

Balabit Desktop Player User Guide

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BALABIT

CONTEXTUAL SECURITY INTELLIGENCE

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1. Features and limitations



Warning

You can replay audit trails in the following ways: in your browser, using the Audit Player application, or using the Balabit Desktop Player application. Note that there are differences between these solutions.

	Audit Player	Browser	Balabit Desktop Player
Works without installation	-	✓	-
Works on any operating system	Windows	✓	Windows, Linux
Can replay TN5250 sessions	-	✓	✓
Can extract files from SCP and SFTP sessions	✓	-	From the command line
Can replay HTTP sessions	✓	-	Only exports raw files from the command line
Can start replay while rendering is in progress	✓	-	✓
Can follow 4-eyes connections	✓	-	-
Can export to PCAP	✓	-	-
Can search in the trail content	✓	✓	-
Can display user input	✓	✓	-
Export audit trail as video	-	-	✓

For details on the Audit Player application, see [Procedure 17.1.1, Installing the Audit Player application](#) in *The Balabit Shell Control Box 5 LTS Administrator Guide*, [Procedure 17.2.3, Replaying SCP and SFTP sessions](#) in *The Balabit Shell Control Box 5 LTS Administrator Guide*, and [Procedure 17.2.4, Replaying HTTP sessions](#) in *The Balabit Shell Control Box 5 LTS Administrator Guide*.

To replay audit trails in your browser, see [Procedure 16.1.2, Replaying audit trails in your browser](#) in *The Balabit Shell Control Box 5 LTS Administrator Guide*.

For details on the Balabit Desktop Player application, see *Balabit Desktop Player User Guide (p. 1)*.

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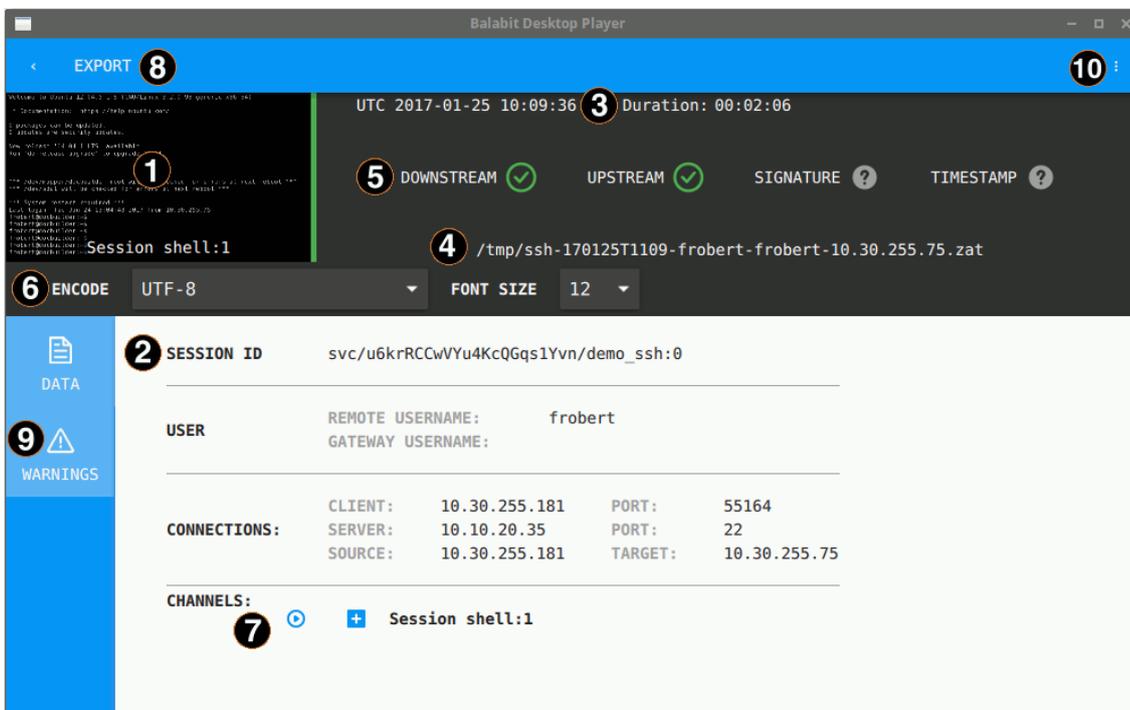
2. First steps

Thank you for installing the Balabit Desktop Player

Now you can start using the Balabit Desktop Player application to replay audit trail files that you have downloaded from Balabit Shell Control Box (SCB). The following information will help you get started using the Balabit Desktop Player. Note that currently this is not a public release, only a technology preview.

If you have agreed to share information with us about how you use the Balabit Desktop Player application, read *Section 3, Data collection policy (p. 7)* for a detailed description.

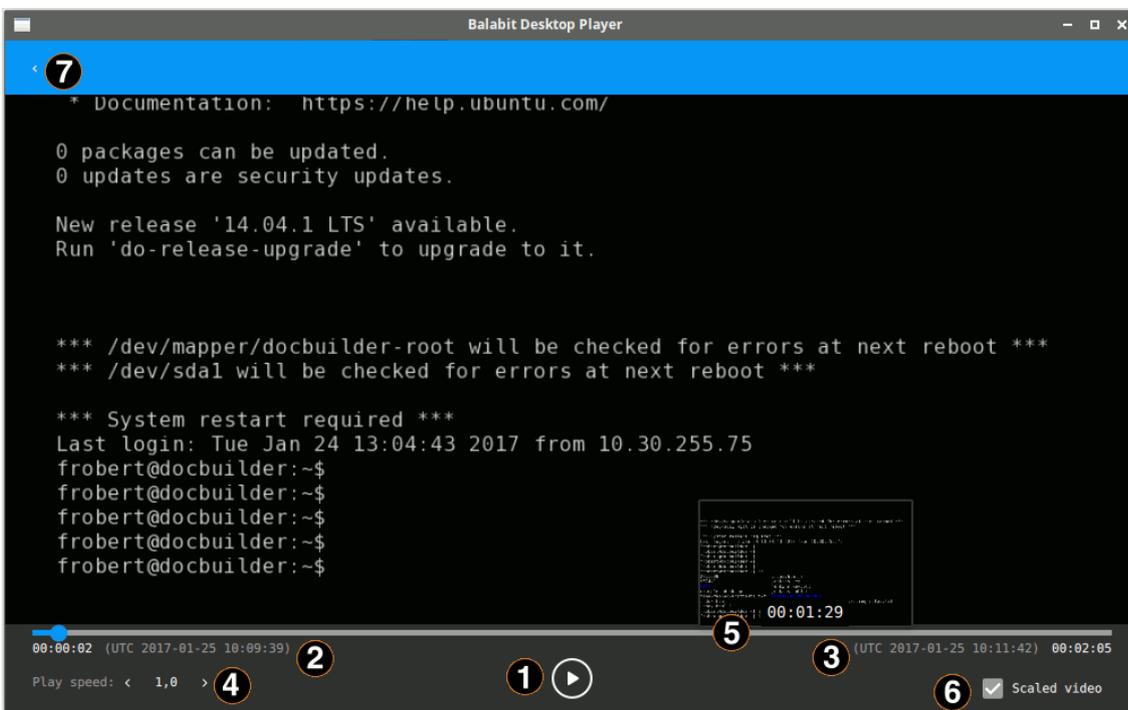
Getting started with the Balabit Desktop Player



- 1 **Play the audit trail.** Click the thumbnail at the top, on the left, or click in the **Channels** section of the screen. To play an encrypted audit trail, you need to have the appropriate certificates. For details, see *Procedure 6, Replay encrypted audit trails (p. 10)*.
- 2 **Audit trail data.** The most important data about the audit trail, including usernames (if available) and IP addresses. To display more metadata about a specific channel in the audit trail, click in the list of channels. These details include the parameters available on the SCB **Search** page (for details, see *Section 16.1, Searching audit trails — the SCB connection database in The Balabit Shell Control Box 5 LTS Administrator Guide*), and other parameters, for example, the size of the desktop or the terminal.
- 3 **Date of the recording.** Starting date and duration.
- 4 **Location of the audit trail file.** Click the path to open the folder in your file manager.
- 5 **Validation results.** When you open an audit trail, the Balabit Desktop Player checks if you can access both the upstream and downstream traffic from the audit trail (you must have access at least to the downstream traffic to replay the audit trail), and validates the digital signature and the timestamp. The

 icon means that the trail is not signed or timestamped. For details, see *Section 4, Validate audit trails (p. 8)*.

- 6 **Terminal encoding and font size.** When you are replaying terminal-based audit trails (for example, SSH or TELNET), you can set the character encoding and the font size of the displayed text. After changing the encoding or the font size, click **Re-render trail**.
- 7 **Replay only this channel.** Click .
- 8 **Export the audit trail into a video file.** The exported files use the WEBM format with the VP8 codec. For details, see *Procedure 7, Export the audit trail as video (p. 11)*.
- 9 **Warnings and errors.** Warnings and errors that occurred during opening and processing the audit trail file.
- 10 **Help.** Open the documentation in your browser.



- 1 **Play/pause replay.** Start or stop replaying the audit trail. You can also click the video to start or stop replaying.
- 2 **Current time and timestamp.** Time elapsed since the beginning of the audit trail, and the corresponding date.
- 3 **End time and timestamp.** Length of the audit trail and the date when the session ended.
- 4 **Change replay speed.**
- 5 **Seek preview.** Click the seekbar to jump to a specific location in the audit trail.
- 6 **Scale video.** When enabled, the replayed audit trail is resized to fit the window. Clear to show the original size. You can also double-click on the video to toggle resizing.
- 7 **Back to the summary page.** Open the summary page of the audit trail 



Planned features

In the upcoming releases of the Balabit Desktop Player we plan to include the following features (this list is subject to change without notice).

- Follow active connections: You will be able to watch the activities in the active sessions in semi-real time.

3. Data collection policy

You can help us improve the Balabit Desktop Player by agreeing to sharing information with us about how you use the product. This information helps us better understand what features of our product are used, which ones are important, and which ones are never used. It will also help us prioritize our efforts to further improve our products, and your experience using our products.

Your privacy

Your privacy is important to us. We collect only anonymous usage statistics. We do not collect any user identifiable data, nor do we share the collected data with third parties. All data collected will be used solely by Balabit-Europe and its affiliates directly involved in developing the Balabit Desktop Player.

Data we collect, or plan to collect

The Balabit Desktop Player application currently collects the following information:

- **Basic data about your environment:** operating system type and language

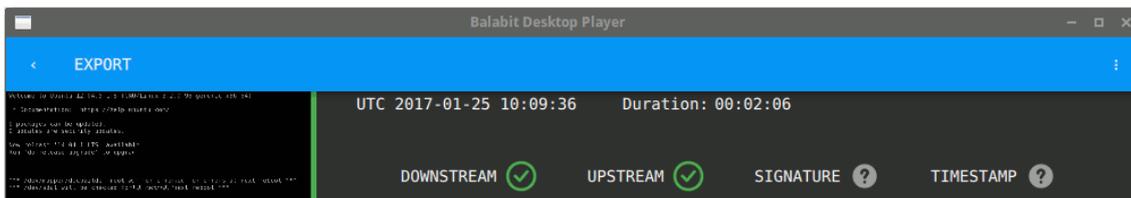
In future versions of the Balabit Desktop Player, we also plan to collect:

- **Feature usage data:** the features you enable and use, based on where you click on the interface
- **Type of data you use:** the length and protocol of the opened ZAT files, excluding any content or other metadata from the files themselves

We will notify you if we change the above list. If you want to stop sending usage statistics to us, all you have to do is reinstall the Balabit Desktop Player.

4. Validate audit trails

When you open an audit trail, the Balabit Desktop Player application automatically validates it. You can see the results of this validation above the session details.



- The right side of the audit trail thumbnail is green if the audit trail is valid.
- It is red if the timestamp or the signature is invalid, or the Balabit Desktop Player could not decrypt the downstream traffic.
- **DOWNSTREAM**
 - : The downstream traffic is available and can be replayed.
 - : The downstream traffic is encrypted and you do not have the decryption key. Click **Warnings** to see the fingerprint of the required certificate.
- **UPSTREAM**
 - : The upstream traffic is available and can be replayed.
 - : The upstream traffic is encrypted and you do not have the decryption key. Click **Warnings** to see the fingerprint of the required certificate.
- **SIGNATURE**
 - : The trail is signed and the signature is valid.
 - : The Balabit Desktop Player could not validate the signature. Click **Warnings** to see the fingerprint of the required certificate.
 - : The audit trail is not signed.
- **TIMESTAMP**
 - : The trail is timestamped and the timestamp is valid.
 - : The Balabit Desktop Player could not validate the timestamp.
 - : The audit trail is not timestamped.

5. Procedure – Replay audit trails

Purpose:

To replay an unencrypted audit trail, complete the following steps.

To replay an encrypted audit trail, see *Procedure 6, Replay encrypted audit trails (p. 10)*.

Prerequisites:

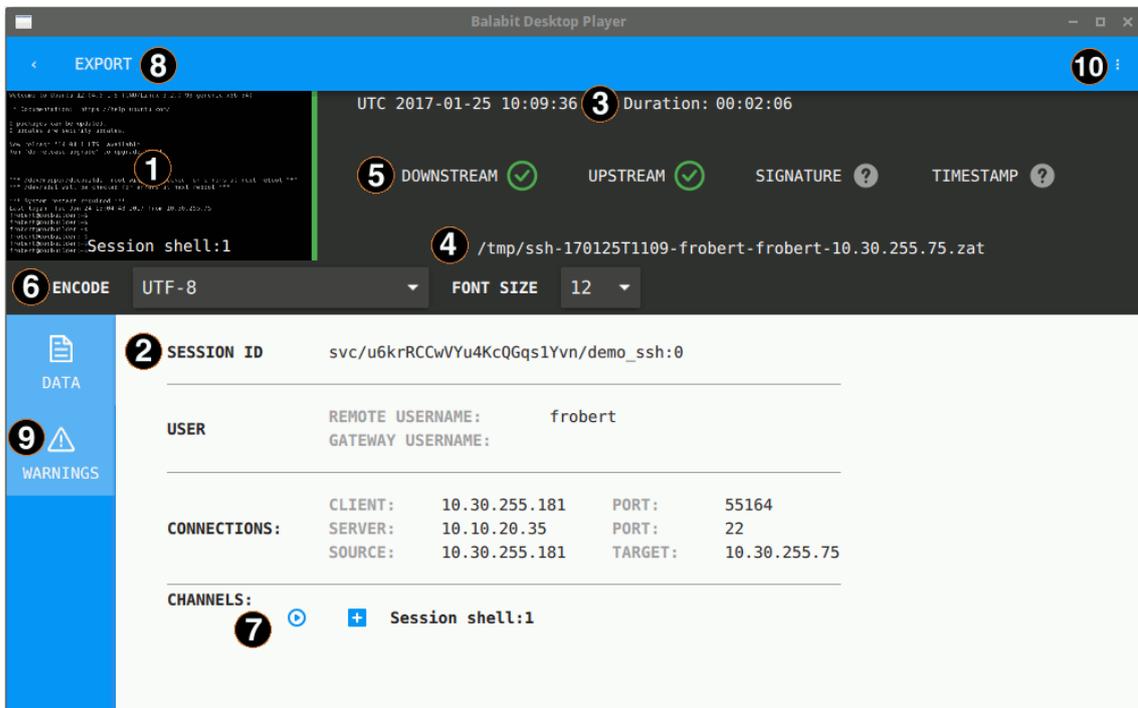
The audit trail must be available on the computer running the Balabit Desktop Player, or you must access it on the Shell Control Box search interface from a browser on the computer running the Balabit Desktop Player. For details on how to download an audit trail from the Shell Control Box, see *Procedure 17.2.1, Downloading audit trails from SCB* in *The Balabit Shell Control Box 5 LTS Administrator Guide*.

Steps:

Step 1. Open an audit trail to replay. Use one of the following methods:

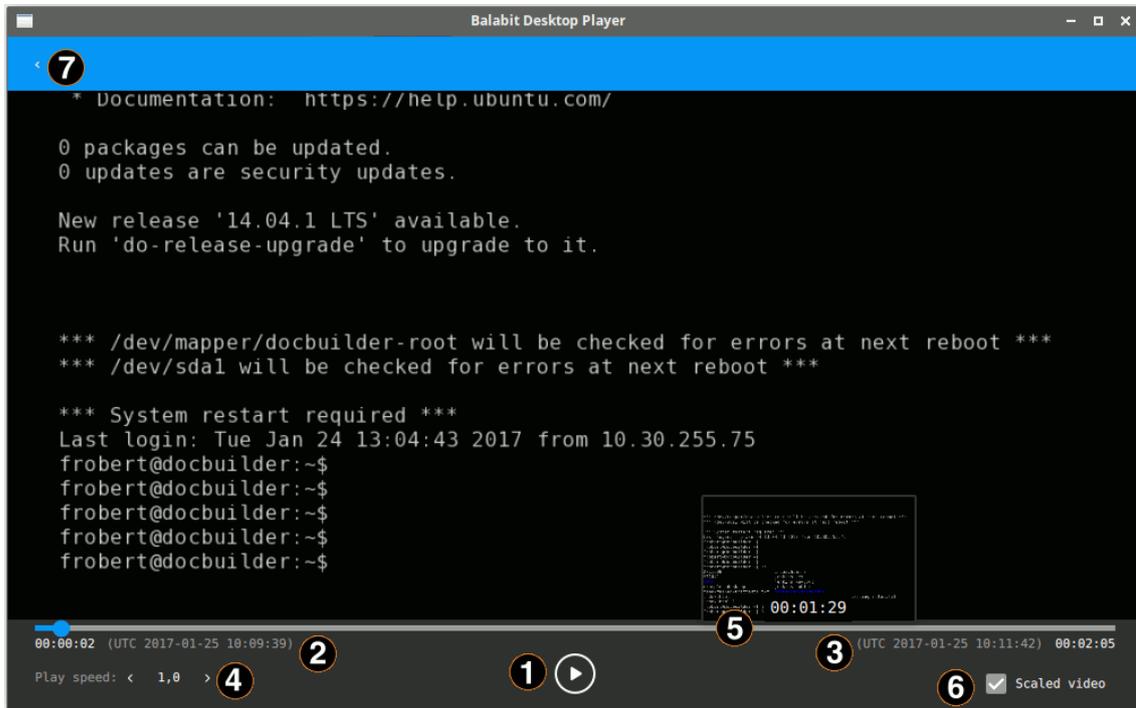
- Start the Balabit Desktop Player application from the menu or the command line, then click **OPEN**. Select the audit trail you want to replay.
- Navigate to the audit trail file in a file explorer (for example, Windows Explorer), and double-click on it.

Step 2. The Balabit Desktop Player application displays the details of the sessions stored in the audit trail file. It automatically starts to prepare (render) the audit trail for replay. You can start replaying the audit trail while rendering is in progress, this is especially useful for long audit trails.



To start playing the audit trail, click the thumbnail at the top, on the left. If the audit trail contains more than one channels that can be replayed, select the channel to replay. Alternatively, click the play icon next to the channel you want to replay.

Step 3. The replay window opens.



You can use the following hotkeys to control the replay:

- Play/Pause: **SPACE**
- Enable video scaling (**Scale video**): **Ctrl+Z**
- Toggle fullscreen replay: **f**
- Decrease replay speed: **[**
- Increase replay speed: **]**
- Reset replay speed: **=**
- Jump backward, short, medium, long: **Shift + Left Arrow**, **Alt + Left Arrow**, **Ctrl + Left Arrow**
- Jump forward, short, medium, long: **Shift + Right Arrow**, **Alt + Right Arrow**, **Ctrl + Right Arrow**

6. Procedure – Replay encrypted audit trails

Purpose:

To replay an encrypted audit trail, complete the following steps. Currently you can replay encrypted audit trails only using the command line.

Prerequisites:

- The private key of the certificate used to encrypt the audit trail must be available on the host running the Balabit Desktop Player.

- The certificate used to validate the audit trail must be available on the host running the Balabit Desktop Player.

The certificate and the private key must be available as a file in PEM format, other formats and the Windows Certificate Store are not supported.



Note

Certificates are used as a container and delivery mechanism. For encryption and decryption, only the keys are used.

Balabit recommends using 2048-bit RSA keys (or stronger).

Steps:

Step 1. Start a command prompt and navigate to the installation directory of Balabit Desktop Player. By default, it is C:\Documents and Settings\\Software\Balabit\Balabit Desktop Player\ on Microsoft Windows platforms, and ~/Balabit Desktop Player on Linux.

Step 2. ■ If the private key is password-protected, execute the following command:

```
player --key
<path\to\your\private-key.pem>:<password-to-the-private-key>
```

For example, if the private key file is C:\temp\my-key.pem and its password is secret, the command is `player --key C:\temp\my-key.pem:secret`

Otherwise, use the following command:

```
player --key <path\to\your\private-key.pem>
```

- If the audit trail is timestamped or signed, you must have the proper certificate to validate the audit trail. Include the path to the certificate in the command line when starting the Balabit Desktop Player:

```
player --cert <path\to\the\certificate.pem> --key
<path\to\your\private-key.pem>:<password-to-the-private-key>
```

Step 3. Open the encrypted audit trail. The Balabit Desktop Player will attempt to decrypt it with the private key you provided. If decryption is successful, you can replay the audit trail.

7. Procedure – Export the audit trail as video

Purpose:

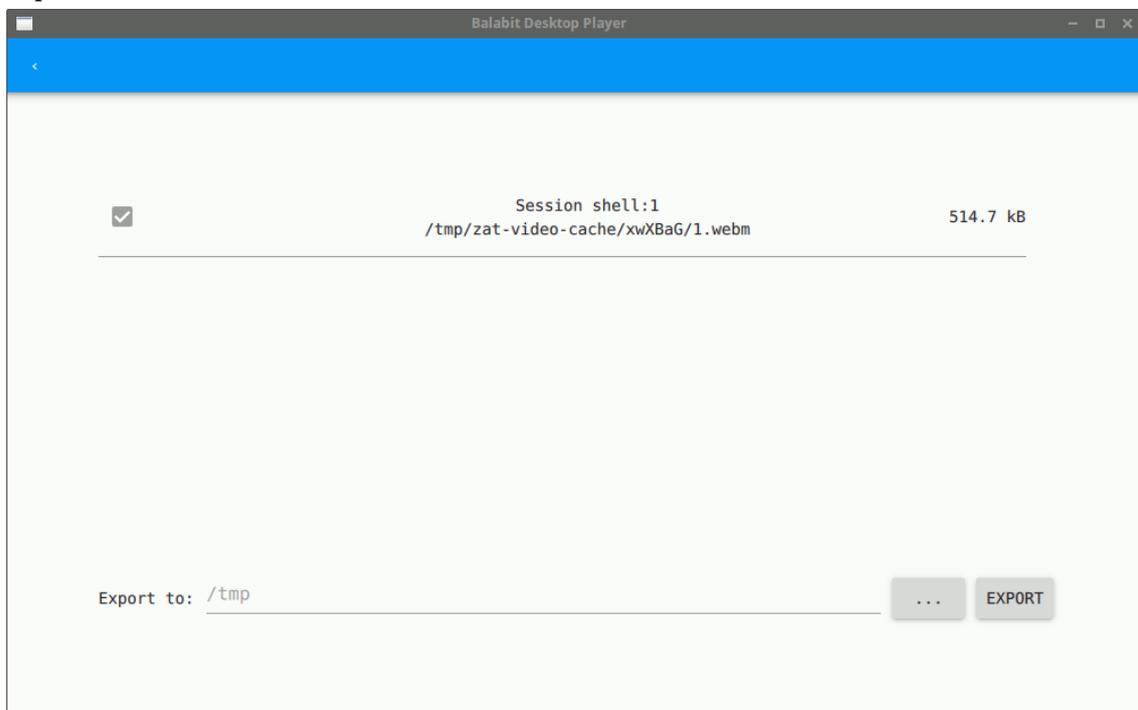
To export an audit trail as a video file, complete the following steps. Note that you must open the audit trail in order to export it. Currently you can open encrypted audit trails only using the command line.

Prerequisites:

The exported files use the WEBM format with the VP8 codec. You can replay WebM videos in most modern browsers, and several media player applications. For details, see the [Playing WebM Video](#) page. Note that for Internet Explorer, you must install an add-on.

Steps:

- Step 1. Open the audit trail in the Balabit Desktop Player application.
If the audit trail is encrypted, you need the appropriate decryption keys to open it. For details, see *Procedure 6, Replay encrypted audit trails (p. 10)*.
- Step 2. Click **EXPORT** > **Export video**.
- Step 3. If the audit trail contains multiple channels that can be replayed, select which channels you want to export.



- Step 4. Click , and select the directory where you want to save the video file.
- Step 5. Click **EXPORT**.

8. Procedure – Export transferred files from SCP, SFTP, and HTTP audit trail

Purpose:

To export the files that the user transferred in an SCP or SFTP session, complete the following steps. Currently you can export such files from the audit trails only using the command line.

Steps:

Step 1. Start a command prompt and navigate to the installation directory of Balabit Desktop Player. By default, it is C:\Documents and Settings\\Software\Balabit\Balabit Desktop Player\ on Microsoft Windows platforms, and ~/Balabit Desktop Player on Linux.

Step 2. List the channels in the audit trail, and find the one you want to extract files from. Note down the ID number of this channel as it will be required later on (it is 3 in the following example).

Windows: `adp.exe --task channel-info --file <path/to/audit-trail.zat>`

Linux: `./adp --task channel-info --file <path/to/audit-trail.zat>`

If the audit trail is encrypted, use the `--key <keyfile.pem:passphrase>` option. Repeat the option if the audit trail is encrypted with multiple keys. Include the colon (:) character even if the key is not password-protected. Example output:

```
Channel information : ssh-session-exec-scp:3
```

Step 3. Export the files from the audit trail. Use the ID number of the channel from the previous step.

Windows: `adp.exe --task channel-info --file <path\to\audit-trail.zat> --export-files <folder\to\save\files\>`

Linux: `./adp --task channel-info --file <path/to/audit-trail.zat> --export-files <folder/to/save/files/>`

If the audit trail is encrypted, use the `--key <keyfile.pem:passphrase>` option. Repeat the option if the audit trail is encrypted with multiple keys. Include the colon (:) character even if the key is not password-protected.

Step 4. Check the output directory for the exported files.

9. Troubleshooting the Balabit Desktop Player

Determine your Balabit Desktop Player version

To find out which version of the Balabit Desktop Player application you are using, complete one of the following.

- Start the Balabit Desktop Player application, and on the opening screen, click  > **About**. This displays the version number of Balabit Desktop Player and also the underlying adp application.
- Execute the following commands from the command line in the directory where Balabit Desktop Player is installed:
Windows: `adp.exe --version & player.exe --version`
Linux: `./adp --version; ./player --version`

.zat files are not opened automatically

On Linux, if you are not using a Desktop Manager (for example, GNOME, KDE, Unity), and you are installing the Balabit Desktop Player with user privileges, registering the `.zat` files to the Balabit Desktop Player might fail. To solve this problem, perform a system-wide installation (run the installer with `sudo`).

Problems in VirtualBox

If fonts are not displayed correctly, or the Balabit Desktop Player application crashes when started in VirtualBox, ensure that you have 3D acceleration enabled (Machine > Settings > Display > Screen > Enable 3D Acceleration), and install VirtualBox Guest Additions.

If these do not solve the problem, see *Section Force software rendering (p. 14)*.

Force software rendering

Some video card drivers might have issues with OpenGL rendering: fonts do not appear correctly, or the Balabit Desktop Player application crashes when started with warnings about the graphics card. If this happens, Balabit Desktop Player tries to fall back to software rendering, but it might fail to do so.

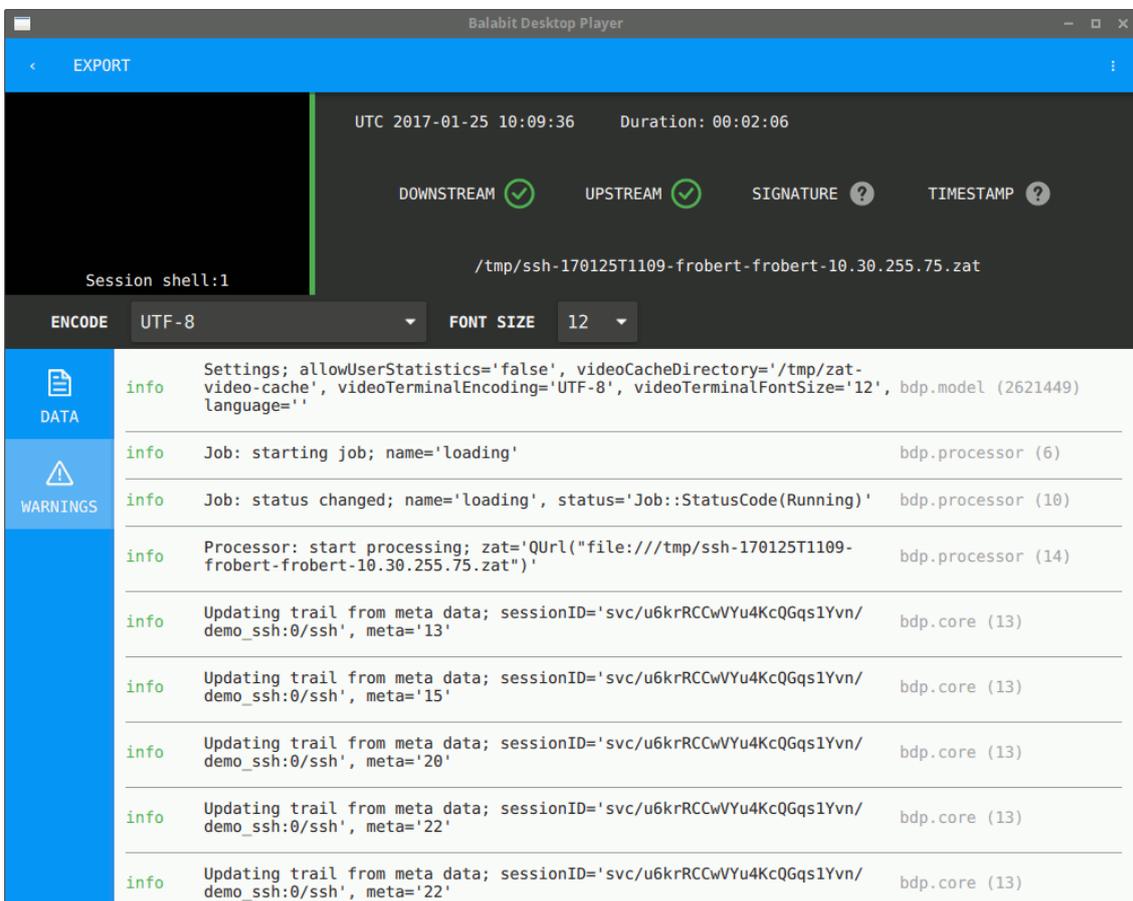
To force software rendering, start the Balabit Desktop Player using the **Balabit Desktop Player - software rendering** item in your application menu, or with the `--software` command-line option:

- **Windows:** `player.exe --software`
- **Linux:** `./player --software`

Logging

The Balabit Desktop Player application displays important log messages on the **Warnings** tab. If you increase the log level of the application above the default, additional log messages are also displayed.

Figure 1. Warnings and logs



You can use the following command-line parameters to specify the log level of the Balabit Desktop Player application.

- l or --log-level <number> Set the log level of Balabit Desktop Player. The default is 3, 0 completely disables logging, 7 is the most verbose, used for debugging. For example:
Windows: `player.exe --log-level 5`
Linux: `./player --log-level 5`

- o or --log-output <path-to-logfile> Specify the path and filename of the log file. For example:
Windows: `player.exe --log-output desktop-player.log`
Linux: `./player --log-output /tmp/desktop-player.log`

- s or --log-spec <log-spec> Specify different log levels for certain components of Balabit Desktop Player. For example:

```
Windows: player.exe --log-level 3 --log-spec  
"bdp.core:5"
```

```
Linux: ./player --log-level 3 --log-spec  
"bdp.core:5"
```

Appendix A. Install Balabit Desktop Player

A.1. System requirements

The Balabit Desktop Player application supports the following platforms:

- **Microsoft Windows:** 64-bit version of Windows 7 or newer. Install the appropriate driver for your graphic card.
- **Linux:** RHEL 6, CentOS 6, or newer. The Balabit Desktop Player application will probably run on other distributions as well that have at least libc6 version 2.12 installed.

Installing the Balabit Desktop Player application requires about 120MB disk space, and a temporarily used disk space to store the audit trails that are replayed. The size of the temporary files depends on the size of the replayed audit trails.

You can install the Balabit Desktop Player application with user privileges.

A.2. Procedure – Install Balabit Desktop Player on Windows

Purpose:

To install the Balabit Desktop Player application, complete the following steps.

Prerequisites:

- You must have a valid *MyBalabit* account with access to Shell Control Box downloads.
- **Microsoft Windows:** 64-bit version of Windows 7 or newer. Install the appropriate driver for your graphic card.
For details, see *Section A.1, System requirements (p. 16)*.
- If you already have an earlier version of the Balabit Desktop Player application installed on the host, uninstall the previous installation. If you want to keep the previous installation for some reason, install the new version into a different directory.

Steps:

Step 1. Download the Balabit Desktop Player application for Windows from *the Balabit website*.

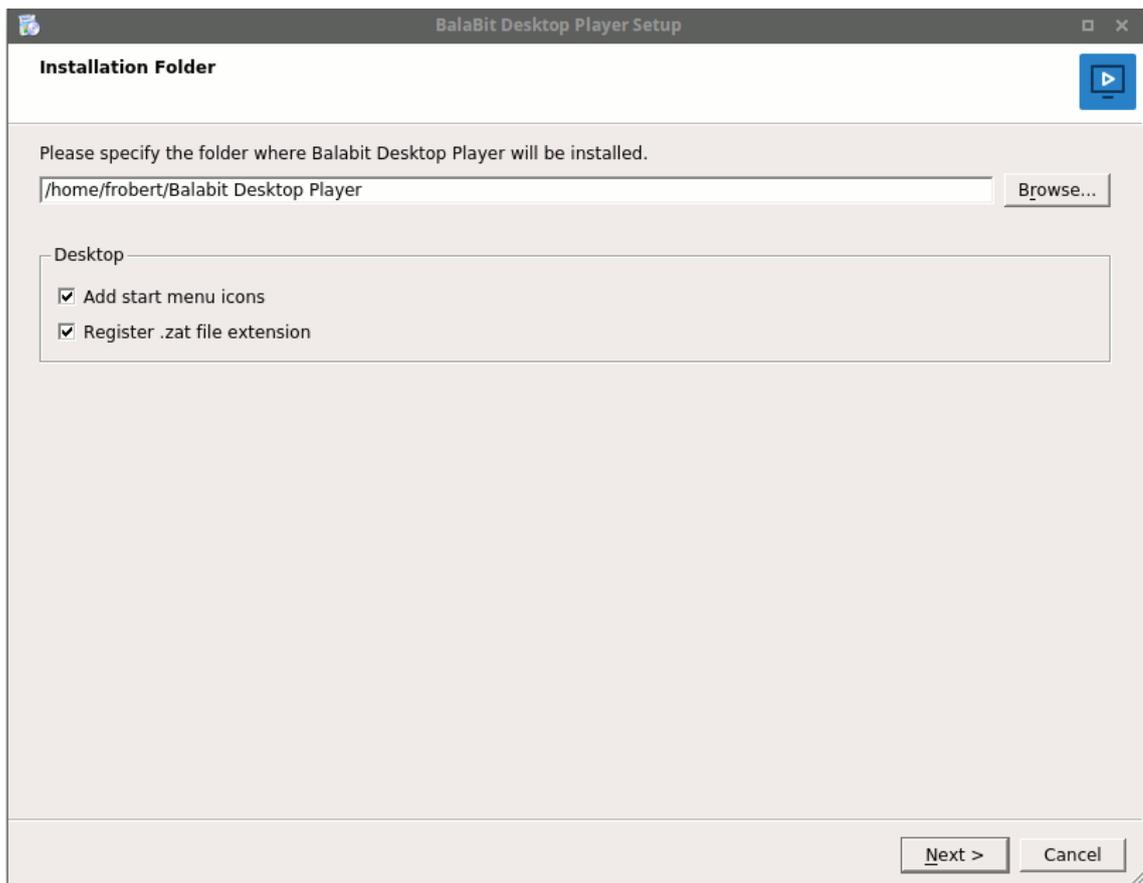
- Step 2.
- **Install for the current user:** Navigate to the download directory and start the downloaded file.
 - **Install for every user (system-wide installation):** Open a command prompt, and navigate to the download directory. Then start the downloaded file with the `AllUsers=true`

parameter. For example: `desktop_player_installer.1.0.28.release.exe AllUsers=true`

The installation wizard opens. Click **Next**.

Step 3.

Figure A.1. Select the installation folder



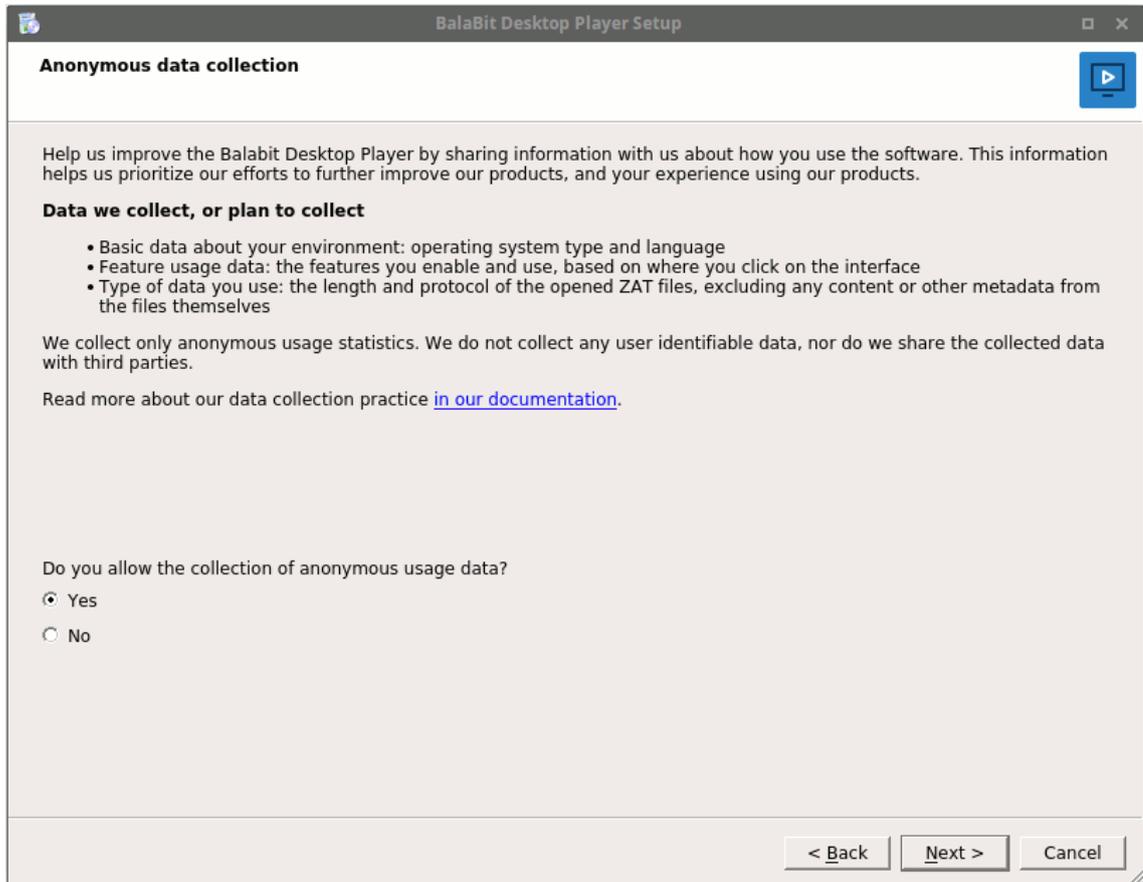
Select the installation folder for the Balabit Desktop Player application, then click **Next**.

The default installation folder is `C:\Program Files\Balabit Desktop Player` on Microsoft Windows, and `~/Balabit Desktop Player` on Linux.

Click **Next**.

Step 4.

Figure A.2. Enable anonymous data collection



- Select **Yes** to enable anonymous data collection and help us improve your experience with the Balabit Desktop Player application, then click **Next**.
- Otherwise, select **No**, then click **Next**.

For details about our data collections policy, see *Section 3, Data collection policy (p. 7)*.

Step 5. Read the end-user license agreement of Balabit Desktop Player, select **I accept the license**, then click **Next**. You can also find the end-user license agreement at *Appendix E, END USER LICENSE AGREEMENT FOR BALABIT PRODUCT (EULA)* in *The Balabit Shell Control Box 5 LTS Administrator Guide*.

Step 6. Click **Install** to install the Balabit Desktop Player application, then **Finish** when the installation is complete.

A.3. Procedure – Install Balabit Desktop Player on Linux

Purpose:

To install the Balabit Desktop Player application, complete the following steps.

Prerequisites:



- You must have a valid *MyBalabit* account with access to Shell Control Box downloads.
- **Linux:** RHEL 6, CentOS 6, or newer. The Balabit Desktop Player application will probably run on other distributions as well that have at least libc6 version 2.12 installed. For details, see *Section A.1, System requirements (p. 16)*.
- If you already have an earlier version of the Balabit Desktop Player application installed on the host, uninstall the previous installation. If you want to keep the previous installation for some reason, install the new version into a different directory.

Steps:

Step 1. Download the Balabit Desktop Player application for Linux from *the Balabit website*.

Step 2. Open a terminal, and navigate to the download directory.

Step 3. Start the downloaded file.

- **Install for every user (system-wide installation):** System-wide installation requires root privileges. To install Balabit Desktop Player for every user on the host, issue the following commands:

```
chmod +x ./desktop_player_installer.1.0.17.release.run; sudo  
./desktop_player_installer.1.0.17.release.run
```

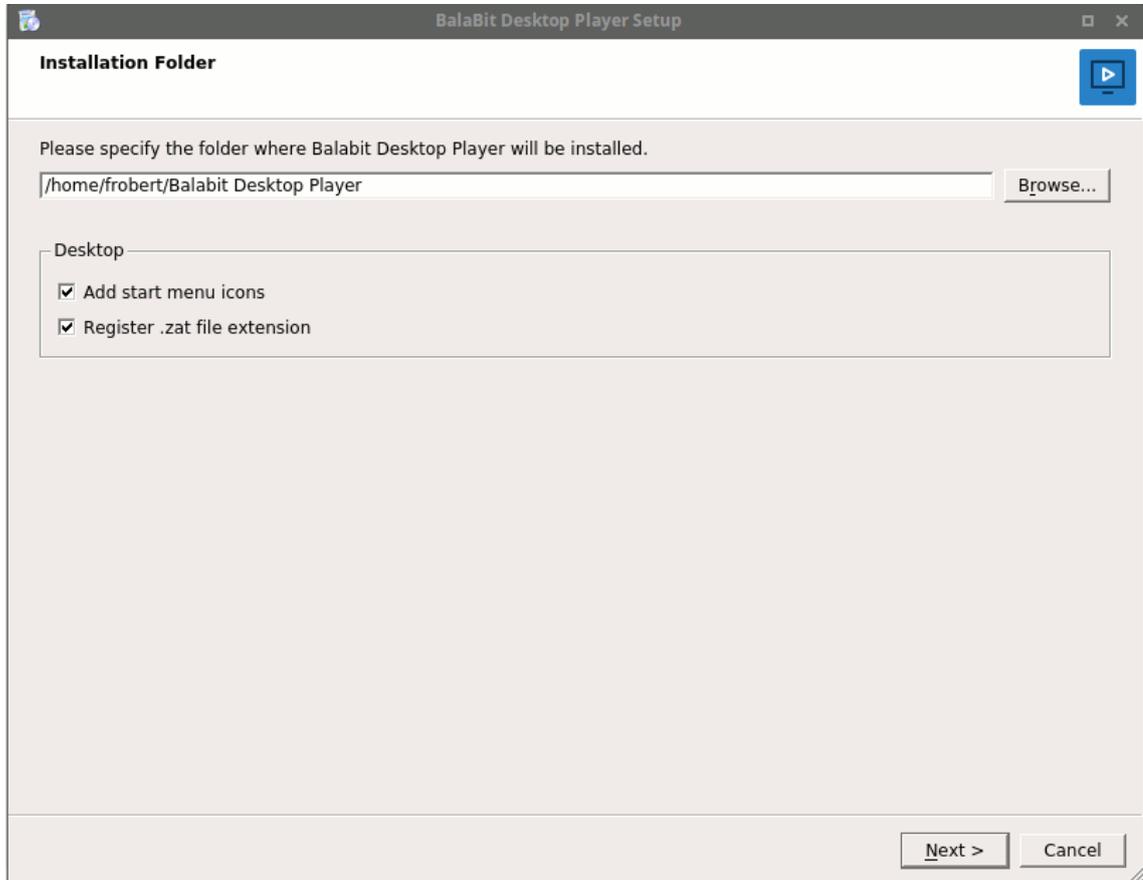
- **Install for the current user:** You can install the Balabit Desktop Player application with user privileges. To install Balabit Desktop Player for the current user on the host, issue the following commands:

```
chmod +x ./desktop_player_installer.1.0.17.release.run;  
./desktop_player_installer.1.0.17.release.run
```

The installation wizard opens. Click **Next**.

Step 4.

Figure A.3. Select the installation folder



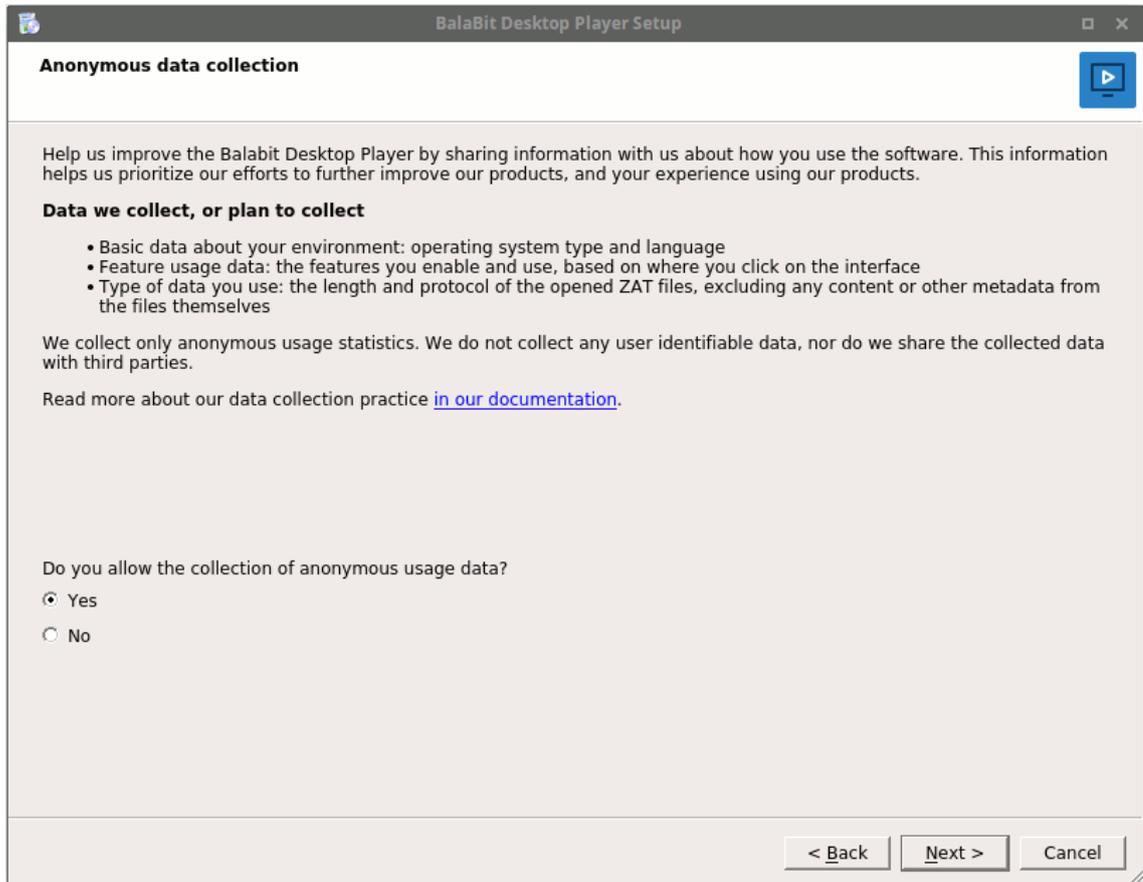
Select the installation folder for the Balabit Desktop Player application, then click **Next**.

The default installation folder is C:\Program Files\Balabit Desktop Player on Microsoft Windows, and ~/Balabit Desktop Player on Linux.

Click **Next**.

Step 5.

Figure A.4. Enable anonymous data collection



- Select **Yes** to enable anonymous data collection and help us improve your experience with the Balabit Desktop Player application, then click **Next**.
- Otherwise, select **No**, then click **Next**.

For details about our data collections policy, see *Section 3, Data collection policy (p. 7)*.

Step 6. Read the end-user license agreement of Balabit Desktop Player, select **I accept the license**, then click **Next**. You can also find the end-user license agreement at *Appendix E, END USER LICENSE AGREEMENT FOR BALABIT PRODUCT (EULA)* in *The Balabit Shell Control Box 5 LTS Administrator Guide*.

Step 7. Click **Install** to install the Balabit Desktop Player application, then **Finish** when the installation is complete.

Appendix B. Keyboard shortcuts

You can use the following hotkeys to control the replay.

- Play/Pause: **SPACE**
- Enable video scaling (**Scale video**): **Ctrl+Z**



- Toggle fullscreen replay: **f**
- Decrease replay speed: **[**
- Increase replay speed: **]**
- Reset replay speed: **=**
- Jump backward, short, medium, long: **Shift + Left Arrow, Alt + Left Arrow, Ctrl + Left Arrow**
- Jump forward, short, medium, long: **Shift + Right Arrow, Alt + Right Arrow, Ctrl + Right Arrow**