp
2        0     0 ACCEPT     udp  --  any    any     192.168.98.0/24      anywhere             udp
3        0     0 RETURN     all  --  any    any     192.168.98.0/24      anywhere             sta
4        0     0 REJECT     all  --  any    any     192.168.98.0/24      anywhere             rej
```

Add Host and Port to Firewall Exception

```
sudo ./webapps-containers net dns add www.google.com 443
```

```
Enabling traffic to www.google.com:443
To make firewall changes that survive a reboot, put this command into a
"/local/MathWorks/webapps/R2023a/config/webapps_private/containers-firewall-init.sh" file.
```

Check the firewall rules.

```
sudo ./webapps-containers net list
```

```
Rules for webapps container network 192.168.98.0/24:
num   pkts bytes target     prot opt in     out     source               destination
1        0     0 ACCEPT     tcp  --  any    any     192.168.98.0/24      lga25s78-in-f4.1e100.net
2        0     0 ACCEPT     tcp  --  any    any     192.168.98.0/24      anywhere
3        0     0 ACCEPT     udp  --  any    any     192.168.98.0/24      anywhere
4        0     0 RETURN     all  --  any    any     192.168.98.0/24      anywhere
5        0     0 REJECT     all  --  any    any     192.168.98.0/24      anywhere
```

Remove Firewall Rule by Number

Remove a firewall rule by specifying the rule number.

```
sudo ./webapps-containers net remove 1
```

```
Removing rule 1
```

Check firewall rules.

```
sudo ./webapps-containers net list
```

```
Rules for webapps container network 192.168.98.0/24:
num   pkts bytes target     prot opt in     out     source               destination
1        0     0 ACCEPT     tcp  --  any    any     192.168.98.0/24      anywhere             tcp
2        0     0 ACCEPT     udp  --  any    any     192.168.98.0/24      anywhere             udp
3        0     0 RETURN     all  --  any    any     192.168.98.0/24      anywhere             sta
4        0     0 REJECT     all  --  any    any     192.168.98.0/24      anywhere             rej
```

Input Arguments

keyname — Configuration key
string

keyname	Description
use_for_workers	Indicate whether MATLAB web apps can run in containers.
memory	Specify the maximum amount of memory (RAM) the container can use.
volumes	Specify directories to mount as Docker volumes.
cpus	Specify how much of the available CPU resources a container can use.
env	Specify the environment variables to be set within the container.

`val` — Configuration value
numeric | string

Specify a value that corresponds to the `keyname` value. Enclose the value in double quotes (`" "`).

keyname	val	Example
use_for_workers	Specify `0` or `1` based on whether containers are disabled or enabled, respectively. When you execute `webapps-containers on`, the software returns a value of `1` by default.	`use_for_workers "0"`
memory	Specify a positive integer, followed by the suffix `b`, `k`, `m`, `g`, to indicate bytes, kilobytes, megabytes, or gigabytes. When you execute `webapps-containers on`, the software returns an empty value by default, which indicates that no memory limit applies.	`memory "2g"`

keyname	val	Example
volumes	Specify two or three fields, separated by colons (:). The fields must be in the correct order. Separate multiple volumes using a semicolon (;). • The first field is the name of the volume. • The second field is the path where the file or directory is mounted in the container. • The third field is optional and is a comma-separated list of options, such as readonly. For details, see https://docs.docker.com/storage/volumes/. When you execute webapps-containers on, the software returns an empty value by default.	• volumes "/var/lib/cassandra/data:/data:readonly" • volumes "/var/lib/cassandra/data:/tmp/data:readonly;/usr/share/nginx/html:/tmp/html"
cpus	Specify any real number greater than 0. If a machine has two CPUs and you set the value to "1.5", the container is given at most one and a half of the CPUs. For details, see https://docs.docker.com/config/containers/resource_constraints/. When you execute webapps-containers on, the software returns an empty value by default, which indicates that no limit to CPU resources applies. Setting the value to 0.000 is equivalent.	cpus "1.5"

keyname	val	Example
env	Specify key-value pairs as <key>=<value>. Separate multiple key-value pairs using a semicolon (;). When you execute webapps-containers on, the software returns an empty value by default.	env "MY_VAR1=/hello;MY_VAR2=/world"

options — Options for customizing container network firewall settings
add | dns | firewall | list | remove

Caution The options listed below are not retained when the server is restarted. To retain options after restart, put them in the /local/MathWorks/webapps/R2023a/config/webapps_private/containers-firewall-init.sh file.

Options for customizing container network firewall settings, specified as one of the following:

- **add**

  Add host and port to the firewall exception list.

  ```
  sudo ./webapps-containers net add host port
  ```

  The host parameter can be either a network name, a hostname, a network IP address, or a network IP address with a mask.

  Examples

  Add an IP address to the firewall exception list.

  ```
  sudo ./webapps-containers net add 123.45.67.111 443
  ```

  Add a domain name to the firewall exception list.

  ```
  sudo ./webapps-containers net dns on
  sudo ./webapps-containers net add www.google.com 443
  ```

- **dns**

  Toggle Domain Name System (DNS) resolution on or off.

  ```
  sudo ./webapps-containers net dns on
  sudo ./webapps-containers net dns off
  ```

  Examples

  Enable DNS resolution.

  ```
  sudo ./webapps-containers net dns on
  ```

  ```
  To make firewall changes that survive a reboot, put this command into a
  "/local/MathWorks/webapps/R2023a/config/webapps_private/containers-firewall-init.sh" file.
  ```

Disable DNS resolution.

```
sudo ./webapps-containers net dns off
```

```
Rules were successfully removed.
```

- **`firewall`**

  Toggle the container network firewall `on` or `off`. The firewall for the container network is based off of Linux `iptables`. For details, see https://linux.die.net/man/8/iptables.

  ```
  sudo ./webapps-containers net firewall on
  sudo ./webapps-containers net firewall off
  ```

  Examples

  Enable the firewall.

  ```
  webapps-containers net firewall on
  ```

  ```
  Rules were successfully added.
  ```

  Disable the firewall.

  ```
  webapps-containers net firewall off
  ```

  ```
  Rules were successfully removed.
  ```

- **`list`**

  List container network firewall rules.

  ```
  sudo ./webapps-containers net list
  ```

  Examples

  List rules.

  ```
  sudo ./webapps-containers net list
  ```

  ```
  Rules for webapps container network 192.168.98.0/24:
  num   pkts bytes target     prot opt in     out     source               destination
  1        0     0 ACCEPT     tcp  --  any    any     192.168.98.0/24      anywhere
  2        0     0 ACCEPT     udp  --  any    any     192.168.98.0/24      anywhere
  3        0     0 RETURN     all  --  any    any     192.168.98.0/24      anywhere
  4        0     0 REJECT     all  --  any    any     192.168.98.0/24      anywhere
  ```

  This particular list of rules is displayed when the firewall and DNS are enabled.

- **`remove`**

  - Remove `host` and `port`.

    ```
    webapps-containers net remove host port
    ```

  - Remove the rule `num` from the list of firewall rules.

    ```
    webapps-containers net remove num
    ```

    Examples

    Remove rule `1` from the list of firewall rules.

```
webapps-containers net remove 2

Removing rule 2
```

More About

Details

- The Dockerfile for the image used to instantiate a container can be found in:

  `/usr/local/MATLAB/MATLAB_Web_App_Server/R2023a/toolbox/compiler/mdwas/containers/worker`
- At runtime, a Docker volume is created that maps to the MATLAB Runtime installation directory configured for use with MATLAB Web App Server.
- At runtime, when a web app is opened, the `.ctf` file associated with the web app is copied to the container.

HTTPS

If MATLAB Web App Server is configured to use HTTPS, the SSL certificate must allow access to a host named `mw-webapps-server` that's included within a container. In the container's file system, this host listed in `/etc/hosts`.

Docker Requirements

Verify that you have Docker installed and configured on the server machine by typing, `docker --info`. If you do not have Docker installed, follow the instructions on the Docker website to install and set up Docker.

https://docs.docker.com/engine/install/

Docker Commands

Execute these commands at a Linux terminal to retrieve relevant information about the Docker environment used to run MATLAB web apps.

Command	Purpose
`docker images`	List images.
`docker ps`	List containers.
`docker inspect <`*`Container ID`*`>`	Return information about container.
`docker network ls`	List container networks.
`docker exec -i -t <`*`Container ID`*`> bash`	Execute an interactive bash shell on the container. To quit the bash shell, type `exit`.

Build Your Own Docker Image

To build your own Docker image:

1 Modify the Dockerfile:

```
/usr/local/MATLAB/MATLAB_Web_App_Server/R2023a/toolbox/compiler/mdwas/
containers/worker/Dockerfile
```

2. Execute `sudo ./webapps-containers on` to build an updated Docker image.
3. Restart the server and test your application.

Version History

Introduced in R2022b

See Also

`webapps-setup` | `webapps-runtime` | `webapps-restart` | `webapps-stop`

Topics

“Install or Uninstall MATLAB Web App Server Product”
“Set Up MATLAB Web App Server”
“Service Information, Groups, and Folder Locations”
“Enable SSL”