

# **BRAVIA Signage**

## **Startup Guide**

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# Introduction

## Package

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The followings are included in the supplied package:

extapp_installer.pkg		BRAVIA Signage Player Installer
manual	BRAVIASignage_TrialGuide_en.pdf	Trial user guide (en)
	BRAVIASignage_TrialGuide_ja.pdf	Trial user guide (ja)
	BRAVIASignage_StartupGuide_en.pdf	User Guide for first time use (en)
	BRAVIASignage_StartupGuide_ja.pdf	User Guide for first time use (ja)
	BRAVIASignage_UserGuide_en.pdf	User Guide (en)
	BRAVIASignage_UserGuide_ja.pdf	User Guide (ja)
	BRAVIASignage_UserGuide_Advance_en.pdf	User Guide for advanced use (en)
	BRAVIASignage_UserGuide_Advance_ja.pdf	User Guide for advanced use (ja)
	config.txt	sample of config.txt
	sitemap.xml	sample of sitemap.xml
	BRAVIASignageLauncher folder	Installer of application to start and stop BRAVIA Signage Player. Note that Software Product Updater that is other free application does not support to update with this installer.
NOTICE.txt		Includes the partial copyright and license of open source software used by BRAVIA Signage.
README.txt		Includes information on the package structure.
windows		Includes setup files for BRAVIA Signage

# 1. What is BRAVIA Signage

BRAVIA Signage is an application to deliver video and images to displays and manage the information via network. The feature and support media formats are as follows:

- **Display Management**  
You can manage the information and status (online, offline, etc.) of displays connected with the Network, and make groups to manage displays.
- **Power Schedule Management**  
You can register and manage the display power schedule by specifying the date, day of the weeks, and time.
- **Playlist**  
You can manage playlists with content URLs and content on the contents library. Supports video, still images, HTML content. You can preview the content of playlists and download content to displays before playing them back on displays.
- **Schedule Delivery Management**  
You can manage the content delivery schedule by specifying the date, day of the week, and time.
- **Interrupt Delivery**  
Supports not only schedule delivery, but also interrupt delivery to deliver content during emergencies and irregular intervals.
- **Contents Library**  
You can upload and manage content if the web server runs on the same server that BRAVIA Signage Server runs on.
- **Contents Creation**  
You can create contents by specifying the layout and materials. Supports video and still images, HTML, and external input of display as material types.
- **Event Log**  
Monitor event logs, display state transitions, content playback results, etc.
- **Settings**  
Configure the settings of these features. You can also configure the mail report and schedule reboot.

- **Video**

Content	File format	Video codec	Audio codec
Video	MP4	AVC	AAC-LC/HE-AAC
	MPEG TS	AVC/MPEG2	AAC-LC/HE-AAC/MP1L2
4K Video (*1)	MP4	AVC/HEVC	AAC-LC/HE-AAC

(\*1) Available only on a BRAVIA 4K model. The maximum frame rate is 3840x2160@60p.

Video codec	Specification
MPEG4 part10 (AVC/H.264)	BP@L3, MP@L4, HP@L4, 3D in top-and-bottom, side-by-side is supported
MPEG4 part10 (4K) (*1)	BP@L4.2, MP@L4.2, HP@L4.2, 3D is not supported
HEVC (4K) (*1)	MP@L5.1, M10@L5.1, 3D is not supported
AAC-LC	32k, 44.1k, 48k / 384kbps(max) / up to 5.1ch
HE-AAC	32k, 44.1k, 48k / (ISO/IEC 14496-3 compliant / profile level3) / up to 2ch

(\*1) Available only on a BRAVIA 4K model. The maximum frame rate is 3840x2160@60p.

- **Photo**

Content	File format
Still image	PNG, GIF, JPEG, BMP
4K Still image (*2)	JPEG

(\*2) Available only on a BRAVIA 4K model.

- **Language**

The web application on BRAVIA Signage Server supports English, Japanese, and Chinese. Other languages are not supported and are displayed in English. (Depends on the server and browser settings.)

## 2. Requirements

To use BRAVIA Signage, you need displays and server that runs an application that manages the display and a client PC to operate the application. The following are needed to meet the requirements:

- Security Measures

Implement appropriate security measures when using this software. Refer to [Appendix 1](#) for details.

- BRAVIA

BRAVIAs which support professional mode.

- Server

### Synology NAS

OS	DSM 7.1 DSM 7.2
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### Windows

OS	Windows 11 Pro/Enterprise (64bit) Windows 10 Pro/Enterprise (64bit) Windows Server 2022 Windows Server 2019
CPU	Intel Core i5 and over, or processor with equivalent specifications.
Memory	4GB (Recommend: 8GB and over)
Hard Disk	400MB and over necessary
Network	100 BASE-TX and over (recommended)

- Client PC

Client PC requirements:

Browser	Google Chrome (recommend) or Internet Explorer 11
Monitor	Resolution 1280×1024 and over, 1920×1080 (recommended)

# 3. Preparation

To use BRAVIA Signage, the following hardware and software must be prepared.

- **BRAVIA**

<b>BRAVIA</b>	Refer to " <b>2.Requirements</b> "	Required
<b>USB storage device</b>	USB storage device(FAT32, NTFS format). Install BRAVIA Signage to display and configure.	Required
	1 USB storage device (FAT32 or NTFS format) per display is necessary if using content download where the capacity depends on the total size of download content.	Optional
<b>BRAVIA Signage Player Installer</b>	"extapp_installer.pkg" is included in the package. Install to display to connect and run with BRAVIA Signage Server.	Required

- **Server**

<b>PC</b>	Refer to " <b>2.Requirements</b> "	Required
<b>BRAVIA Signage Server setup files</b>	BRAVIA Signage Server is software that delivers the content to display and manages the information. To setup this software, use the setup files in the "windows" folder included in the package. * The server version must be the same or higher than the player version. (Combining different versions is possible since version 1.7.4.)	Required

- **Client PC**

<b>PC</b>	Refer to " <b>2.Requirements</b> "	Required
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- **Others**

<b>Contents Server</b>	This is a general web server and 3rd party cloud service. You need to prepare this in accordance with the scale of the display you will manage and use.	Optional
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## 4. BRAVIA Signage Setup

This section describes the setup of server and BRAIVA. The procedure is as follows:

- [A] Server Setup (Setup for BRAVIA Signage Server)
- [B] Display Setup (Setup for BRAVIA Signage Player)
  - [1] Display settings (Required)
  - [2] Pre-shared key settings (Optional)
  - [3] Installation of BRAVIA Signage Player (Required)
  - [4] BRAVIA Signage Player setup and start up (Required)

It should be noted that only “Required” procedures are described in this section. Refer to “BRAVIA Signage User Guide” concerning “Optional” procedures.

In addition, BRAVIA Signage Server and BRAVIA Signage Player check their versions against each other at connection in order to run properly. Connection is allowed only in the following cases.

		Server	
		Less than 1.7.3	1.7.4 or higher
Player	Less than 1.7.3	Same version only	Not connectable
	1.7.4 or higher	Not connectable	Only if Server version is higher



## 4.1. Server Setup (BRAVIA Signage Server)

---

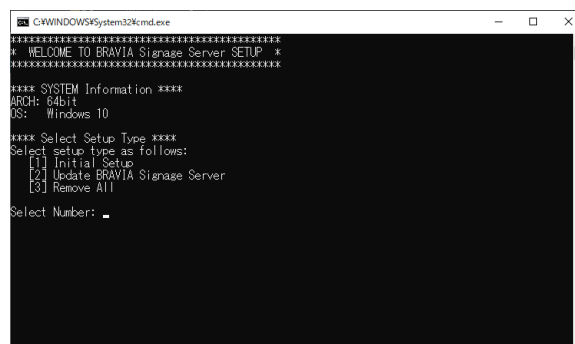
MongoDB is used as the database software for BRAVIA Signage versions 1.8.4 and earlier, and PostgreSQL is used for versions 2.0.0 and later. In addition, Apache is used as the web server for the “Contents Library” feature. This section includes the setup procedures for these applications.

### Windows

[1] Copy the “windows” folder in a package on any directory in your Server.

[2] Right-click on the setup file (\*1) included in the copied Windows folder, and select [Run as administrator] to display the following screen.

(\*1) To set up BRAVIA Signage Server version 1.8.4 or earlier, run “setup.bat”. To set up BRAVIA Signage Server version 2.0.0 or later, run “setup.exe”.



```
C:\WINDOWS\system32\cmd.exe
*****
* WELCOME TO BRAVIA Signage Server SETUP *
*****
**** SYSTEM Information ****
ARCH: 64bit
OS: Windows 10

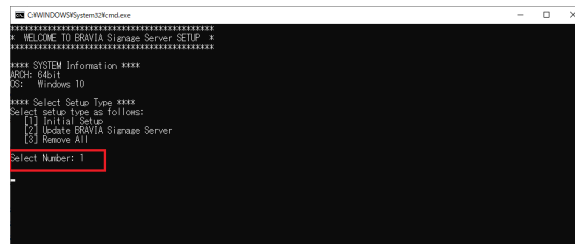
**** Select Setup Type ****
Select setup type as follows:
[1] Initial Setup
[2] Update BRAVIA Signage Server
[3] Remove All

Select Number: _
```

If the directory pass “windows”, copied in procedure [1] above, includes half width characters such as ‘@#\$\$%^&()\_+~-=`{ }[]’, then the above screen will not be displayed depending on the combination of these characters. If the screen is not displayed, please confirm the directory path name.

[3] Input “1” and push the “ENTER” key in this window as following

diagram, and then the setup starts.

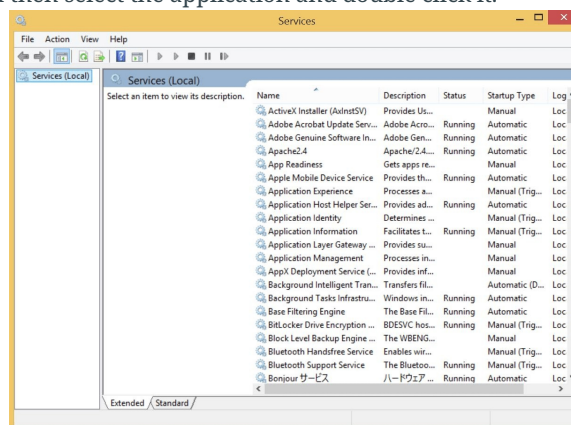


BRAVIA Signage uses port numbers 80 and 8080. If [ERROR] appears as in the following diagram, this indicates that these port numbers are being used by other applications. To set up and use BRAVIA Signage, you must stop these applications from using ports 80 and 8080. Stop them in accordance with the following procedure steps a to c.

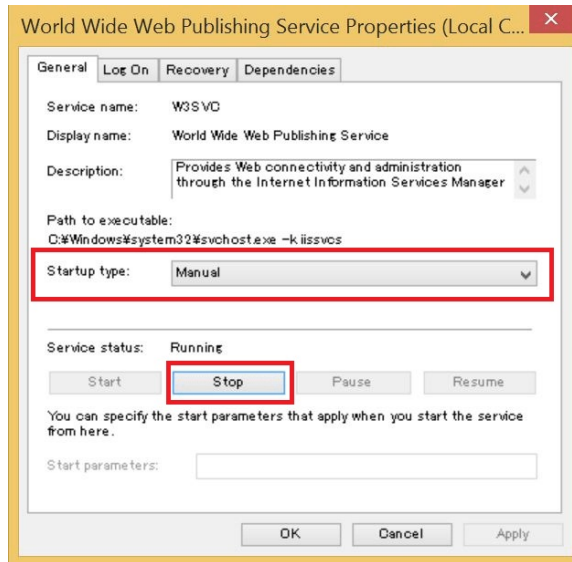
- a. A file named “appport\_list.txt” is output in the Windows folder. Open this file and search for the application names using local ports 80 and 8080. Note that there may be multiple applications, and you will need to perform steps b and c below for all of the relevant ones.



- b. The [Services] window is automatically opened. In this window, find the applications that are the same as the ones you found in step a, and then select the application and double click it.



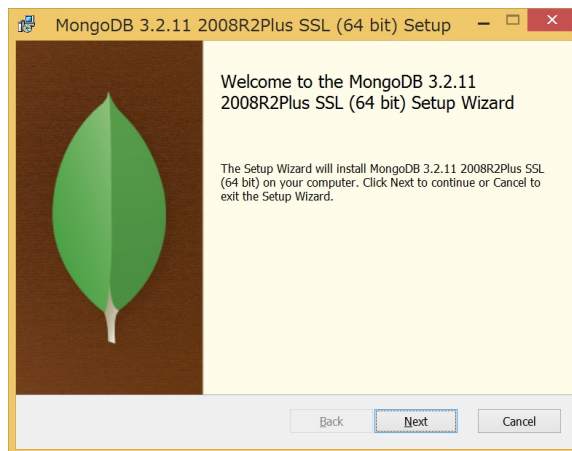
- c. The following window is opened. Select “Manual” or “Disabled” as [Startup type] and push the [Stop] button to stop the application. Finally, push the [OK] button. This procedure shows the window of the “World Wide Web Publishing Service” application.



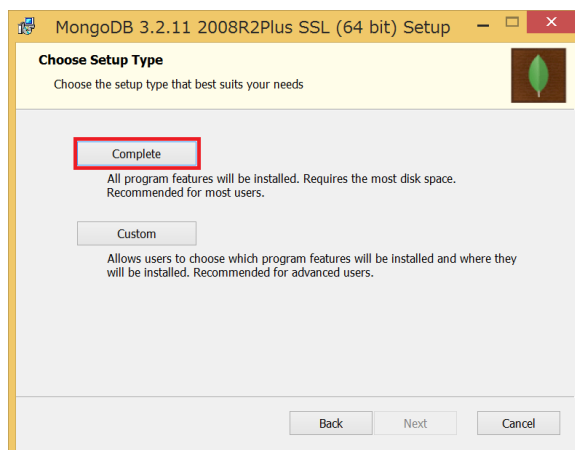
[4] Install the database software.

**( For BRAVIA Signage Server version 1.8.4 or earlier )**

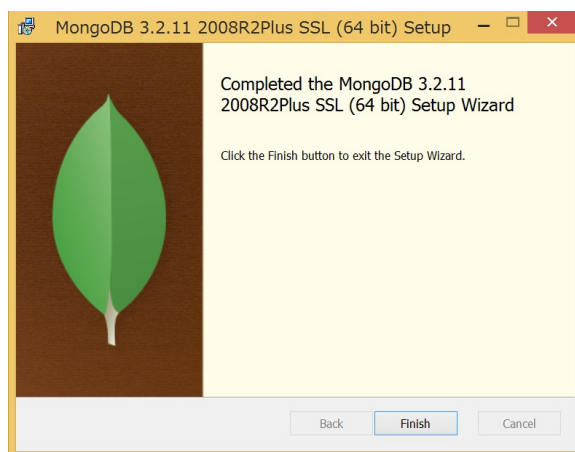
The installation screen appears as shown below. Follow the instructions on the screen to proceed with the installation.



The following screen is displayed during the installation of MongoDB. Select [Complete] to proceed with the installation.

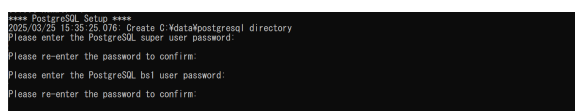


When the installation is complete, the following window is displayed. Push the [Finish] button to close and end the installation of MongoDB.

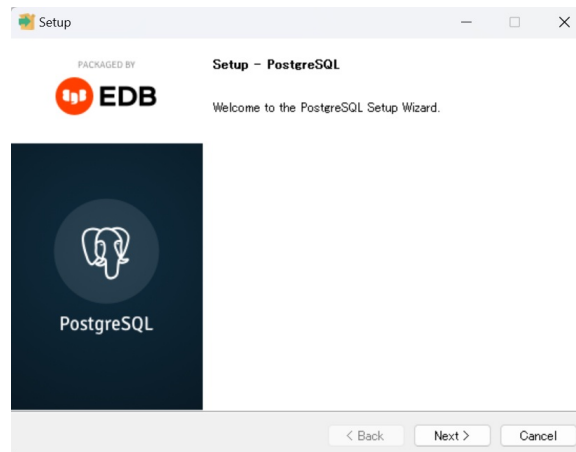


### ( For BRAVIA Signage Server 2.0.0 )

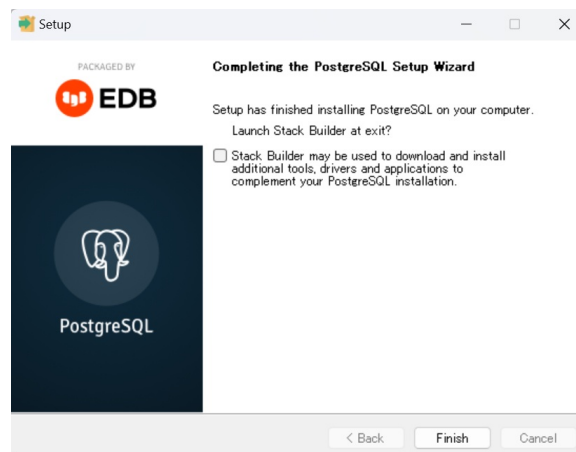
Specify the passwords for the PostgreSQL superuser and BRAVIA Signage user. (The passwords should be a string of at least 8 characters, including both letters and numbers.)



The installation screen appears as shown below. Follow the instructions on the screen to proceed with the installation.



The following screen is displayed when the installation is complete. Click the [Finish] button to complete the installation process.



[5] After the installation of the database software is complete, the following setup procedure will be performed automatically.

### ( For BRAVIA Signage Server version 1.8.4 or earlier )

- MongoDB configuration
- Apache setup

The following messages concerning setup are displayed:

```

C:\WINDOWS\system32\cmd.exe
*****
WELCOME TO BRAVIA Signage Server SETUP
*****

**** SYSTEM Information ****
ARCH: x86
OS: Windows 10

**** Select Setup Type ****
Select setup type as follows:
  [1] Initial Setup
  [2] Update BRAVIA Signage Server
  [3] Remove All

Select Number: 1

**** MongoDB Setup ****
2023/03/15 0:45:16.17: Start to install MongoDB
2023/03/15 0:45:16.18: Installing...
2023/03/15 0:45:46.88: Complete to install

2023/03/15 0:46:05.38: Create "C:\data\mongo" and "C:\data\log" directory
2023/03/15 0:46:05.41: Create mongod.cfg: "C:\Program Files\MongoDB\Server\3.2\bin\mongod.cfg"
2023/03/15 0:46:05.43: Register MongoDB service
2023/03/15 0:46:05.46: [CONTROL] Existing log file "C:\data\log\mongod.log" exists; moved to "C:\data\log\mongod.log.bak"
2023/03/15 0:46:05.48: It takes a time to register MongoDB service. Please just a minute:
0 秒待っています。終了するには CTRL+C を押してください ...
2023/03/15 0:46:16.22: Start Mongo DB service
MongoDB サービスを開始します。
MongoDB サービスは正常に開始されました。

**** Apache HTTP Server Setup ****
2023/03/15 0:46:17.58: Start to install Microsoft VC++ 2017 Redistributable Package
2023/03/15 0:46:17.59: Installing...
2023/03/15 0:46:18.62: Complete to install

2023/03/15 0:46:18.64: Start to install Apache2.4
2023/03/15 0:46:18.64: Installing...
64 MBのファイルのコピーが完了しました。
Installing the "Apache2.4" service
The "Apache2.4" service is successfully installed.
Testing httpd.conf...
Error reported here must be corrected before the service can be started.
2023/03/15 0:46:25.29: It takes a time to register Apache HTTP Server service. Please just a minute:
0 秒待っています。終了するには CTRL+C を押してください ...
2023/03/15 0:46:35.15: Start Apache HTTP Server
2023/03/15 0:46:43.42: Add rule name and allow port of Apache HTTP Server:
OK

**** BRAVIA Signage Server Setup ****
Do you want to disable authentication for BRAVIA Signage ? [Y=Yes / N=No(Default)]:

```

## ( For BRAVIA Signage Server 2.0.0 )

- Apache setup

The following messages concerning setup are displayed:

```

C:\Users\0000143014\Desktop\Bst\Setup.exe
*****
WELCOME TO BRAVIA Signage Server SETUP
*****

**** SYSTEM Information ****
ARCH: x86
OS: Windows 10

**** Select Setup Type ****
Select setup type as follows:
  [1] Initial Setup
  [2] Update BRAVIA Signage Server
  [3] Remove All

Select Number: 1

**** PostgreSQL Setup ****
2025/03/25 15:35:29.976: Create C:\data\postgresql directory
Please enter the PostgreSQL super user password:
Please re-enter the password to confirm:
Please enter the PostgreSQL bsl user password:
Please re-enter the password to confirm:
2025/03/25 15:50:58.206: Start to install PostgreSQL
2025/03/25 15:50:58.209: Installing...
2025/03/25 16:10:33.902: Complete to install PostgreSQL

Waiting for 0 seconds, press CTRL+C to quit ...

**** Apache HTTP Server Setup ****
2025/03/25 16:10:44.012: Start to install Apache2.4
2025/03/25 16:10:44.012: Installing...
2025/03/25 16:10:46.302: Copied Apache2.4 to install directory
2025/03/25 16:10:48.131: It takes a time to register Apache HTTP Server service. Please just a minute:
Waiting for 0 seconds, press CTRL+C to quit ...
2025/03/25 16:10:58.257: Start Apache HTTP Server
2025/03/25 16:11:04.212: Add rule name and allow port of Apache HTTP Server:
OK

**** BRAVIA Signage Server Setup ****
Do you want to disable authentication for BRAVIA Signage ? [Y=Yes / N=No(Default)]:

```

[5] After the installation of the database software is complete, the following setup procedure will be performed automatically.

[6] Next, install BRAVIA Signage Server. First, set the username and password that will be used to authenticate access to BRAVIA Signage Server. Authentication is enabled by default, but you can choose to disable it. In that case, please choose after knowing the risk. (Please specify a string of 8 or more characters including both alphabets and numbers for the password)

```

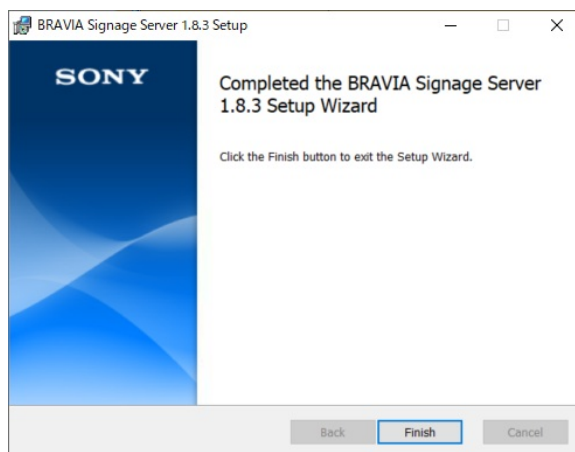
**** BRAVIA Signase Server Setup ****
Do you want to disable authentication for BRAVIA Signase ? (Y=Yes / N=No(Default)):N
Please enter the username to use for BRAVIA Signase authentication: SignaseAdmin
Please enter the password: *****
Please re-enter the password to confirm: *****

```

[7] After configuring authentication, the server installer will launch. Follow the instructions on the screen to proceed with the installation.



[8] When the installation is finished, the following screen will be displayed. Press the [Finish] button to end the installation process.



[9] After completing the installation, register the BRAVIA Signage Server service. To register the service, you will need to enter the password of the current Windows login user. If you enter the wrong password, the service will fail to start. In that case, you will be asked to enter the password again, so please enter it again.

2023/03/15 0:54:15.23: Start to install BRAVIA Signage Server  
2023/03/15 0:55:43.88: Complete to install

2023/03/15 0:55:43.89: Update BRAVIA Signage Server XML  
2023/03/15 0:55:43.92: Complete to update BRAVIA Signage Server XML

Please enter the password of the local administrator user.

- If the service registration fails, you can perform it manually by following the procedure described below.
  1. If the Windows username/password entry fails, close the Command Prompt.
  2. Open the Command Prompt again with administrator privileges.
  3. Execute the following command.

4. Adjust the Windows Firewall settings as needed.

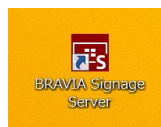
[10] When the service registration is completed, the following screen will be displayed. Finally press the ENTER key to close the window.

```

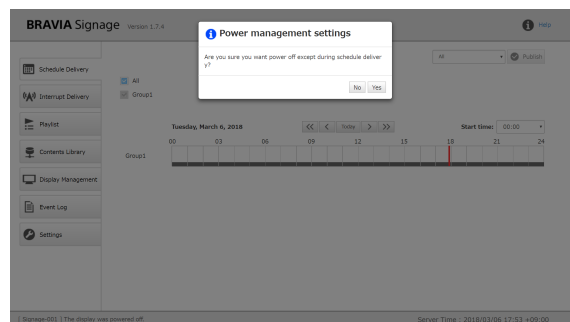
2022/03/15 0:54:15.23: Start to install BRAVIA Signage Server
2022/03/15 0:55:43.88: Complete to install
2022/03/15 0:55:43.88: Update BRAVIA Signage Server XML
2022/03/15 0:55:43.82: Complete to update BRAVIA Signage Server XML
Please enter the password of the logged-in Windows user: "0000000000000000"
Installing service "BRAVIA Signage Server (braviasignageserver.exe)"...
Service "BRAVIA Signage Server (braviasignageserver.exe)" was installed successfully.
2022/03/15 0:56:11.97: It takes a time to register BRAVIA Signage Server service. Please just a minute:
0 秒待っています。終了するには CTRL+C を押してください...
2022/03/15 0:57:02.10: Start BRAVIA Signage Server service
Service "BRAVIA Signage Server (braviasignageserver.exe)" was refreshed successfully.
Starting service "BRAVIA Signage Server (braviasignageserver.exe)"...
Service "BRAVIA Signage Server (braviasignageserver.exe)" started successfully.
2022/03/15 0:57:04.02: Add rule name and allow port of BRAVIA Signage Server:
OK
Please push ENTER key and close this window.

```

[11] Double-click the following shortcut icon created on the desktop.



When double-clicked, the Operation Web Application opens with your browser on your server. In this procedure, if [Schedule Delivery] page of the Operation Web Application is opened at first time, the following dialog is opened. In that case, it is recommended to select [Yes] to disable display power except during schedule delivery.



In this procedure, the BRAVIA Signage Server is configured to use port 8080. If you use other port numbers, in addition to the above procedure, change the port number in accordance with 1.1. of “BRAVIA Signage Advanced User Guide”. Furthermore, Apache is configured to use port 80. If necessary, change the port number. If you change the Apache port number, it is necessary to also configure “CONTENT\_SERVER\_URL” in braviasignageserver.xml at 1.5. in “BRAVIA Signage Advanced User Guide”.



# Synology NAS

Install BRAVIA Signage Server Software from the Package Center.  
Follow the instructions of the wizard to install.

## 4.2. Display Settings

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Before installation of BRAVIA Signage Player, configure BRAVIA settings as follows:

[1] Switch BRAVIA to Pro settings mode. Refer to BRAVIA Professional Displays Knowledge Center to switch Pro settings mode and for details of Pro settings.

[2] Enable the installation from a USB flash memory as follows if you are using Android 10.0 or later model. If you need to prevent a third party from installing any software during operation, switch to Pro settings mode after installation of BRAVIA Signage Player, disable this setting, and then switch to Pro mode again. If this setting is disabled, you need to re-enable it when updating or uninstalling BRAVIA Signage Player.

- Pro settings > Settings > USB drive auto run > Install BPK  
Set to "Enable".

[3] Configure display settings such as the IP address, etc. to connect to a network if needed. After BRAVIA Signage Player installation, the following settings are automatically changed. If you manually changed these settings after installation of BRAVIA Signage Player, you will need to reconfigure them.

- Network > Home Network > IP control > Authentication  
Set to "None".
- Network > Home Network > IP control > Simple IP Control  
Set to "On".

[4] There is a feature to enable or disable the power in accordance with the registered power schedule of BRAVIA Signage. Configure the power settings of the display as follows to avoid interference with this power schedule feature.

- Settings > Power > Eco > Idle TV standby  
Set to "Off".

[5] There is a feature to start and stop BRAVIA Signage Player with the remote control. Enable this feature.

- Pro settings > Function restrictions > Apps > “bravia-signage-launcher”  
Set to “Enable”.

## [6] Switch BRAVIA to Pro mode.

## 4.3. Install BRAVIA Signage Player

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In this section, installation of BRAVIA Signage Player to the display is described.

[1] Copy “extapp\_installer.pkg” to the root folder in the USB flash memory.

[2] Turn on BRAVIA and insert the USB flash memory to a USB port on the display. In this procedure, if USB flash memory is inserted at first time or after the initialization of display, the message “Allow WebAppRuntime to access photos, media and files on your devices?” is displayed on the screen of display. In that case, select [Allow] with remote controller.

[3] When the installer starts, install this application following the installer instructions.

[4] At next, copy “extapp\_installer.pkg” under BRAVIASignageLauncher folder to the root folder in the USB flash memory.

[5] Execute same procedures as above [2] and [3].

NOTE) Don't turn off or disconnect the power plug from the BRAVIA during the installation. It may cause the BRAVIA to breakdown.

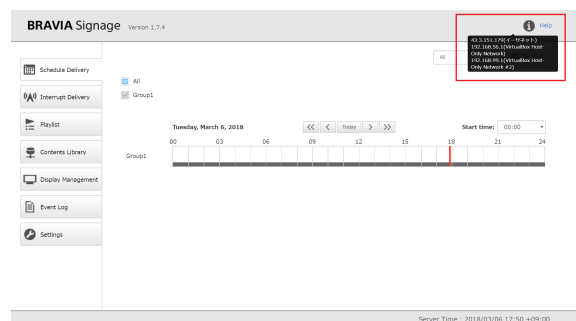
## 4.4. Configure and Start BRAVIA Signage Player

In this section, the configuration of the installed BRAVIA Signage Player is explained. The package includes the config.txt sample, and describes the procedure with this sample.

[1] Copy the “config.txt” file in the “manual” folder included in the package to any directory on your PC and edit with any text editing software, and copy it under root folder of USB flash memory. Change the value of the “server” key to the IP address of the server that BRAVIA Signage Server runs on.

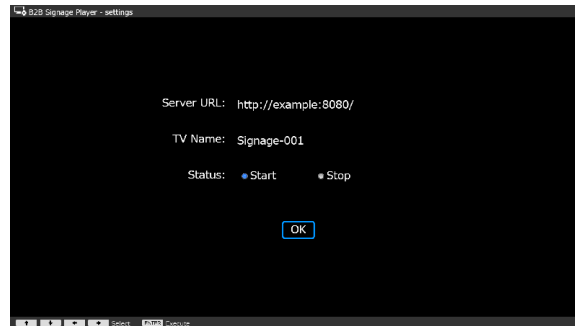
```
{
  "settings" : {
    "server" : "http://example:8080/",
    "tv-name" : "Signage-001",
    "connection-error" : {
      "timeout" : 300,
      "reboot" : false
    },
    "override" : true
  },
  "version" : "1"
}
```

The IP address of the server is displayed when the mouse is positioned over the “i” icon on the upper right area in Operation Web Application. (If your server has multiple IP addresses, all IP addresses are displayed. In this case, select and edit “config.txt” with the one of them.)



[2] Turn on the display and insert a USB flash memory to the USB port on the display. Note to only execute this procedure under the condition there is no “extapp\_installer.pkg” file in the root folder of the USB flash memory.

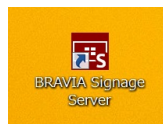
[3] Start configuration as seen in the diagram below. Select [Start] and push [OK].



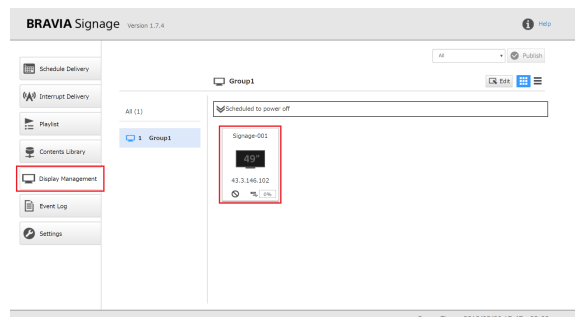
After you push the [OK] button, BRAVIA Signage Player will try to connect to BRAVIA Signage Server in accordance with the “server” key of config.txt. Note the following:

- Even if the displays and the server PC are on separate network segments, BRAVIA Signage Player can connect to BRAVIA Signage Server if the displays can connect to the server PC via network.
- BRAVIA Signage Player cannot connect to BRAVIA Signage Server (server PC) via a proxy server.

[4] Open the browser on the client PC, and enter the server URL configured above or double-click the following shortcut icon created on the desktop.



Select [Display Management] on the left side of the screen and open the [Display Management] page. Confirm that the information of the configured display is displayed.



Setup is complete.

## 5. Startup BRAVIA Signage Operation

The following procedures in this section describe the basic operations. Refer to these procedures for the operation check after setup and to the introduction to start. The following descriptions assume that [Power Management] on the [Settings] page is set to “Auto power off except during schedule delivery”.

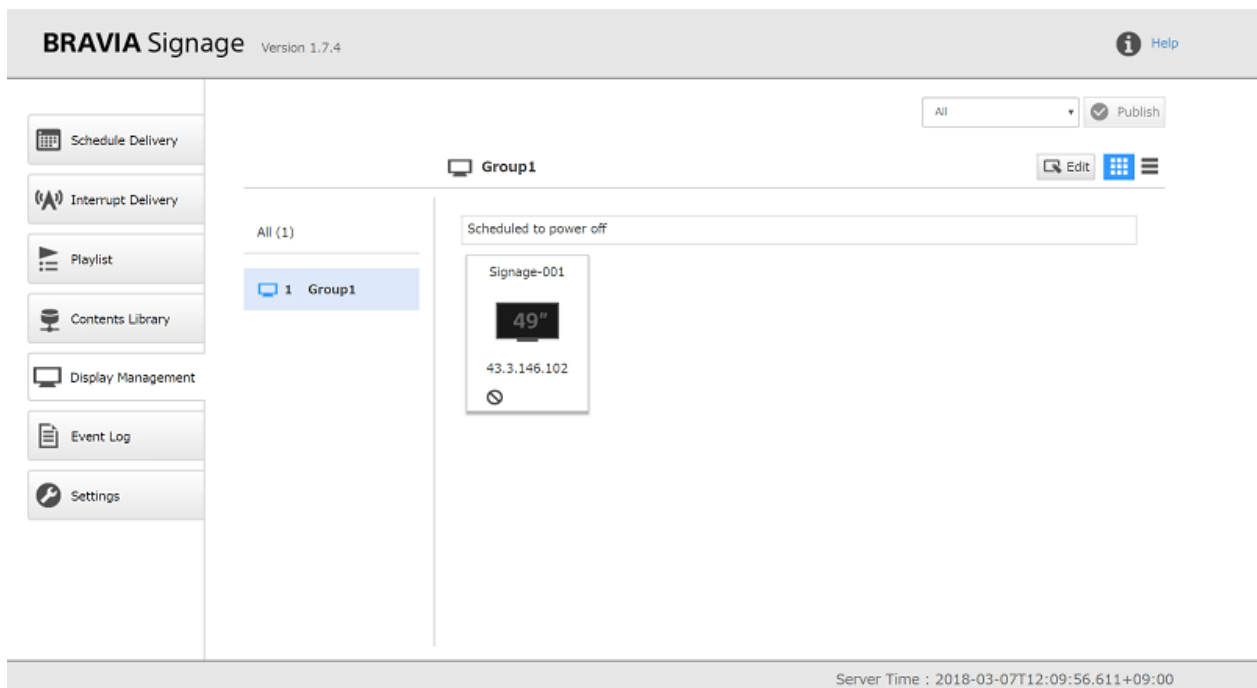
- [1] Create groups and group Displays
- [2] Create playlists and delivery schedule, and deliver content to Display
- [3] Use interrupt delivery

Refer to “BRAVIA Signage User Guide” for details.

## 5.1. Let's Group Displays

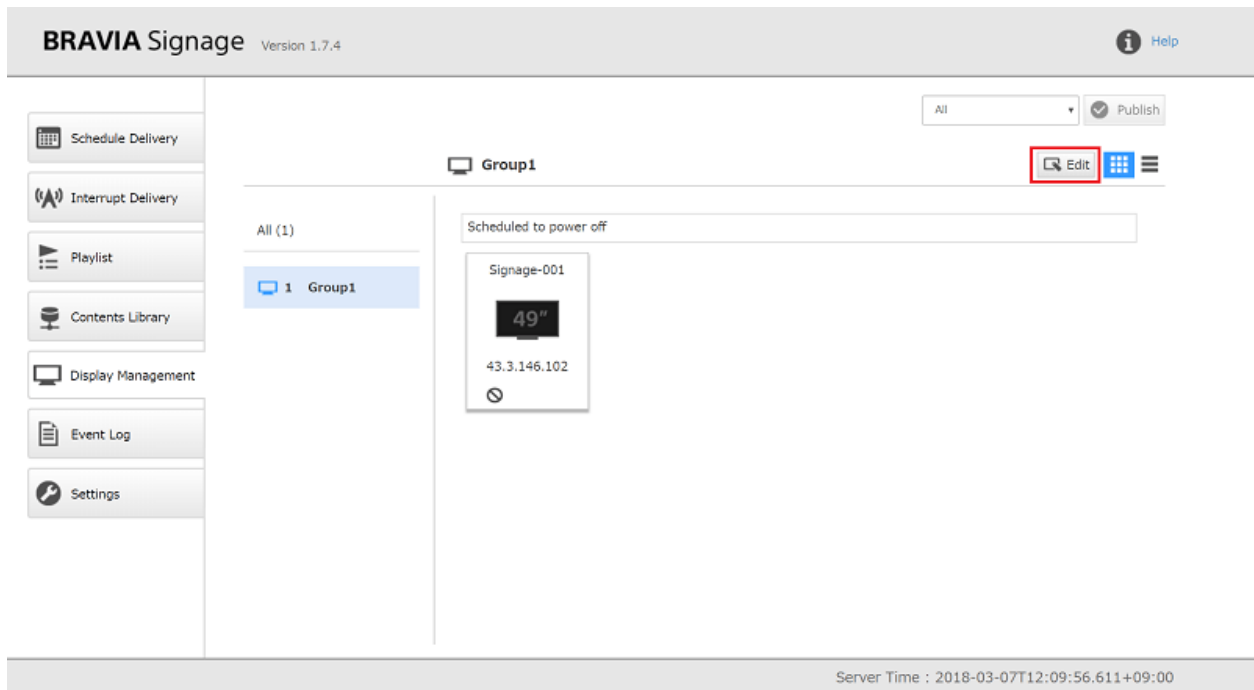
BRAVIA Signage groups and manages displays. Playlist delivery schedules and power schedules are managed and operated by each group. It should be noted that display needs to belong to a group. In the example below, though only 1 display is registered in BRAVIA Signage, multiple displays can be registered.

[1] Open a browser on the client PC, access the URL following [4.4. Configure and Start BRAVIA Signage Player](#), and open the Operation web application. Select [Display Management] on the left side of the screen, and open the [Display Management] page, display the display information setup with BRAVIA Signage Player.

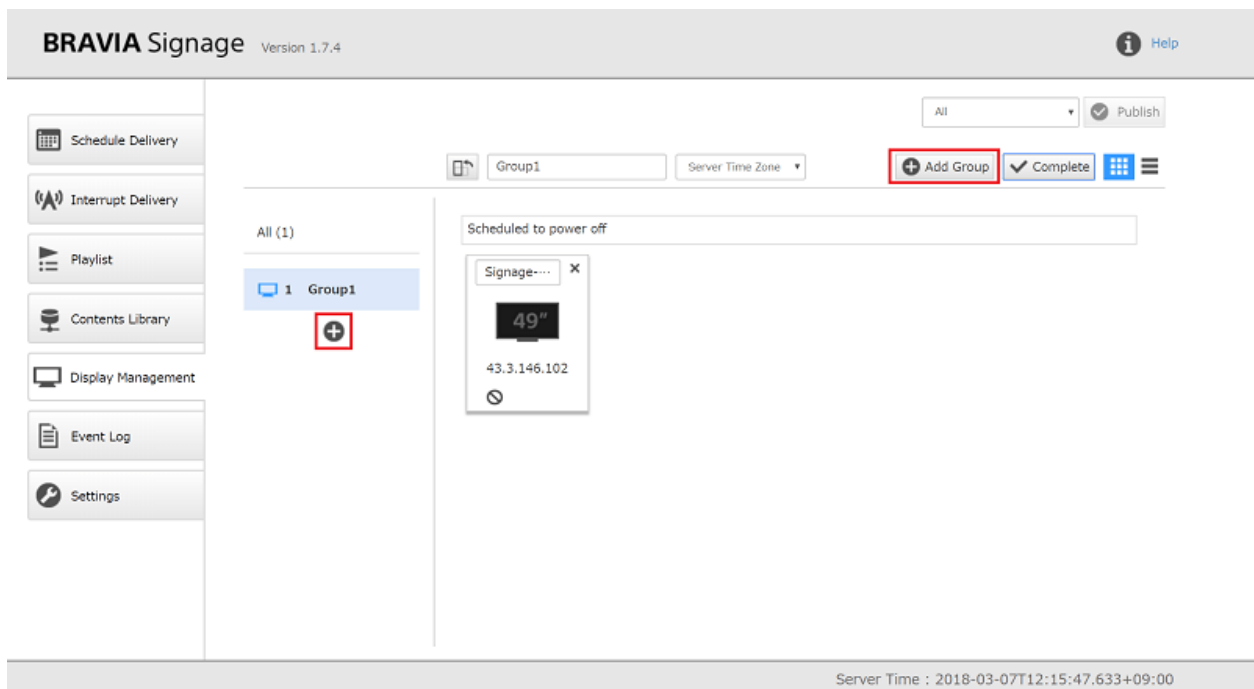


[2] Press [Edit] button to edit the registered information.

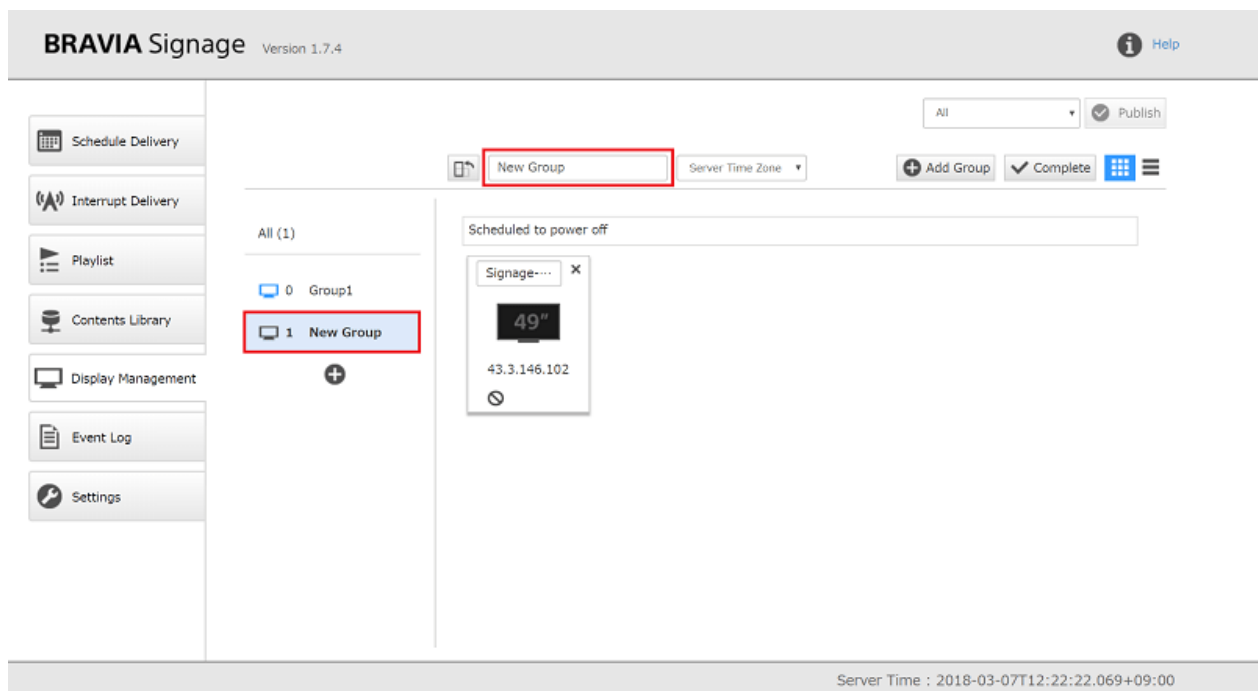




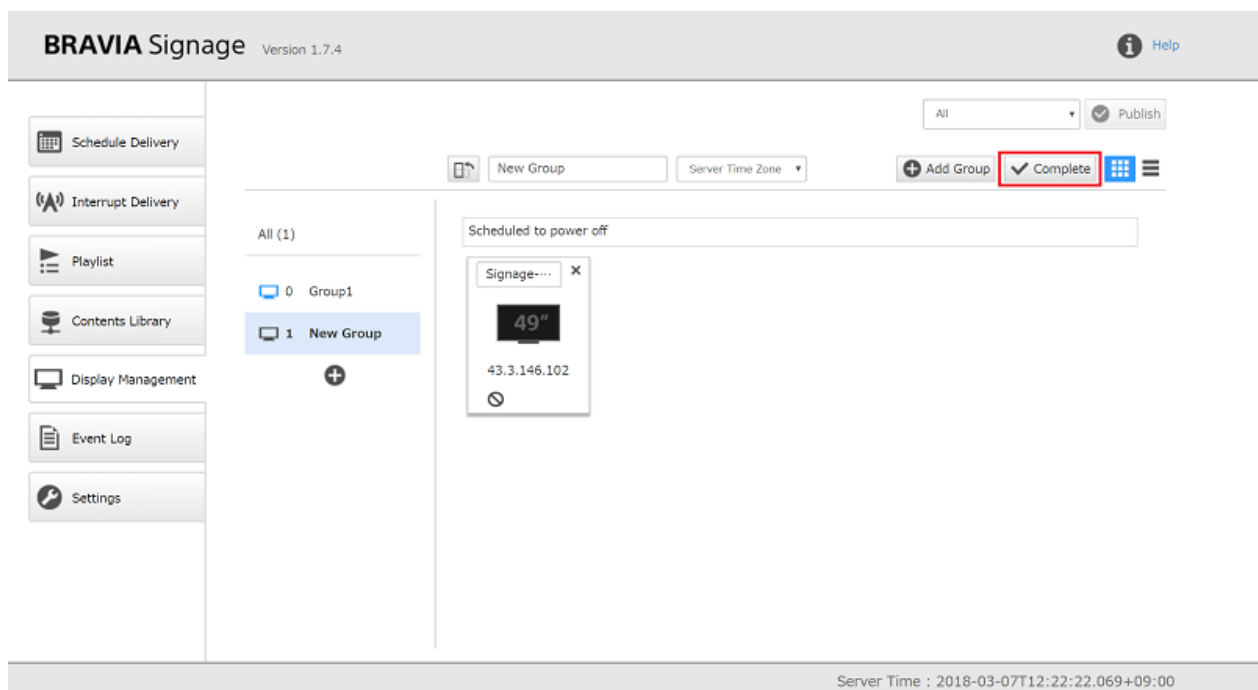
[3] When the [Add Group] button on the upper right or [+] button displayed under group name on the left is pressed, add a new group.



[4] Edit the group name and change the group display belongs to. Drag the displayed display information and drag it to group name on the left. In the diagram below. In this procedure, add “New Group” as the group name, and move display to the group.



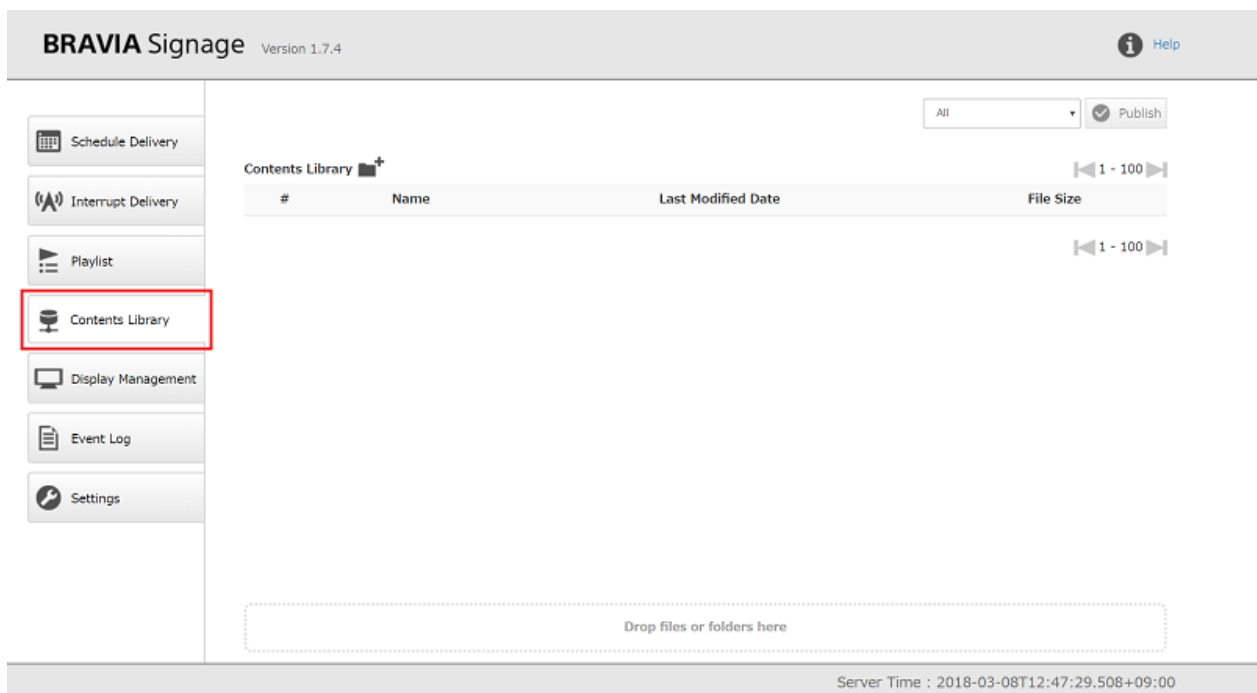
Group editing is complete when the [Complete] button is pressed.



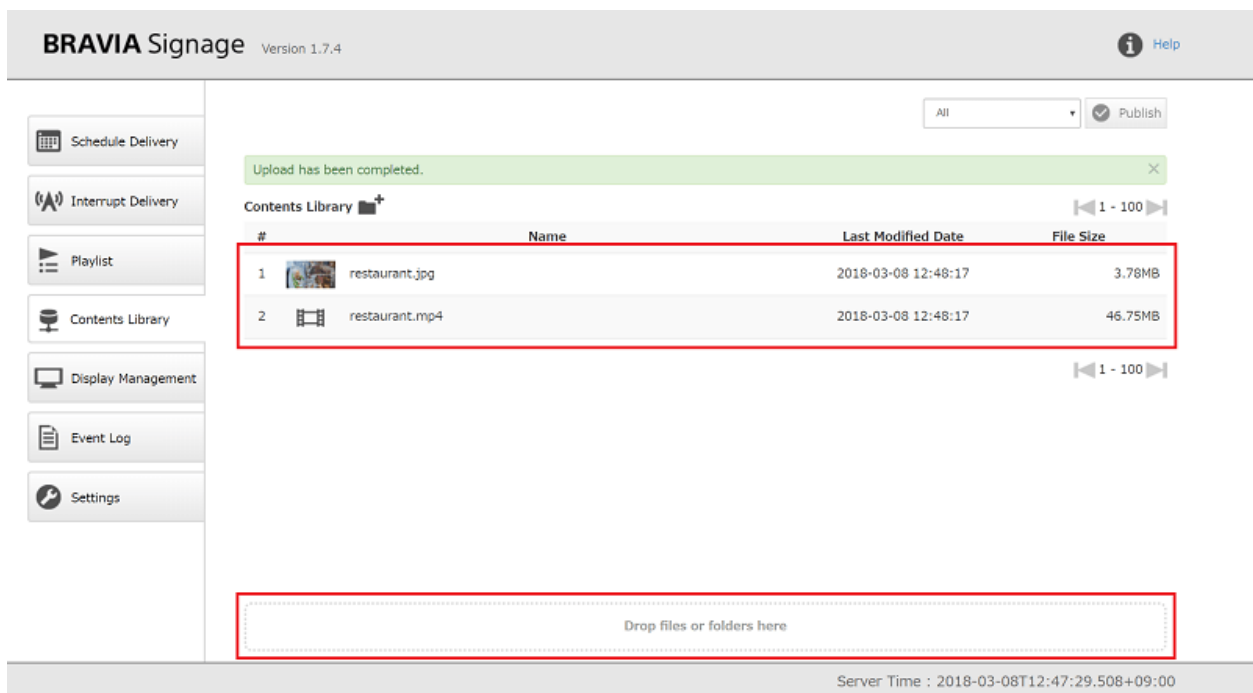
## 5.2. Let's Create a Playlist and Delivery Schedule, and Deliver Content to Display

In this section, create a playlist and configure the delivery schedule to the group created in [5.1. Let's Group Displays](#). In this example, 2 contents that are 1 video file and 1 image file are registered, and a playlist these contents are played in order is created. Configure to deliver 10:00 to 15:00 on Sunday to Saturday.

[1] Select [Contents Library] on the left side of the screen and open the [Contents Library] page.



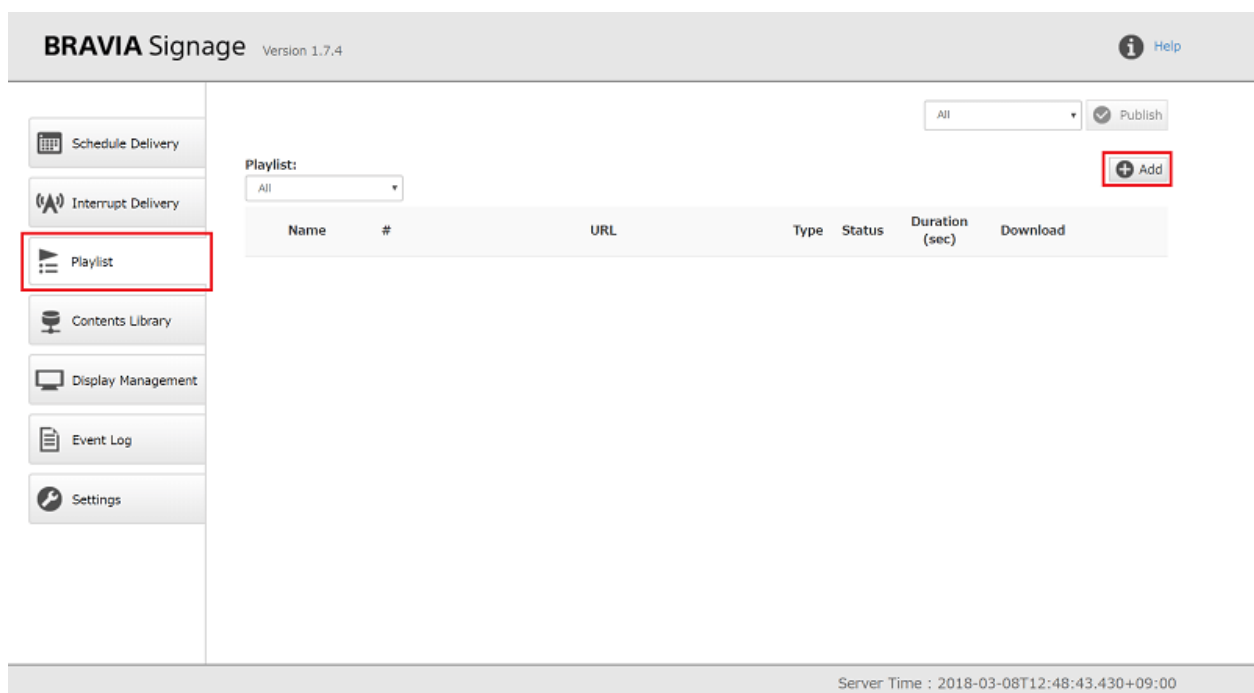
[2] To register the delivered contents, drag and drop the files to [Drop files or folders here]. In this example, “restaurant.mp4” and “restaurant.jpg” are registered as additional content. After completing registration, the content can be previewed in another tab of the browser application when you double-click the content.



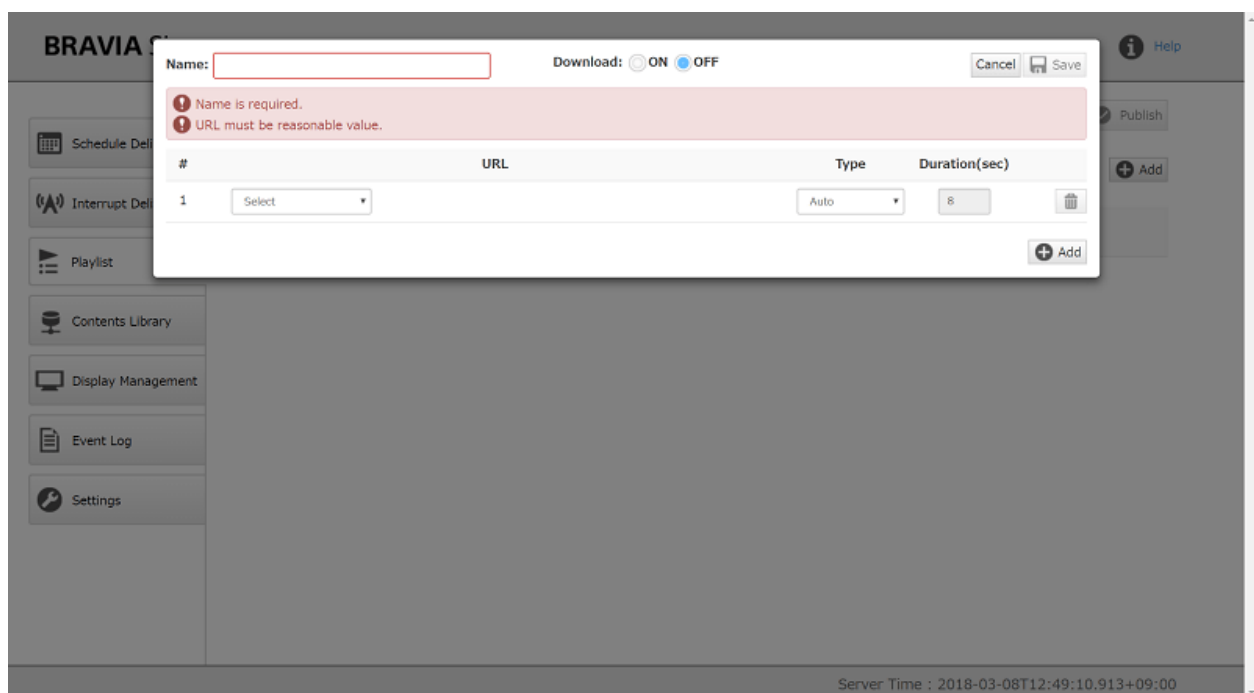
If the content cannot be previewed, check whether or not the IP address included in the URL in the address bar of your browser application is correct. For example, the IP address of the content library may not be properly configured, as in the following situations. In this case, clearly configure the IP address of the content server in accordance with the procedure in configuration file “CONTENTS\_SERVER\_URL” in 1.3. of the “BRAVIA Signage Advanced User Guide” and restart BRAVIA Signage Server.

- There are multiple network interfaces with the same IP address.
- After setting up BRAVIA Signage Server and registering the contents with the content library feature in an environment with the network offline, the server PC was connected to the network and the IP address was assigned, etc.

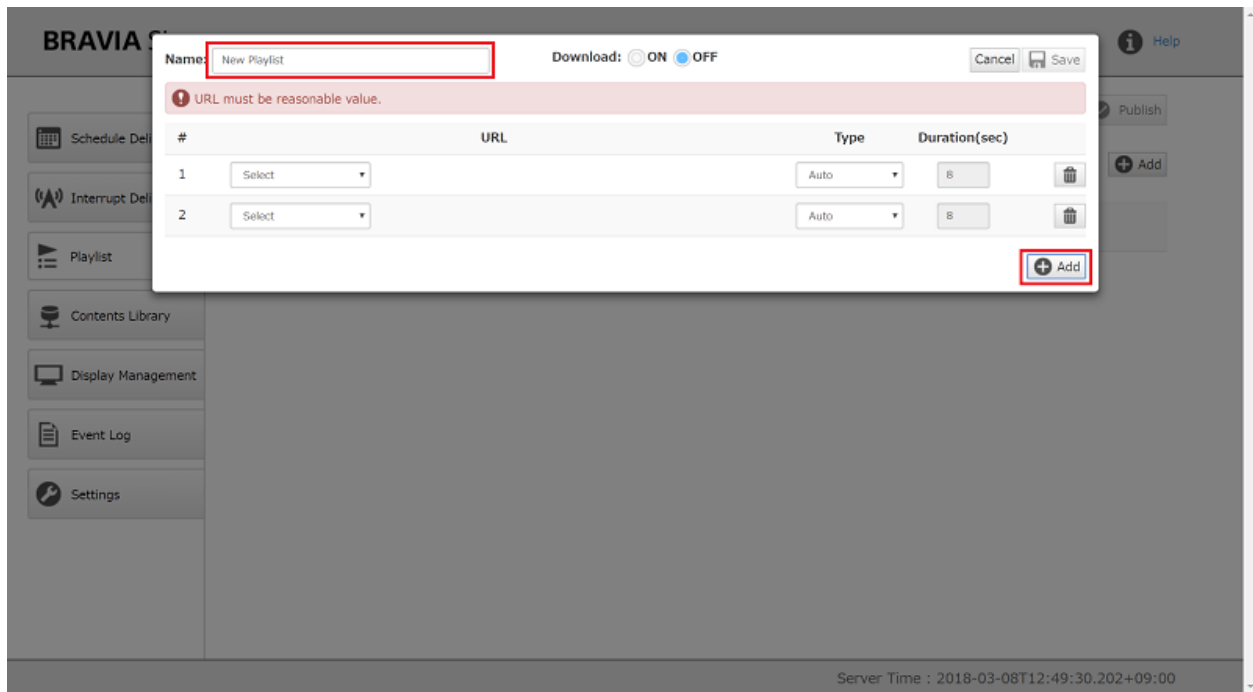
[3] Select [Playlist] on the left side of the screen and open the [Playlist] page, and push the [Add] button on the upper right.



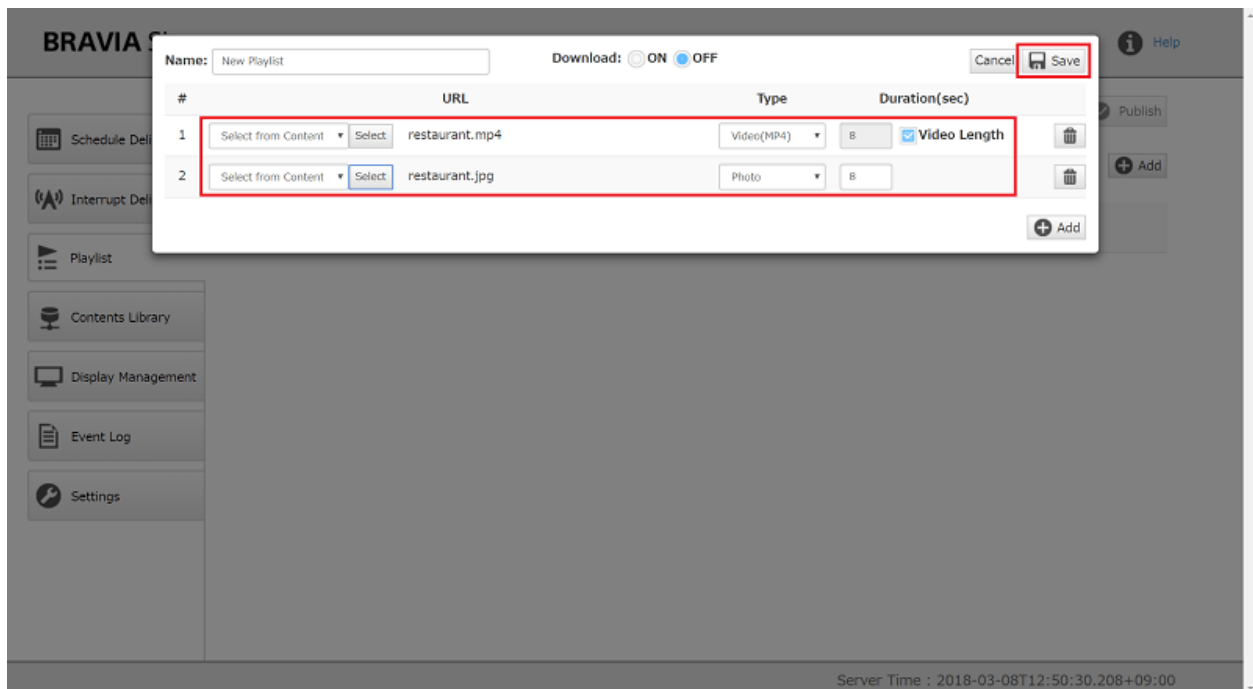
[4] The dialog to create a playlist appears.



[5] Input a playlist name in [Name] on the top left. In this example, “New Playlist” is entered. Next, configure the content below. When the dialog is opened, only 1 field is displayed. Push the [Add] button on the lower right to configure the 2 contents.



[6] Select “Select from Contents Library” and push [Select] button to select from contents registered to Contents Library, and specify “Video Length” and “8” seconds as each duration. Push the [Save] button on the upper right to complete.



[7] After the dialog is closed, the created playlist is displayed on the [Playlist] page.

**BRAVIA Signage** Version 1.7.4 Help

Schedule Delivery All ☐ Publish

Interrupt Delivery

Playlist Add

Name	#	URL	Type	Status	Duration (sec)	Download
New Playlist	1	restaurant.mp4	Video (MP4)	✓	Video Length	OFF
	2	restaurant.jpg	Photo	✓	8	

Edit Delete

Server Time : 2018-03-08T12:50:30.208+09:00

[8] Next, try to create a delivery schedule with this playlist. Select [Schedule Delivery], and open the [Schedule Delivery] page.

**BRAVIA Signage** Version 1.7.4 Help

Schedule Delivery All ☐ Publish

Interrupt Delivery

Playlist

Contents Library

Display Management

Event Log

Settings

Thursday, March 8, 2018 Start time: 00:00

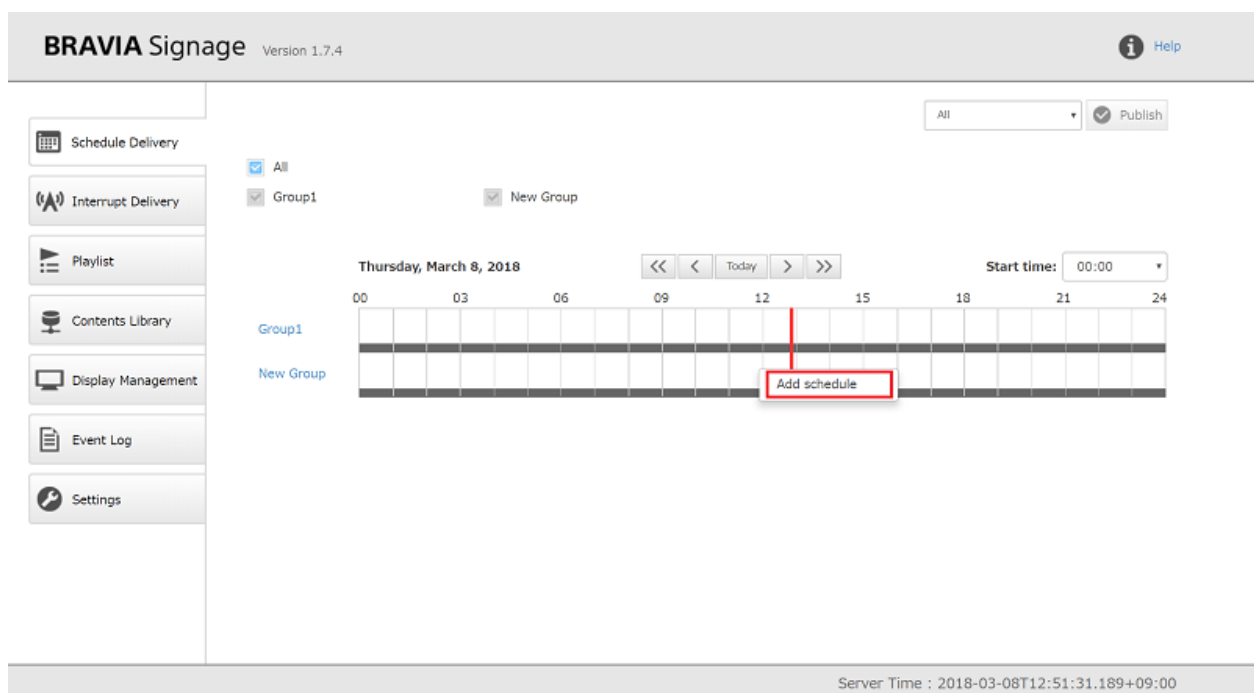
00 03 06 09 12 15 18 21 24

Group1

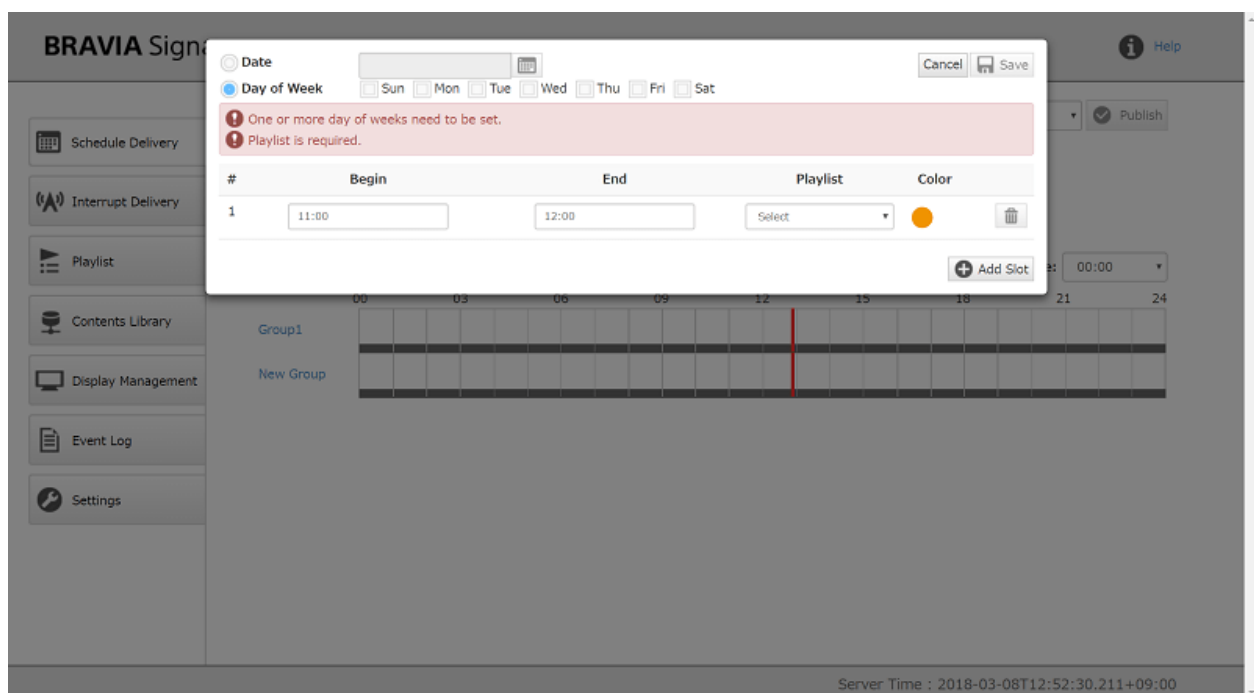
New Group

Server Time : 2018-03-08T12:51:31.189+09:00

[9] Create a new schedule for “New Group”. Click on the scheduler of “New Group” and select [Add schedule].

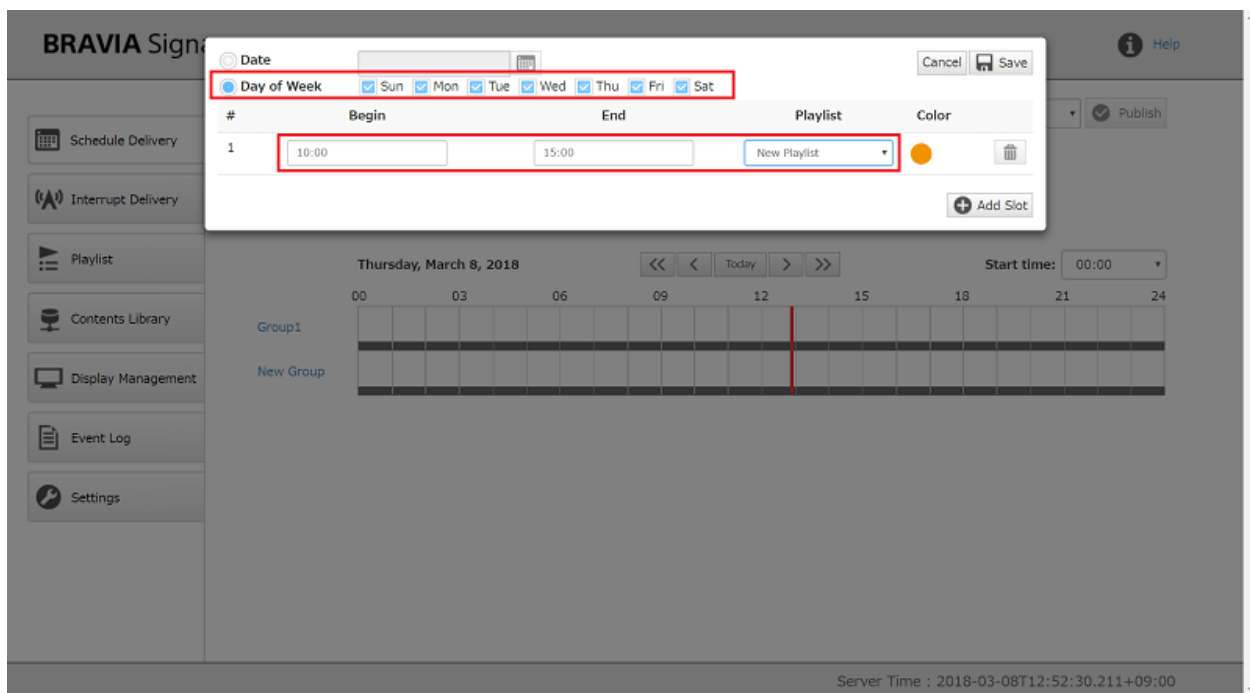


[10] A dialog to create the schedule is displayed as seen in the diagram below.

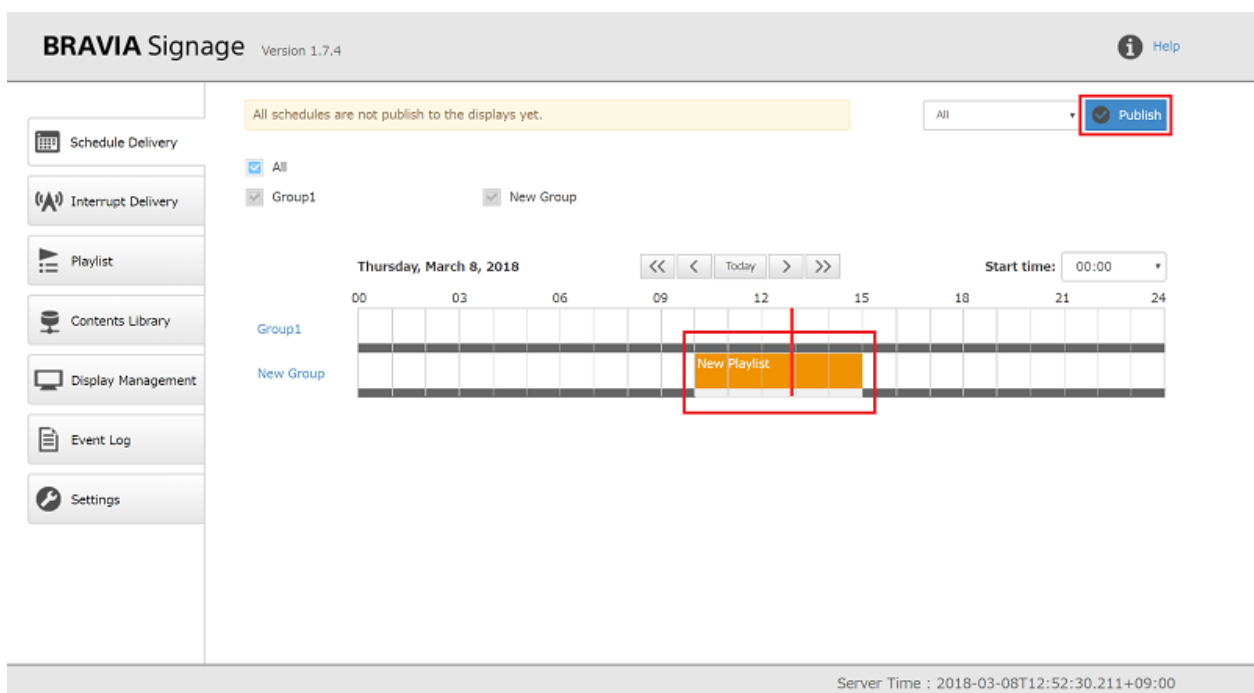


[11] Check all day of week from Sunday to Saturday, change [Begin] to “10:00” and [End] to “15:00”, and “New Playlist” from [Playlist] as seen in the diagram below. Push the [Save] button on the upper right to complete.



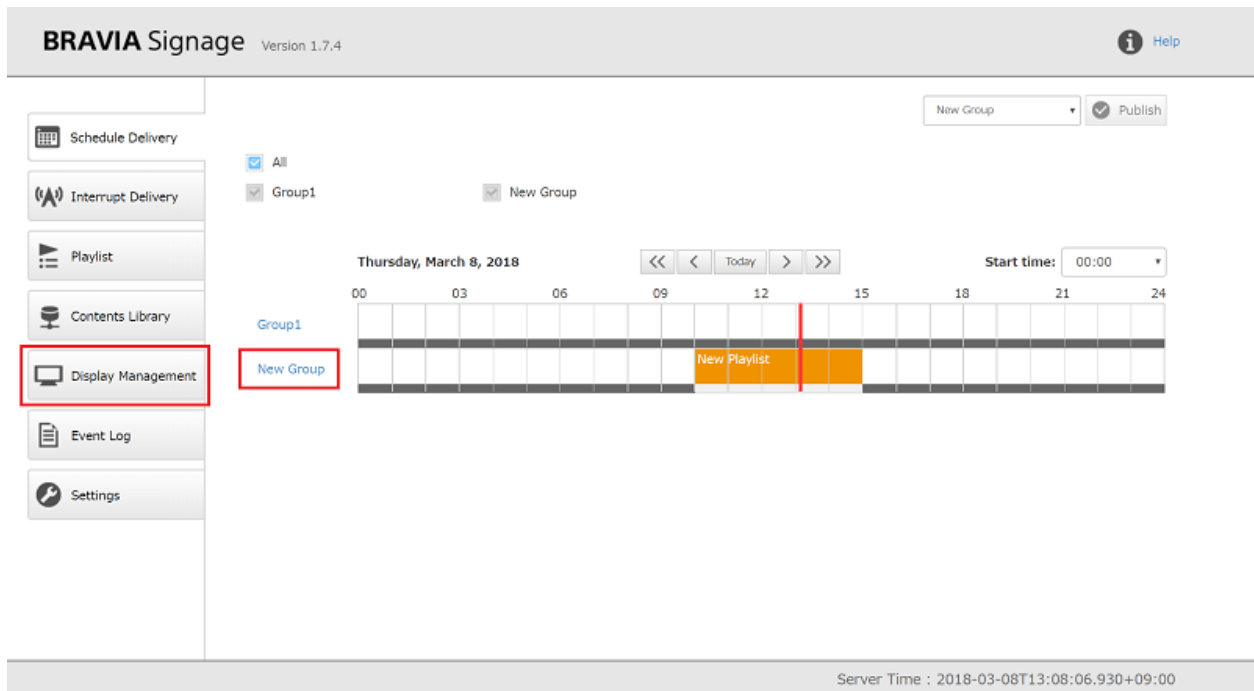


[12] After the dialog closes, the created schedule is displayed on the [Schedule Delivery] page. When push the [Publish] button is pressed, the content in the playlists are played on displays that belong to “New Group” in accordance with the schedule. Note that BRAVIA Signage Player gets the time and time zone from the server that BRAVIA Signage Server runs on and the BRAVIA Signage Player does not use the time and time zone set on display.

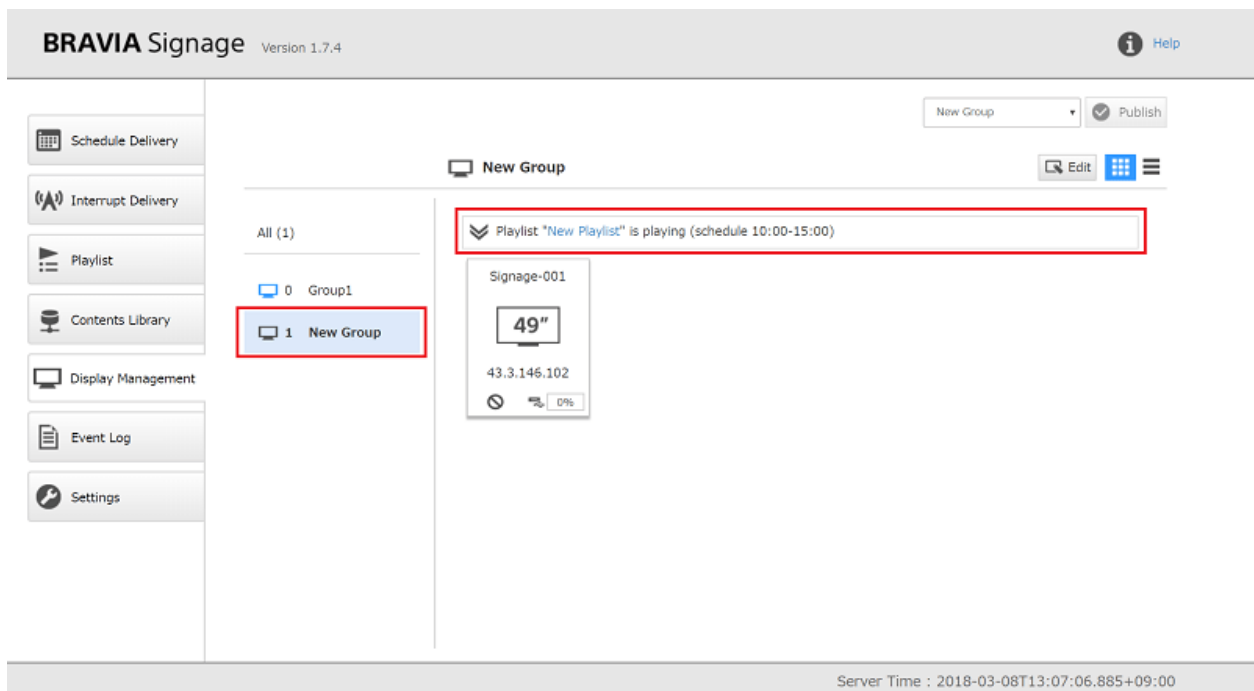


[13] The status after these settings for delivery can be checked from the

Operation web application. Click on a group name displayed on this page or select [Display Management] on the left side of the screen and open the [Display Management] page.

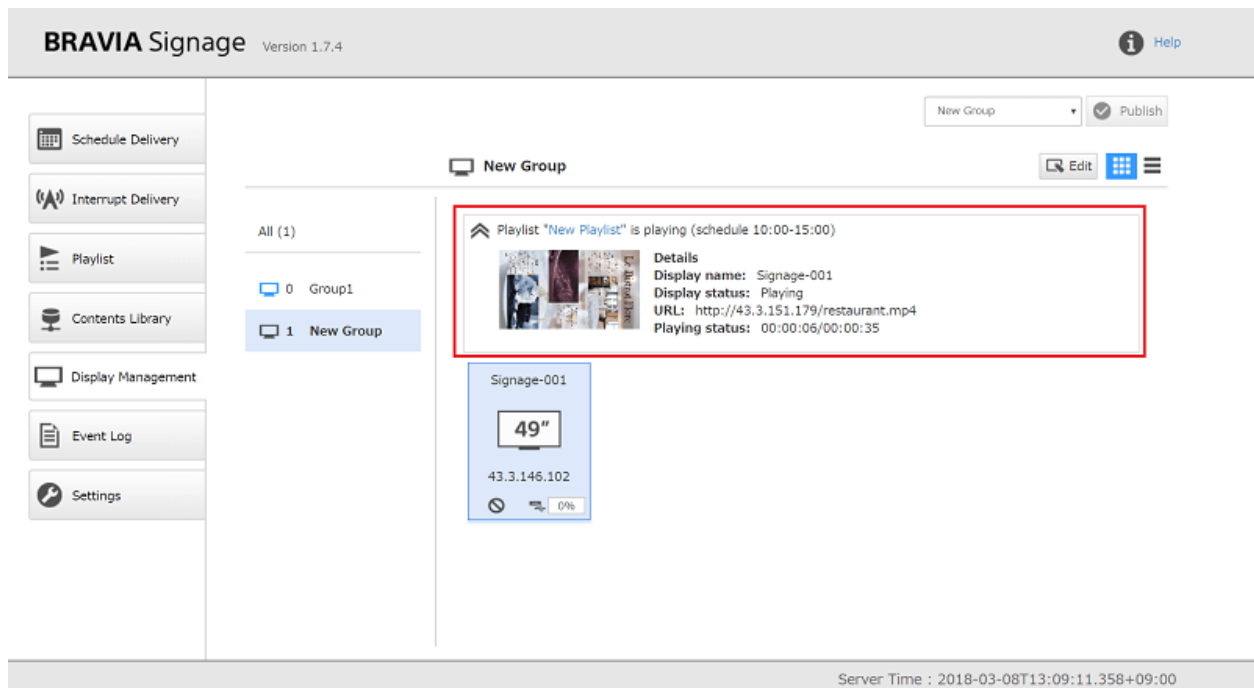


[14] Select the group you want to check and the status of the group is displayed at the center of the screen.



[15] If the displays of the group are being published, you can check the delivery status of each display by opening the group status and

selecting a display.

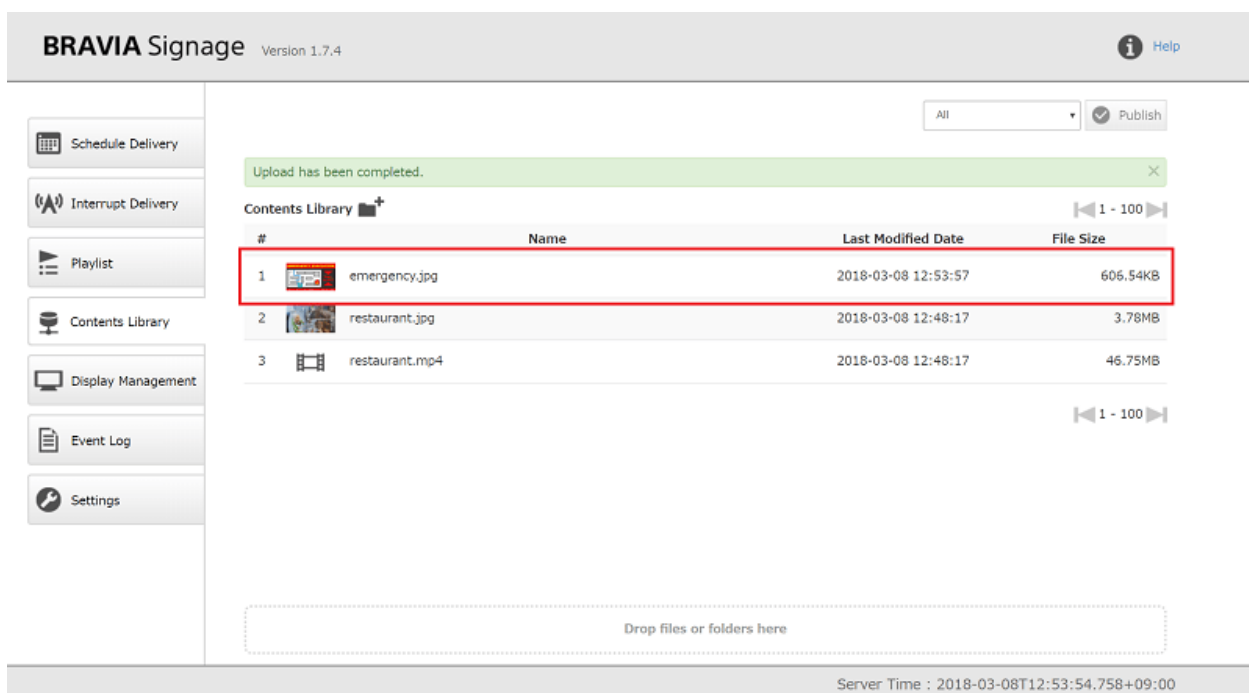


It should be noted that if the content do not play as expected, confirm that display is connected to network, or see “About USB storage device access” at 1.6 in “BRAVIA Signage User Guide”.

## 5.3. Interrupt Delivery

In this section, an interrupt delivery is created to the group created at [5.1. Let's Group Displays](#).

[1] Register the content in accordance with steps [1] and [2] of [5.2. Let's Create a Playlist and Delivery Schedule, and Deliver Content to Display](#). In this example, the content named “emergency.jpg” is registered.



The screenshot shows the BRAVIA Signage web interface. On the left is a sidebar with navigation options: Schedule Delivery, Interrupt Delivery, Playlist, Contents Library, Display Management, Event Log, and Settings. The main area displays the 'Contents Library' with a table of registered content. A green notification bar at the top indicates 'Upload has been completed.' The table has columns for '#', 'Name', 'Last Modified Date', and 'File Size'. The first row, '1 emergency.jpg', is highlighted with a red border. Below the table is a dashed box for uploading files. The server time is shown at the bottom right.

#	Name	Last Modified Date	File Size
1	emergency.jpg	2018-03-08 12:53:57	606.54KB
2	restaurant.jpg	2018-03-08 12:48:17	3.78MB
3	restaurant.mp4	2018-03-08 12:48:17	46.75MB

Drop files or folders here

Server Time : 2018-03-08T12:53:54.758+09:00

[2] Create the playlist in accordance with steps [1] and [2] of [5.2. Let's Create a Playlist and Delivery Schedule, and Deliver Content to Display](#). In this example, the content named “Emergency” is registered.

**BRAVIA Signage** Version 1.7.4 Help

Left Sidebar: Schedule Delivery, **Interrupt Delivery**, Playlist, Contents Library, Display Management, Event Log, Settings

Top Right: All, Publish, Add

Playlist: All

Name	#	URL	Type	Status	Duration (sec)	Download	
New Playlist	1	restaurant.mp4	Video (MP4)	✓	Video Length	OFF	Edit Delete
	2	restaurant.jpg	Photo	✓	8		
Emergency	1	emergency.jpg	Photo	✓	Endless	OFF	Edit Delete

Server Time : 2018-03-08T12:54:30.203+09:00

[3] Select [Interrupt Delivery] on the left side of the screen and open the [Interrupt Delivery] page. Push the [Add] button on the upper right to create the new interrupt delivery.

**BRAVIA Signage** Version 1.7.4 Help

Left Sidebar: Schedule Delivery, **Interrupt Delivery**, Playlist, Contents Library, Display Management, Event Log, Settings

Top Right: All, Publish, Add

Search by Name:

Status: ☒ All ☐ Interrupting

Server Time : 2018-03-08T12:56:02.868+09:00

[4] The template of Interrupt delivery is added as seen in the diagram below.

**BRAVIA Signage** Version 1.7.4 Help

Schedule Delivery

**Interrupt Delivery**

Playlist

Contents Library

Display Management

Event Log

Settings

Search by Name:

Status: ☒ All ☐ Interrupting

Name:  Playlist:

Group: ☐ Group1 ☐ New Group

Server Time : 2018-03-08T12:56:30.225+09:00

[5] Input the interrupt delivery name to [Name]. In this example, “New Interrupt” is entered. Next, check the group to deliver. In this example, “New Group” is checked and “Emergency” is selected from [Playlist]. Push the [Save] button on the right side of the screen to create.

**BRAVIA Signage** Version 1.7.4 Help

Schedule Delivery

**Interrupt Delivery**

Playlist

Contents Library

Display Management

Event Log

Settings

Search by Name:

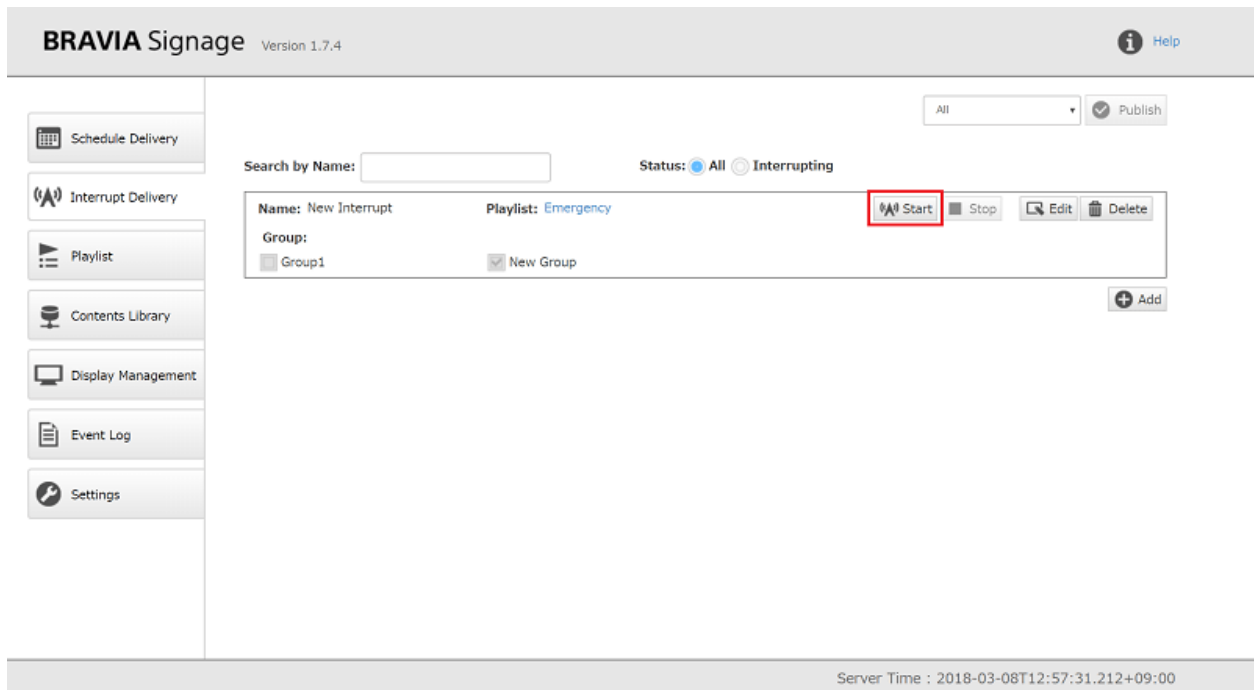
Status: ☒ All ☐ Interrupting

Name:  Playlist:

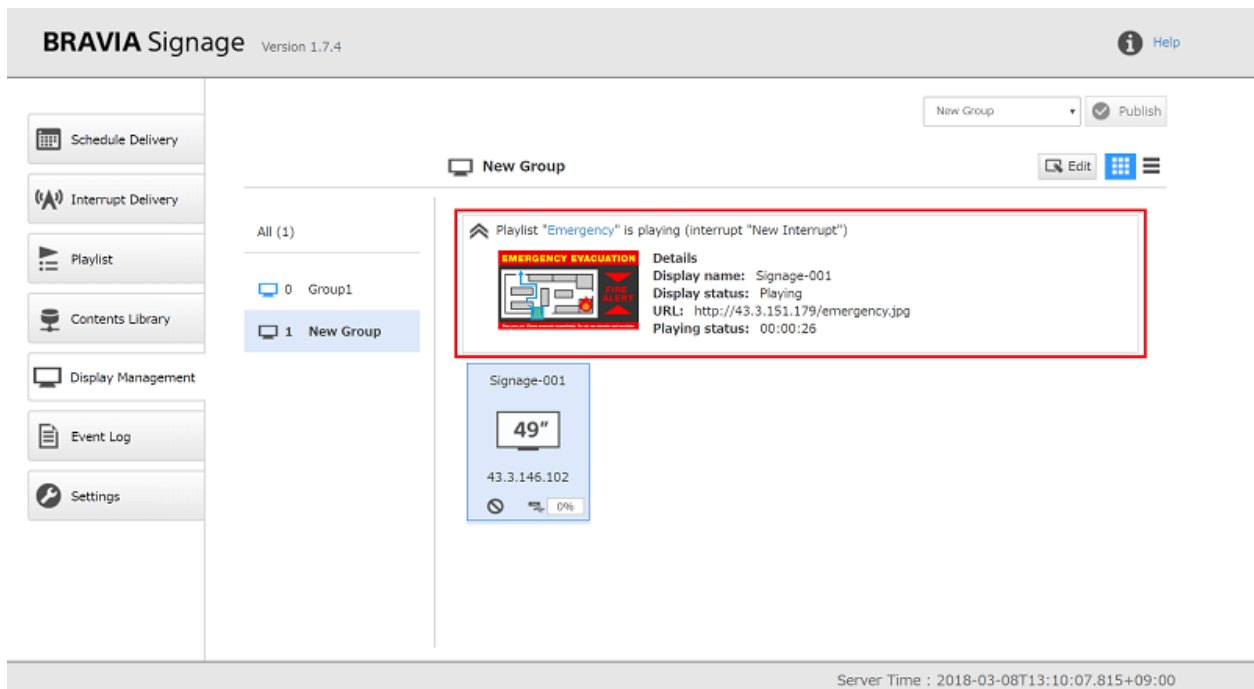
Group: ☐ Group1 ☒ New Group

Server Time : 2018-03-08T12:57:02.879+09:00

[6] When the [Start] button is pressed, the interrupt delivery to displays that belong to “New Group” is started.



[7] The status after completing the settings for delivery can be checked from the [Display Management] page of the Operation web application, as in steps [13] to [15] of [5.2. Let's Create a Playlist and Delivery Schedule, and Deliver Content to Display.](#)



[8] Push the [Stop] button to stop the interrupt delivery.

**BRAVIA Signage** Version 1.7.4 Help

Schedule Delivery

**Interrupt Delivery**

Playlist

Contents Library

Display Management

Event Log

Settings

New Group ▼ Publish

Search by Name:  Status: ☒ All ☐ Interrupting

Name: New Interrupt Playlist: Emergency Start **Stop** Edit Delete

Group:  
☐ Group1 ☒ New Group

Add

Server Time : 2018-03-08T13:11:14.971+09:00



# Appendix I. Security Measures

Describes security measures assuming the use of BRAVIA Signage.

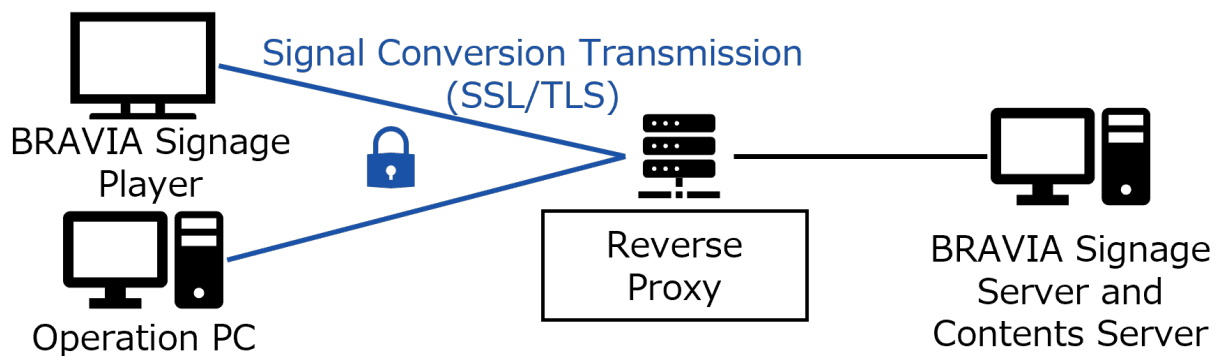
# Network Security Measures

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BRAVIA Signage is assumed to be used on a network guaranteed to be secured through an appropriately managed reverse proxy. Implement appropriate security measures based on the use environment.

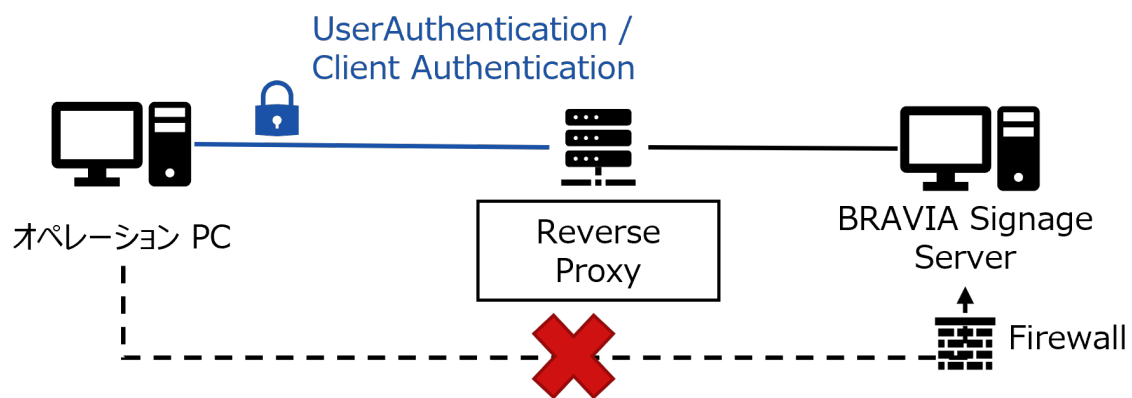
## Encrypting Transmissions

Since BRAVIA Signage Server doesn't support SSL/TLS encrypted transmissions, there is a risk that the transmitted content may be intercepted or manipulated. Encrypt transmissions between operation PCs as well as BRAVIA Signage Player and BRAVIA Signage Server as well as contents servers using reverse proxy.



## Access Restriction

To avoid risks such as unauthorized access to the BRAVIA Signage Server management screen by users with malicious intentions, use the BRAVIA Signage Server authentication function or reverse proxy and authenticate access from the operation PC (\*). Additionally, to avoid direct access that does not incorporate reverse proxy to the server PC, set a restriction rule that rejects transmissions other than firewall reverse proxies of the server PC.



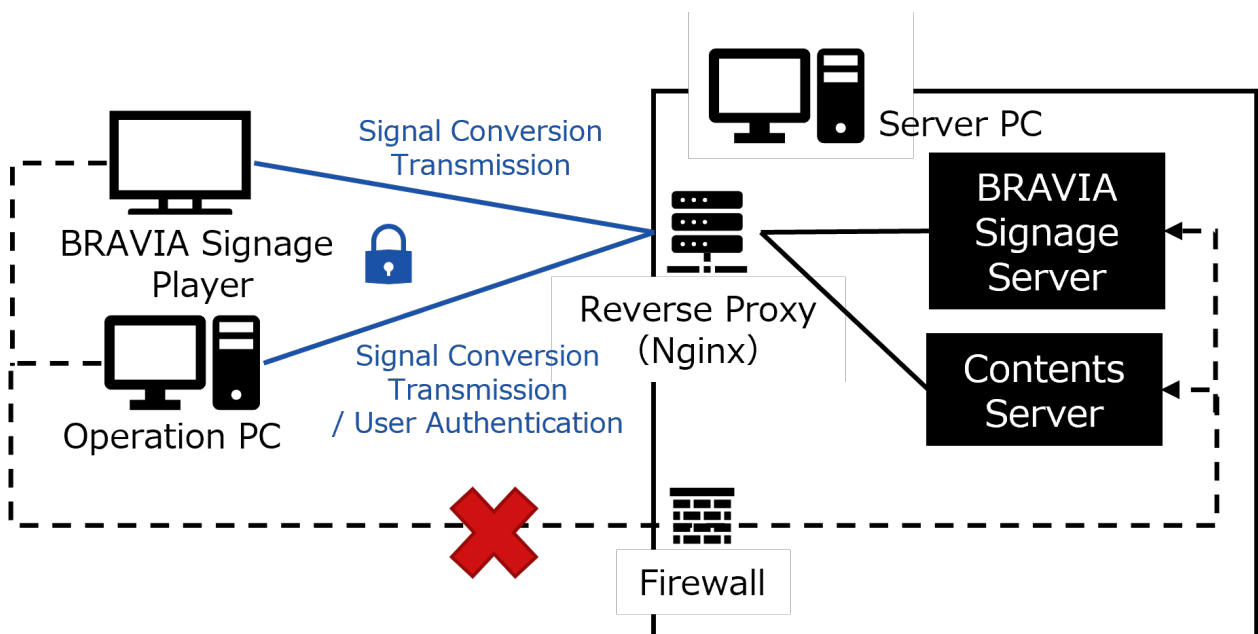
\*BRAVIA Signage Player and BRAVIA Signage Server connections are not supported for authentication.

# Setting Examples of Reverse Proxy and Firewall

This explains how to construct a reverse proxy and firewall on the same PC with BRAVIA Signage Server and contents server. This explanation assumes the port number is in the default state, and BRAVIA Signage Server is using 8080 and contents server is using 80.

## Constructing a Reverse Proxy That Uses Nginx

Introducing transmission encryption and user authentication using reverse proxy.



1. Download [Nginx](https://nginx.org/en/download.html) and install it to the server PC.
  - <https://nginx.org/en/download.html>
2. Acquire or create a server certificate and secret key, and apply HTTPS settings to Nginx
  - Reference: [https://nginx.org/en/docs/http/configuring\\_https\\_servers.html](https://nginx.org/en/docs/http/configuring_https_servers.html)
  - If you have applied the signature method, securely manage the secret key and make sure to prevent unauthorized use.
3. Create a user file (.htpasswd) and apply user authentication settings to Nginx
  - Reference: [https://nginx.org/en/docs/http/nginx\\_http\\_auth\\_basic\\_module.html](https://nginx.org/en/docs/http/nginx_http_auth_basic_module.html)

Setting file examples:

This setting forwards port number 443 to the number 80 port used on the contents server and 8000 to the number 8080 port used on BRAVIA Signage Server.

```
server {
    listen 443 ssl;
    # Server certificate, secret key
    ssl_certificate /etc/nginx/ssl/server.crt;
    ssl_certificate_key /etc/nginx/ssl/private-key.pem;
    location / {
        # Specify the server host
        proxy_pass http://localhost:80;
    }
}

map $http_upgrade $connection_upgrade {
    default upgrade;
    '' close;
}

server {
    listen 8000 ssl;
    # Server certificate, secret key
    ssl_certificate /etc/nginx/ssl/server.crt;
    ssl_certificate_key /etc/nginx/ssl/private-key.pem;

    location /socket.io-player/ {
        # Connection from BRAVIA Signage Player
        proxy_pass http://localhost:8080/socket.io-player/;

        # Settings required for WebSocket connection from BRAVIA Signage Server
        proxy_http_version 1.1;
        proxy_set_header Host $host;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection $connection_upgrade;
    }

    location / {
        # Access to the management screen
        proxy_pass http://localhost:8080;

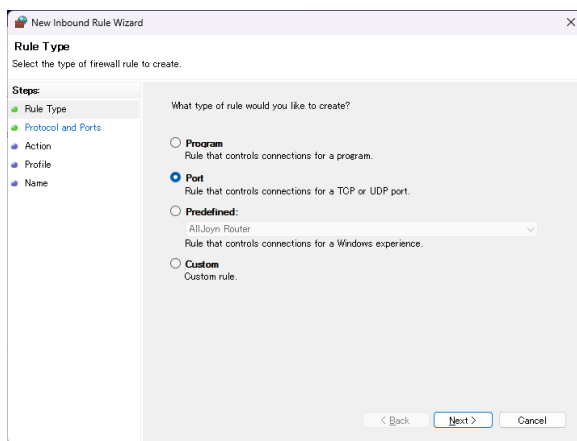
        # User Authentication
        auth_basic "Basic Authentication";
        auth_basic_user_file .htpasswd;
    }
}
```

## Windows Firewall Setting Examples

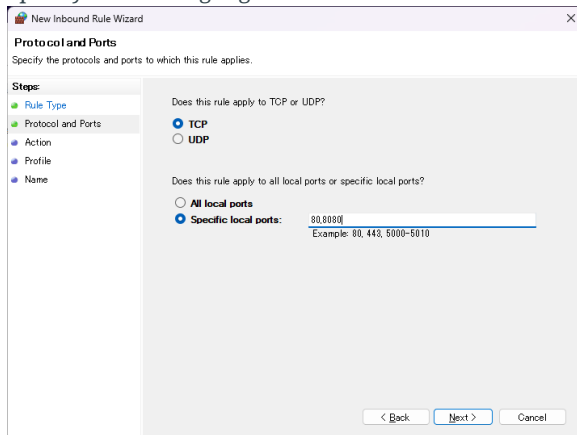
Restrict direct access that does not incorporate reverse proxy to the server PC from the client by using the server PC firewall.

### Setting through GUI

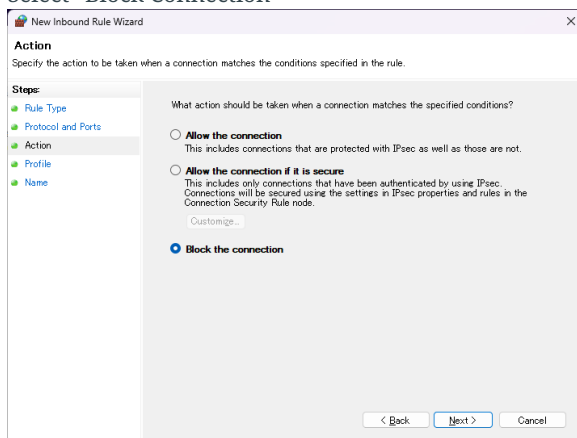
1. Open Windows firewall settings
  - Windows Settings > Update and Security > Windows Security > Firewall and Network Protection
2. Create new regulations and block transmissions on ports used by the server
  - Select Reception Regulations > Operation > New Regulations
3. Select “Port”



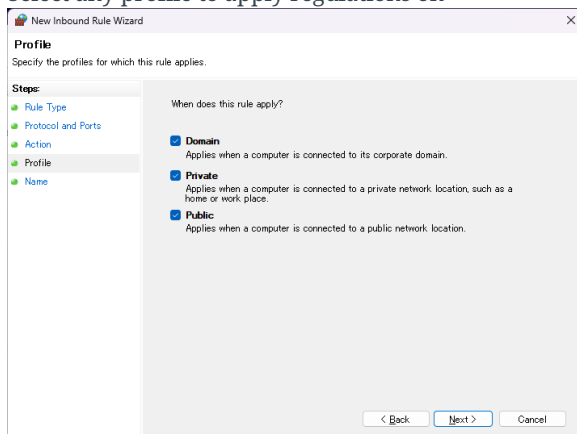
4. Specify BRAVIA Signage Server and the contents server port number (specify number 80 and 8080) with TCP



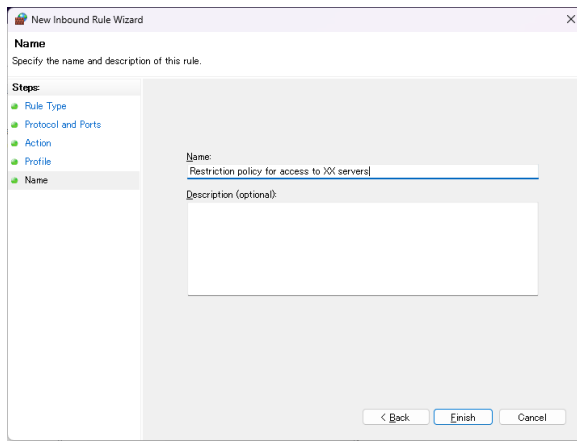
5. Select “Block Connection”



6. Select any profile to apply regulations on



7. Apply a name for the regulation and press complete



## Setting through commands

1. Open the command prompt with administrator privileges
2. Apply access restriction regulations to number 80 and 8080 ports of the firewall with command line
  - `netsh advfirewall firewall add rule name="Restriction policy for access to XX servers" dir=in action=deny protocol=TCP localport=80,8080`

## BRAVIA Signage Setting Change

After changing the server URL following reverse proxy introduction, refer to the following, perform required settings on BRAVIA Signage Server and BRAVIA Signage Player.

User Guide (Advanced Use) > 1. Advanced Use (Application) > 1.3.  
Change Contents Library URL

User Guide (Advanced Use) > 2. Advanced Use (Infrastructure) > 2.4.  
Introduce the Reverse Proxy Server

# Change History



## 1.7.4

---

- All: Modified the missing descriptions and described expressions, designs.
- Begining: Added item in package due to additional feature.
- Chapter 4
  - 4.2: Changed procedures due to additional feature.
  - 4.3: Changed procedures due to additional feature.
- Chapter 5
  - Changed procedures due to additional feature.
  - Added procedure with content library.

# 1.8.0

---

- Chapter 2
  - Removed “Windows 7” from the server of the requirements.
  - Added “Windows Server 2019” to the server of the requirements.

# 1.8.1

---

- Chapter 2
  - Added a description of network environment to the requirements.
  - Changed the description for supported BRAVIA.
- Chapter 4
  - Updated the order of the setup steps.
  - Added procedures for Android 10.0 or late models.
  - Removed procedures for Non Android TV model.

## 1.8.1

---

- Removed “Windows Server 2012 R2” from the server of the requirements.

## 1.8.2

---

- Chapter 2
  - Added Synology NAS to requirements of server.
  - Removed description about installing .Net Framework 3.5 .
- Chapter 4
  - Added Synology NAS setup steps.

## 1.8.3

---

- Chapter 2
  - Removed “Windows 8.1” from the server of the requirements.
  - Added “Windows 11” and “Windows Server 2022” from the server of the requirements.
- Chapter 4
  - Added BRAVIA Signage Server authentication setting and Windows login user password input procedure to the installation procedure.
- Appendix I
  - Added descriptions concerning security requirements and measures.

# 2.0.0

---

- Chapter 2
  - Removed Synology DSM 6.2 and DSM 7.0 from the list of server PCs in the “Requirements” section.
  - Removed the 32-bit trial version of the server PC listed in the “Requirements” section.
- Chapter 4
  - Added instructions for installing BRAVIA Signage Server 2.0.0 to the installation procedure.