Reflection for the Web
Evaluation Guide

13.0

Contents

Evaluating Reflection for the Web 13.0

This guide provides a step-by-step path to evaluate Reflection for the Web version 13.0, which introduces the **Reflection for the Web Launcher**.

The Reflection for the Web Launcher eliminates the need for Oracle's Java Runtime Environment (JRE), the Java plug-in, or the Netscape PlugIn API (NPAPI) on user workstations.

The Launcher is not limited to using Internet Explorer 11. Any browser can be used, including Google Chrome, Mozilla Firefox, or Microsoft Edge.

Learn more about the Reflection for the Web Launcher and how to deploy it to end-user workstations.

In this guide:

1 Introduction

Reflection for the Web is a separate web application that uses **Host Access Management and Security Server** (MSS) to create, configure, and centrally manage secure web-based sessions to a variety of hosts.

Reflection for the Web 13.0 includes *and requires* Management and Security Server 12.6.

What's New

Reflection for the Web 13.0 includes these new and updated features.

- Introduced **Reflection for the Web Launcher,** a private client-side application that installs an OpenJDK JRE with Web Start (JNLP) to launch Reflection for the Web sessions.

  The **Launcher** eliminates the need for Oracle's JRE or the Java browser plug-in on user workstations. (MSS Administrators still need Internet Explorer 11 with the Oracle plug-in.)

  Beginning in Reflection for the Web 13.0, the behavior to launch the session depends on whether **Reflection for the Web Launcher** is installed. If not, then the Java plug-in or another JRE that supports Web Start is needed to launch sessions.

  As you transition away from Oracle's JRE and the Java plug-in, you can deploy the Reflection for the Web Launcher in phases.
- Updated Management and Security Server (MSS) to version 12.6.
- Updated Apache Tomcat to version 9.0.19.

For further details, see the Release Notes.

Before you begin

This guide is written for the administrator who wishes to evaluate the **Reflection for the Web Launcher** feature in Reflection for the Web version 13.0.

In the Evaluation Scenario, note the company requirements and how Reflection for the Web Launcher can be used to meet them. Then follow the Configuration Steps.

You may want to refer to these resources while evaluating Reflection for the Web:

- Support Resources (includes Knowledge Base articles)
- Reflection for the Web Installation Guide
- Reflection for the Web Reference Guide (includes scripting and HTML samples)

The basics: How Reflection for the Web works

Reflection for the Web provides user access to web-based terminal emulation sessions that connect to host applications located inside or outside of the firewall. Applets are downloaded to each user's workstation as needed and are cached locally for faster performance.

Briefly, here's how Reflection for the Web works:

1. An administrator installs **Reflection for the Web** on a web server and either installs or uses an existing installation of **Management and Security Server** (MSS).
2. The administrator uses the MSS **Administrative Console** to create, configure, and secure terminal emulation sessions. Optional security settings can be configured on a per-session basis.
3. A user clicks a link to start a terminal session.
4. The Reflection for the Web emulation applet is downloaded to the user's workstation and is cached locally.
5. The user connects to and communicates with the host system using the downloaded emulation applet.
6. When the session is closed (**Save/Exit**), settings are sent to the Management and Security Server.

Related topics

- Evaluation Scenario

2 Evaluation Scenario

As an administrator, you are in charge of setting up **Reflection for the Web** to deploy secure sessions to mainframe applications via the web. You've been tasked with meeting the company requirements.

Company requirements

Your organization wants to:

- Transition away from using Oracle's JRE and/or the Java plug-in on user workstations.
- Ensure the end-user experience is not disrupted during the transition.

To meet these requirements

You know that the **Reflection for the Web Launcher** enables users to launch Reflection for the Web sessions without the need for Oracle's JRE or the Java plug-in.

You can meet the company requirements by using the **Reflection for the Web Launcher**.

To evaluate the Reflection for the Web Launcher, you will

- Install **Reflection for the Web 13.0** (and **MSS 12.6**).
- Create and configure a Reflection for the Web session.
- Deploy the **Reflection for the Web Launcher** to a subset of users.
- Test the user experience.

Continue with the Configuration Steps.

Our assumptions

- The MSS Administrator's workstation has Internet Explorer 11 with the Oracle Java 8 plug-in.
- Some user workstations have the Java plug-in, and some do not.

Related topics

- Configuration Steps.

3 Configuration Steps

To evaluate Reflection for the Web 13.0 — including the Reflection for the Web Launcher — follow these steps.

Step 1. Obtain and install the evaluation software

For this evaluation, you will use an automated Windows installer to install Reflection for the Web on a Microsoft Windows platform.

For testing, you can install all of the components on a single machine. For production, however, components can be installed on different machines.

System Requirements

For this evaluation, Reflection for the Web (and the MSS server) will be installed on the administrator's workstation. Check the requirements for both the administrator and the client workstations.

Note: For production, a server-class system is required. See the *Installation Guide* for detailed requirements.

Administrator's workstation

Because the MSS server will be installed on the administrator's workstation, the requirements for evaluating Reflection for the Web 13.0 include some server requirements.

- Microsoft Windows 64-bit machine.
- The administrator needs Internet Explorer 11 with the Java 8 Browser plug-in to configure and manage Reflection for the Web in the **MSS Administrative Console**.

- A private OpenJDK (non-Oracle) JRE 1.8.0_<nnn> is installed by the automated installer, where <nnn> is the most recent security release as of this product release date.
- No previous installation of Reflection for the Web on the machine (for this evaluation).

Client workstations

The client requirements depend on how you are deploying Reflection for the Web. Three deployment options are available: Standard, Hybrid, and Launcher.

- **Standard:** the same behavior as previous Reflection for the Web versions.

  User workstations must have Internet Explorer 11 with the Oracle Java 8 plug-in.
- **Hybrid:** a mix of **Standard** and **Launcher** behavior as you transition away from the Java plug-in.

  User workstations have either the **Standard** setup (Internet Explorer 11 with the Java plug-in) — or — the **Launcher** setup, where any browser can be used.
- **Launcher:** requires either 64-bit or 32-bit Microsoft Windows on client workstations.

  Reflection for the Web Launcher is installed on every workstation. Sessions display in separate windows and are independent of the browser.

  When Reflection for the Web Launcher is installed, *any browser* can be used to launch sessions.

NOTE: This evaluation walks you through the **Hybrid** deployment option.

Compatibility Requirements

Reflection for the Web version 13.0 includes and requires **Management and Security Server 12.6.**

While the two products are installed independently, the Reflection for the Web automated installer provides the option to install both products -- Reflection for the Web and a compatible version of Management and Security Server. Follow the prompts during installation.

For details about installing or using **Management and Security Server**, refer to the MSS product documentation.

Obtain the evaluation software

1. Log in as administrator to the Windows machine that you are using for your evaluation.
2. Open the Reflection for the Web Enterprise Edition **Free Trial** page.
3. Enter the requested information, accept the Terms of Service, and click **Try now**.

   You will receive an email message with a download link.
4. In the email message from Micro Focus, click **Download here**.
5. For this evaluation scenario, click the line for **Reflection for the Web - Windows 64-bit**, and then click **Download**.
6. Save and extract the zip file: `rweb-13.0.<nnn>-eval-all_platforms.zip`

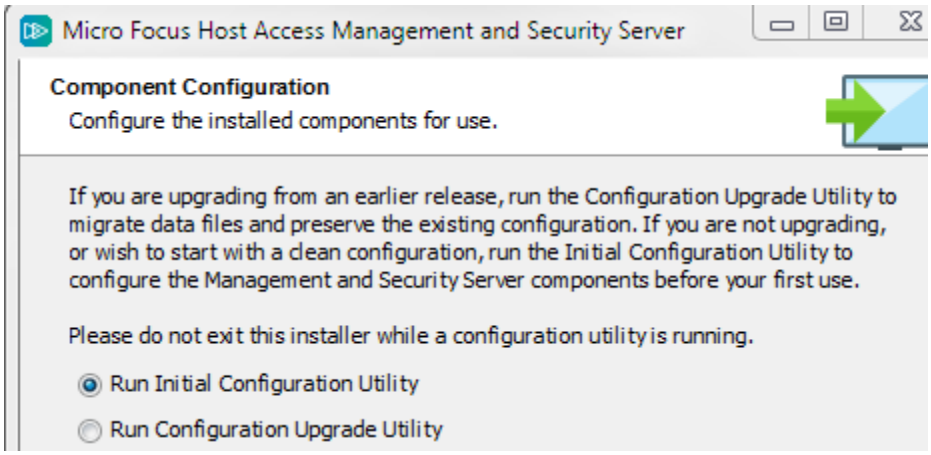
Install the Reflection for the Web evaluation software

For simplicity while evaluating, install all of the components onto the same machine. For assistance along the way, see the Reflection for the Web Installation Guide.

1. In your download location, open the **rweb-13.0.<nnn>-eval-all_platforms** folder.
2. In the **install_automated** folder, you will see an **mss** folder, an activation file, and the automated installer file.
3. Double-click `rweb-13.0.<nnn>-eval-wx64.exe` to start the installation. Follow the prompts.
4. Choose **Install MSS** and continue. This option installs MSS on the same machine.

Note: The other options refer to an existing installation of Management and Security Server in another location.

5. The installer proceeds to install Management and Security Server — before Reflection for the Web is installed. Continue through the installation dialogs, accepting the defaults.
6. For this first-time installation, select **Run Initial Configuration Utility** to configure the installed MSS components.



- Proceed through the utility, accepting the defaults.
- Enter your **VPA** and **organization** information, if known; otherwise, leave them blank.

- For the **administrative password**, enter `admin`.
- When the changes are applied, click **Done**.

7. Click **Next** to **Start server components now**.
8. When the MSS installation is complete, click **Finish**. The MSS dialog closes and the focus returns to the Reflection for the Web installation.

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9. Click **Next** to continue installing Reflection for the Web.
10. When prompted to restart the MSS server, click **Next**.
11. When installation is complete, click **Finish**.

Next: Step 2. Open the MSS Administrative Console

Step 2. Open the MSS Administrative Console

The MSS **Administrative Console** is the interface for managing Reflection for the Web. Use this centralized site to create and manage terminal emulation sessions — and to deploy the **Reflection for the Web Launcher**.

The Administrative Console is password-protected to allow for remote administration and access by multiple administrators

Open the Administrative Console

Reflection for the Web is *not* listed as a separate product in the Windows **Start** menu. You need to open MSS to manage Reflection for the Web.

1. Click **Start** > **All Programs** > **Micro Focus Host Access Management and Security Server**.
2. Choose how you want to open the Administrative Console (after you log in as administrator).
   - **Administrative Server** directly opens the Administrative Console.
   - **Administrative Server (via Java-based links list)** displays your list of links with a button to open the **Administrative Console**.

The Administrative Console opens to the **Manage Sessions** panel. At first, no sessions appear. Your saved sessions are added to the list.

Next: Step 3. Create a session to a mainframe host

Step 3. Create a session to a mainframe host

Use **Manage Sessions** to create the terminal sessions you want to deploy to end users. After a session is added, launch it to configure the settings.

Add a terminal session

1. On the **Manage Sessions** panel, click **+Add**.
2. Select your **Product** -- **Reflection for the Web**.

3. Select the **Session type**. For this evaluation, use **IBM 3270.**
4. Enter a unique **Session name** that does not exceed 64 characters, such as `eval3270`.
5. Try the **Comments** option to enter an internal note about this session. Comments are displayed in the **Manage Sessions** list and are seen only by administrators. You might enter “eval.”
6. If you’d like to evaluate the session’s **Appearance**, use of **FTP**, or the **Advanced Settings**, refer to the MSS Help: Configure a Reflection for the Web Session.
7. Click **Launch**. The session opens in a separate window.
8. To test the connection to the mainframe, enter the name of your host computer and click **OK**. Or, you can click **Cancel**. You do not need to be connected to configure the session.
9. Be sure to Save the session so the settings are sent to and saved by the Administrative Server.

Next: Step 4. Configure the session settings

Step 4. Configure the session settings

After you launch the session, configure some basic Profiling settings. You do not need to be connected to the host to configure settings.

NOTE: This evaluation focuses on deploying the **Reflection for the Web Launcher**, rather than configuring terminal session settings. To configure more emulation settings now or later, see Session (Client) Features.

Profiling

When you log on as an **administrator** and launch a session from the Administrative Console, all of the menu options are visible and enabled. The end users, however, can access only the menu options that are selected in the **Profiler**.

Use the Reflection for the Web **Profiler** to restrict access to entire menus, dialog boxes, toolbars, or to specific items within them. You can accept the defaults or experiment with different settings.

1. In the session you just created and launched, click **Administration** > **User Interface Profiler.**
2. Select the **Profile type** for your end users. The default is **Basic**.

   Click the different Profile types to see what is enabled or restricted on the **Menu profiling** tab. For instance, the **Basic** Profile type restricts the **Macro** and **Administration** menus in the user interface
3. Then, look at the **Dialog box profiling** and **Toolbar profiling** options that can be locked (or unlocked) for this profile. Click **OK**.

Click **Help** for more information.

Save the session

When you finish configuring the emulation features, save the session by clicking **File** > **Save and Exit** (and **Save/Exit**, if prompted).

This `eval3270` session is then added to the **Manage Sessions** list in the Administrative Console, viewable by administrators.

Now that you created and configured a terminal session, you are ready to assign and deploy the session to end users. *Note:* End users cannot access a session until the session is assigned and deployed to them.

To meet the company requirements: Deploy the Reflection for the Web Launcher to enable end users to launch their session without the Java plug-in.

Next: Step 5. Deploy and distribute the Reflection for the Web Launcher

Step 5. Deploy and distribute the Reflection for the Web Launcher

The **Reflection for the Web Launcher** installs an OpenJDK 8 JRE with Web Start (JNLP) to launch Reflection for the Web sessions. The Launcher itself must be installed on end users' workstations to be able to launch sessions without needing Oracle's JRE or the Java browser plug-in. .

*Note, however, that the **administrator** still needs the Oracle Java plug-in to create and manage sessions in the MSS Administrative Console*.

In addition to deploying and distributing the Reflection for the Web Launcher, you will see what the user will experience.

- Configure the deployment option
- What users can expect
- Distribute the Reflection for the Web Launcher

Configure the deployment option

The Reflection for the Web Launcher can be deployed in phases to subsets of users. Return to the **MSS Administrative Server** to configure the deployment .

1. In the MSS Administrative Console, click **Configure Settings - General Settings**.
2. Look for the **Reflection for the Web Launcher** section and the three deployment options: **Standard**, **Hybrid**, and **Launcher**.

   (Details for each option are describe in the Reflection for the Web Installation Guide.)

NOTE: The default deployment option is **Standard**.

This option is the traditional setup that relies on Oracle's JRE or the Java plug-in to launch Reflection for the Web sessions. The **Standard** behavior is familiar to end users:

- The Java plug-in launches an embedded links list in an Internet Explorer 11 browser.
- The user clicks a Reflection for the Web session in the list, and the session is launched in a separate window.
- The browser stays open after the session is launched.

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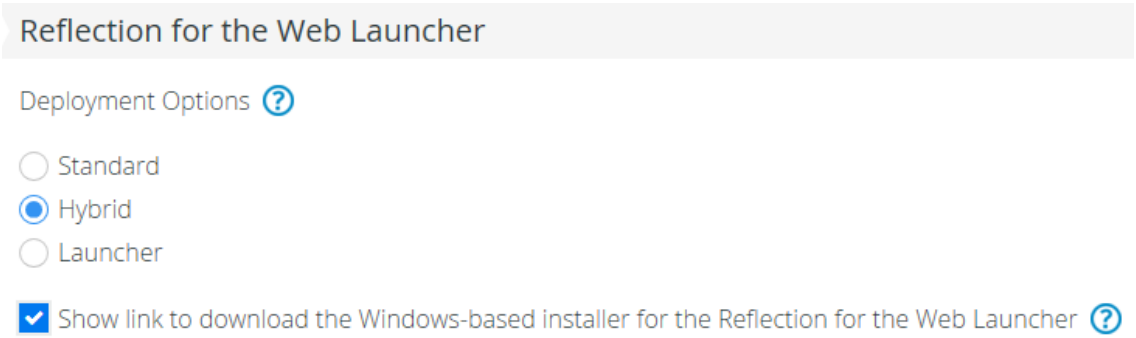
3 To evaluate the Reflection for the Web Launcher, click **Hybrid**.



The **Hybrid** option works in a mixed environment where some user workstations have (or will have) the **Reflection for the Web Launcher**. Other workstations have the (Standard) Java plug-in.

4 On the same panel, check the box to **Show link to download the windows-based installer for the relfection for the Web Launcher**.

This selection is used to Distribute the Reflection for the Web Launcher.

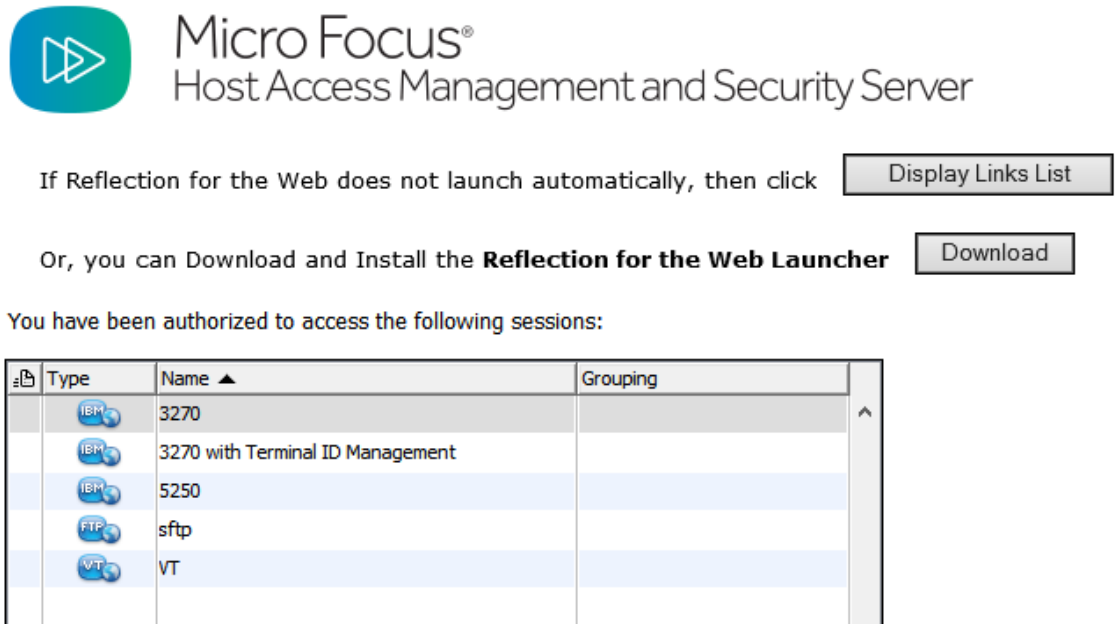
What users can expect

Any of the deployment options (Standard, Hybrid, Launcher) enable the users to see their Links List and launch their sessions. The sessions are the same. The difference is how they are launched.

When the **Hybrid** or **Launcher** option is selected, the user's view depends on how you choose to distribute the `RWebLauncher.msi file` and what is installed on the user workstation.

Here's what to expect when **Hybrid** is selected.

- After logging in, users see a **Display Links List** button, which requires Web Start (JNLP).
- If individual downloads are enabled, users will *also see* a link to **Download** and install the Reflection for the Web Launcher Installer (`RWebLauncher.msi`).
- If the users have **Reflection for the Web Launcher** installed, they can click **Display LInks List** to open their familiar links list and launch their terminal sessions.
- When a session is clicked, or if a direct URL is provided, the session opens in a separate window.
- When a Reflection for the Web session is launched via the Reflection for the Web Launcher, the browser can be closed (no dependency).
- A user who has the Reflection for the Web Launcher installed on their workstation — *and does not have the Java plug-in* — sees only the **Display Links List** button. Sessions are launched using Web Start (JNLP) instead of the Java browser plug-in.



Distribute the Reflection for the Web Launcher

For ease of configuring and evaluating, you already selected a method to distribute the Reflection for the Web Launcher— by checking the box to **enable individual downloads**.

The **Reflection for the Web Launcher Installer** is packaged as `RWebLauncher.msi`. The Launcher must be installed on workstations, and this file can be distributed either by

- using a software system, such as Microsoft Group Policies — or —
- enabling individual downloads — the choice for this evaluation.

Enabling individual downloads

When the **Show link to download the windows-based installer for the Reflection for the Web Launcher** box is checked:

- The user can see the **Download** button to manually download the Reflection for the Web Launcher Installer file (`RWebLauncher.msi`).
- Clicking **Download** sets up the workstation to use the Reflection for the Web Launcher.

  Note: On the MSS server, the Reflection for the Web Launcher is installed here: `MSS\server\web\webapps\rweb-client\ex\RWebLauncher.msi`

Next: Step 6. Assign and Deploy the session

Step 6. Assign and Deploy the session

Use **Assign Access** to give authorized users access to specific sessions, which will then appear on their list of links.

To use **Assign Access**:

1. In the Administrative Console, click **Assign Access**.
2. If LDAP authorization is enabled, you can **Search** for a particular user or group.

Otherwise, note that **All users in the selected domain** will be given access to each session you assign. See **Help** for more information.

3. With the user or group selected, check the session you just created, `eval3270`, in the **Sessions** list.
4. Click **Apply**.
5. In the Administrative Console, click **Currently Assigned** to see that `eval3270` is assigned to All Users.
6. In the **Manage Sessions** list, click the session name to see the direct URL for the session.
7. Deploy the session using your usual procedures.

Step 7. Test the user experience

Step 7. Test the user experience

After you complete the Configuration Steps for the evaluation scenario, you can test the user experience.

Note: This test assumes that the **Hybrid** deployment option is selected.

1. As a user, launch a web browser (any vendor).
2. In the address bar, enter `http://<hostname>/mss`, where `<hostname>` is the name of the host where MSS is installed.

   Note: This url is the one that is deployed to your users.
3. Click the **Display Links List** button.
4. Accept any certificate and security dialogs that appear.

   If prompted, authenticate using your LDAP credentials.
5. Because you are an end-user, the **Links List** is displayed in its own window and contains the session that was assigned to you.
6. Double-click the session to launch it.

   The test succeeds when the user launches the session.

Company goals are met

A successful test means that you met the company requirements for this evaluation:

- Transition away from using Oracle's JRE and/or the Java plug-in on user workstations.
- Ensure the end-user experience is not disrupted during the transition.

Step 8. Optional: Evaluate additional features

When you finish evaluating

Step 8. Optional: Evaluate additional features

In addition to the features you configured in the Evaluation Scenario, many other features can be configured on the server and the client. Consider these features.

- Security options
- Customization
- Usage Metering
- Session (Client) Features

Security options

In addition to **Assign Access** (used in Step 5), Reflection for the Web provides several options to secure user access to your host applications.

Access Control

Reflection for the Web supports many types of authentication. Each type is described in the Help topic: **Configure Settings** > **Authentication & Authorization**.

Security Settings

In the Administrative Console, click **Configure Settings** > **General Security**. You can set options for server access, passwords, smart card libraries, and cryptography settings. Click **Help** for information about the available options.

HTTPS and TLS

By default, Reflection for the Web enables web browsers to use the HTTP protocol to communicate between the client computer and the administrative server. Although HTTP is universally available to web browsers, it is not a secure protocol.

To secure the communication between the client and the web server, you can require web browsers to use the HTTPS protocol (which provides TLS/SSL encryption) when connecting to the Administrative Server. For more information, open the Administrative Console Help to **Technical References** > **Security Overview**.

Cryptography Settings

Reflection for the Web provides support for TLS 1.2. For more information, see the **Technical References** -- **Security Overview** and **Using the Security Proxy**. You can also search for other Help topics about using TLS.

Security Proxy Server (Optional)

The Security Proxy can be used to encrypt the data between the client and the Security Proxy. You can install the security proxy when you run the automated installer, and it can be installed on a different machine.

The Security Proxy is managed by Host Access Management and Security Server. For more information, see Using the Security Proxy Server.

Customization

Earlier, when you created and configured your terminal session, you were able to make some preliminary customization choices.

Advanced Administration

Reflection for the Web includes a well-documented API and some advanced tools that make it easy to customize terminal sessions—even if you do not have Java or HTML programming experience.

Open the Reflection for the Web Reference Guide for information about using scripts, HTML code, and applet parameters with Reflection.

The following example demonstrates how you can customize the behavior of a terminal session by changing the parameters for a specific attribute.

Example: Using the Applets Parameter tool

1. In the Administrative Console, click **Manage Sessions**.
2. Click the Reflection for the Web session you created earlier, such as `eval3270`.
3. Scroll to the **Advanced Settings** section, and click **Applet Parameters**.
4. Click **+Add**, and open the drop-down **Parameter** menu.
5. For this evaluation, click `splash`.
6. For the **Value**, enter `false`. Click **Add**. The parameter is added to the list of current parameters.

   NOTE: The Reference Guide includes this description of the **splash parameter**:

   This parameter determines whether the Reflection splash screen is displayed while Reflection is loading. The splash screen includes a progress indicator, so if the splash screen is not displayed, the progress indicator is not visible.

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7. Click **Save**. You are returned to the **Manage Sessions** panel.
8. To test the parameter, log in as a **User**, and launch the session.

Usage Metering

Usage metering can be used to audit and control access to both web-based and Windows-based sessions. You may want to install the metering server component if your site needs to carefully balance network and server loads.

For more information, see the Metering help topic in the MSS Administrative Console.

After Metering is configured, you can run Reports to view current and historical activity.

Session (Client) Features

In addition to the Profiling feature that you configured earlier (Step 4. Configure the session settings), you can configure client-specific features.

Launch a Reflection for the Web session, and then configure your choice of features.

- Display
- Keyboard Mapping
- Macro recording and editing
- Toolbar customization

To try other features, refer to the product **Help**.

Display

To modify display features, in the terminal session, click **Setup**. Then click the menu item and follow the logical navigation, which varies among session types.

For example, to change foreground and background screen colors, click **Setup** > **Color**. Click **OK** or **Cancel** to return to the session.

Keyboard Mapping

To create a custom keyboard mapping, click **Setup** > **Keyboard**. Click the **Add** button and follow the directions in the dialog. Click Help for more details. Click **OK** or **Cancel** to return to the session.

Macro recording and editing

Reflection for the Web includes powerful macro recording and editing features that enable you to automate frequently performed tasks. The recorded macros and the macros you create use JavaScript as the automation language; if you already know JavaScript, the syntax of Reflection macros will be familiar.

Both administrators and end users (with permissions set by the Reflection for the Web profiler) can create macros. The macros that an administrator creates are delivered to all users when they access the terminal session, whereas the macros created by an end user are private to just that user.

To get started with macros, try recording a host logon macro:

1. In a terminal session, connect to your host computer, but do not log on yet.
2. From the **Macro** menu, select **Start Recording**.
3. Log on to the host as you usually do.
4. Once you are logged on to the host, click **Macro** > **Stop Recording**.
5. In the **Save Macro** dialog box, enter a name for the macro.
6. Configure other options (described in the online help), and then **click Save**.

   The macro is saved as follows:

   - If you record the macro while configuring the session in the Administrative Console, the macro will be saved to the Administrative Server after you save and exit the session.
   - If you record the macro while running the session as an end user, the macro is saved locally as soon as you click **Save** in the **Save Macro** dialog box.

In addition to recording macros, you can edit macros and also write your own macros. See Technical Note 2535 for more information.

Toolbar customization

Use the macro you created to log on to the host as described above:

1. In a launched session, click **Setup** > **Toolbar**. Drag the existing items to rearrange them.
2. Click the **Add** button. In the **Define Toolbar Item** dialog, add text (for example, `My Logon`).
3. Click **Select** to associate an **Action** with the new button.

   For example, in the Define Action dialog box, open the **Action Type** menu and select **Execute Command**.
4. Scroll through the commands and select **Run Macro**.

5 At the bottom of the dialog box, select your logon macro from the drop-down menu. Click **OK**.

6 When you return to the **Define Toolbar Item** dialog box, **Choose** an icon for your new toolbar button.

7 Click **OK** twice. Drag the icon to the toolbar. (You can rearrange the icons by dragging.)

8 Click **OK**. Your new button is included in the Custom toolbar items.

Related topics

- Resources
- When you finish evaluating

4 Resources

For more information about **Reflection for the Web**, see these resources.

- Technical Support Resources — including Knowledge Base articles
- Documentation
- Installation Guide
- Reference Guide
- Management and Security Server Administrator Guide (online Help)

Related topics

- Evaluation Scenario
- Configuration Steps
- When you finish evaluating

5 When you finish evaluating

After you evaluate Reflection for the Web, **contact us** if you have questions or are ready to buy.

When you are ready to install and configure your licensed version of Reflection for the Web 13.0, consider these options ***for production***.

- You can install the server components (Administrative Server, Security Proxy Server, Metering Server, and Terminal ID Management Server) on different servers.

  To do so: When you install Reflection for the Web, select **Use an existing installation of Management and Security Server on a different machine**. (See the Reflection for the Web Installation Guide.)

  To install or upgrade the other server components on the machine where MSS is installed, run the MSS automated installer and select those components. (See the MSS Installation Guide.)
- When LDAP authentication is enabled, use **Assign Access** to assign sessions to specific users or groups.