



# Disig Web Signer



User Guide

**© Disig<sup>®</sup>, a.s.**

**Záhradnícka 151, 821 08 Bratislava**

**Phone: +421-2-2850150, E-mail: [disig@disig.sk](mailto:disig@disig.sk)**

**IČO: 35 975 946, VAT ID: SK2022116976**

**Registered in the Commercial Register of the District Court Bratislava I, Section Sa, File 3794/B**

**All rights reserved.**

**Published in Bratislava, Slovak republic.**

**The information in this document cannot be modified without written permission of Disig, a.s.  
This document has not passed formal language review process.**

**Trademarks**

**The names mentioned in this document may be the trademarks of their respective owners.**

## Table of contents

<b>1.</b>	<b>Introduction</b>	<b>5</b>
1.1.	Abbreviations	5
<b>2.</b>	<b>Product description</b>	<b>6</b>
2.1.	System requirements	6
2.1.1.	Supported operating systems	6
2.1.2.	Supported web browsers	6
<b>3.</b>	<b>Application installation</b>	<b>8</b>
3.1.	Microsoft Windows	8
3.2.	Apple macOS	9
3.3.	Linux	12
<b>4.</b>	<b>Running the application</b>	<b>14</b>
4.1.	Microsoft Windows	14
4.1.1.	Application startup check	14
4.1.2.	Manual application startup	14
4.1.3.	Automatic application startup	15
4.2.	Apple macOS	16
4.2.1.	Application startup check	16
4.2.2.	Manual application startup	16
4.2.3.	Automatic application startup	16
4.3.	Linux	17
4.3.1.	Application startup check	17
4.3.2.	Manual application startup	17
4.3.3.	Automatic application startup	18
<b>5.</b>	<b>Description of graphical user interface</b>	<b>19</b>
5.1.	Main application window	19
5.2.	Certificate selection window	20
<b>6.</b>	<b>Document signing</b>	<b>22</b>
<b>7.</b>	<b>Collecting the diagnostic information</b>	<b>24</b>
7.1.	Microsoft Windows	24
7.2.	Apple macOS	24
7.3.	Linux	25
<b>8.</b>	<b>Known issues</b>	<b>26</b>
8.1.	Updating the application on Debian 10	26
8.2.	Availability of WebSocket interface	26

8.1.	Tabs in Microsoft Internet Explorer	26
8.2.	Application icon is not displayed on Ubuntu 20.04	26
8.3.	Defining custom certificate store on macOS	27
<b>9.</b>	<b>Technical support</b>	<b>28</b>

# 1. Introduction

This document is a user manual for Disig Web Signer (Web Signer), which enables end user to create advanced or qualified electronic signature and seal in the web browser.

## 1.1. Abbreviations

API	-	Application Programming Interface
OS	-	Operating system
PKCS	-	Public Key Cryptography Standard
QSCD	-	Qualified Signature Creation Device

## 2. Product description

Web Signer application allows end users to sign electronic documents with advanced or qualified electronic signature and seal in web browser.

Web browser communicates with Web Signer over a direct WebSocket connection directed to the local loopback network interface of the computer.

Web Signer application is compatible with QSCD devices (e.g. smartcards) that are accessible via Microsoft CryptoAPI or PKCS#11 interfaces.

### 2.1. System requirements

The basic precondition for successful use of the application is to use a supported operating system along with a supported web browser.

Note: The application may also work with unlisted versions of operating systems and browsers.

#### 2.1.1. Supported operating systems

##### 2.1.1.1. Microsoft Windows

On the Microsoft Windows platform, version 2.0.7 of application has been confirmed to be working correctly in Windows 7, Windows 8.1 and Windows 10 with Microsoft Internet Explorer 11, Microsoft Edge 44 and 87, Mozilla Firefox 83 and Google Chrome 87 browsers.

##### 2.1.1.2. Apple macOS

On Apple macOS platform, version 2.0.7 of application has been confirmed to be working correctly in macOS 10.15 and macOS 11.0 with Microsoft Edge 87, Mozilla Firefox 83 and Google Chrome 87.

##### 2.1.1.3. Linux

On Linux platforms, version 2.0.7 of application has been confirmed to be working correctly in Debian 10, Ubuntu 20.04 and Mint 20 with Mozilla Firefox 83 and Google Chrome 87 browsers.

#### 2.1.2. Supported web browsers

##### 2.1.2.1. Google Chrome

Google Chrome 53 or higher is able to communicate with Web Signer application over a direct WebSocket connection on Microsoft Windows, macOS, and Linux platforms.

#### 2.1.2.2. Mozilla Firefox

Mozilla Firefox 55 or higher is able to communicate with Web Signer application over a direct WebSocket connection on Microsoft Windows, macOS, and Linux platforms.

#### 2.1.2.3. Microsoft Edge

Microsoft Edge 42 or higher is able to communicate with Web Signer application over a direct WebSocket connection on Microsoft Windows, macOS, and Linux platforms.

#### 2.1.2.4. Microsoft Internet Explorer

Microsoft Internet Explorer 11 or higher is able to communicate with Web Signer application via the ActiveX interface on Microsoft Windows platform.

## 3. Application installation

### 3.1. Microsoft Windows

Start the installation by executing the installation package named „Disig\_Web\_Signer\_\*.msi“.

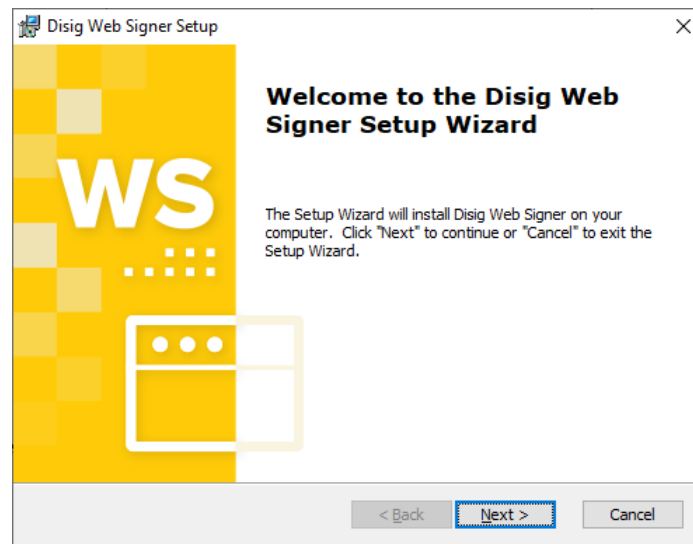


Figure 3-1 First step of installation

Continue by clicking „Next >“.

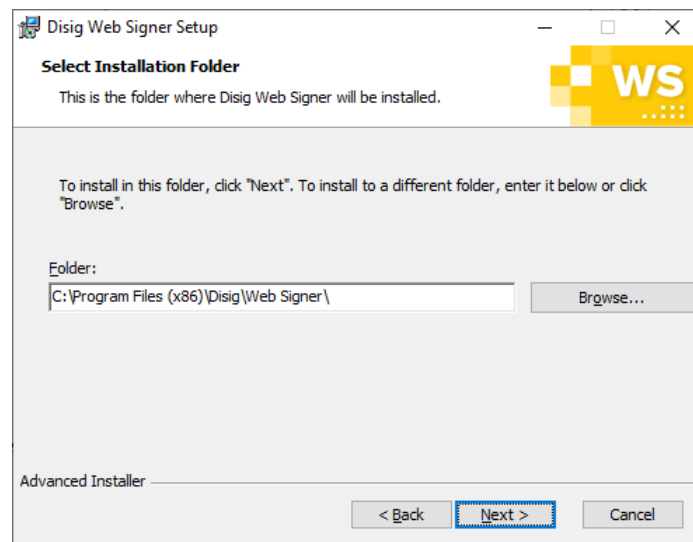


Figure 3-2 Second step of installation

Select destination directory where the application will be installed and click „Next >“ to continue.

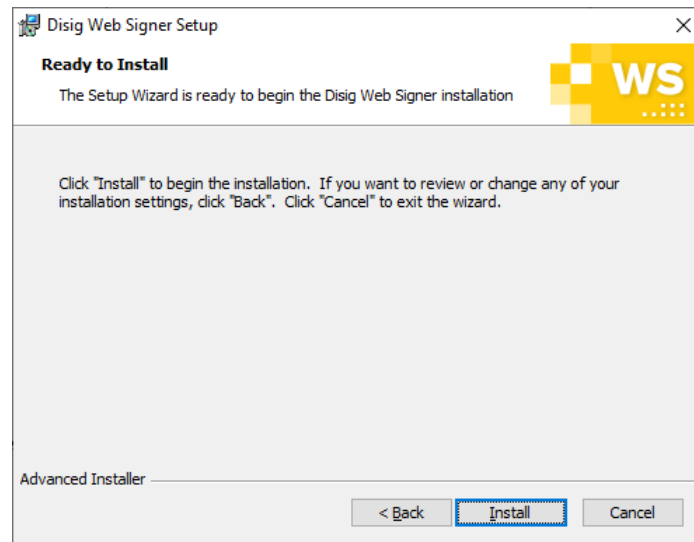


Figure 3-3 Third step of installation

Click „Install” to continue.

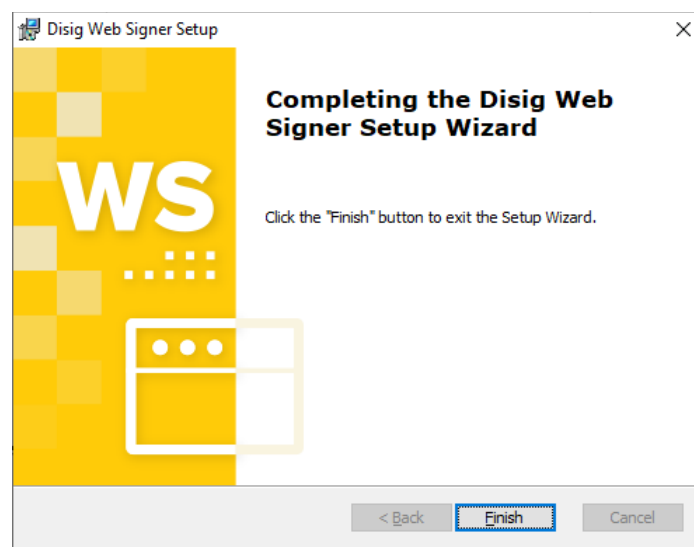


Figure 3-4 Fourth step of installation

Click „Finish” to finish the installation.

## 3.2. Apple macOS

This chapter describes the installation on macOS 10.15. The procedure may be different for other operating system versions.

Start the installation by double clicking the archive named “Disig\_Web\_Signer\_\*.dmg” in the graphical user interface.



Figure 3-5 Contents of the installation archive

Continue by clicking on the installation package " Disig\_Web\_Signer.pkg ".

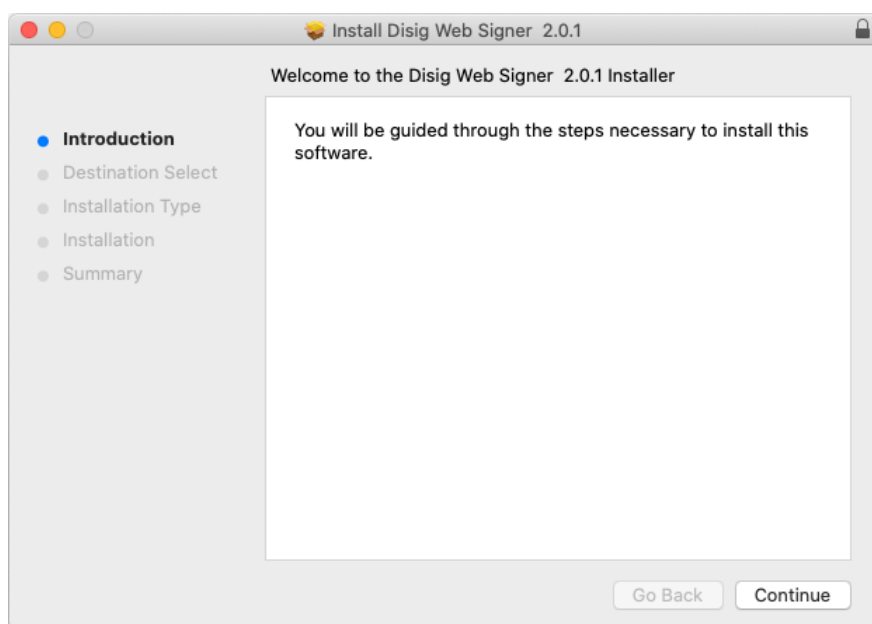


Figure 3-6 First step of installation

Continue by clicking “Continue”.

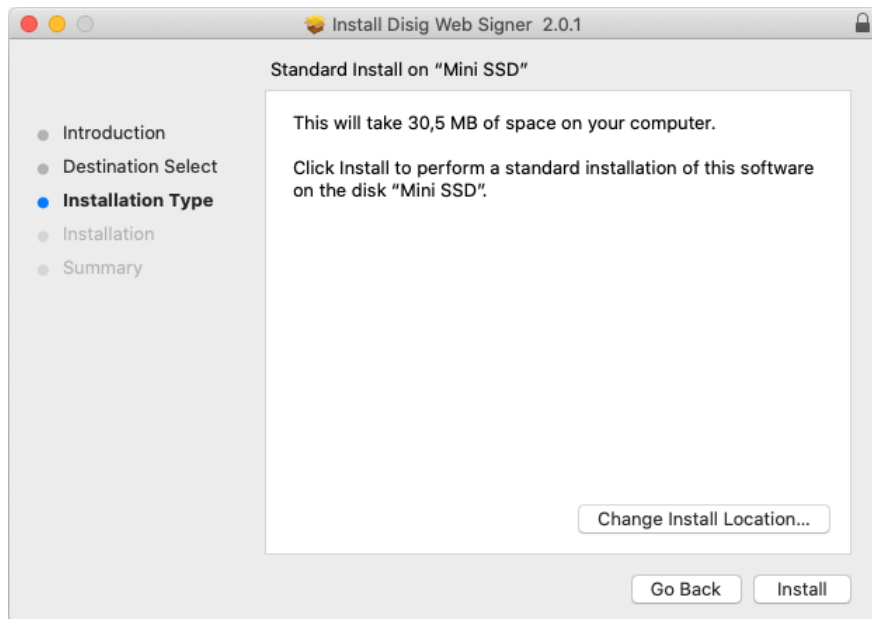


Figure 3-7 Second installation step

Click „Install” to continue.

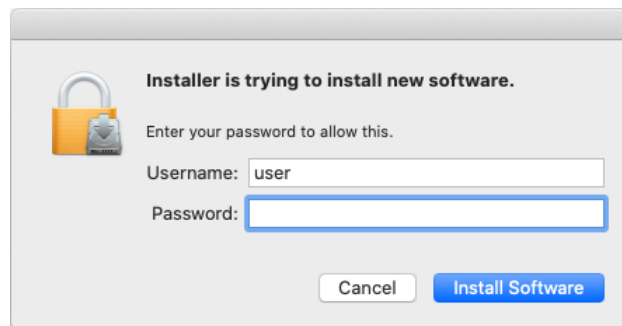


Figure 3-8 Third Installation Step

The operating system may ask you to enter your user password and by doing so grant a permission to install the software. Enter your password and click "Install Software" button to proceed

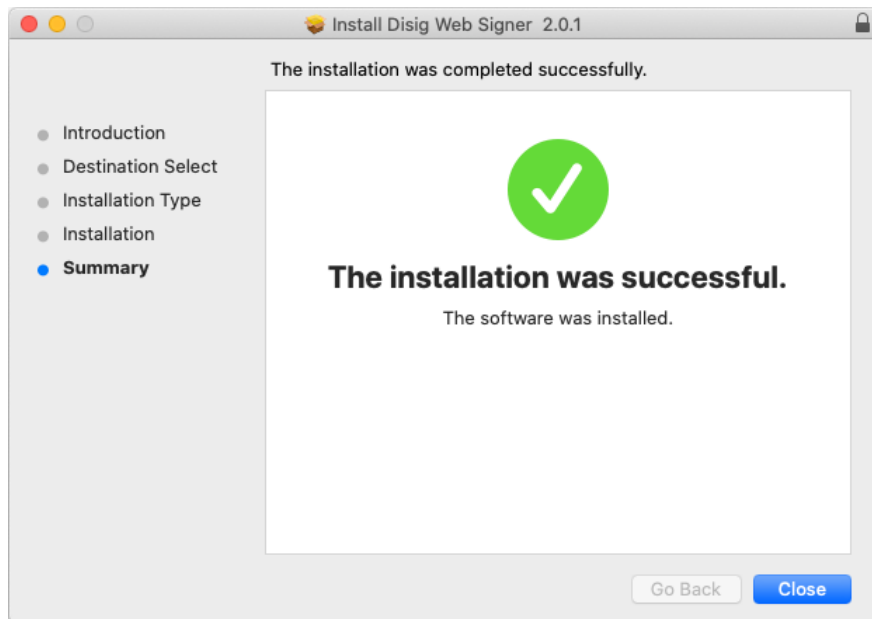


Figure 3-9 Fourth step of installation

Click „Close” to finish the installation.

### 3.3. Linux

This chapter describes the installation on Ubuntu 20.04. The procedure may be different for other versions or other distributions.

Start the installation by double clicking the installation package named “disig-web-signer\_\*.deb” in the graphical user interface



**Figure 3-10** Installing package with Ubuntu Software application

In “Ubuntu Software” application, continue by clicking “Install” button. Application may ask you to enter your user password and by doing so grant a permission to install the software.

Once the package is installed successfully, “Ubuntu Software” application can be closed.

## 4. Running the application

Web browser is able to sign documents only when Web Signer application is running.

### 4.1. Microsoft Windows

#### 4.1.1. Application startup check

Yellow application icon is displayed in the notification area on the taskbar when Web Signer application is running.

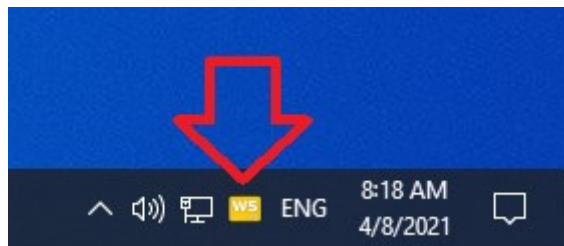


Figure 4-1 Icon of running application

#### 4.1.2. Manual application startup

The Web Signer application can be started manually using the start menu of the operating system:

- Click on the start menu icon, which is usually located in the lower left corner of the screen.
- Start typing the application name "Web Signer" on the keyboard.
- Click on the Web Signer icon when it appears in the start menu.

The following figure shows the start menu with the application icon:

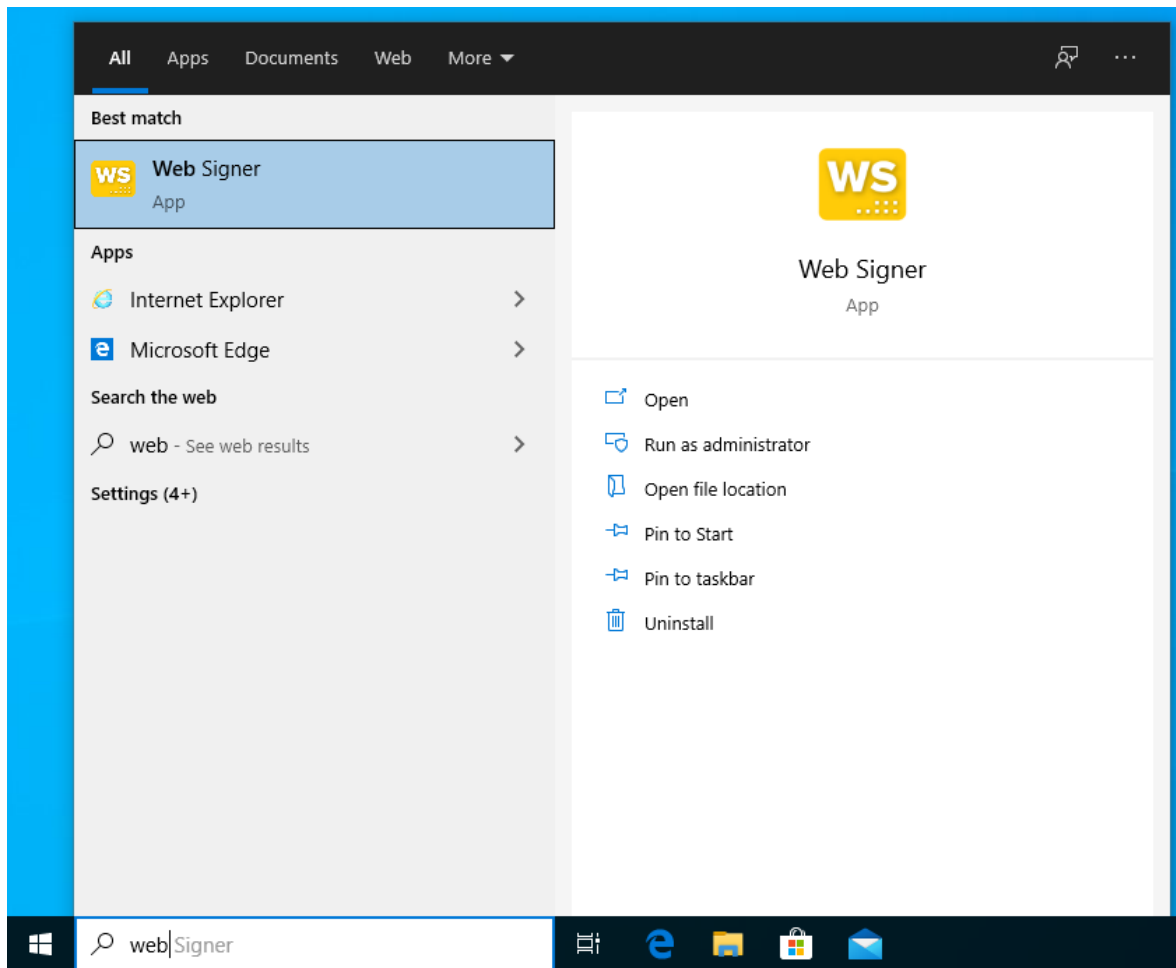


Figure 4-2 Starting the application manually

#### 4.1.3. Automatic application startup

Automatic start of Web Signer application during the operating system startup can be enabled and disabled since version 2.0.7 by right-clicking the Web Signer application icon displayed in the notification area on the taskbar and selecting “Settings > Run at system startup” option.

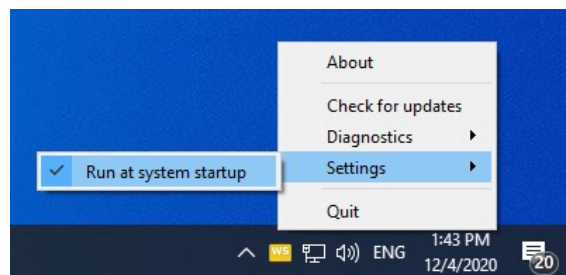


Figure 4-3 Enabling or disabling automatic application startup

This setting applies only to the current user account.

## 4.2. Apple macOS

### 4.2.1. Application startup check

Yellow application icon is displayed on the menu bar when Web Signer application is running.



Figure 4-4 Icon of running application

### 4.2.2. Manual application startup

The Web Signer application can be started manually using the Launchpad:

- Click on the Launchpad icon, which is usually located in the left side of the dock.
- Start typing the application name "Web Signer" on the keyboard.
- Click on the Web Signer icon when it appears in the Launchpad.

The following figure shows the Launchpad with the application icon:

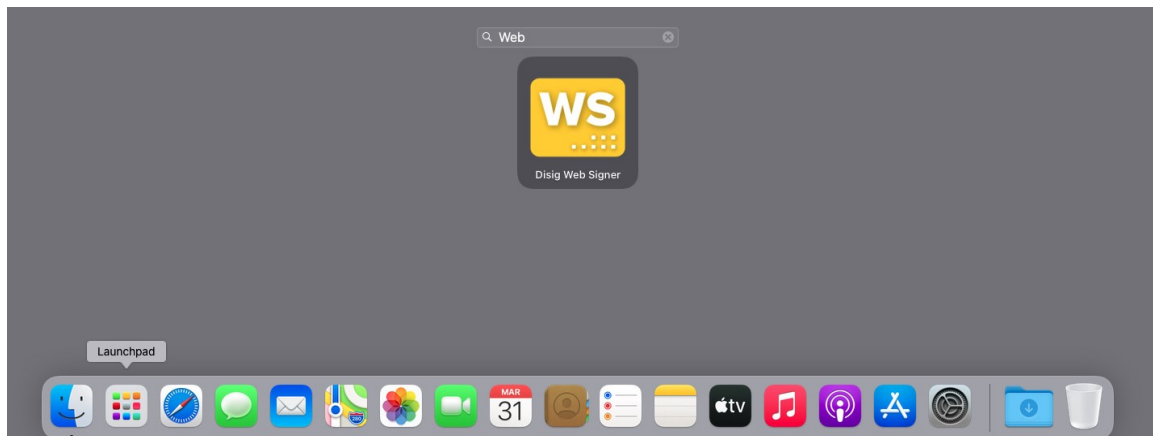


Figure 4-5 Starting the application manually

### 4.2.3. Automatic application startup

Automatic start of Web Signer application during the operating system startup can be enabled and disabled since version 2.0.7 by right-clicking the Web Signer application icon displayed on the menu bar and selecting "Settings > Run at system startup" option.

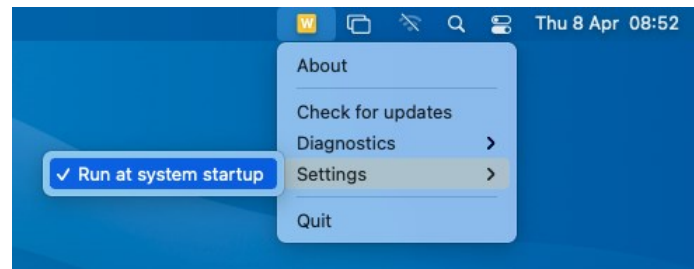


Figure 4-6 Enabling or disabling automatic application startup

This setting applies only to the current user account.

## 4.3. Linux

### 4.3.1. Application startup check

Yellow application icon is displayed on the menu bar when Web Signer application is running.



Figure 4-7 Icon of running application

### 4.3.2. Manual application startup

The Web Signer application can be started manually using the Activities:

- Click on the Activities text, which is usually located in the top left corner of the screen.
- Start typing the application name "Web Signer" on the keyboard.
- Click on the Web Signer icon when it appears in the Activities.

The following figure shows the Activities with the application icon:

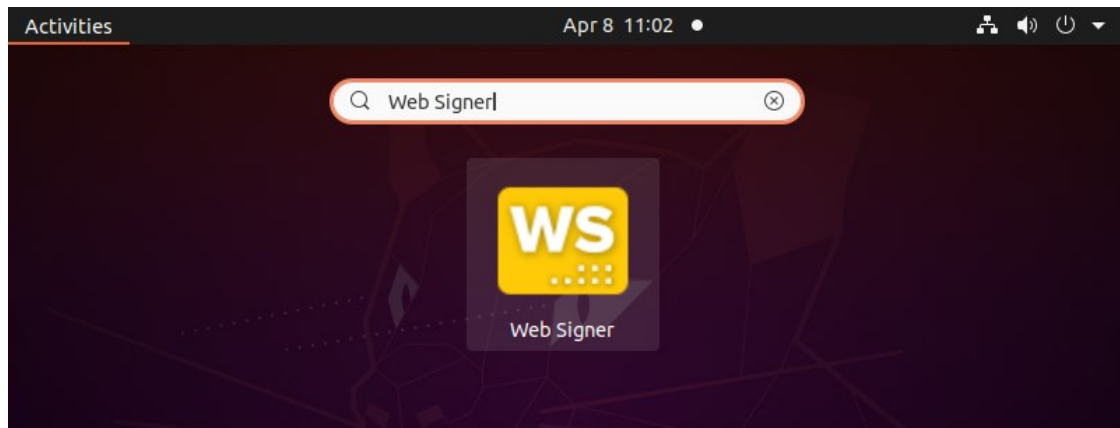


Figure 4-8 Starting the application manually

#### 4.3.3. Automatic application startup

Automatic start of Web Signer application during the operating system startup can be enabled and disabled since version 2.0.7 by right-clicking the Web Signer application icon displayed on the menu bar and selecting “Settings > Run at system startup” option.

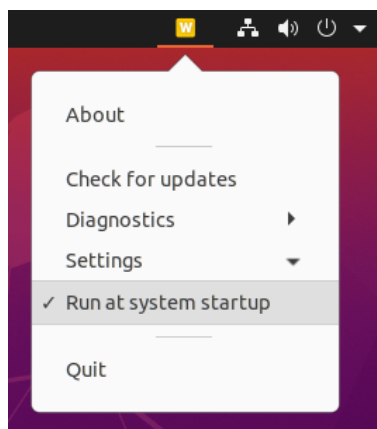


Figure 4-9 Enabling or disabling automatic application startup

This setting applies only to the current user account.

## 5. Description of graphical user interface

Graphical user interface of the application consists of the main window and the certificate selection window.

### 5.1. Main application window

Graphical user interface of the main application window contains a toolbar at its top. The application can operate in signing or viewing mode.

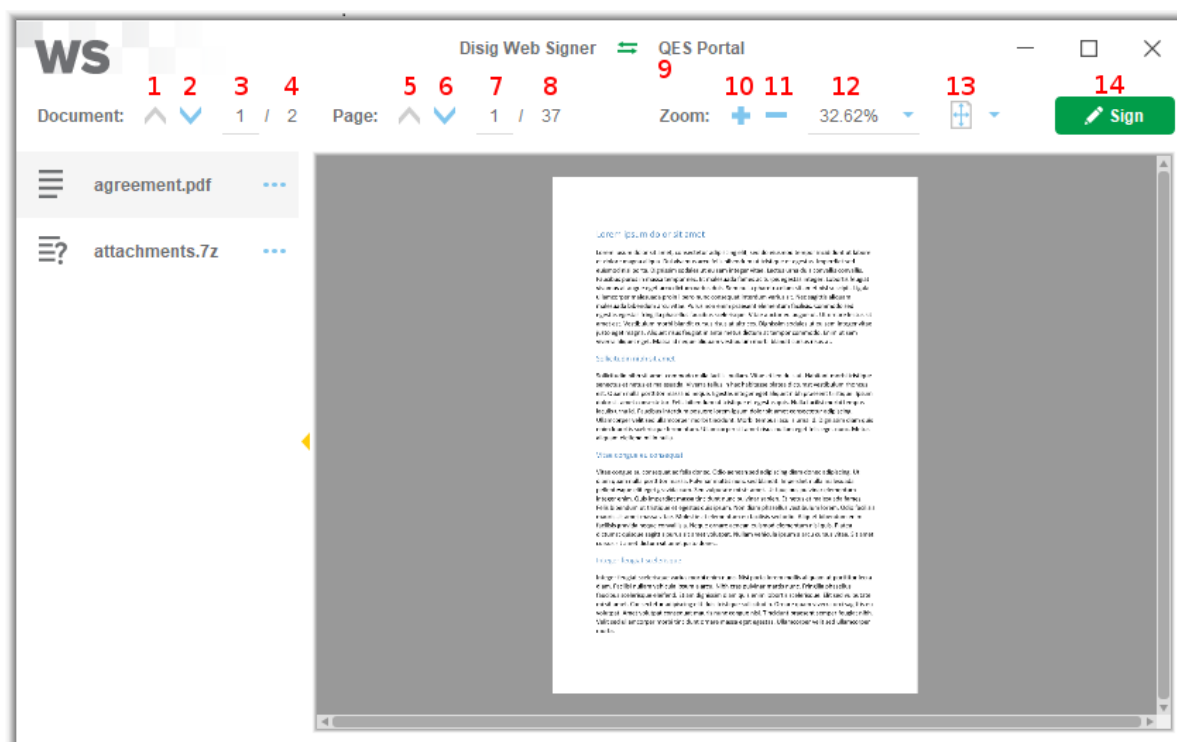


Figure 5-1 Main application window

The following table describes individual controls available in the main window:

Control number	Control description
1	„Previous document“ button Click the button to view the previous document when signing multiple documents.
2	„Next document“ button Click the button to view the next document when signing multiple documents.
3	„Current document“ field This field contains the number of currently displayed document. In this field, you can also manually enter the number of document you want to view and confirm the entry by pressing the "Enter" key.

4	<b>„Total number of documents“ field</b> This field contains a number representing the total number of documents being signed.
5	<b>„Previous Page“ button</b> Click the button to view the previous page of the document.
6	<b>„Next page“ button</b> Click the button to view the next page of the document.
7	<b>„Current Page“ field</b> This field contains the number of currently displayed page of the document. In this field, you can also manually enter the page you want to view and confirm the entry by pressing the "Enter" key.
8	<b>„Total number of pages“ field</b> This field contains a number representing the total number of pages of the document.
9	<b>„Server name“ field</b> Main window title always shows the name of the server the application is communicating with. User is required to verify that application communicates with the correct server.
10	<b>„Zoom in“ button</b> Click on the button to zoom in the displayed page.
11	<b>„Zoom out“ button</b> Click on the button to zoom out the displayed page.
12	<b>„Current zoom“ field</b> This field contains current zoom value for displayed page and allows you to change it by selecting one of the predefined values.
13	<b>„Original size“ button</b> Click the button to adjust zoom level so that page is displayed in its real size (100%).  <b>„Full page“ button</b> Click the button to adjust zoom level so that the entire page is displayed.  <b>„Page width“ button</b> Click the button to adjust zoom level so that whole page width is displayed.
14	<b>„Sign“ button</b> Click the button to start the process of signing all documents that can be viewed with controls 1-4. This button is only available in signing mode.

## 5.2. Certificate selection window

Graphical user interface of the certificate selection window clearly presents available certificate stores and their contents. The user can choose one specific certificate that will be used for document signing.

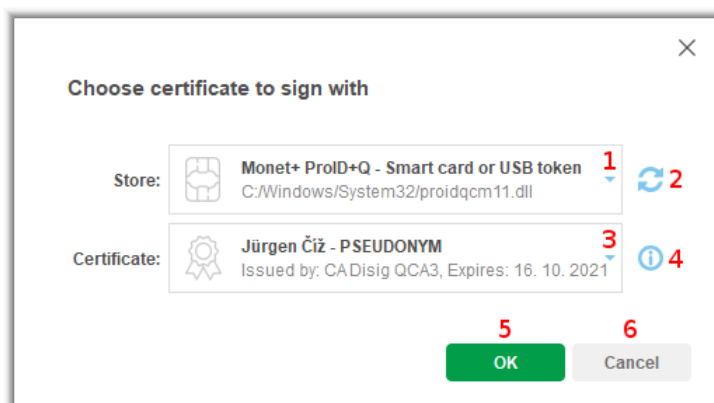


Figure 5-2 Certificate selection window

The following table describes individual controls available in the certificate selection window:

Control number	Control description
1	<b>„Store“ field</b> This field contains the list of currently available signing certificate stores. Certificates located in the selected store will be shown in the field no. 3 when a particular store is selected. Depending on the type of selected store, application may request user to enter the PIN code needed to access the store.
2	<b>„Refresh“ button</b> Click the button to reload list of signing certificates from selected store.
3	<b>„Certificate“ field</b> This field contains a list of certificates available in the selected store.
4	<b>„Certificate details“ button</b> Click the button to show or hide the details about the certificate selected in a field no. 3.
5	<b>„OK“ button</b> Click the button to confirm that you want to use certificate that is selected in the field no. 3.
6	<b>„Cancel“ button</b> Click the button to close certificate selection window and cancel the signing process.

## 6. Document signing

Document signing process is started by a web portal capable of communicating with Web Signer application. An example of such a portal is QES Portal available at <https://www.qesportal.sk>.

Right after the document signing process is started, application displays the first page of the first document.

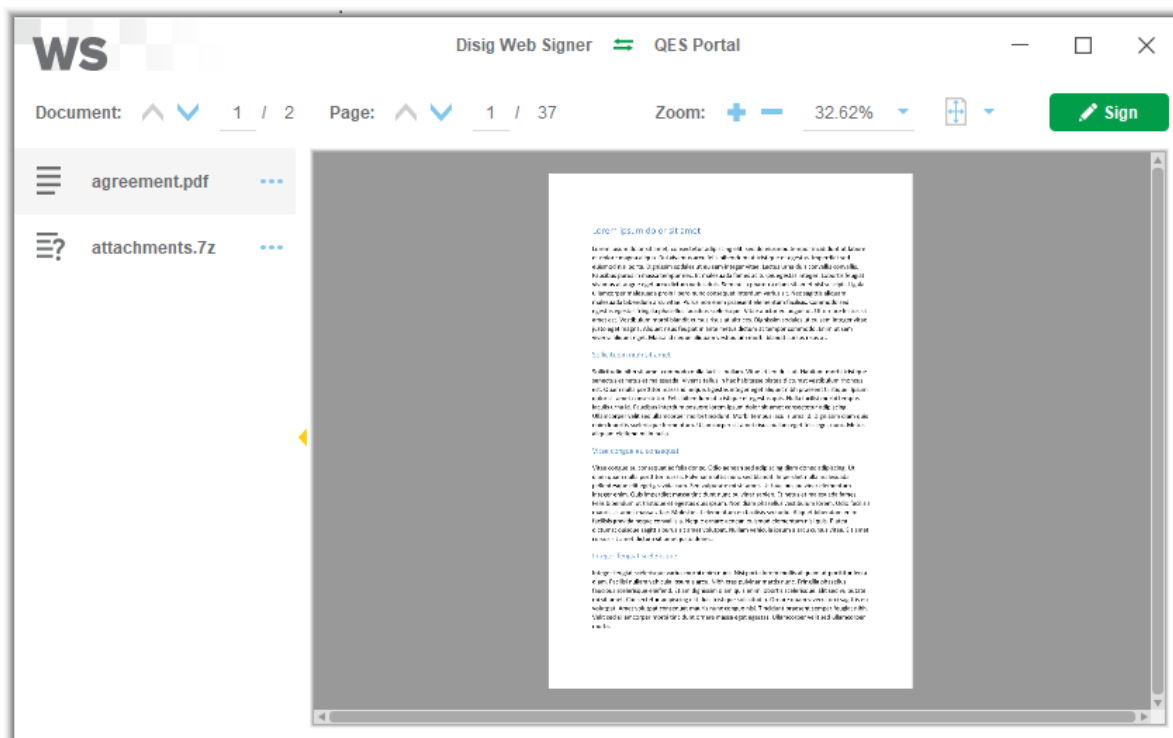


Figure 6-1 Main application window

Carefully review the content of all documents and click the “Sign” button. Certificate selection windows will be displayed. In this window you first need to select the “Store” and then pick one “Certificate” from selected store. You can choose from predefined stores or you can select an arbitrary PKCS#11 library that will provide access to an alternative signing certificate store. Application may request you to enter the PIN code needed to access selected certificate store.

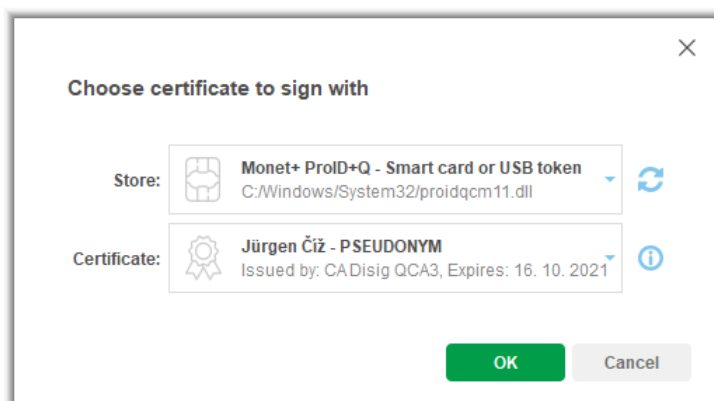


Figure 6-2 Signing certificate selection

After you select the certificate and click the “OK” button, a dialog window requesting PIN code for QSCD device will appear.

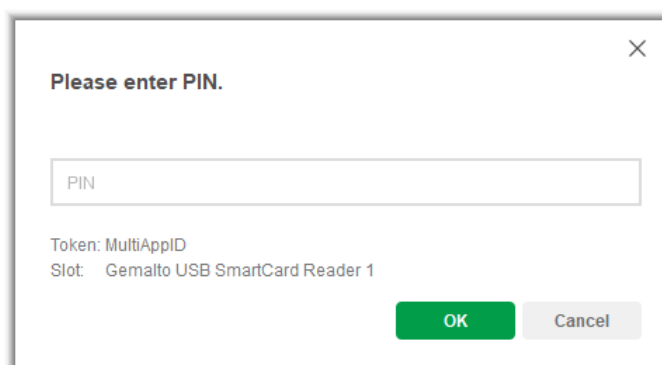


Figure 6-3 Entering the PIN code

Signing process continues once the valid PIN code is entered. Depending on the QSCD device type, you may also need to enter additional PIN codes.

Dialog window informing about the successful signing will appear once the process is completed.

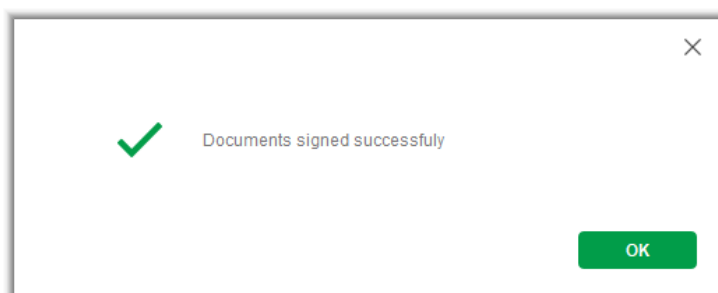


Figure 6-4 Confirmation of successful signing

Main application window closes automatically when this dialog is confirmed. The signed documents are available on the web portal that started the signing process.

## 7. Collecting the diagnostic information

In case of any problems with Web Signer application, it is possible to enable logging and collect the diagnostic information.

### 7.1. Microsoft Windows

Logging can be enabled by right-clicking the Web Signer application icon displayed in the notification area on the taskbar and selecting “Diagnostics > Enable logging” option.

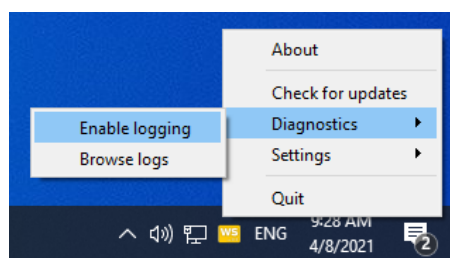


Figure 7-1 Enabling application logging

Logs are recorded into a several files located in the dedicated directory that is automatically created in the application data directory of currently logged-on user. Contents of this directory can be displayed by selecting “Diagnostics > Browse logs” option from the context menu.

Logging can be disabled by selecting “Diagnostics > Disable logging” option from context menu.

### 7.2. Apple macOS

Logging can be enabled by right-clicking the Web Signer application icon displayed on the menu bar and selecting “Diagnostics > Enable logging” option.

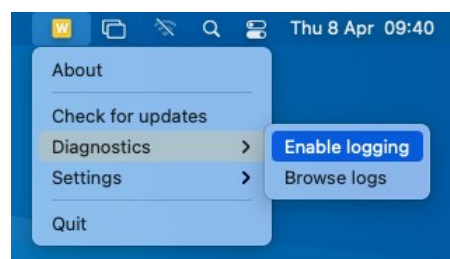


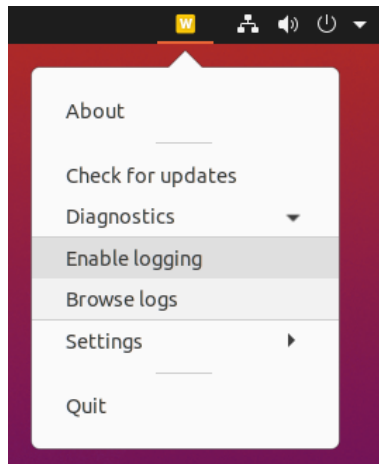
Figure 7-2 Enabling application logging

Logs are recorded into a several files located in the dedicated directory that is automatically created in the application data directory of currently logged-on user. Contents of this directory can be displayed by selecting “Diagnostics > Browse logs” option from the context menu.

Logging can be disabled by selecting “Diagnostics > Disable logging” option from context menu.

### 7.3. Linux

Logging can be enabled by right-clicking the Web Signer application icon displayed on the menu bar and selecting “Diagnostics > Enable logging” option.



**Figure 7-3 Enabling application logging**

Logs are recorded into a several files located in the dedicated directory that is automatically created in the application data directory of currently logged-on user. Contents of this directory can be displayed by selecting “Diagnostics > Browse logs” option from the context menu.

## 8. Known issues

### 8.1. Updating the application on Debian 10

In order to install its updates on Linux platform, Web Signer uses gdebi application from standard repositories of operating system.

However gdebi version 0.9.5.7+nmu3 present in Debian 10 suffers stability issues and is unable to successfully install Web Signer updates.

Debian 10 users are advised to perform manual installation of Web Signer updates.

### 8.2. Availability of WebSocket interface

Web Signer awaits incoming WebSocket connections on local loopback network interface (localhost) of the computer, where it listens on the first available TCP port from the set of 2378, 3546, 4384, 5147, 5692, 6378, 7678, 7681, 9799 and 9796.

If neither of these ports is available, WebSocket interface will not be available and document signing will not be possible.

### 8.1. Tabs in Microsoft Internet Explorer

In Microsoft Internet Explorer browser on the Microsoft Windows operating system, Web Signer application can be opened only in a one browser tab at the time.

### 8.2. Application icon is not displayed on Ubuntu 20.04

While Web Signer application may start automatically after the user logs into Ubuntu 20.04 system, its icon may not appear in the system tray.

This is a known issue with this specific distribution and more details can be found at:

<https://bugs.launchpad.net/ubuntu/+source/gnome-shell-extension-appindicator/+bug/1908921>

When this problem occurs, the application can be terminated in the terminal using the command:

```
$ killall WebSignerTray
```

The application can then be started again in the usual way.

### **8.3. Defining custom certificate store on macOS**

The macOS operating system does not allow its users to easily access some special directories, such as individual applications located in the "/Applications" directory or the "/usr" directory.

If you need to access such directory in the dialog displayed by Web Signer when selecting your own PKCS#11 library, you can work around this limitation of operating system by using the "Shift-Command-G" keyboard shortcut and then directly entering the path to the desired directory.

## 9. Technical support

The general terms and conditions for technical support apply to Web Signer application. Additional limitations and/or extensions may be defined in a separate service contract concluded between the application producer and the user.

Recommended procedure for contacting technical support:

- contact technical support via e-mail: **support@disig.sk**
- include the exact description of the problem
- attach screenshot of application and/or error
- include your contact details