dataton

WATCHNET™

1.4

DATATON WATCHNET – USER'S GUIDE

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Document number: 3785/1.1

Technical Support: **support@dataton.com**

1. INTRODUCTION

Welcome to Dataton WATCHNET, powerful multi-tasking server software for custom control, scheduling and managing of Dataton WATCHOUT multi-display software and other devices.
WATCHNET provides interactive control of Dataton WATCHOUT and other devices from an unlimited number of devices such as iPhone, iPad, Android tablets/phones and Windows Surface or through any Mac/Windows laptop/desktop computer.

ABOUT THIS MANUAL

This manual is divided into the following parts:

- An introduction to give you the big picture. Start here if you're a new user or just having your first look at WATCHNET. You'll also find basic instructions on how to install the program and configure your computers and panels.
- A reference section, describing all application modules and other details. Refer to this section to learn more about specific functionality.

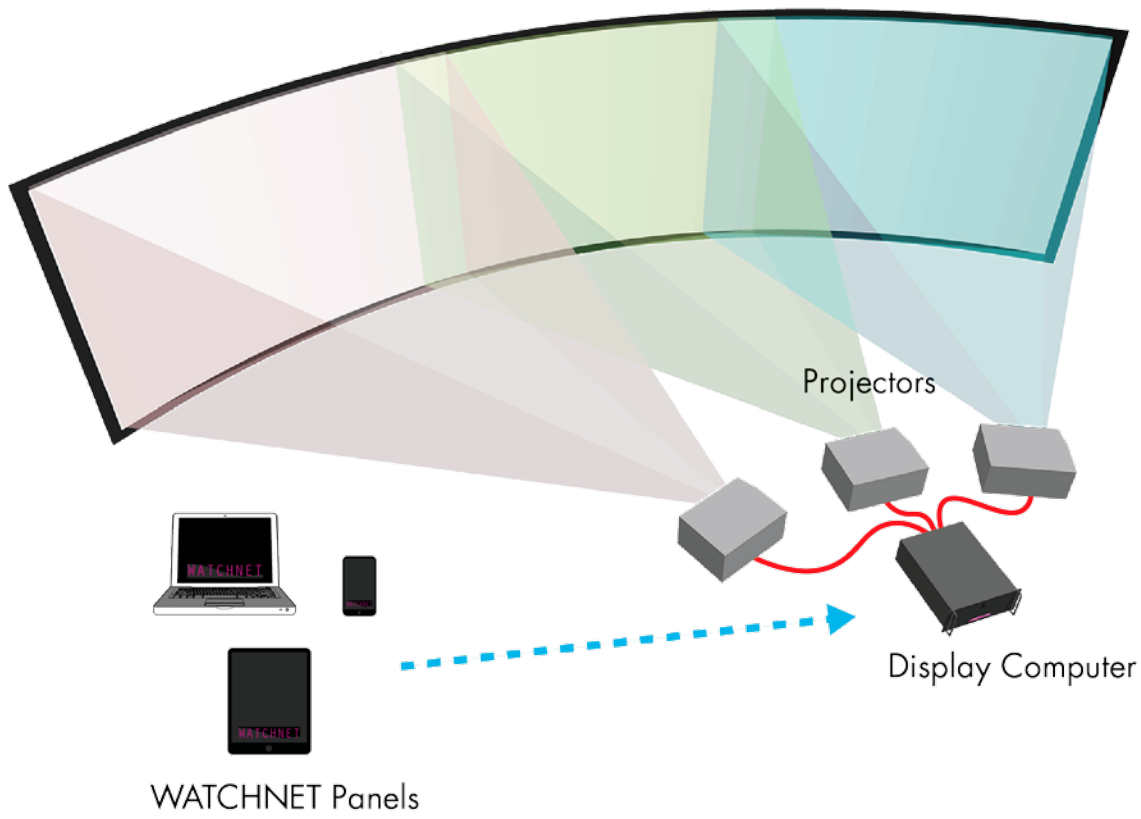
WATCHNET VERSION 1.4

This manual refers to WATCHNET version 1.4 and WATCHOUT version 6.0 or later. The latest version of Dataton software and its documentation can always be obtained from:

http://www.dataton.com/downloads

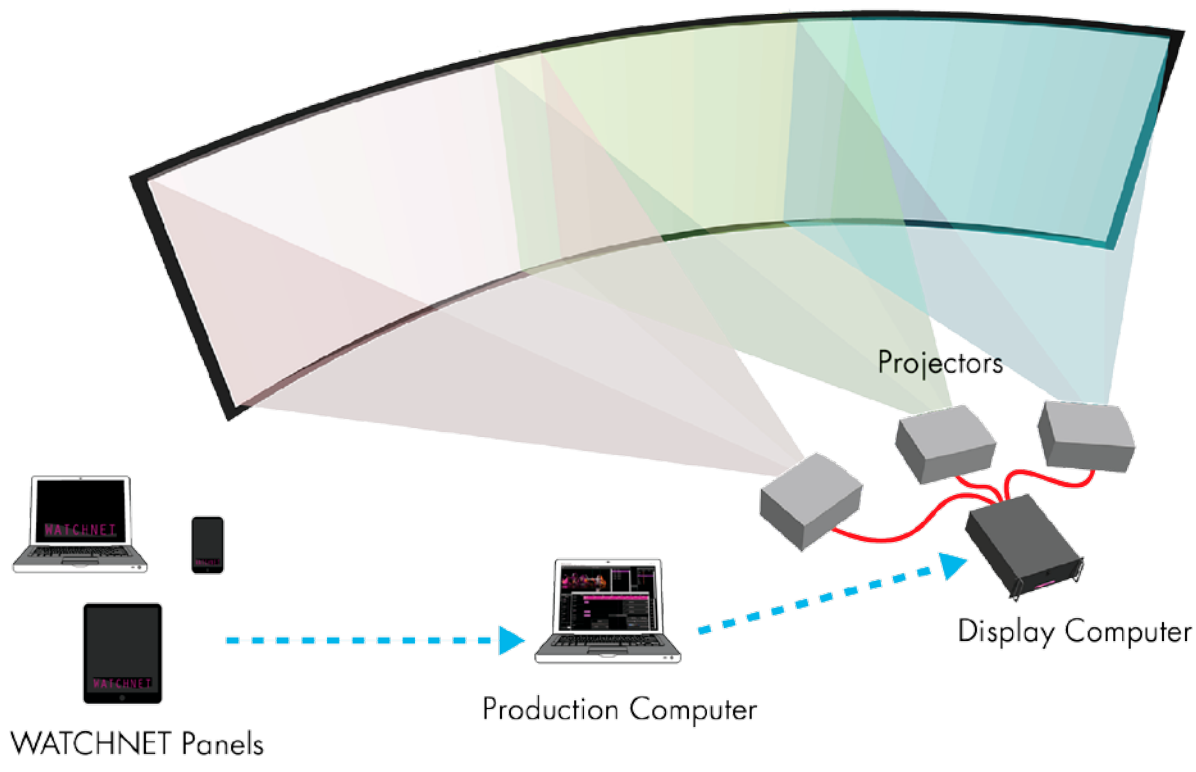
SYSTEM OVERVIEW

This section provides a brief introduction to the various components in a basic WATCHNET system, and how they fit together. The two illustrations below show the possible operating scenarios when WATCHNET is being used to control a running WATCHOUT installation.



A small WATCHOUT system setup where WATCHNET directly controls the display computer.

In the illustration above, the WATCHNET server computer is connected directly to a Dataton WATCH-MAX acting as the display computer. Running shows are managed and distributed by WATCHNET and interactive control over a running show is provided through WATCHNET Panels.



A small WATCHOUT system setup where WATCHNET controls the WATCHOUT production computer.

In the previous illustration, the WATCHNET server computer is connected to a WATCHOUT production computer, the production computer controls a Dataton WATCHMAX acting as the display computer. Running shows are managed and distributed by the production computer and interactive control over a running show is provided by WATCHNET Panels through the production computer.

In both of the above scenarios WATCHNET may be used to control external devices such as projectors or displays, e.g. to turn them on or off or switching input sources.

WATCHNET SERVER COMPUTER
The WATCHNET server application may be installed on any computer running Windows or Mac OS X. To control production computers, display computers, or other external devices, the server computer must be able to establish a network connection to those devices. Other computers or hand-held devices may interactively control the server and any devices connected to the server through WATCHNET Panels. This interaction requires devices to be able to connect to the server over network.

DISPLAY COMPUTER
One display computer is needed for each display device, or group of display devices, used in your presentation. A display computer can manage up to six display devices, depending on hardware and performance requirements. The system is scalable: add more display devices and display computers as needed. Use Dataton WATCHPAX or WATCHMAX players as display computers if you prefer something that's ready to use out-of-the-box. Alternatively, configure your own Windows-based PC computer to run WATCHOUT.

PRODUCTION COMPUTER
WATCHNET may connect to a live display computer controlling a WATCHOUT cluster. In this case the server talks directly to the production computer and does not require network access to the display computers.

PANELS
Using panels, end-users can interact with the server using any device capable of displaying a web page (Tablet, Phone, Laptop, etc.). Panels are created using the GUI designer page and accessed through the built-in browser of a device over network. Through panels it is possible to control external devices, manage WATCHOUT presentations, and interact with a running presentation.

NETWORK
The network, represented as the blue dashed arrow(s) in the illustrations above, ties all the parts of the system together. It enables the server computer to control the production- or display computer and external devices, as well as giving access to panels provided by the server for interaction.

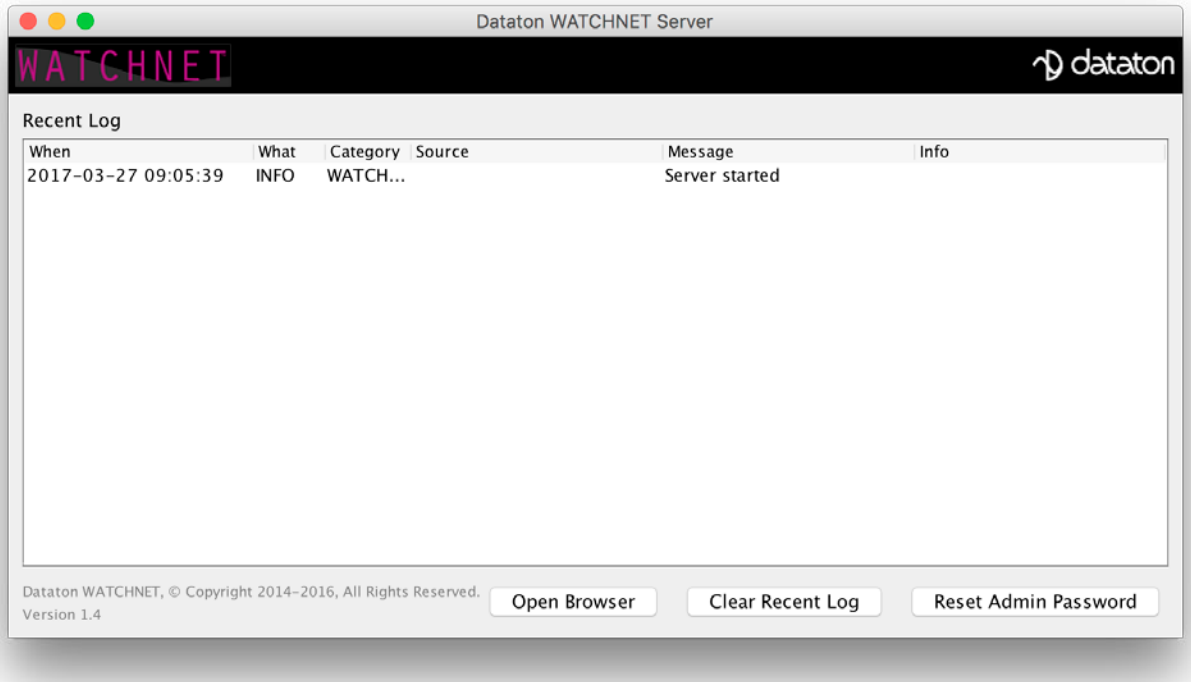
DISPLAY DEVICES
In the illustrations above, three projectors are used as the display devices. However, WATCHOUT can be used with virtually any display device that can be connected to a computer (such as projectors, LCD panels, LED walls etc).

SOFTWARE OVERVIEW

This section provides a brief introduction to the WATCHNET server control software.

SERVER WINDOW

The illustration below shows the server window. It contains a log of recent events, information on the currently running server version, and three buttons: one opens the operating system default browser and accesses the server, one clears the recent log and the last one resets the “admin” user password.

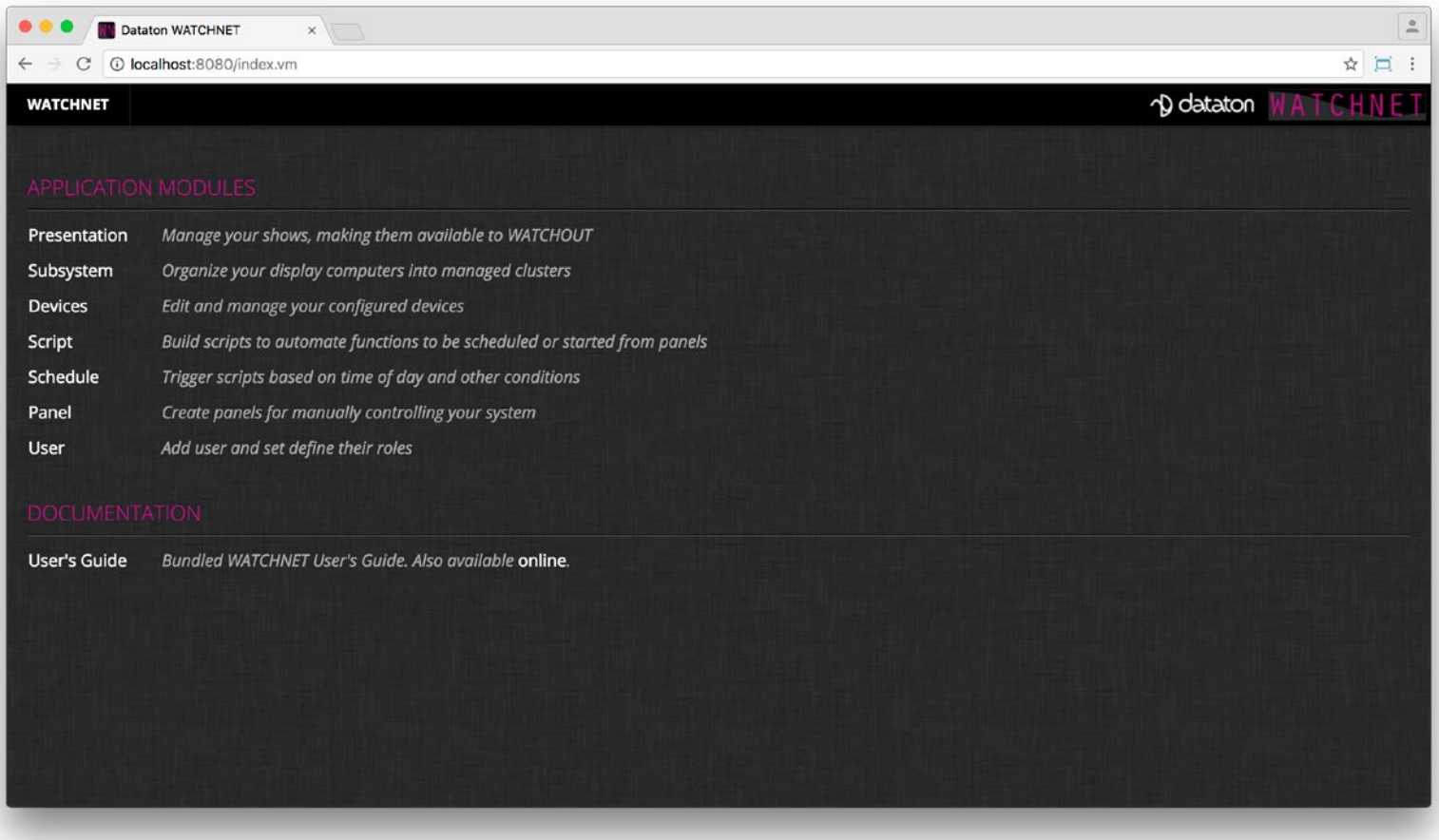


WATCHNET server window

HINT: If you’ve received a WATCHNET_Data folder from a content creator or integrator, use the “Reset Admin Password” button to set your own administrator password before integrating WATCH-NET into your installation.

START PAGE

The start page, seen below, is the first point of entry when interacting with the server. It is accessed either by clicking the "Open Browser" button in the server window or opening a web browser and entering the IP address of the server computer.



WATCHNET start page

IMPORTANT: On a Unix-based system (Mac OS X, Linux) port 80 is reserved and the server therefore runs on port 8080. To access the server start page on these systems enter the IP address of the server computer followed by ":8080" e.g. "127.0.0.1:8080" to specify port 8080 to the web browser.

The primary method of interacting with the server software is through a web browser. A simple GUI designer web page in WATCHNET allows you to quickly create panels and scripts to manage WATCHOUT display clusters and other devices.

The available application modules are listed on the start page. Once Panels have been created they are also displayed at the bottom of this page.

NOTE: When the server start page is accessed through a touch device such as an iPad or Android tablet only the available Panels are listed. The application modules cannot be used from a touch-only device.

Click a module on the start page to access it, or alternatively pull down the WATCHNET menu located in the top left corner of the window, and select the desired module. When entering a module for the first time you will be prompted to enter your user-name and password. To log out after having used a module select "Log Out" from the WATCHNET menu, or simply close the browser window including all open tabs.

The user "admin" with the corresponding password can always be used to access application modules. Unless the password for this user has been changed, it is the password specified when the server was started for the first time.

HINT: If you've forgotten the password for the admin user it can be reset using the "Reset Admin Password" button in the server window.

APPLICATION MODULES

The following application modules are available in version 1.4, and can be accessed from the server start page, or through the menu located in the top left corner (accessible from any page).

Presentation The Presentation module lists all shows that have been uploaded to the server, and lets you upload new or revised shows and remove old ones.

Subsystem The Subsystem module lists all WATCHOUT clusters and production computers currently configured in the server as well as the members of each cluster.

The Devices module lists all configured devices and device protocols within the system, and allows you to edit, remove, and define devices, protocols, and commands.

Script The Script module shows the scripts available in the system, and lets you edit those scripts. A script tells the system what to do, as a sequence of actions. For more information on the available actions, see "List of Script actions".

Schedule The Schedule module lists all events that are scheduled for execution by the server. An event links a time and other conditions to a Script.

Panel The Panel module lists the control panels currently provided by the system, and lets you add new panels or edit existing ones. Panels provide direct, interactive control over WATCHNET by means of operating buttons and other panel items.

User The User module lists all users authorized to access the server, and lets you add, remove, and edit existing users.

2. INSTALLATION AND CONFIGURATION

This section will briefly outline the steps needed to install, configure, run, and maintain the server computer.

INSTALLATION

WATCHNET can be installed on any computer running Windows or Mac OS X.
If installed on a Mac the recommended OS X version is El Capitan (version 10.11) or later, on Windows version 7 or later is recommended.

The latest version of WATCHNET can be obtained from:

http://www.dataton.com/downloads

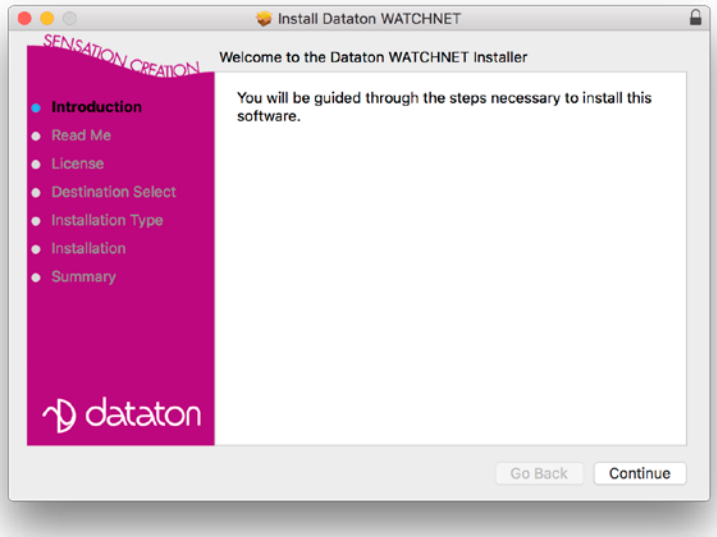
WINDOWS

Download the latest installer for Windows and run the setup program to install WATCHNET. This also adds WATCHNET to the Start menu.

WATCHNET Windows installer

MAC OS X

Download the latest version of the WATCHNET installer disk image file, run the software package file located inside to start the installer. Once installed, WATCHNET will be located in the Applications folder.



WATCHNET Mac OS X installer

CONFIGURATION

WATCHNET is a server program and as such it needs to run continuously, therefore any automatic sleep or similar functions should be turned off in the operating system. It is also recommended to configure the server computer and routers to use a static IP address.

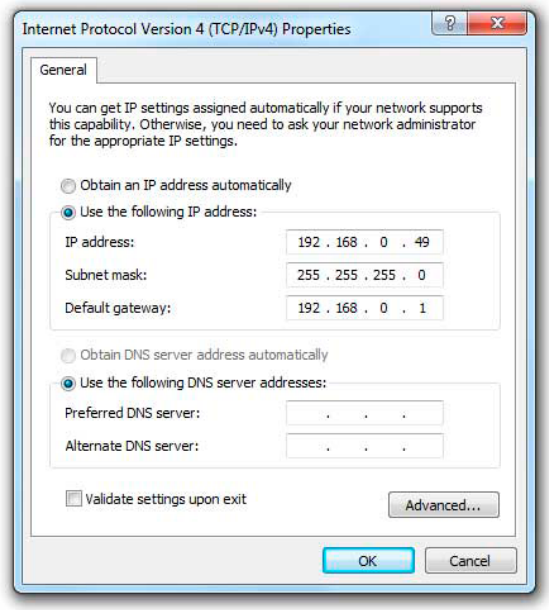
IMPORTANT: You may need to contact your network administrator to set up your router DHCP settings to allow static addresses.

If there is a firewall active on the server computer you may be asked to grant WATCHNET permission to access the local network. This must be allowed if other computers or touch-devices are to communicate with the server.

To ensure that the server software is always up and running, add WATCHNET to the list of programs that start automatically when the computer reboots. You may also want to configure your computer to restart automatically in case of power failure and/or connect the computer to an uninterruptible power supply (UPS) to keep it running during brief power outages.

WINDOWS

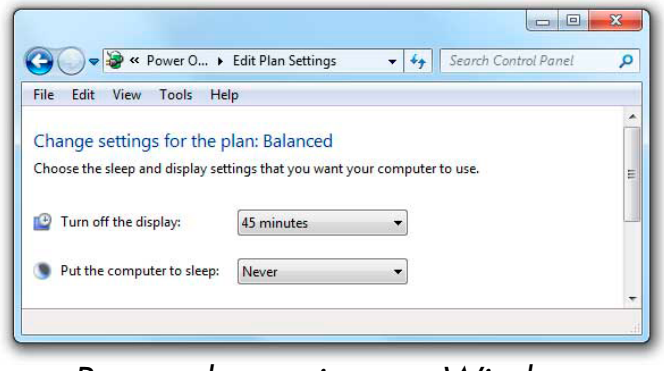
To assign a static IP address to the server computer, open “Network and Sharing Center”, click “Change Adapter Settings”, right-click the active Local Area Connection icon and choose properties. Double-click “Internet Protocol Version 4” and assign a fixed IP address to the computer.



Network settings on Windows

HINT: Make a note of this address as it will be needed to connect to the server from other computers or touch-devices.

To disable automatic sleep, open “Power Options” and select the desired power plan, click “Edit Plan Settings” and select “Never” under the headline “Put the computer to sleep”.

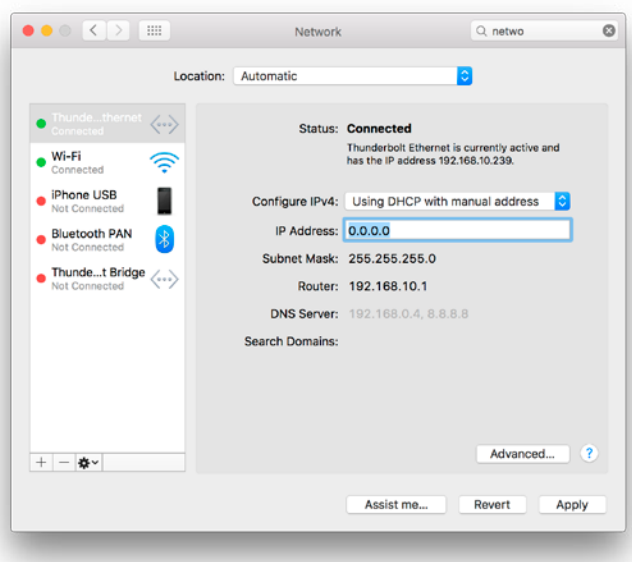


Power plan settings on Windows

Lastly, configure the server computer to reboot automatically after a power failure (this setting is typically located in BIOS), and add WATCHNET to the programs that start automatically. This is done by adding a shortcut to WATCHNET to the Startup folder of your computer, the folder is accessed by opening the “Run” dialog box (Windows key + R) and entering the command “shell:startup”.

MAC OS X

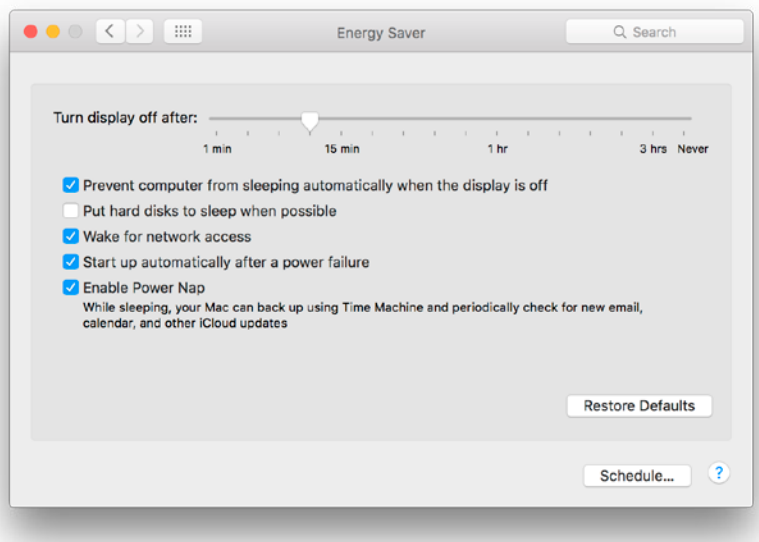
To assign a static IP address to the server computer, open “System Preferences” and click “Network”. Select the desired connection and under the headline “Configure IPv4” choose “Using DHCP with manual address”, or “Manually”, and assign a fixed IP address to the computer.



Network settings on Mac OS X

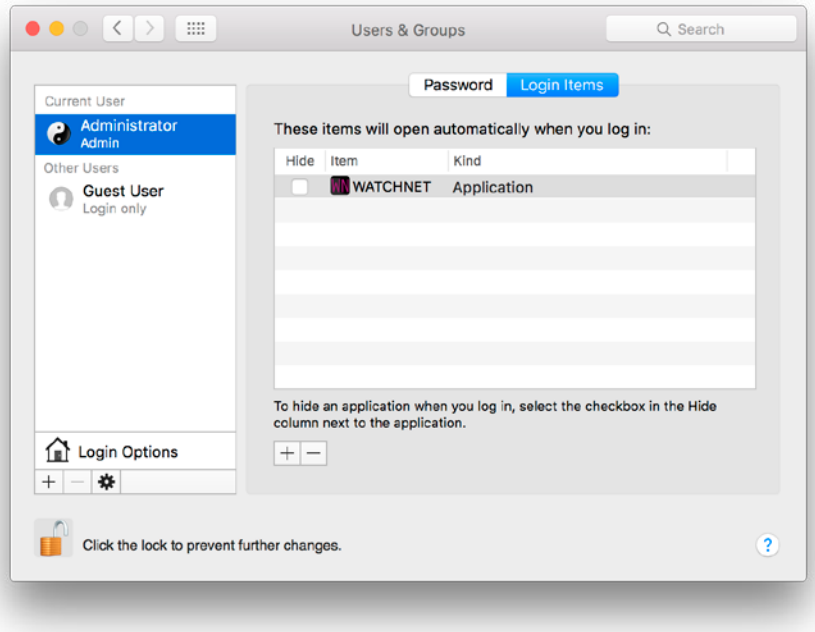
HINT: Make a note of this address as it will be needed to connect to the server from other computers or touch-devices.

To disable automatic sleep, open “System Preferences” and click “Energy Saver” and check “Prevent computer from sleeping automatically when the display is off”. Alternatively if no check-box is available, drag the slider all the way to the right to “Never”. Lastly, configure the server computer to reboot automatically after a power failure. This is done by checking the box next to “Start up automatically after a power failure” in energy saver settings.



Power settings on Mac OS X

In the event of a power failure, WATCHNET should be set to start automatically as the computer restarts. The list of programs that start automatically is found by opening “System Preferences”, clicking “Users & Groups” and selecting “Login Items”. An application is added to the list by clicking the plus button below the list.



Mac OS X list of applications that will start automatically upon login

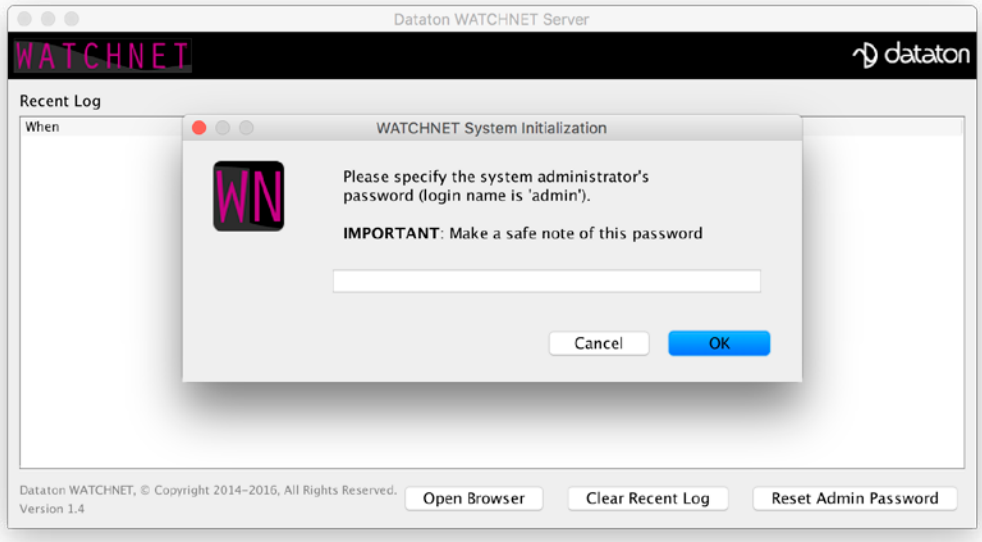
IMPORTANT: Make sure the “Hide” check-box is not checked as this might hide the server window after start up.

RUNNING THE SERVER

When the computer is fully configured and WATCHNET is ready to be launched, connect a WATCHOUT 5, or later, license key (dongle) to the computer. This must remain connected as long as the server is running.

IMPORTANT: If the license dongle is disconnected whilst the server is running, it will become unavailable. All connected devices will be notified of this and redirected to a page stating that the server is unavailable.

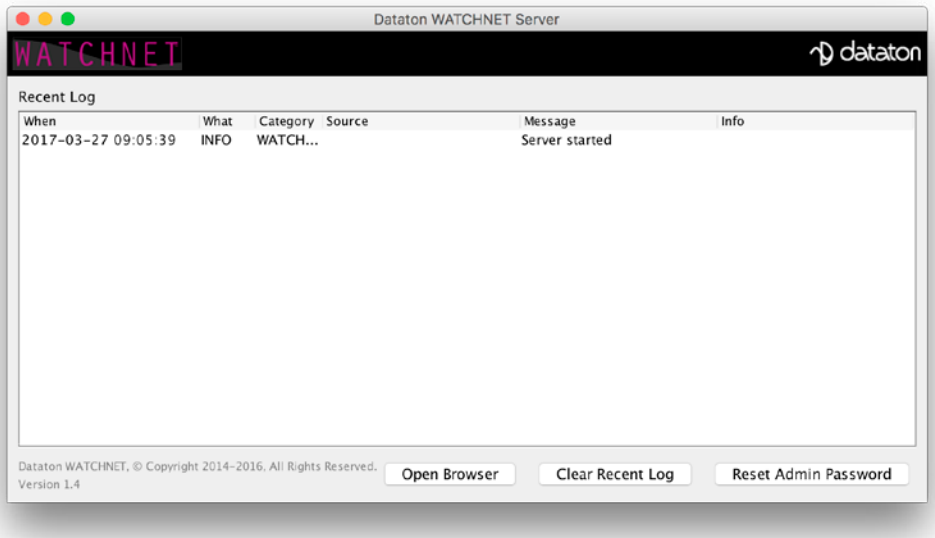
If this is the first time you're starting the server you will be prompted to enter the system administrator's password.



Administrator password prompt, first time running WATCHNET

IMPORTANT: The administrator's password is the key to the full power of WATCHNET, choose it well and keep it safe.

Once the server has started, an info message is displayed in the info log notifying that the server is now online and accepting connections. If any errors were encountered during start-up they will be listed in the log.



WATCHNET server window after successfully starting up

Other messages will appear in this log while the system is running, particularly if an error occurred. If the server is behaving unexpectedly it is a good idea to check this log for any error messages.
The log window only displays the most recent messages and it is cleared whenever the server is restarted, or the “Clear Recent Log” button is pressed. To see previous logs, go to the “logs” folder in the WATCHNET_Data folder, see “Maintaining the server” below.

MAINTAINING THE SERVER

As with any important data stored on computers it is a good idea to make regular backups. All data related to WATCHNET is stored in a folder named "WATCHNET_Data". The folder is located in the current user's home directory.

HINT: Ensure that this folder is included in your regular backups.

A look inside the WATCHNET_Data folder reveals that it contains the following items:

- A "logs" folder, containing an archive of previous log messages. Messages are saved here even if manually discarded from the log window through the "Clear Recent Log" button.
- A "public" folder containing images, videos, and similar resources used in panels.
- A "shows" folder containing all WATCHOUT bundles uploaded through the "Presentation" page.
- A "temp" folder containing data that the server may need to store temporarily (such as partially uploaded bundle files, videos and images.
- A "Spec" file containing a database with all content created in WATCHNET.
- A "Cache" file with data used to optimize the operation of the server.

The key item in this folder is the Spec file. If you want to take a snapshot of your programming (excluding all images, videos, bundles, etc., make a copy of this file.

IMPORTANT: Do not move, or remove, the Spec file from the WATCHNET_Data folder. Doing so will reset all of your programming and you will need to start over from scratch. Always backup this file to safeguard your programming.

To take a snapshot of the current state of the server, including all Panels, Scripts, Devices, etc., save a copy of the WATCHNET_Data folder under a different name. If you want to revert to this snapshot, or if you're creating panels, etc., for a customer, follow these steps to reset WATCHNET from the stored state.

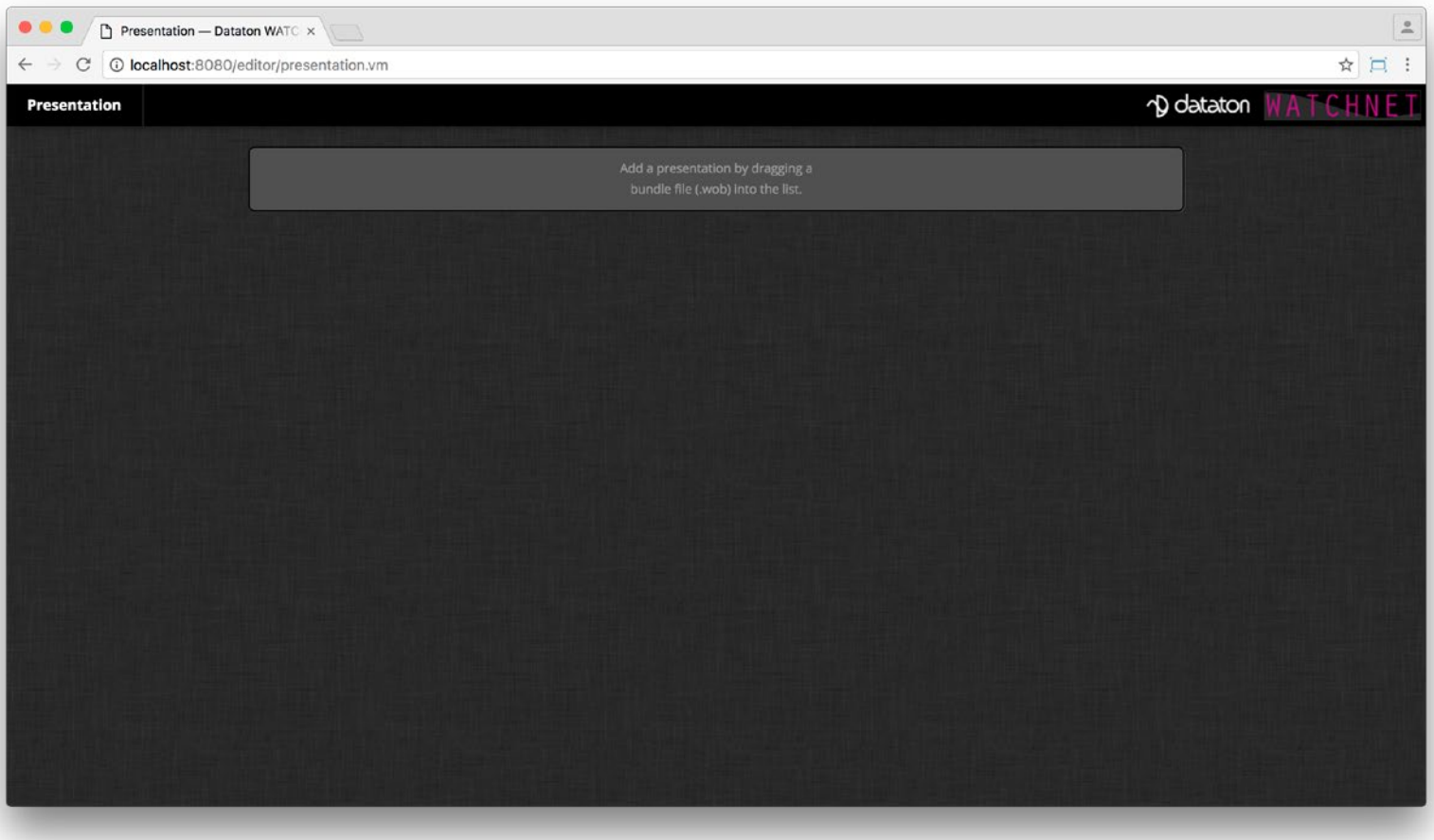
- Close down the server.
- Discard or rename the current WATCHNET_Data folder.
- Rename the snapshot folder to WATCHNET_Data.
- Start the server.

3. APPLICATION MODULES

This section describes the available application modules in greater detail. Application modules are accessed either from the start page or through the WATCHNET menu located in the top left corner of the web page.

PRESENTATION

The presentation page lists all shows that have been uploaded to the server. A show residing on the server can be distributed to a display cluster through script actions. This allows you to update a cluster with new or revised shows without using a production computer. Furthermore, since the distribution is carried out through script actions, it can be scheduled ahead of time to occur when the system is idle.



WATCHNET Presentation page

To upload a show to the server, simply drag a bundle file into the list of available shows. A bundle is identified by its ".wob" extension.

EXPORTING A WATCHOUT BUNDLE

There are two possible bundle exports: a new file or a revised version of a previously existing bundle. WATCHNET will recognize both types and in the case of revised shows the latest uploaded version will be stored on the server.

Please see the "WATCHOUT User's Guide" for information on how to create a WATCHOUT Bundle.

USING PRESENTATIONS

After a bundle has been uploaded to the server it can be transferred to any connected display clusters using the "Update Show" script action.

NOTE: In order for a show to work on a cluster, the name of all the display computers addressed in the show must exist in that cluster. The cluster name, as specified in WATCHOUT preferences, is not used. This allows you to distribute a show to any suitable cluster from WATCHNET, as long as the set of display computer names match.

REMOVING PRESENTATIONS

To remove a presentation bundle from the server, select it in the list and click the minus button under the list. This removes the entire bundle file, including all its media files.

NOTE: Removing a presentation bundle from the server does not remove it from any of the display computers to which it has already been transferred. If this is desired it must be done separately.

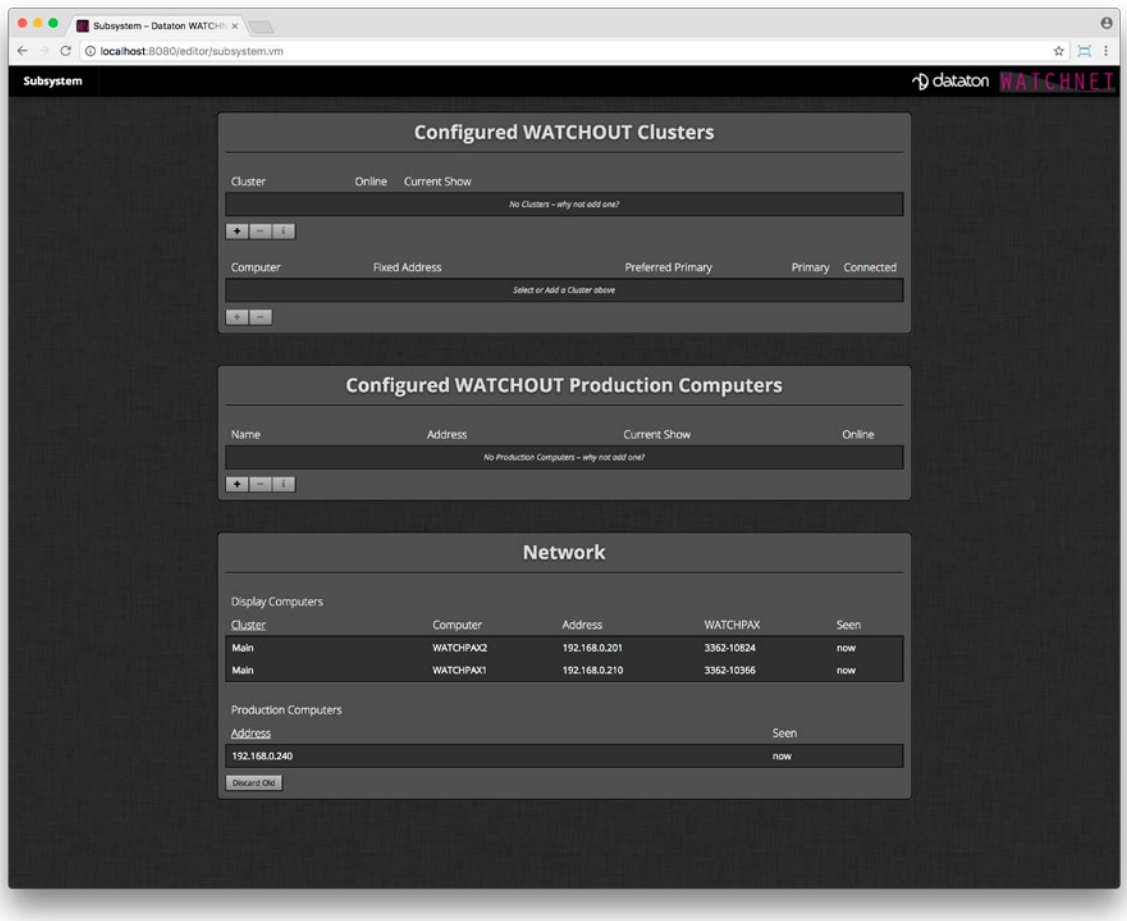
SUBSYSTEM

The subsystem page lists all configured WATCHOUT “Production Computers” and “Display Clusters”, with their members. Any production- or display computer found on the local network is also listed along with some basic info in the Network list.

IMPORTANT: Production computers are only found on the local network if they are running WATCHOUT version 6.2 or later. Furthermore the production computer must have the “UDP Production Computer Control” option located in “Preferences” enabled to be discovered, please see the “WATCHOUT User’s Guide” for details on how to enable this. While it is perfectly fine to configure and control production computers using earlier versions of WATCHOUT, they will not appear in the network list.

NETWORK

The Network list shows all discovered WATCHOUT production and display computers on the local network along with their basic information.
The illustration below shows one production computer and two WATCHPAX display computers found on the local network.



WATCHNET Subsystem page

For any discovered display computers the fields shown in the Network list are:

Cluster The cluster name assigned to the display computer (may be blank).

Computer The computer name assigned to the display computer (may be blank).

Address The IP address currently assigned to the display computer. This may be hard-coded, if the computer has a fixed or assigned IP address, or dynamically assigned if the display computer uses a dynamic IP address.

Serial The WATCHPAX serial number (applies to WATCHPAX only).

Seen When the display computer was most recently seen on the network. Computers remain in this list indefinitely, allowing you to find computers that may be switched off or disconnected. To remove old computers from the list, press the “Discard Old” button.

NOTE: The name of a display computer, or the cluster to which it belongs, may be changed either by using the Network Window of the WATCHOUT production software, or by simply double clicking the display computer in the network list and selecting a new name or cluster affiliation.

For production computers, the list shows the following fields:

Address The IP address of the production computer. This may be hard-coded, if the computer has a fixed or assigned IP address, or dynamically assigned if the computer uses a dynamic IP address.

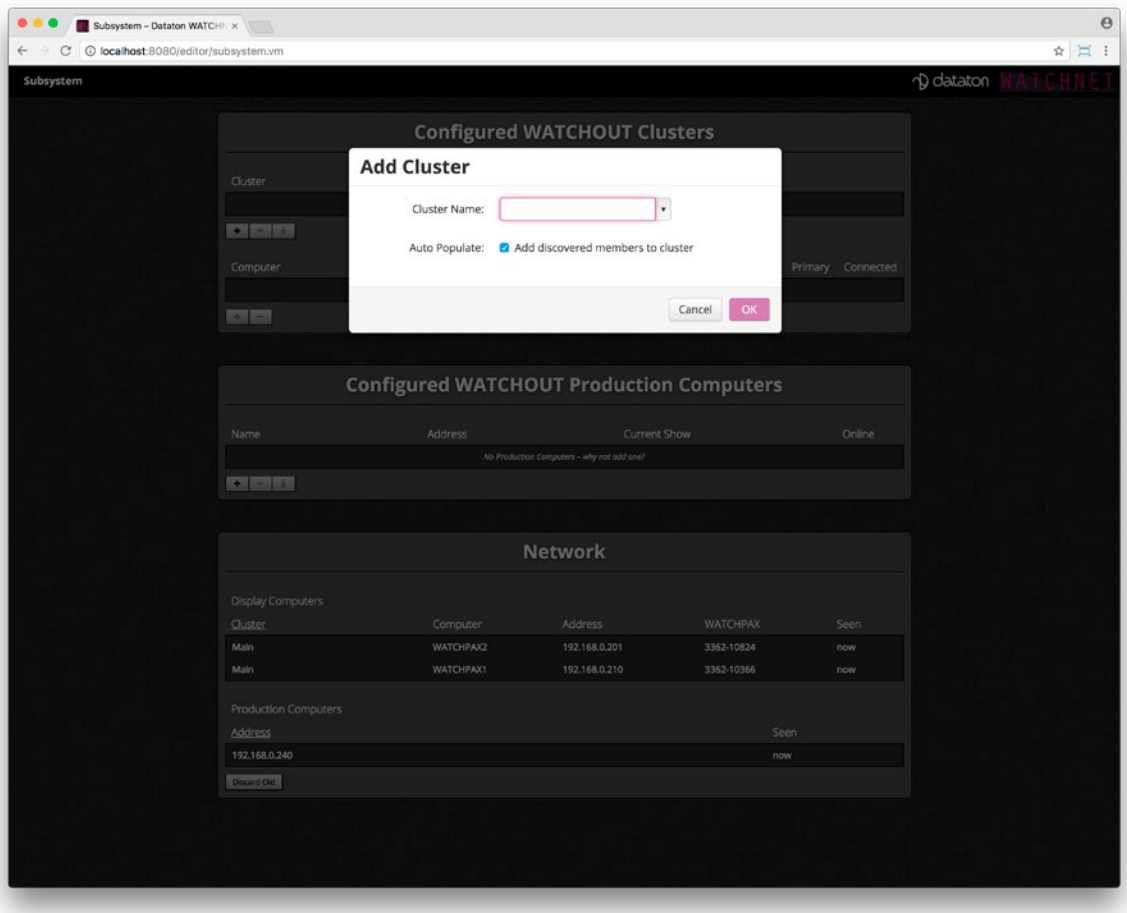
Seen When the production computer was most recently seen on the network. Computers remain in this list indefinitely, allowing you to find computers that may be switched off or disconnected. To remove old computers from the list, press the “Discard Old” button.

CONFIGURED WATCHOUT CLUSTERS

This section lists all configured clusters on the server, along with their cluster members.

Adding a Cluster

To add a cluster, click the plus button under the list of configured clusters. This brings up the “Add Cluster” dialog window.



Add Cluster dialog

If display computers found on the local network have a cluster name assigned to them, and that name does not match the name of pre-configured cluster, it will appear in the drop-down menu associated with the Cluster Name field. Alternatively, the desired cluster name may be typed into the field.

IMPORTANT: It is not possible to define a cluster and a production computer with the same name.

Add members by Auto Populate
If the Auto Populate check-box is checked, any display computers on the local network with a cluster name assigned to them which matches the name in the Cluster Name field will be added as cluster members automatically. Alternatively, cluster members may be added manually once the cluster has been created.

Manually adding computers to a Cluster
Display computers may be added manually to an already configured WATCHOUT cluster. This is useful when configuring WATCHNET ahead of time, before display computers are installed.

To add a display computer to a cluster, first select the cluster from the list of configured clusters, and then click the plus button under the list of cluster members. When a display computer is added manually it can be addressed either by name or by a fixed IP address.

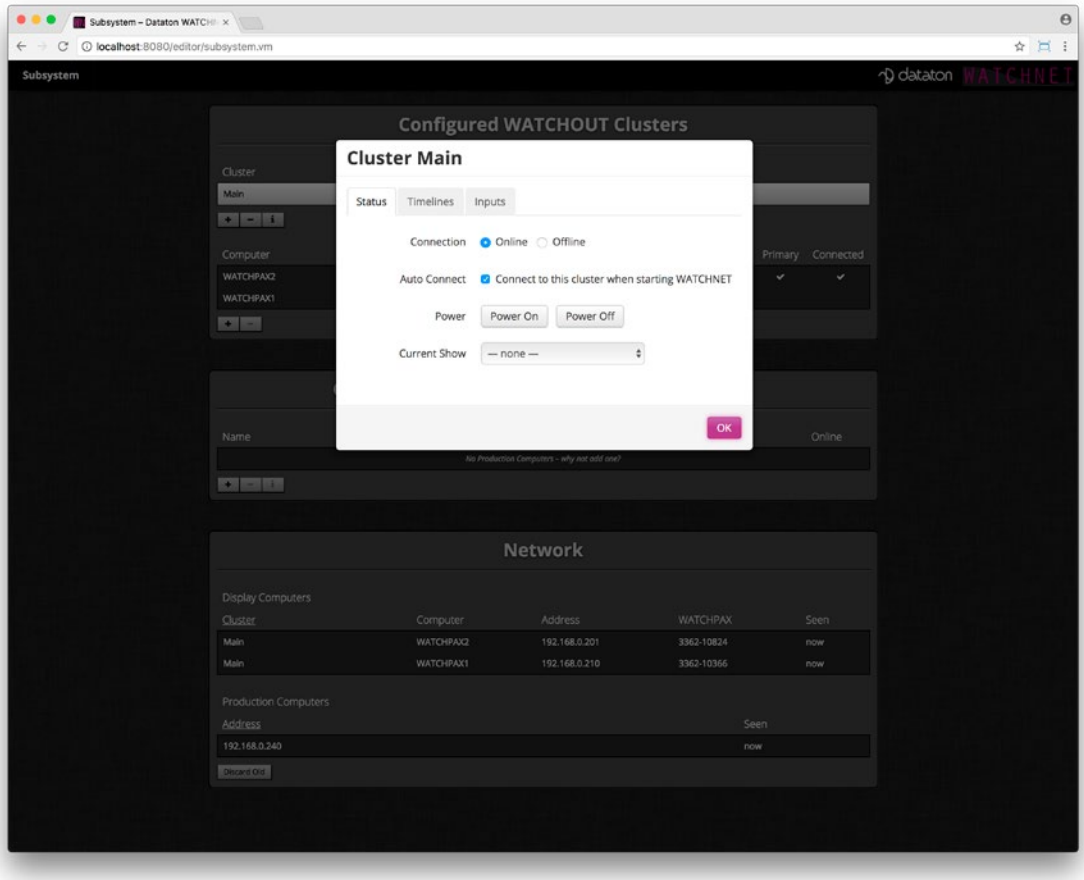
IMPORTANT: The ability to address a display computer by name requires that the computer is visible, with that name, on the local network. Some network/router configurations may interfere with the automatic discovery mechanism, preventing display computers from appearing in the Network list. In this case, the affected display computers must be given a fixed IP address. This is then entered when adding them as members to the cluster.

Finally, once all display computers have been added as cluster members, it is possible to designate one of the members as the cluster "Preferred Primary". Any member may be chosen as the preferred primary. If no cluster member is designated as the preferred primary, or if the designated preferred primary is unreachable (e.g. offline or disconnected), one of the cluster members will be chosen as the primary.

NOTE: In a cluster consisting of several display computers, one of the computers will act as the master of the group, keeping the others in sync. Unless a hardware synchronization card is used for frame-accurate synchronization of a cluster, it does not matter which computer acts as the master. If hardware synchronization is used, chose the computer that acts as the master of the hardware sync-chain as the cluster preferred primary.

Cluster Information

Once a cluster has been configured, select it in the list of configured clusters and press the information button under the list, or double-click the cluster in the list, to bring up its information dialog window.



Cluster information dialog

This dialog window, illustrated above, allows you to manually connect and disconnect from the cluster, load a show that either exists on the cluster or has been uploaded to the server, and turn the display computers in the cluster on or off. Information is also provided about existing timelines and inputs for the currently active show.

NOTE: The ability to power up display computers in a cluster from WATCHNET requires “Wake on LAN” to be enabled on all computers. This setting is sometimes found in the computer’s BIOS. Dataton WATCHPAX computers have this feature enabled by default.

Removing a cluster

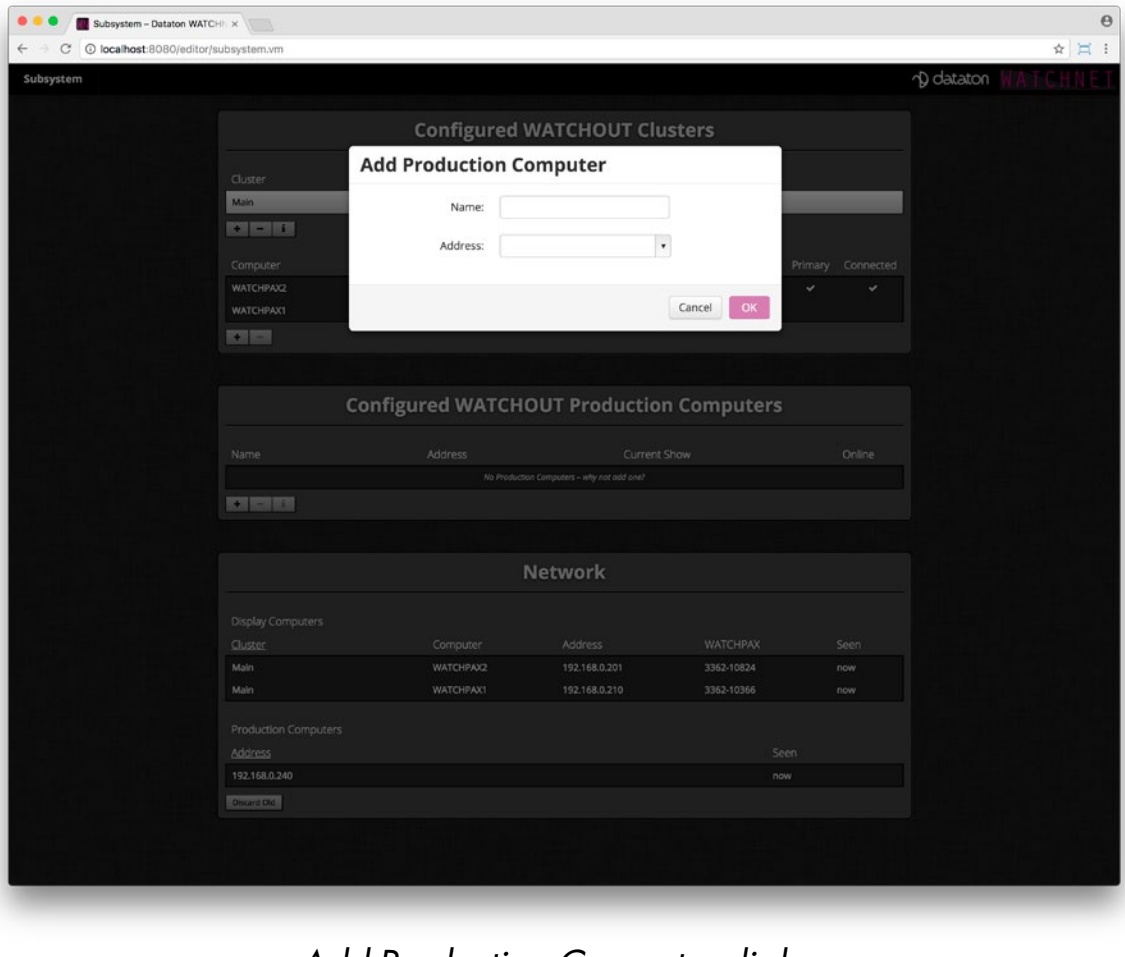
A configured cluster is removed by selecting it and clicking the minus button. The cluster and all of its members will be removed from the system, however the computers remain in the Network list.

CONFIGURED WATCHOUT PRODUCTION COMPUTERS

This section lists all configured production computers on the server.

Adding a Production Computer

To add a production computer, click the plus button under the list of configured production computers. This brings up the “Add Production Computer” dialog window.



Add Production Computer dialog

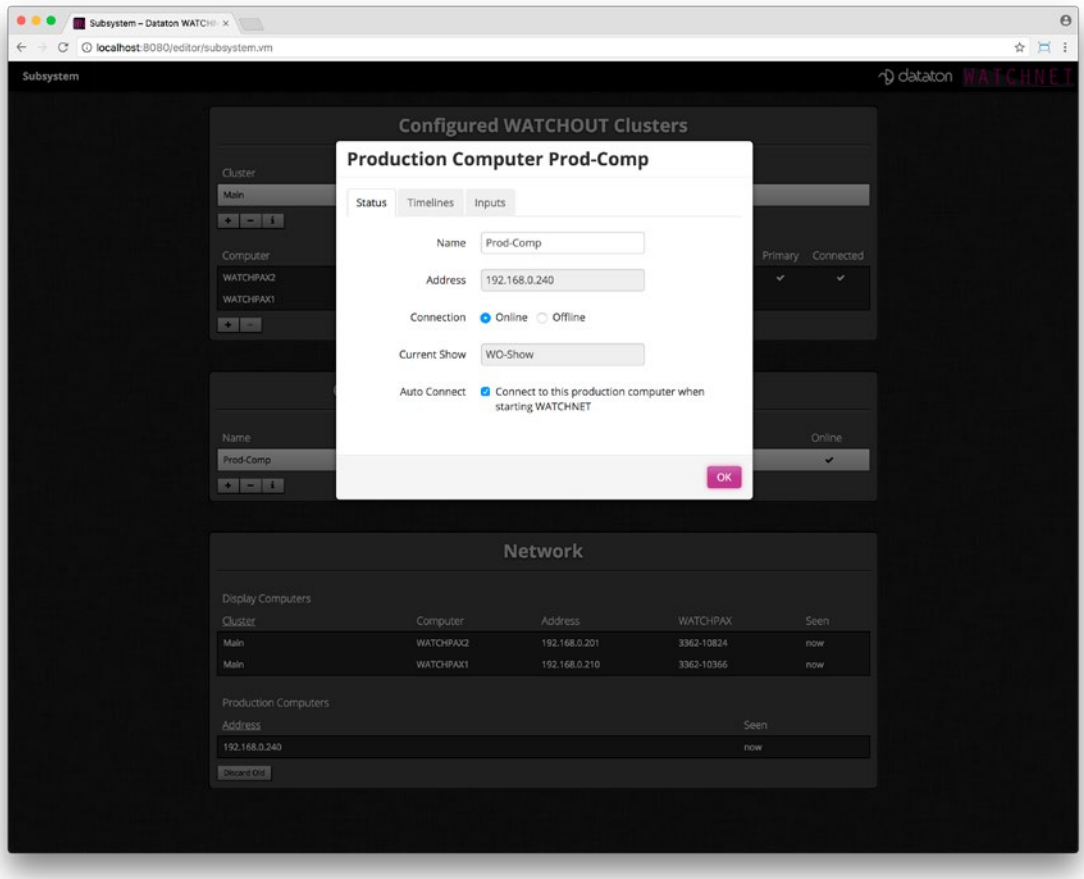
If any production computers are found on the local network, and their IP address does not match the address of an already configured production computer, that IP address will appear in the drop-down-menu associated with the Address field.

NOTE: While most WATCHOUT features can be set through WATCHNET while controlling a production computer, some are unavailable: It is not possible to unload an active show, load a new show, update an existing show, or power on/power off the production computer.

IMPORTANT: It is not possible to define a cluster and a production computer with the same name.

Production Computer Information

Once a production computer has been configured, select it in the list of configured production computers and press the information button under the list, or double-click the computer in the list, to bring up its information dialog window.



Production Computer information dialog

This dialog window, illustrated above, allows you to manually connect and disconnect from the production computer and see information about existing timelines and inputs for the currently active show.

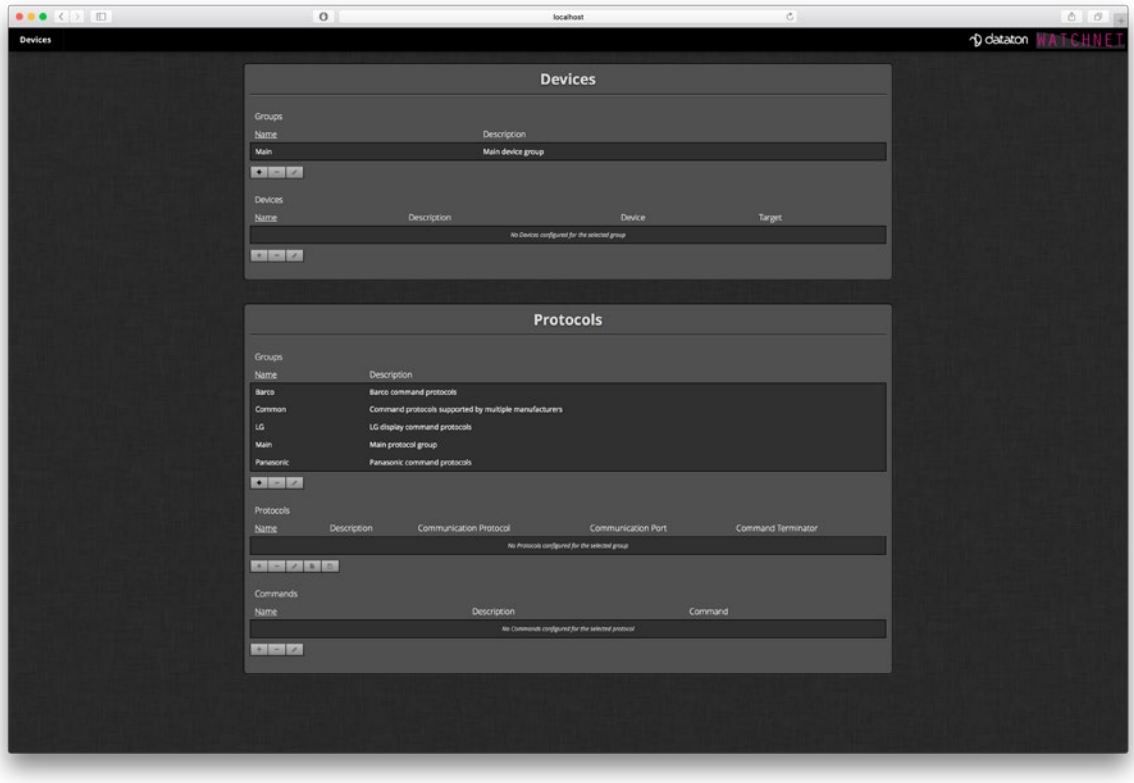
IMPORTANT: To be able to connect to, and control, a WATCHOUT production computer, the "TCP/IP Production Computer Control" option located in "Preferences" must be enabled for the currently active show of the production computer. Please see the "WATCHOUT User's Guide" for details on how to enable this option.

Removing a Production Computer

A configured production computer is removed by selecting it and clicking the minus button. The production computer will be removed from the system, however it will remain in the Network list.

DEVICES

The Devices page lists all devices, protocols, and commands, defined within the system. It also allows you to edit or remove existing devices, protocols, and commands, as well as define new ones.
The page is separated into two categories: Devices and Protocols.



WATCHNET Devices page

PROTOCOLS

Protocols define common properties of a specific brand/model of device such as communication protocol, communication port, command terminator, and available commands. Optionally you may define an IP number prefix which will be used for all devices created that use the protocol.

This section lists all available protocol groups, protocols, and commands defined in the system.

Protocol Groups

Protocols are arranged into named groups with the initial group called Main. The idea behind protocol groups is to group protocols that have common denominators such as their manufacturer.

Adding a Protocol Group

Add a new group by clicking the plus button below the list of protocol groups. Two properties are available:

Name The name assigned to this protocol group, must be unique.

Description A brief text description of the protocol group.

Editing a Protocol Group

Select the desired protocol group from the list of groups and click the pen button, or simply double-click the desired group, to edit its properties.

Removing a Protocol Group

A protocol group is removed by first selecting it from the list of groups and then clicking the minus button.

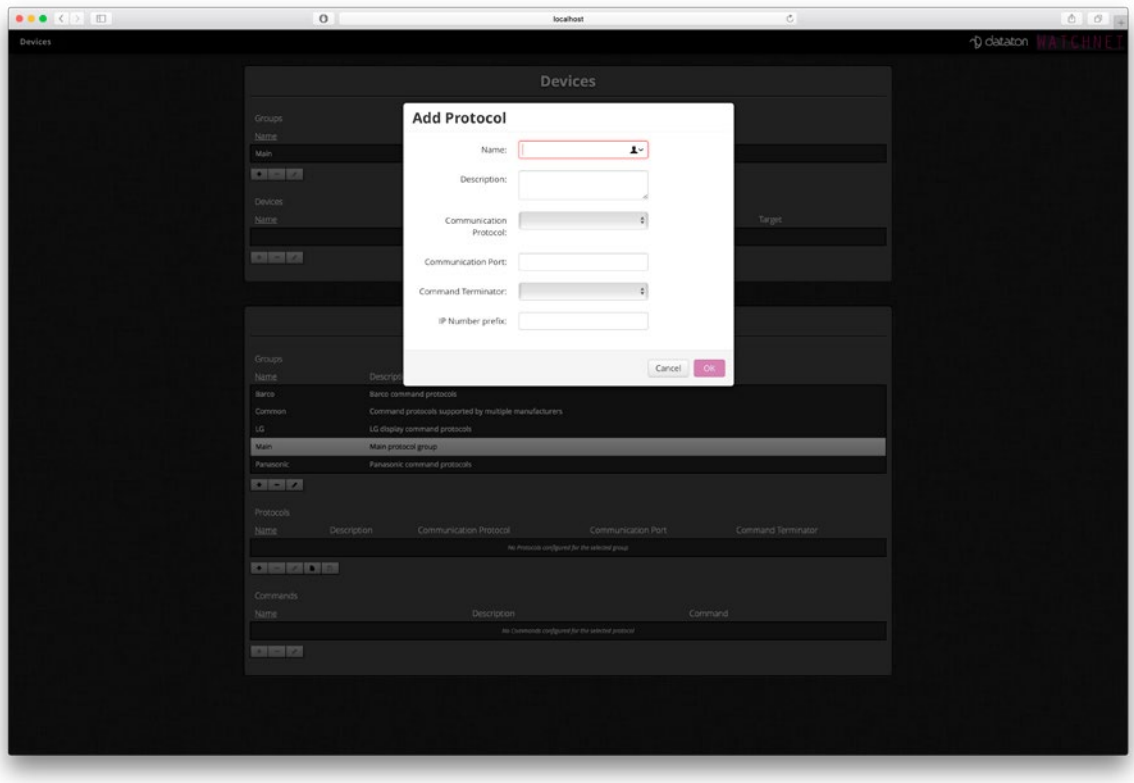
IMPORTANT: Removing a protocol group from the system also irrevocably removes all protocols belonging to that group, and all of the commands defined for those protocols.

Protocols

This section lists all available protocols in the system, for the selected protocol group.

Adding a Protocol

To add a protocol, first select the protocol group to which it should belong, then click the plus button below the list of protocols. Alternatively, a protocol may be imported from file by clicking the new file button.



Add Protocol dialog

Protocols have four settings:

Name Uniquely identifies the protocol within the group; set a name which is descriptive of the device (e.g. a model name or similar).

Description A brief text description of the protocol.

Communication Protocol This property defines which communication protocol is used, available options are TCP and UDP.

Communication Port The port used in communication.

IP Number prefix An optional IP number that will be used when configuring devices.

Command Terminator Specifies the terminator used to separate commands. Options are CRLF (carriage return + line feed), CR (carriage return), LF (line feed), and None.

IMPORTANT: If “None” is selected as the command terminator for a device, each of the defined Device Commands must end with a terminator of your choice. Failing to end a command with a terminator may result in WATCHNET being unable to communicate with the device.

Editing a Protocol
Select a protocol from the list and click the pen button, or double-click the protocol, to edit its settings.

Removing a Protocol
To remove a protocol, select it and click the minus button. A protocol may also be exported to file by first selecting it, and then clicking the save button.

Built-in Protocols

The WATCHNET installation ships with a number of built in protocols which have pre-determined group affiliation, name, and set of commands. You are free to modify the shipped protocols but note that any changes to the name or group affiliation of these protocols will cause duplicates. Each time the server is started the standard protocols list is repopulated.

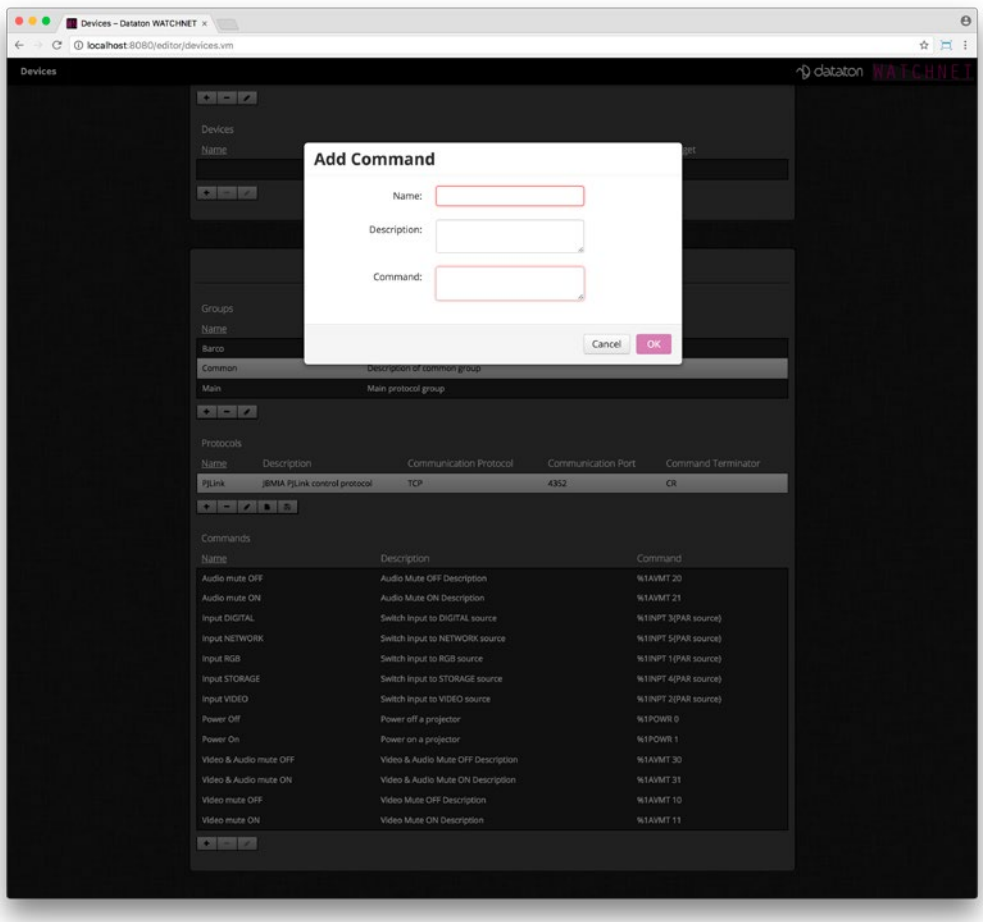
IMPORTANT: Most of the built-in protocols are ready to use out of the box. The exception is the PJLink protocol which requires a parameter for all of the “INPUT” commands, for more information on how to use parameters to external commands see below.

Commands

This section lists all available commands in the system, for the selected protocol group and protocol.

Adding a Command

To add a new Command, select the relevant protocol and click the plus button below the list of commands.



Add Command dialog

There are three settings available for commands:

Name A name which uniquely identifies this command amongst other commands defined for the selected protocol. Set a name that is descriptive for the purpose of the command.

Description A brief text description of this command.

Command This field defines the message, in text, that can be sent to any device communicating using the protocol to which this command belongs.

NOTE: In order to send commands to entire groups of configured devices, the desired command must exist for all configured devices belonging to that group. Therefore it may sometimes make sense to define commands for a protocol even if they have no meaning.

HINT: As in WATCHOUT, it is possible to send hexadecimal data bytes by using the prefix "$" followed by two characters that specify a byte. For example, "$0D" will send a carriage return. It is possible to mix text messages with hexadecimal bytes in any order. Any number of hexadecimal bytes may be sent but each two character sequence defining a byte must be prefixed with the "$" symbol.

IMPORTANT: A command may also define parameters that appear as parameters to the "External Command" script action. A parameter is defined by entering the following pattern in the text mes-

sage: “{PAR my_param}”. A parameter with the name “my_param” will then be available when sending the command in a script action.

Editing a Command
Edit an existing command by selecting it from the list and clicking the pen button, or simply double-click the command.

Removing a Command
Remove a command by selecting it from the list and clicking the minus button.

CONFIGURED DEVICES

The items listed under devices refer to specific devices, talking one of the defined protocols, e.g. one of the projectors used in a show setup. This section lists all available device groups and devices that have been configured on the server.

Device Groups

Like protocols, devices are arranged into named groups, with the initial group named Main. The idea behind device groups is to group devices based on some meaningful common property, e.g. their in-house location.

Adding a Device Group
Click the plus button below the list of device groups to add a new group.

Device groups have two properties:

Name Unique name assigned to this device group.

Description A brief text description of the device group.

Editing a Device Group
Edit an existing group by selecting it from the list and clicking the pen button, or double-clicking the group.

Removing a Device Group
A device group is removed by selecting it and clicking the minus button.

IMPORTANT: Removing a Device Group from the system also irrevocably removes all devices belonging to that group.

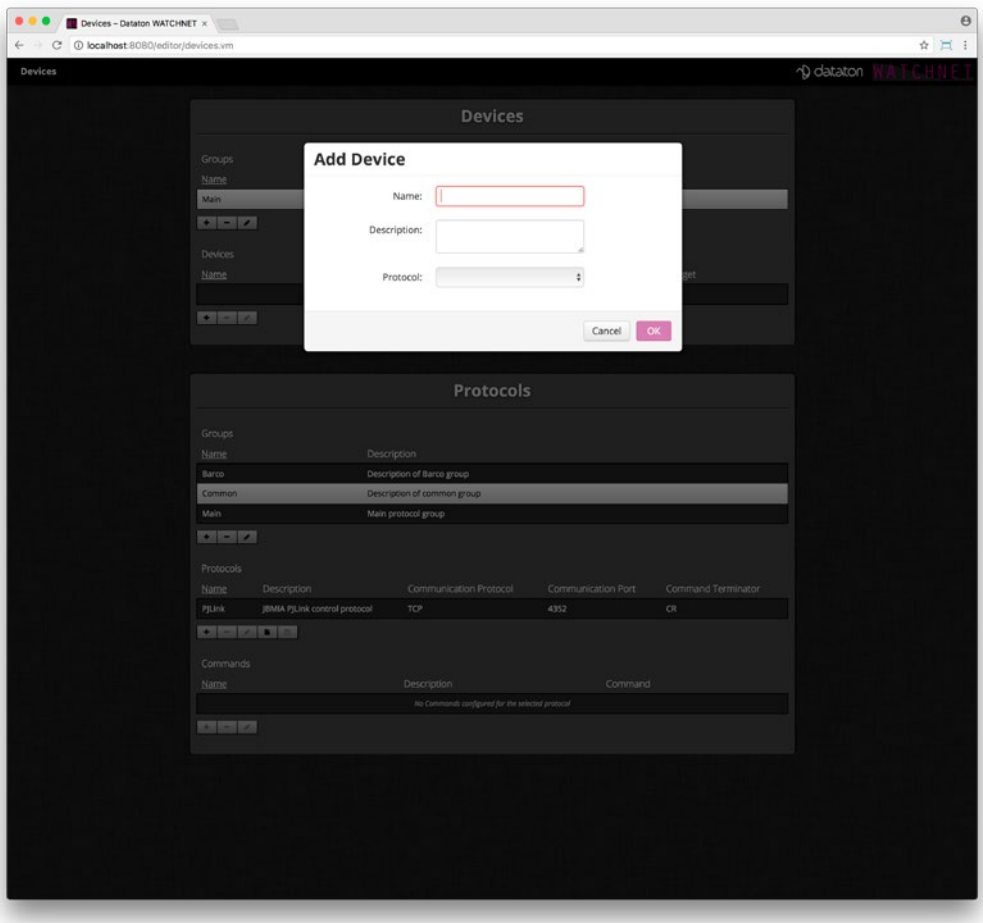
Devices

This section lists all available configured devices for the selected device group.

Adding a device

Creating and fully configuring a device is a two-step process. Firstly, a device is created then, in order to become fully usable, it needs to be configured.

Add a new device by selecting the device group to which it should belong, then click the plus button below the list of devices. This brings up the “Add Device” dialog, as seen below.



Add Device dialog

Three settings are available for a newly created device:

Name Unique name assigned to this device.

Description A brief text description of the device.

Protocol The protocol which will be used to talk to the device.

NOTE: Once a device has been created it is not possible to change which protocol is used to talk to the device. In order to do this the device must be removed and then added again with a different protocol.

Editing/Configuring a device

To configure the newly created device, or edit an existing device, select it from the list and click the pen button, or double-click the device, to bring up the “Device” dialog. The settings available for the device are determined by which type of device was created (deduced from the protocol used to communicate with the device).

In addition to Name and Description, all devices have the following settings:

IP Number The IP address of the device.

Port The port used for communication.

Devices communicating using a TCP protocol also have the following setting:

Keep Alive Choose whether to keep the connection active between commands. If this option is not checked then the connection will be closed after each command is sent and re-opened before sending the next command.

Whilst devices communicating using a UDP protocol has a setting for “Broadcast”:

Broadcast Enable to use UDP broadcast or disable to send command to a single device.

Removing a device
A device is removed by selecting it and clicking the minus button.

IMPORTANT: If a device is removed from the system, all of the scripts that have an “External Command” action referencing that device become invalid and will fail to execute until the action is removed.

SCRIPT

The Script page shows all available script groups, scripts, and script actions in the system.

SCRIPT GROUPS

Scripts are arranged into named groups with the initial group called Main. The idea behind script groups is to group all Scripts that have a common denominator.

Adding a Script Group

Add a script group by clicking the plus button below the list of available script groups. This brings up the "Add Group" dialog. A script group has a single setting: its name.

Removing a Script Group

Remove a script group by selecting it in the list of groups and clicking the minus button below the list.

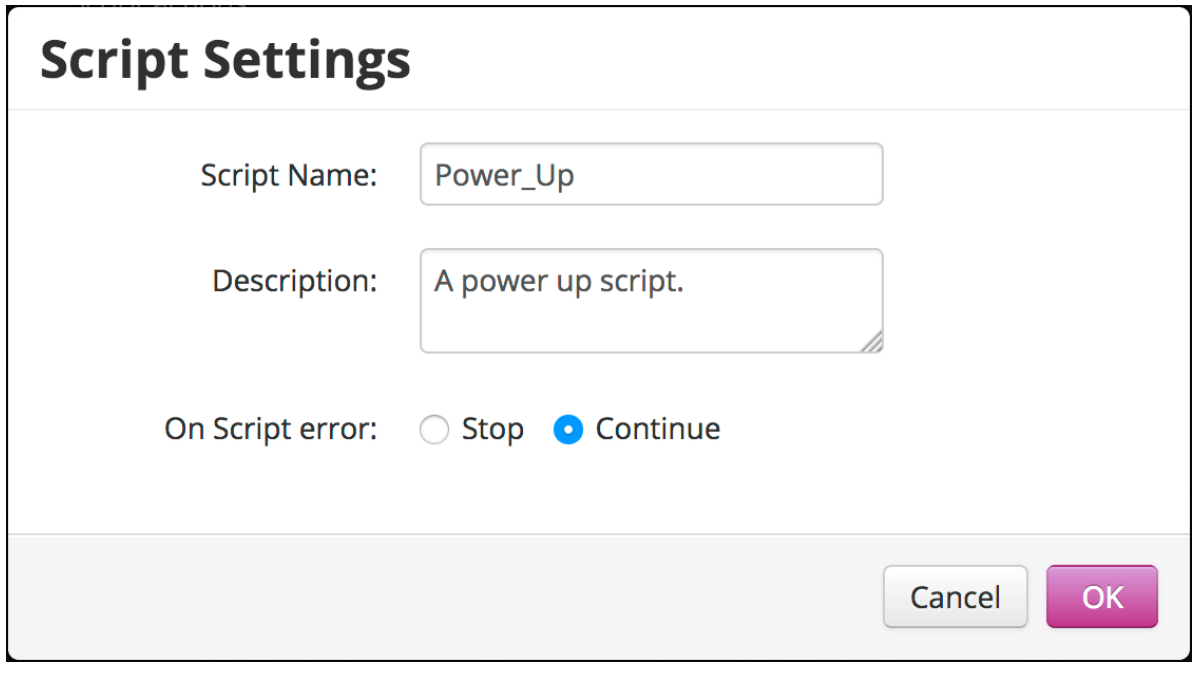
IMPORTANT: Removing a script group from the system also irrevocably removes all scripts belonging to that group.

SCRIPTS

A script defines a sequence of actions to be executed by WATCHNET.

Adding a Script

To add a script, first select the desired script group, and then click the plus button under the list of scripts. A script may also be duplicated, including all its actions and parameters, by selecting it from the list of scripts and clicking the copy button.



The Script Settings window

A script has three properties: its name, a brief text description and an option to stop on, or continue after, a script error has occurred.

IMPORTANT: Scripts execute a sequence of actions, each action is performed and when it is completed another action starts. Unless the option to continue after a script error is selected, a script will stop executing when an action fails, e.g. if an external device cannot be connected to. To continue executing a script even after an action fails, select the "Continue" option.

Editing a Script
To edit the settings of a script, select it from the list of scripts and press the pen button, or simply double-click the script in the list.

Removing a Script
Remove a script by selecting it in the list of scripts and click the minus button.

SCRIPT ACTIONS
When a script is selected, its actions appear in the center of the page and any parameters required by the script appear below the list of actions.

Adding an Action
To add a new action to a script, select the script and drag the desired action from the list of available actions onto the list of actions for the script. An action may also be duplicated by selecting it in the list of script actions and pressing the copy button.

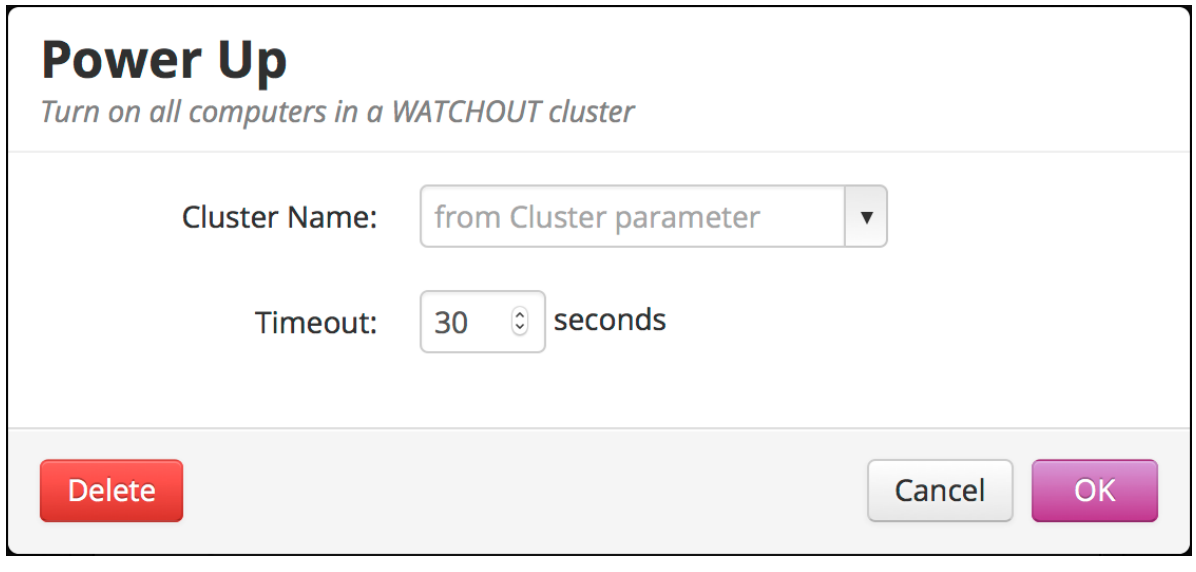
Finally, rearrange the actions of a script by dragging them within the list of script actions.

Editing an Action
Select an action from the list of script actions, then click the pen button, or double-click the action, to edit its settings. The specific settings available depend on the type of action. Settings for each of the available actions are described in the "List of Script actions" below.

Removing an Action
To remove an action, select it in the list of script actions and click the minus button, or bring up its specifications and click the delete button.

List of Script actions
This section lists all available script actions in WATCHNET and describes their settings.

Power Up
The Power Up action turns on all computers in the specified WATCHOUT cluster.



Settings window for the Power Up action

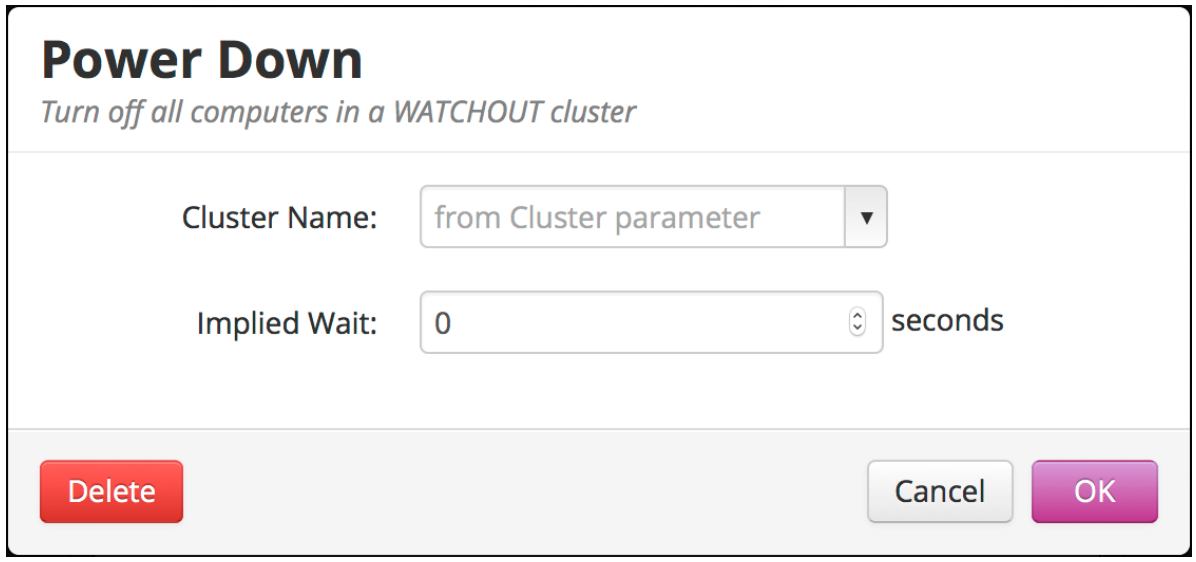
There are two settings for this action: Cluster Name and Timeout.

Cluster Name specifies the name of the WATCHOUT cluster to be turned on. This name must match the name of a cluster defined in the "Subsystem" module.

WATCHNET will delay execution of subsequent script actions until all computers in the target cluster have turned on and started WATCHOUT, or until the amount of time defined by the **Timeout** setting has passed. Set this value to a few seconds longer than the expected time it will take for the slowest computer in the cluster to start up.

IMPORTANT: For this action to work, "Wake On LAN" must be enabled on all WATCHOUT display computers in the cluster. WATCHNET must also have communicated with the computers in the cluster at some point in the past in order to be able to turn them on.

Power Down
The Power Down action turns off all of the computers in the specified cluster.



Settings window for the Power Down action

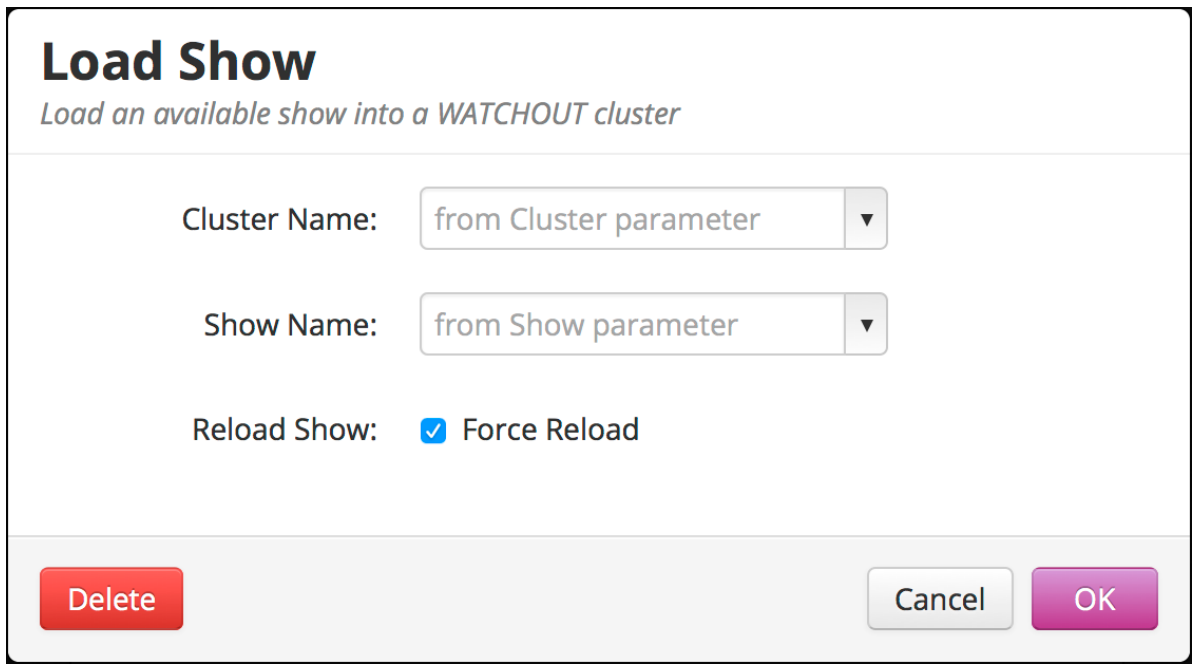
There are two settings for this action: Cluster Name and Implied Wait.

Cluster Name specifies the name of the WATCHOUT cluster to be turned off, this name must match the name of a cluster defined in the "Subsystem" module.

The **Implied Wait** setting delays execution of subsequent script actions by the specified amount of time.

Load Show

Load Show commands the specified WATCHOUT display cluster to load the specified show.



Settings window for the Load Show action

There are three settings for this action: Cluster Name, Show Name, and Reload Show.

Cluster Name specifies the name of the WATCHOUT cluster to load a show on. This name must match the name of a cluster defined in the "Subsystem" module.

Show Name corresponds to the name of the show to load. While this show must exist on all computers of the target cluster, it does not necessarily have to match the name of a show stored on the WATCHNET server. Shows that exist only on the WATCHOUT cluster may also be loaded using this command.

NOTE: The drop-down menu only works if the target cluster is specified and online, as this information is obtained from the cluster primary. However, it is possible to type the name of a show into this field even if the target cluster is not specified or offline.

NOTE: The show loaded by this action will not start automatically. Use a "" action to start the show once it is loaded.

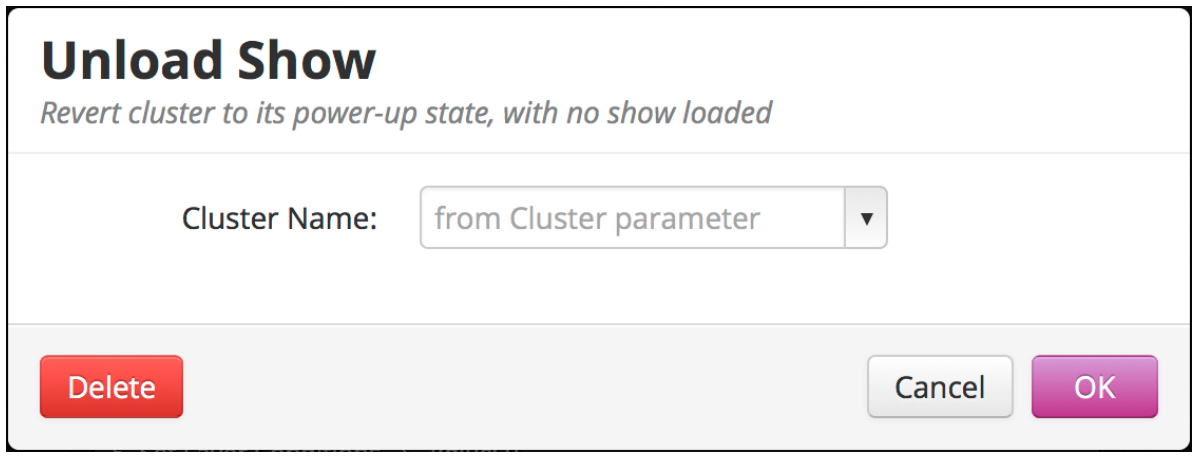
Enable the **Force Reload** option to force the WATCHOUT display cluster to load the show even if this show is already loaded on the cluster. This is useful if the show was already loaded by other means (such as by the WATCHOUT production), in which case the show must be explicitly reloaded by WATCHNET in order to establish control of the entire cluster.

IMPORTANT: The specified show must already exist and be available on all computers of the target cluster. To download a new show to a cluster, or update an existing one, use the "Update Show" action.

Unload Show

This action unloads any active show on the target display cluster, displaying the WATCHOUT logo-type on screen.

NOTE: This action only unloads the show from memory; it does not delete the show from the display computers.



Settings window for the Unload Show action

The Unload Show action has one setting: Cluster Name.

Cluster Name specifies the name of the WATCHOUT cluster that will unload its current show. This name must match the name of a cluster defined in the "Subsystem" module.

Update Show

This action downloads or refreshes the specified show onto the target WATCHOUT display cluster, based on the most recent version of the bundle with the specified name stored on the WATCHNET server. See "Presentation" for more details.

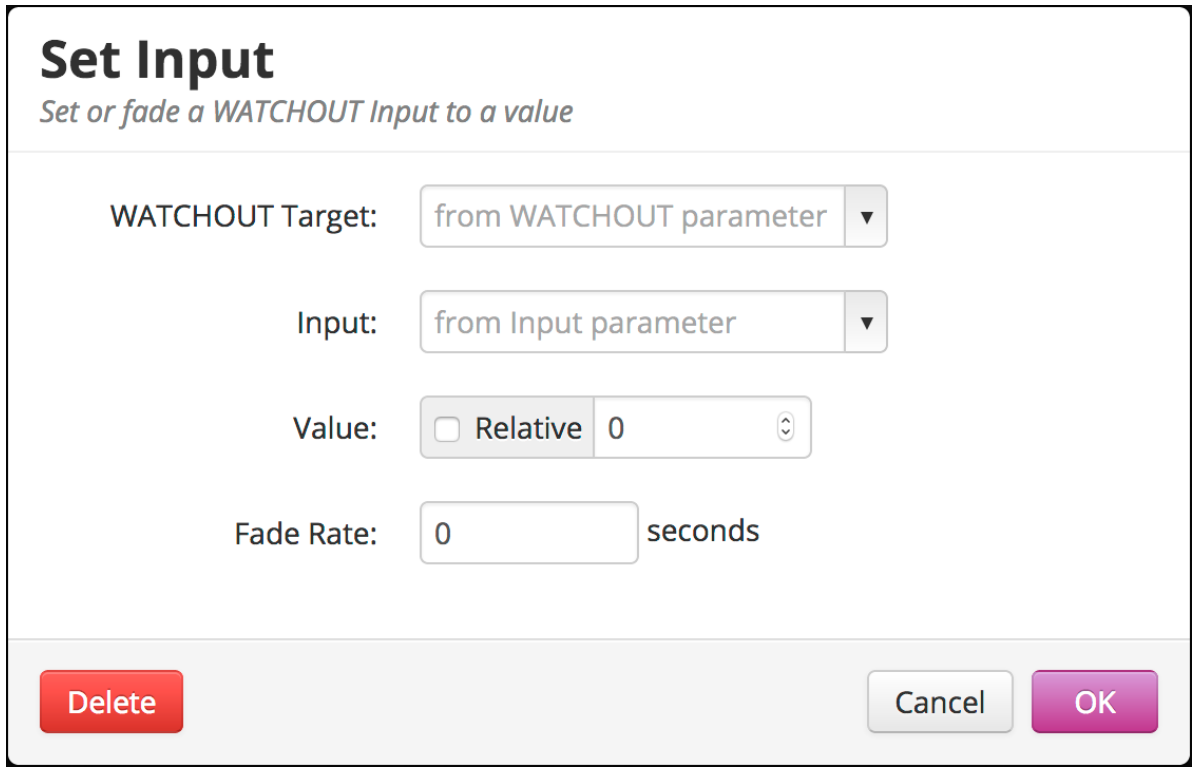
NOTE: Updating a cluster with a new or revised show may take a significant amount of time, as all new and modified media files will have to be transferred over network. Using this action in a script will delay any subsequent script actions until all display computers have been updated.

The Update Show action has two settings: Cluster Name and Show Name.

Cluster Name specifies the name of the WATCHOUT cluster to update a show on, and must match the name of a cluster defined in the "Subsystem" module.

Show Name corresponds to the name of the show to distribute to the target cluster. The specified show name must match the name of a show stored on the WATCHNET server.

Set Input
The Set Input action sets or fades a named WATCHOUT input to a new value. Inputs are commonly used in WATCHOUT to control tweenable parameters such as volume levels or lighting (through a DMX-512 output or similar). Please see the "WATCHOUT User's Guide" for details on how to use inputs.



Settings window for the Set Input action

This action has four settings: WATCHOUT Target, Input, Value, and Fade Rate.

WATCHOUT Target specifies the name of the target WATCHOUT cluster or production computer, and must match the name of a cluster/production computer defined in the "Subsystem" module.

Input corresponds to the name of the input you want to change. If the WATCHOUT show that contains the input is loaded, and the WATCHOUT cluster or production computer is online, the input name may be selected from a drop-down list. Otherwise, type the name of the input into the field.

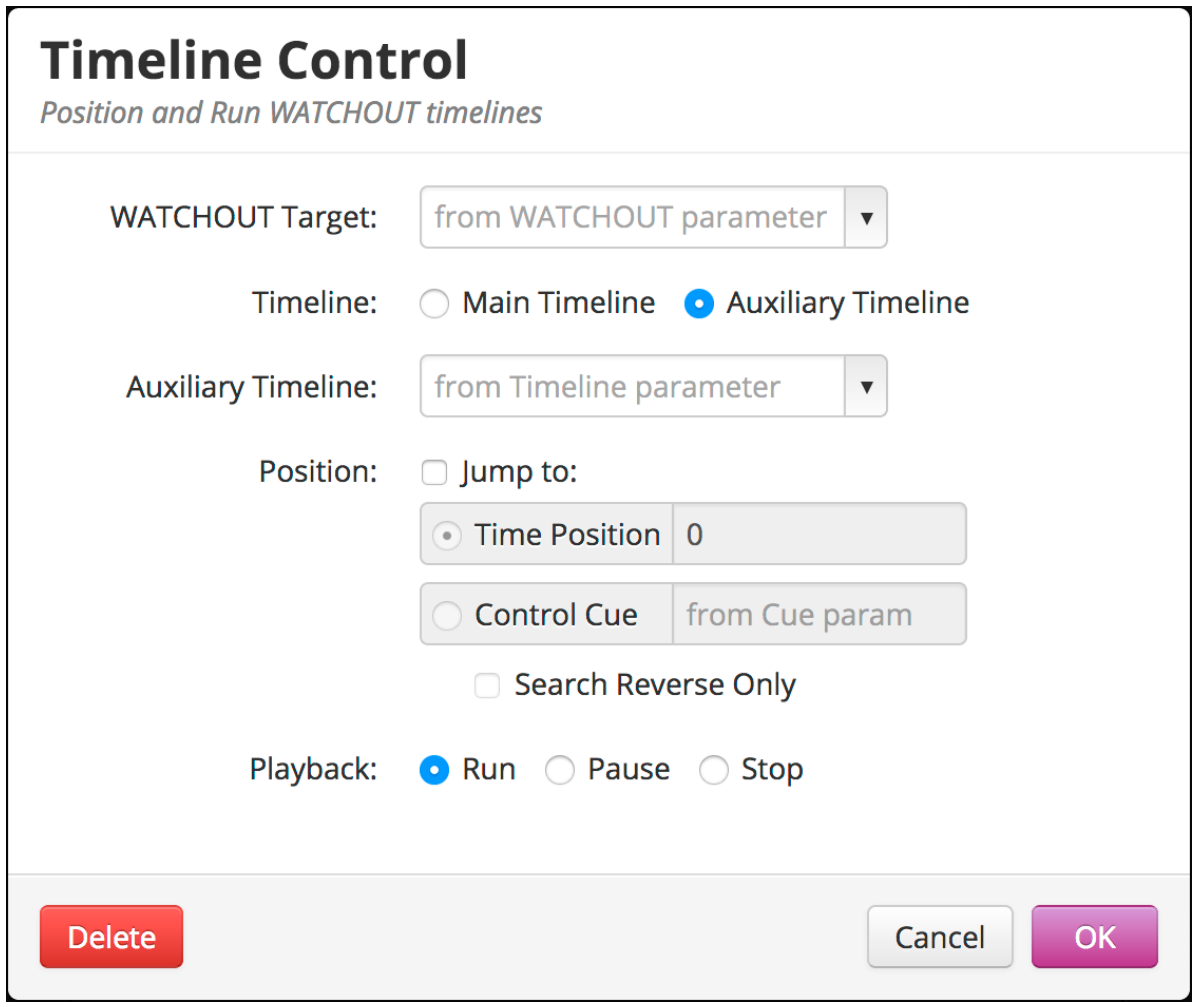
NOTE: Input names are case-sensitive, and must be spelled exactly as in WATCHOUT for the action to work.

Value specifies the desired numeric value to assign to the input. In most cases, input values range from 0 to 1, expressed in fractions (e.g. 0.5). As an alternative to specifying an absolute value, you can select "Relative" and enter an incremental value. For instance, if you want to reduce the value of the input slightly, select "Relative" and enter "-0.05" into the value field to decrement the input value by 0.05.

Fade Rate, if this is set to above zero WATCHOUT will change the input value gradually to the target value over the specified time. For instance, to make the input value fade gradually over 1.5 seconds, enter 1.5 here.

Timeline Control

The Timeline Control action is similar to a "Control Cue" in WATCHOUT as it tells timelines what to do.



Settings window for the Timeline Control action

There are five settings available for this action: WATCHOUT Target, Timeline, Auxiliary Timeline, Position, and Playback.

WATCHOUT Target specifies the name of the WATCHOUT cluster or production computer to control a timeline on. This name must match the name of a cluster defined in the "Subsystem" module.

Timeline sets whether this action commands the main timeline or one of the auxiliary timelines.

Auxiliary Timeline names the auxiliary timeline to control (not applicable if "Main Timeline" is selected above). If the target cluster is online, with the related show loaded, the target auxiliary timeline can be selected from a drop-down list. Alternatively the name of the auxiliary timeline may be typed into this field.

NOTE: Timeline names are case-sensitive and must be entered exactly as they appear in the WATCHOUT task window.

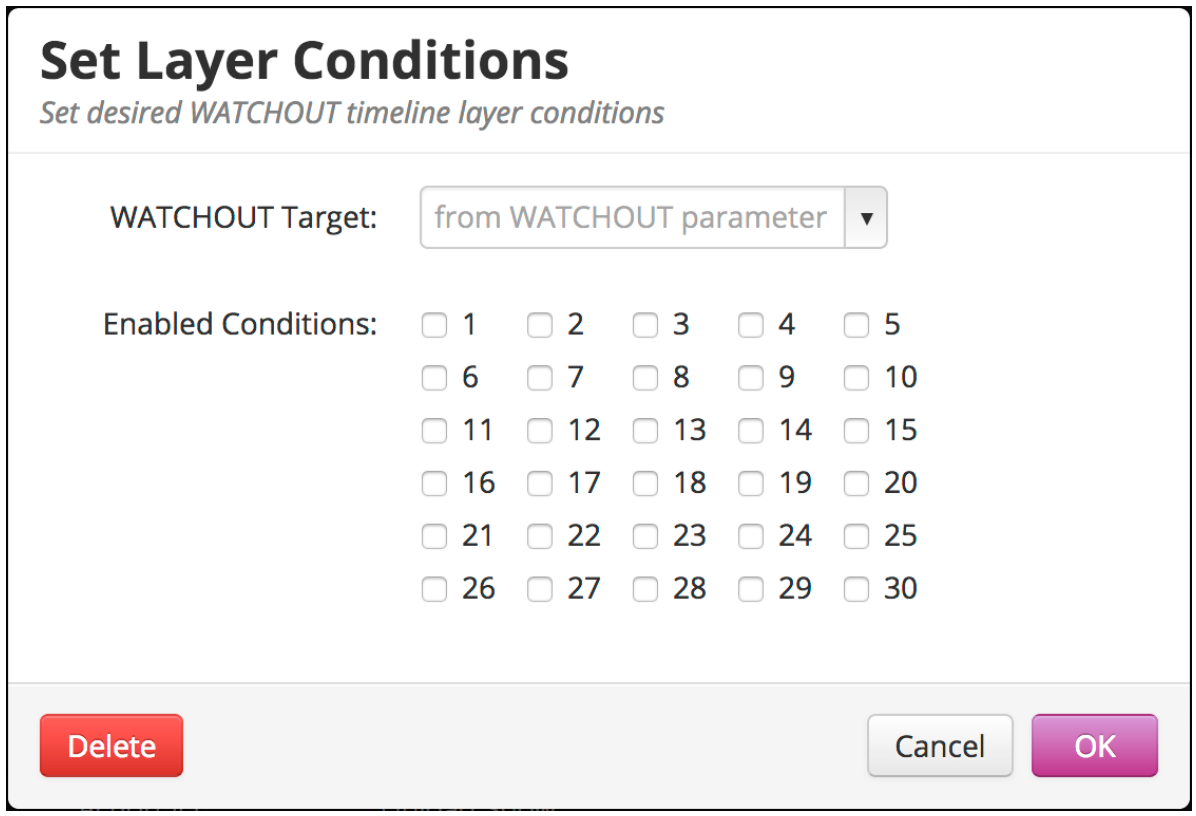
Position defines what the timeline will do. If "Jump To" is selected, the timeline will be positioned at the specified position in time or at the named control cue.

When searching for a named control cue, WATCHOUT will by default search ahead of the current time position, allowing you to re-use the control cue name for incremental positioning. If "Search Reverse Only" is checked, WATCHOUT will instead search backwards from the current time position.

Playback controls what the target timeline will do after reaching its set position.

NOTE: The “Stop” option applies only to auxiliary timelines and will turn the timeline off. For the main timeline the “Stop” option has the same meaning as “Pause”, as the main timeline is always active.

Set Layer Conditions
This action changes the set of enabled layer conditions on the target WATCHOUT cluster or production computer. Layer conditions are used in WATCHOUT to enable or disable content from specific timeline layers, such as multi-lingual soundtrack or subtitles. Please see the “WATCHOUT User’s Guide” for more details on Layer Conditions.



Settings window of the Set Layer Conditions action

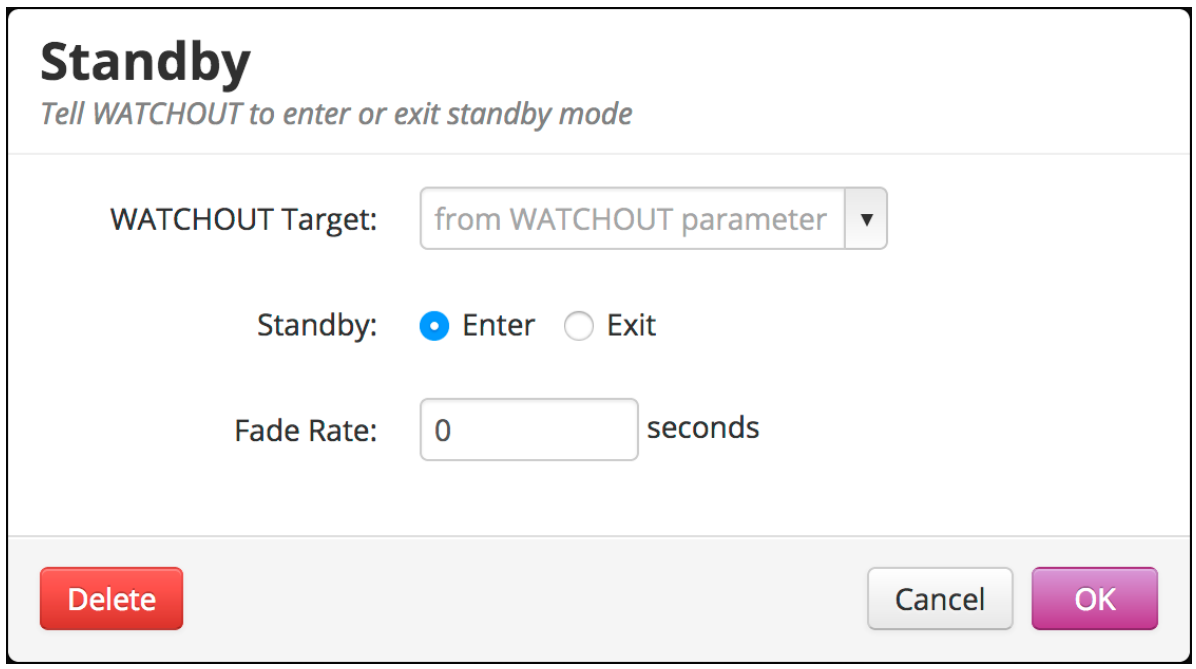
The action has two settings: WATCHOUT Target and Enabled Conditions.

WATCHOUT Target specifies the name of the WATCHOUT cluster/production computer to set layer conditions on, and must match the name of a cluster defined in the “Subsystem” module.

Enabled Conditions defines which layer conditions are to be enabled. This only affects the currently active show, and remains in effect only for as long as the show is loaded on the WATCHOUT cluster/production computer.

Standby

Standby commands the specified WATCHOUT display cluster or production computer to enter or exit standby mode, using an optional fade rate for transitioning.



Settings window for the Cluster Standby action

There are three settings for this action: WATCHOUT Target, Standby, and Fade Rate.

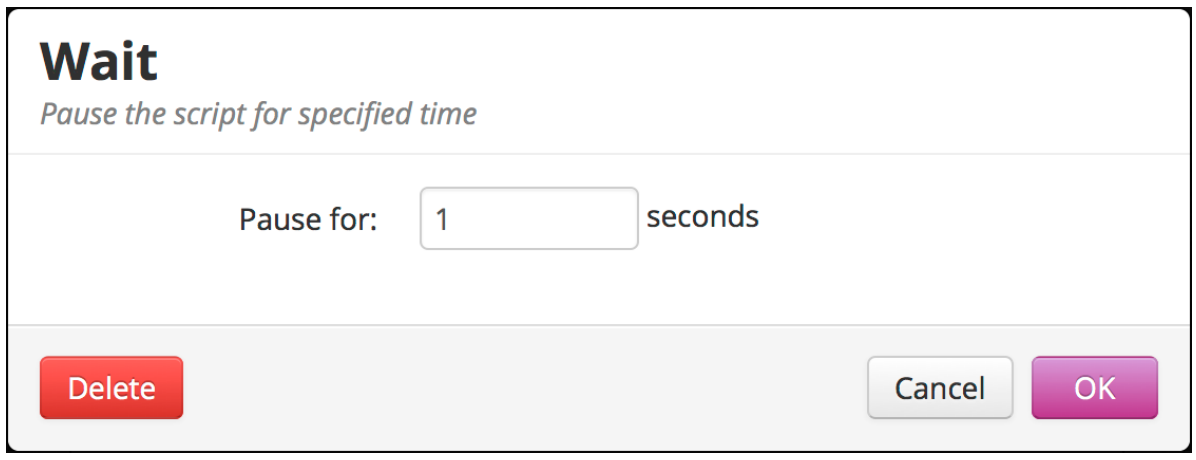
WATCHOUT Target specifies the name of the WATCHOUT cluster or production computer which will enter or exit standby mode. This name must match the name of a cluster defined in the "Subsystem" module.

Standby sets whether to enter or exit standby mode.

Fade Rate is an optional time period, in seconds, over which the transition to/from standby mode will occur. Leave as 0 to disable.

Wait

The Wait action delays execution of subsequent script actions by a specified amount of time. Use this action to deliberately introduce a delay between script actions.

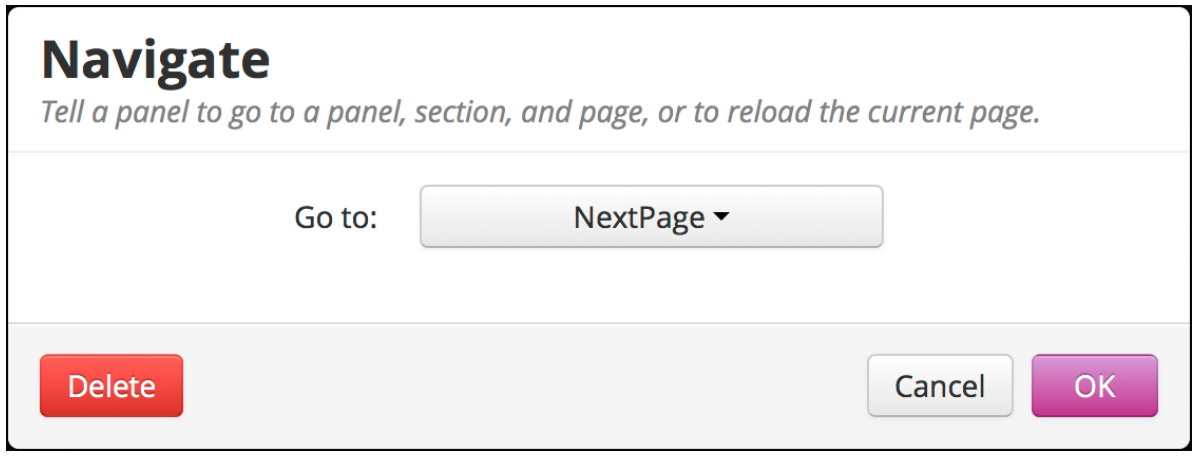


Settings window for the Wait action

The action has one setting: Pause For.

Pause For sets the amount of time to delay subsequent execution.

Navigate
The Navigate action commands a WATCHNET panel to move to a panel, section, and page, or to reload the current page.



Settings window for the Navigate action

This action has one setting: Go To.

Go To sets the navigation location for a WATCHNET panel. The "NextPage" and "PreviousPage" options tell a panel to move to the next/previous page in the current section. The "NamedPage" option tells a panel to move to a specific Panel, Section, and Page, and finally, the "ReloadPage" option tells a panel to reload the current page.

HINT: The "NamedPage" option can be used to quickly navigate between different WATCHNET panels.

Script
The Script action fully executes another WATCHNET script, including all of its actions.

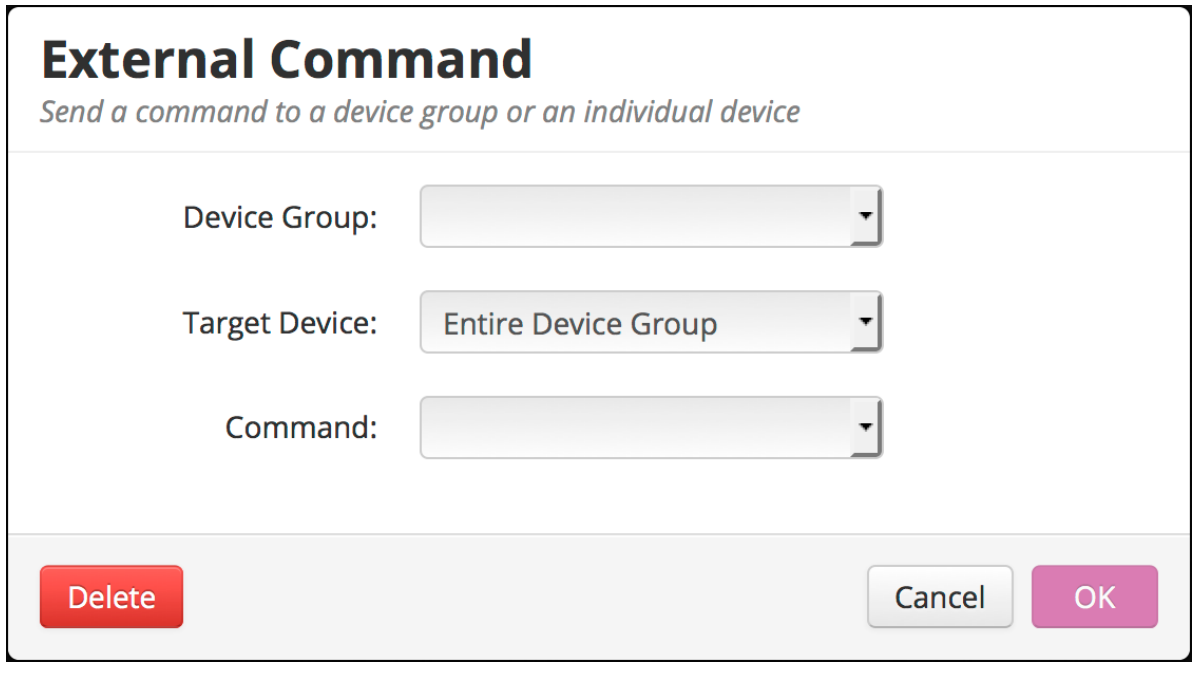
Settings window for the Script action

Script actions have one setting: Script To Invoke.

Script To Invoke sets the name of the script that will be called by this action.

NOTE: When another script is invoked as a script action, all of the actions in the target script will be executed and execution of the current script is halted until the target script finishes.

External Command
The External Command action sends a command to an external device.



Settings window for the External Control action

NOTE: An external command can take parameters, however the target external device and device group, as well as the command to be sent, must be defined in the "Devices" module in order to be used by this script action.

The External Command action has three settings: Device Group, Target Device, and Command.

Device Group defines the device group to which the target device belongs.

Target Device specifies which of the devices in the selected device group is the recipient of the selected command.

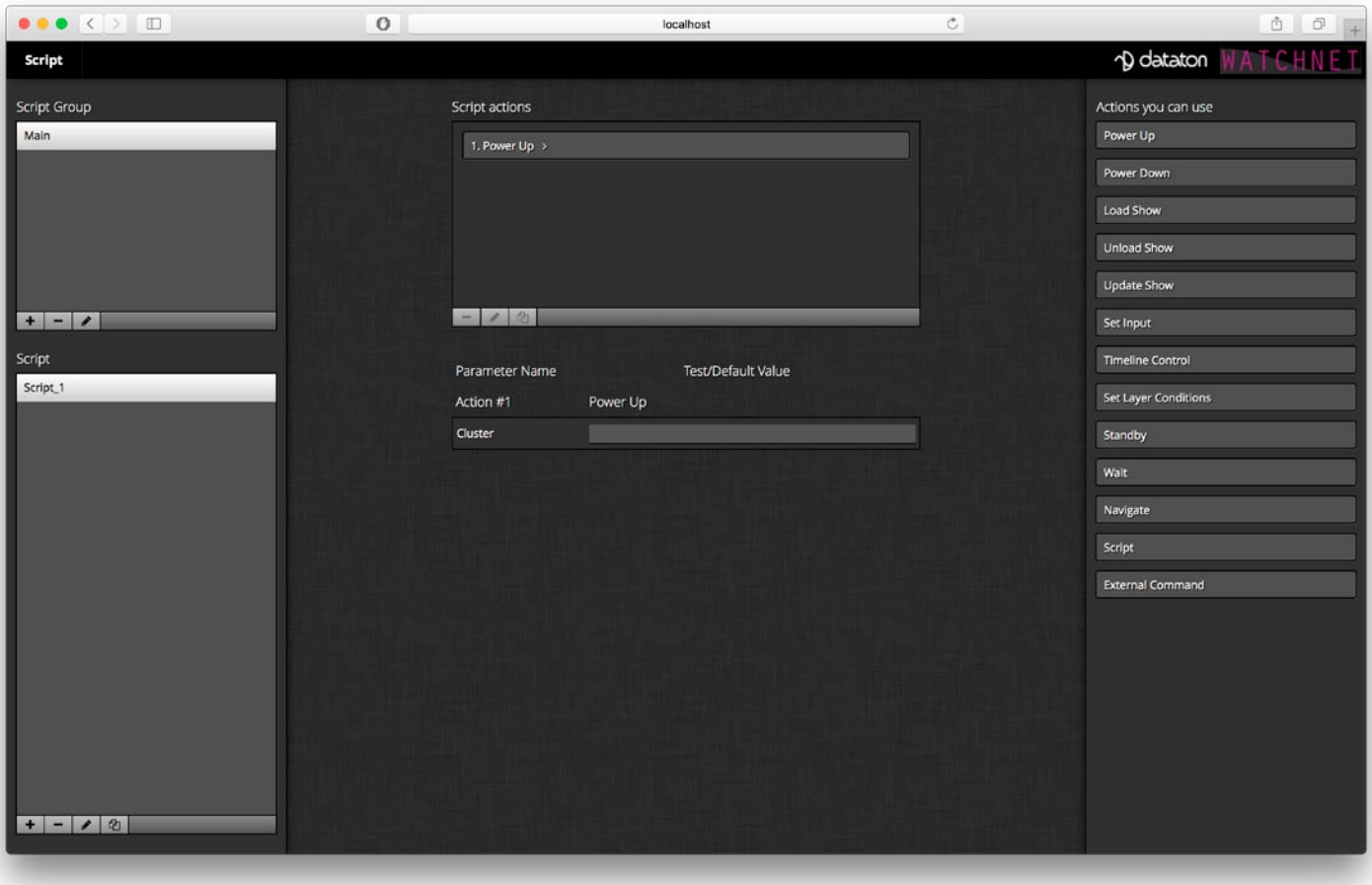
NOTE: Select "Entire Device Group" to send a command to all devices which belong to this device group.

The command to be sent is defined by the **Command** field. When a specific device has been selected as the target device, this drop-down list is populated with all commands available for that device.

NOTE: If "Entire Device Group" is selected as the target device, only commands that exist for all devices belonging to the selected device group will be present in the drop-down list. See "Devices" for more information on how to define devices, device groups, and commands.

SCRIPT SETTINGS AND PARAMETERS

Some settings can be specified immediately when creating an action, or later on using parameters. If a setting is not specified it indicates that the setting will be specified later on as a parameter to the script. If the cluster name field is left empty, as in the example below, it will appear as a parameter to the first action of the script.



Script actions and parameters, a single Power Up action specified

It is recommended that all settings be specified explicitly in each action of a script while you learn how to use WATCHNET, as this method is easiest to understand and work with. For smaller systems, perhaps dealing with a single WATCHOUT cluster and few external devices, this is generally adequate. However, for more complex systems, it lacks in flexibility, as each script will only be usable for the single cluster/external device for which it was created.

If the actions of a script targeting one cluster/device are to be replicated to another cluster/device, the script itself will then have to be replicated and the cluster name setting changed accordingly. This kind of duplicate work tends to make a system hard to maintain, as changes will have to be implemented in multiple places.

A better course of action is to leave empty fields in the settings of an action. In this case, the value of the fields are specified when calling the script, and this single script may then be used with greater flexibility. Parameters to a script, e.g. a “Cluster Name”, are provided either by a Button, a Scheduled Event, or the script action. See ”Button”, “Schedule” and “Script” for more details.

Test/Default values can be specified for parameters. This can be used either to test a script while editing it, or entered as a default value for a parameter that rarely changes. Specifying a default value for a parameter means that its value does not necessarily need to be specified when calling the script. However, if a value for the parameter is specified when calling the script, then that will be used in place of default values.

IMPORTANT: If no default value is specified for a parameter, and the caller of a Script (Button, Scheduled Event, Script Action) does not specify a value, the script execution will fail. In this case, the failure will be noted in the WATCHNET log.

TESTING A SCRIPT

A script can be tested directly from the Script page by selecting it in the list of scripts and choosing "Run Script" from the Script Menu. Each action of the script is highlighted as it is performed, allowing you to monitor the progress of the script.

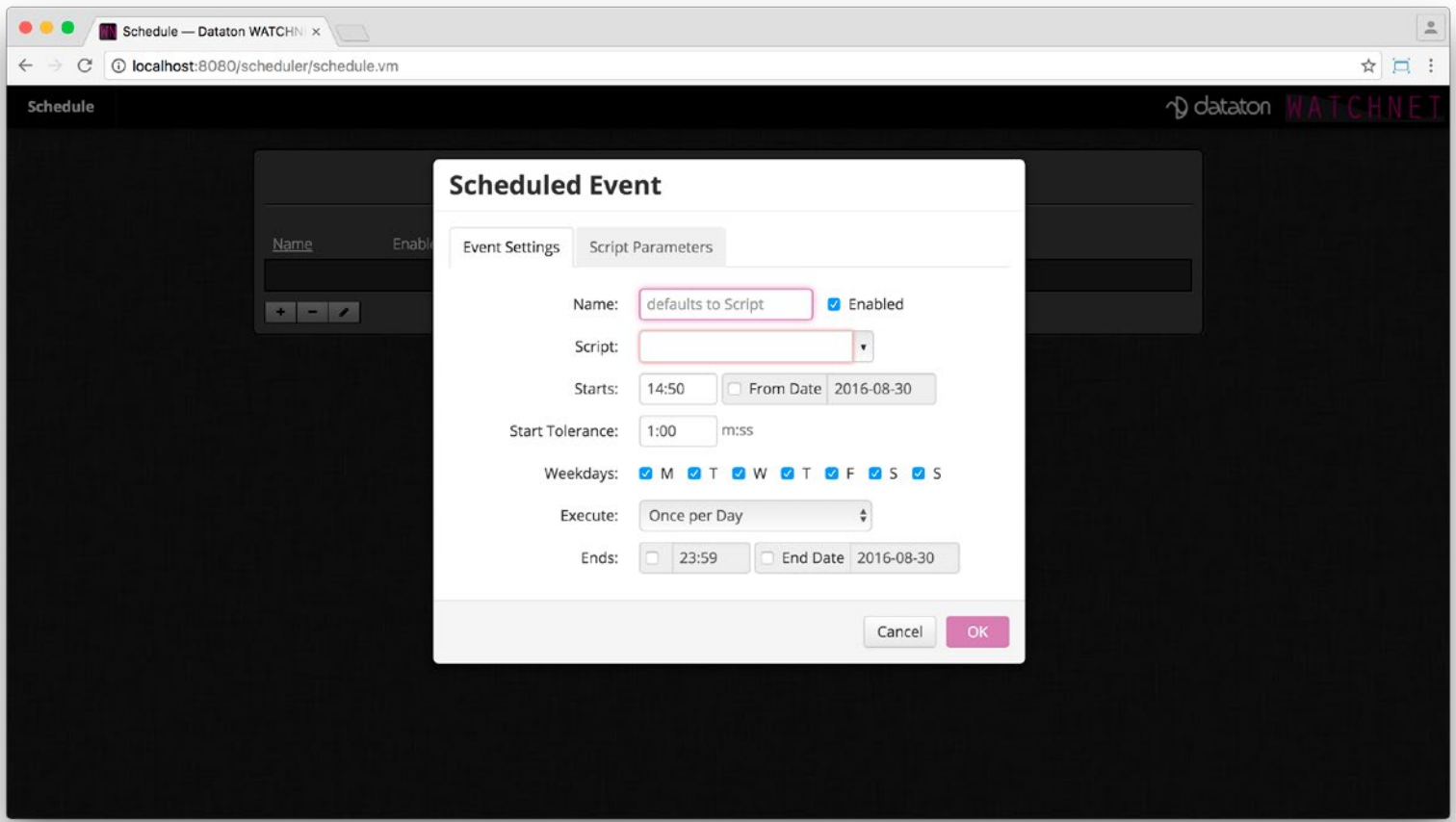
NOTE: In order to test a script, Test/Default values must be specified for all parameters.

SCHEDULE

The schedule page contains a list of all events that are scheduled for execution by the server. An event allows a script to be executed automatically by WATCHNET once certain conditions are met.

Adding an Event

To add an event to the scheduler, click the plus button below the list of events, this brings up the event properties dialog window which allows you to set all properties of the scheduled event.



Scheduled Event window dialog

The following properties may be set:

Name This field allows you to set a descriptive name of the event. If left blank it will default to the name of the associated script.

Enabled Uncheck this check-box to keep the event in the scheduler but stop its scheduled execution. Useful if you want to temporarily disable certain scheduled events.

Script Specifies the script associated with the event, this is the script that will be executed when the conditions are met. The script is specified by its group and script name, separated by a forward slash.

Starts Specify the start time of this event, hours and minutes in 24-hour format. An optional starting date may also be entered. If specified, scheduled execution will not start until that date.

Start tolerance Under some circumstances, WATCHNET may be unable to execute the scheduled event at the exact time specified. For instance the target cluster may be busy updating a show or performing some other time-consuming operation. In this case, WATCHNET will keep retrying to execute the event until it succeeds or until the start tolerance has been exceeded.

NOTE: Failure to execute an event will not affect any future scheduled events; they will be executed when their time comes.

Weekdays Check all days of the week when this event should be executed.

Execute By default, an event will execute once per day, at the specified time. Other execution options are:

- Once Only: The event will be executed only once. Upon successful execution the event will be marked as "done" and will never execute again.
- Once per Day: The default execution mode, which executes the event once, at the specified time.
- Repeatedly at Interval: Repeats the scheduled event at a regular interval between the specified start and end times. May be used to run a show every thirty minutes, for instance.
- Run Continuously: Execute the event continuously between the specified start and end times. As soon as execution finishes it will be restarted unless the end time has been passed. Make sure that the executed script takes the desired time to run, if necessary by adding Wait commands at appropriate places in the script.

Ends Specifies the end time of this event in hours and minutes, 24-hour format. This time applies every day, not just on the end date (if specified). Optionally an end date may be entered and after the end date the scheduled event no longer executes.

Script Parameters

The script executed by a scheduled event may require parameters. If that is the case, those parameters will be listed under the Script Parameters tab where their values may be set.

IMPORTANT: Any script parameter values specified will override default values set for the script. If no default value is set for a parameter, and no value is specified, the script execution might fail. In this event the failure to execute the script will be indicated in the WATCHNET log.

Editing an Event

To modify an existing event, select it from the list of events and click the pen button, or double-click the event in the list.

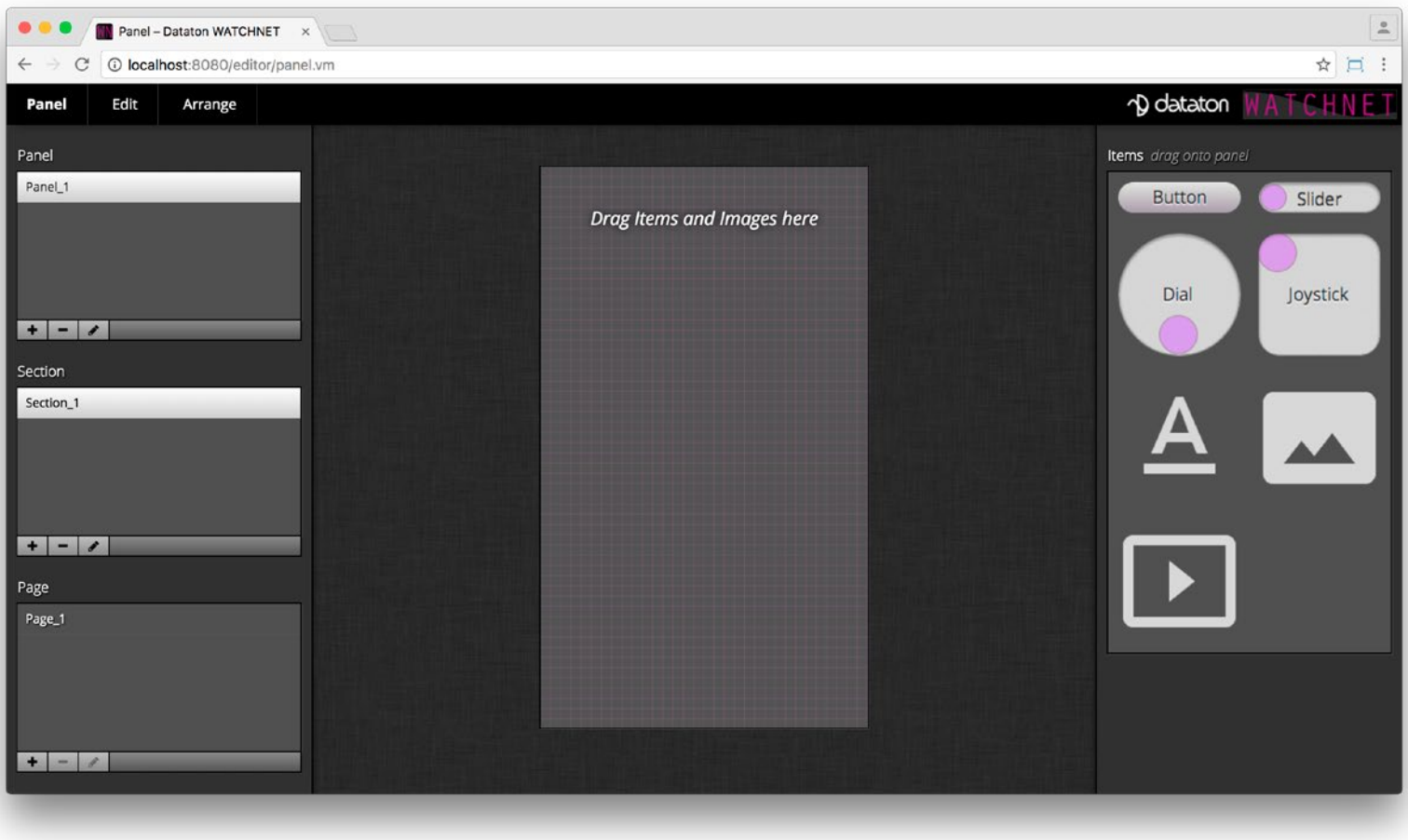
Removing an Event

An event is removed by selecting it from the list of events and clicking the minus button.

PANEL

The Panel page, as seen in the illustration below, lists the control panels currently present in the system, and lets you create new panels or edit existing ones. Panels provide direct, interactive control over WATCHNET through operating buttons and other panel items. By interacting with panels and their items you can trigger scripts or access system properties, such as the sound volume of a running presentation in WATCHOUT. A panel is accessible through the web-browser on computers as well as portable devices, such as phones or tablets.

IMPORTANT: On mobile devices it is possible to save WATCHNET panels to the home screen, making them appear as applications and run in “app mode” which enables additional features. In fact, some features do not work unless the server is accessed in “app mode”



WATCHNET Panel page

The panel page is divided into three areas: the panel list located on the left side, the editing area in the center and the item well located on the far right side of the page.

The panel list is where panels, sections, and pages, are created or modified. The item well displays all available panel items, and the current content of sections and pages is displayed in the editing area. The editing area is also where panel items from the item well are added to a panel and edited.

PANELS

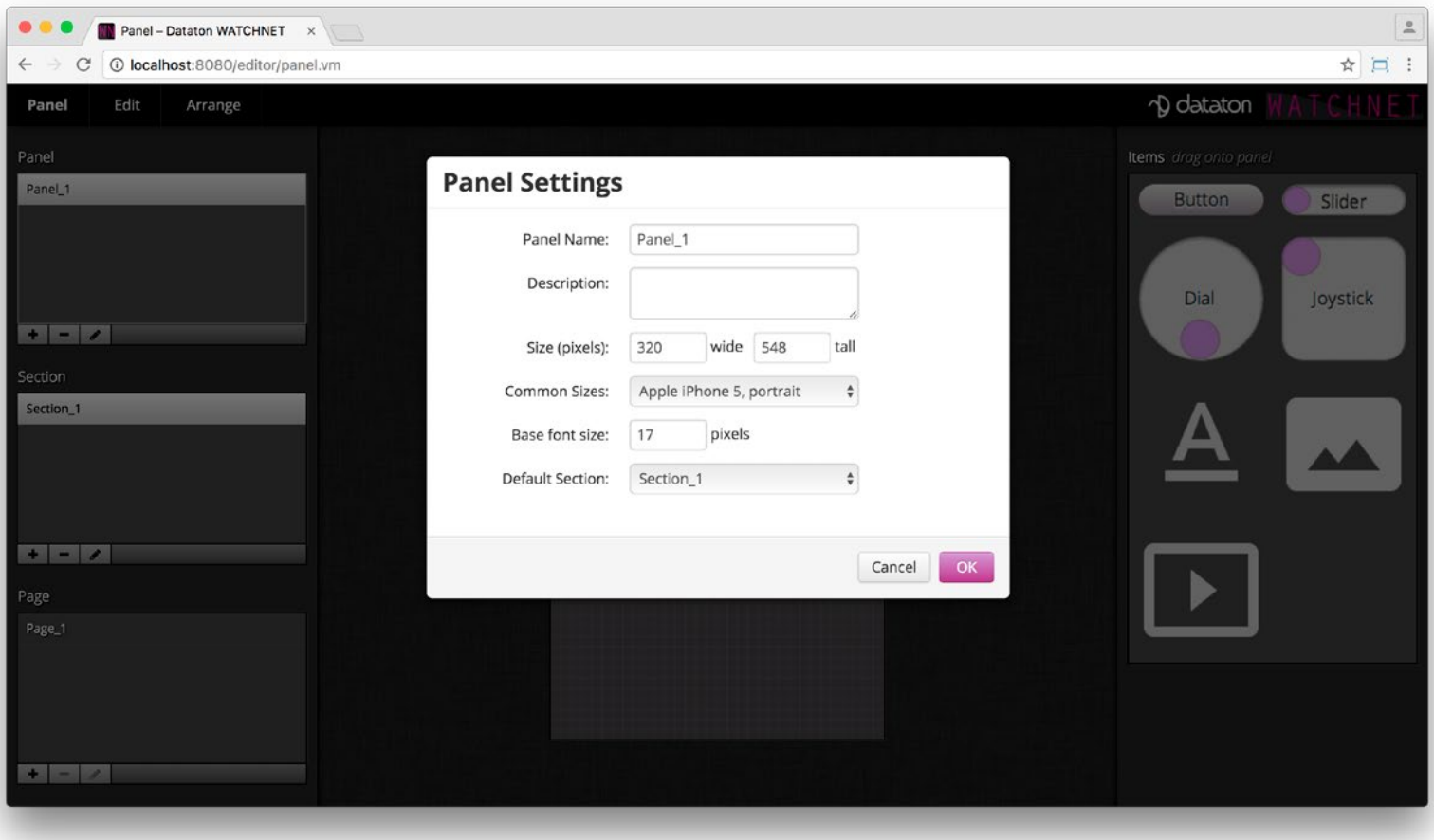
Sections in WATCHNET are grouped into Panels. A panel sets common properties which will be used by all of its sections, such as size (in pixels) and a base font-size (also in pixels).

Adding a Panel

Panels are designed to operate on a pre-determined screen/window size. This makes it easy to layout the various items as you’re working in a “what you see is what you get” scenario.

NOTE: A panel may be used on devices other than its original platform. However since the screen/ window size may not match, text and panel items may appear oversized or too small.

To create a new panel, click the plus button below the list of available panels, this brings up the “Panel Settings” window.



Panel Settings dialog

The panel settings window has the following properties:

Panel Name This is the name that will be used to access the panel. Since this name will make up part of the URL when accessing the panel, it may not contain spaces and can only consist of characters in the range “a” through “z”, digits, and the underscore character.

Description A brief text description of the panel. This description will appear on the server start page next to the name of the panel.

Size and Common Sizes Specify the dimensions of the panel, in pixels. Enter any dimension that makes sense for the target device here or select the desired dimension from the drop-down list “Common Sizes”.

NOTE: Most devices have some vertical space reserved for a status bar or similar, making the usable dimensions slightly smaller than the physical screen size.

HINT: Due to fixed dimensions, a panel is designed to operate in either a horizontal or vertical orientation. It may be useful to enforce this on the target device itself by utilizing its “Lock Rotation” feature.

Base Font Size On account of the wide variety of pixel densities across different brands and models of devices, the default text size may appear too small or too large. If this is the case, adjust this setting until the text on buttons and other panel items has the desired size on your target device.

NOTE: The size of other text, such as headings in Text Items, will be adjusted based on this base font size.

Default Section Select which section will appear by default when a user enters this panel without specifying a section.

NOTE: This setting is only available when editing an existing panel, not when creating a new panel.

Editing a Panel

To edit a panel, select it from the list of available panels and click the pen button, or simply double-click the panel.

Removing a Panel

A panel is removed by selecting it from the list of panels and clicking the minus button.

IMPORTANT: Removing a panel also irrevocably removes sections and pages contained within that panel, as well as any panel items located on those sections and pages.

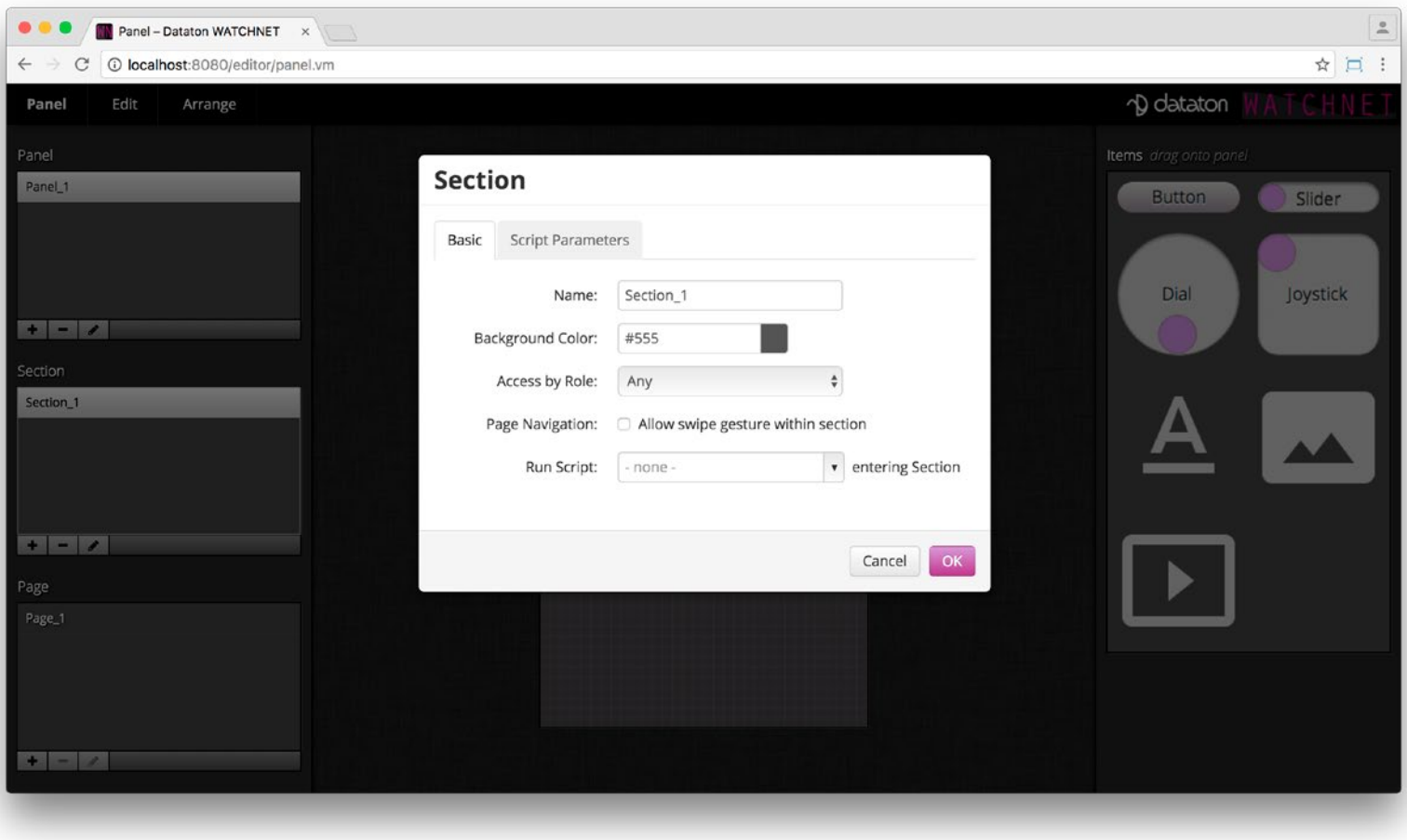
SECTIONS

Pages in WATCHNET panels are grouped into sections. A section sets a common background for all its pages, and may restrict access to its pages to certain users based on their role. See "User" for more information about users and roles. A section may also trigger a script as it is entered.

HINT: Any items placed on a section will appear on all its pages, which makes it easy to add common elements such as navigation buttons, background images and text.

Adding a Section

To create a new section, click the plus button below the list of sections.



Section dialog

For a section, the following properties may be set:

Name The name of the section. As this name may be used as part of a URL for accessing the panel it should adhere to the same rules as names for Panels.

Background Color The background color used for all pages in this section. Specify a three or six-digit hexadecimal color code, or click the color swatch to pick a color.

Access By Role Restrict access to the pages in this section to users of certain roles. Options are:

- **Any** This section does not require authorization and can be accessed by anyone able to connect to the same network as the WATCHNET server.
- **Staff** This section requires login, and can be accessed by users that have the Staff Role. See "User Roles".
- **Manager** This section requires login, and can be accessed by users that have the Manager Role. See "User Roles".

Page Navigation Select "Allow Swipe gesture…" to let users navigate to the next/previous page in the section by swiping horizontally across the panel's display.

NOTE: If this is not selected, remember to provide navigation buttons to explicitly navigate to other pages.

Run Script Select a script that will be executed when any page within this section is accessed.

NOTE: Alternatively, specify a script that will be executed on Page level instead. If scripts are selected both for a Section and a Page, they will both be executed.

Script Parameters A script chosen under "Run Script" may require parameters. If so, those parameters appear under the Script Parameter tab where their values may be specified.

IMPORTANT: Any script parameter values specified will override default values set for the script. If no default value is set for a parameter, and no value is specified, the script execution might fail. In this event the failure to execute the script will be indicated in the WATCHNET log.

Editing a Section

To edit an existing section, select the section from the list and click the pen button, or double-click the section in the list.

Removing a Section

To remove a section, select it from the list of sections and click the minus button.

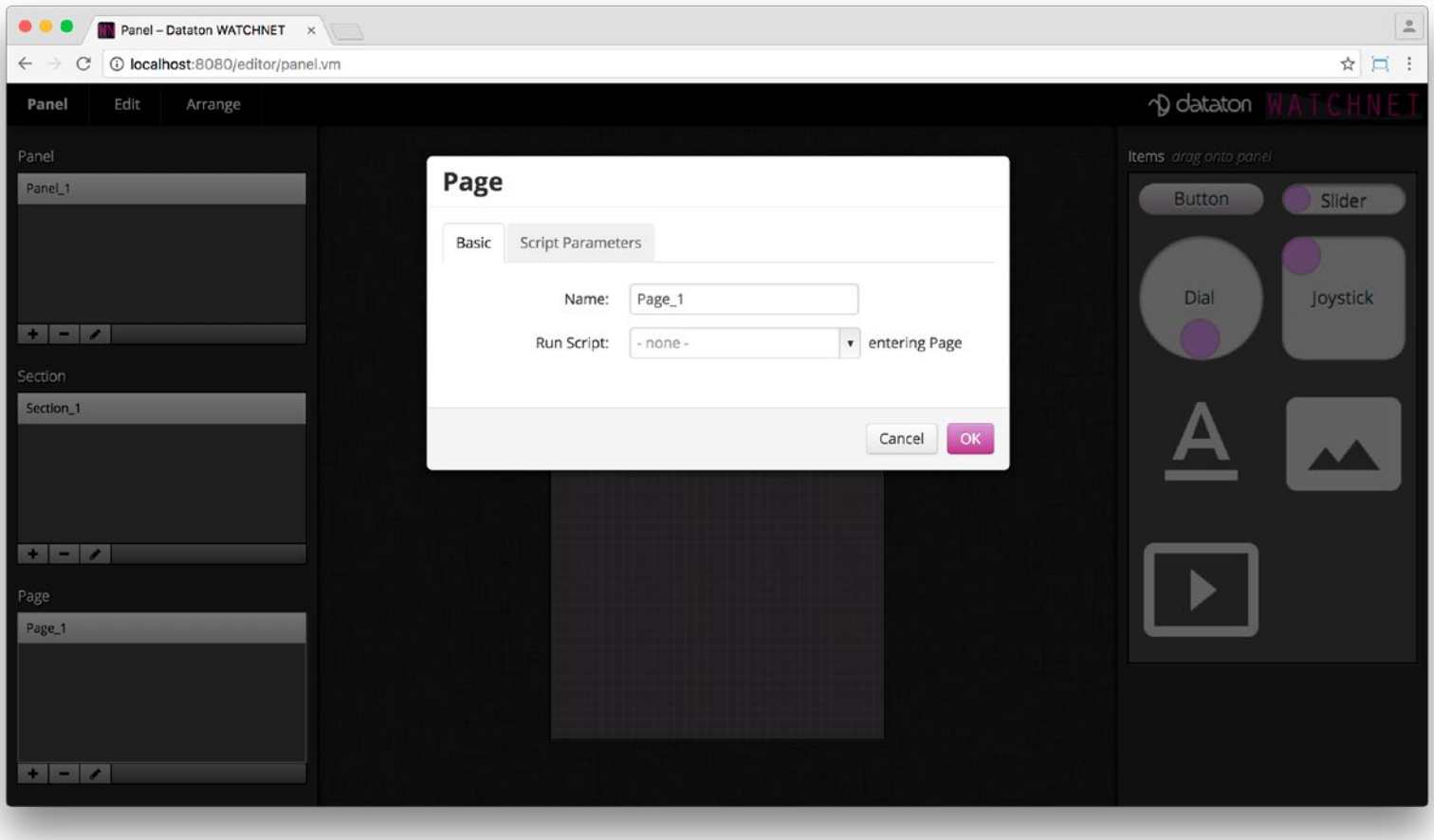
IMPORTANT: Removing a section also irrevocably removes any panel items and pages contained within the section.

PAGES

Pages are the last levels of a panel, they contain panel items and may trigger a script as they are entered.

Adding a Page

To create a new page, click the plus button below the list of pages. This brings up the "Page" settings window.



Page dialog

Name The name of the page. As this name may be used as part of a URL for accessing the panel it should adhere to the same rules as names for Panels.

Run Script Select a script that will be executed when the page is accessed.

NOTE: If there's both a section and a page script, they will both be executed.

IMPORTANT: Any script parameter values specified will override default values set for the script. If no default value is set for a parameter, and no value is specified, the script execution might fail. In this event the failure to execute the script will be indicated in the WATCHNET log.

Editing a Page

To edit an existing page, select it from the list and click the pen button, or double-click the page in the list. Pages in the page list may also be dragged to change their display order, this affects the order in which pages are accessed when moving to the next/previous page e.g. by swiping across the panel display.

Removing a Page

A page is removed by selecting it in the list of pages and clicking the minus button. Removing a page also removes all panel items contained within the page.

PANEL CONTENT

All interaction on a WATCHNET panel by an end-user occurs through panel items. There are two categories of items: controller items and decorative items. The controller items are Buttons, Sliders, Dials, and Joysticks. They can interact with a WATCHOUT display cluster or production computer, and call scripts. The decorative items are Text, Image, and Video and their function is purely visual.

Adding Panel Items

To add buttons and other panel items to an existing panel, first select the desired section or page. An item is then added to the selected section or page by dragging it from the item well into the editing area.

Editing Panel Items

Click on an item to select it. Selection is indicated by a blue pulsating border around the item. Multiple items may be selected at the same time by shift-clicking them or dragging a selection rectangle over the desired items.

Arranging Panel Items

Adjust the position of selected items by dragging them with the mouse or by using the arrow keys. Grabbing a corner of a selected item and dragging the mouse will adjust the size of selected items. As described later in this chapter, in "Item Specifications", it is also possible to manually set the size and position of panel items, in pixels, using the item's specifications window.

The Arrange menu offers further possibilities for arranging items:

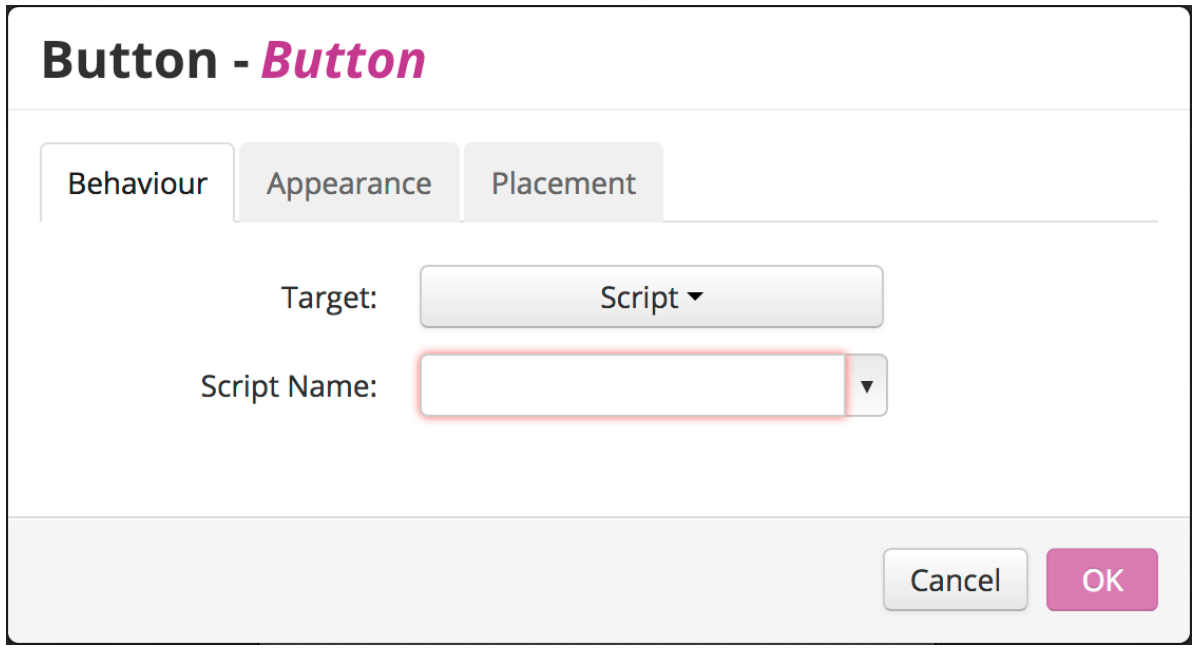
Snap to Grid Enables a ten-by-ten pixel grid as an aid to align and position panel items. Disable this option for more precise pixel positioning/sizing.

Bring to Front/Send to Back Move selected items in front, or behind, other items. Use this command to move selected elements all the way to the front/all the way to the back of the item order.

Bring Forward/Send Backward Move selected items one step forwards/backwards in the item order. Use this command to fine-tune the ordering of items.

Item Specifications

Once an item has been added to a panel, the item's specifications window can be used to change its behavior, placement, and appearance. With an item selected, choose "Specifications" from the Edit menu, press Enter, or simply double-click the item, to bring up its specifications window.



Specifications dialog of a Button item

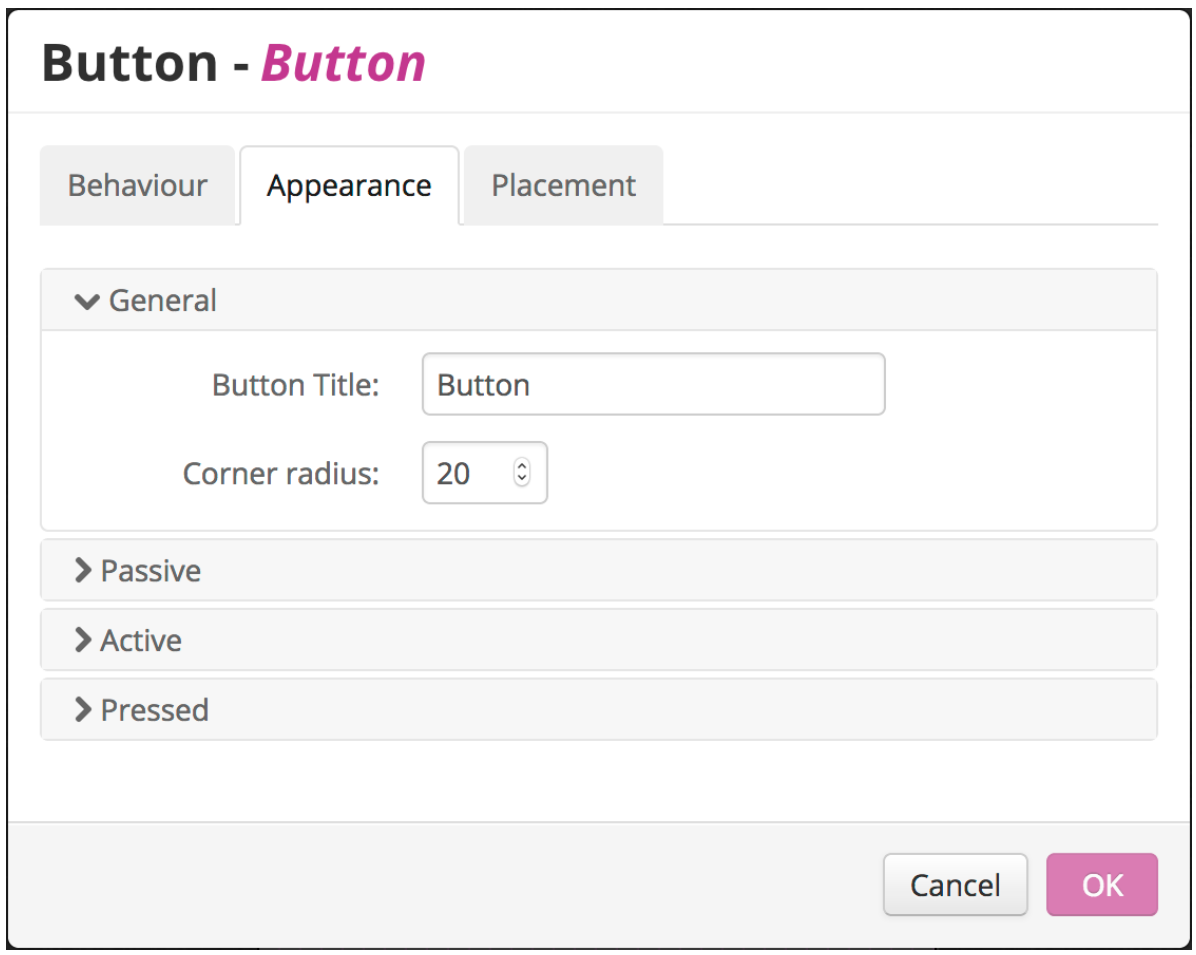
The specifications window, as illustrated above for a button item, generally has three tabs: Behavior, Appearance, and Placement. Exceptions are Text and Image items which are static items and do not have customizable behavior.

It is possible to bring up several specification windows at the same time for different items. A specification window may also be moved within the page. Any changes made to an item are updated in the editing area and on any connected devices in real-time allowing for quick feedback on the effects of changes.

The **Behavior tab** contains settings related to the target actions of an item, e.g. what happens when an end user interacts with the item through a panel. The specific actions available to an item depend on which type of item has been created and the target action of that item. The item-specific behavior settings are described in the "Panel Item Behavior" section.

The **Appearance tab** contains settings related to the appearance of an item.
There are generally two different states of an item which may have separate appearances applied to them: "Passive" and "Pressed". The exceptions are the decorative items Text, Image, and Video, which have no states at all, and the Button item which has an additional state, Active. The three differ-

ent states are mutually exclusive and user input governs the current state. The various appearance settings available for the different states are listed in the "Panel Item Appearance" section.



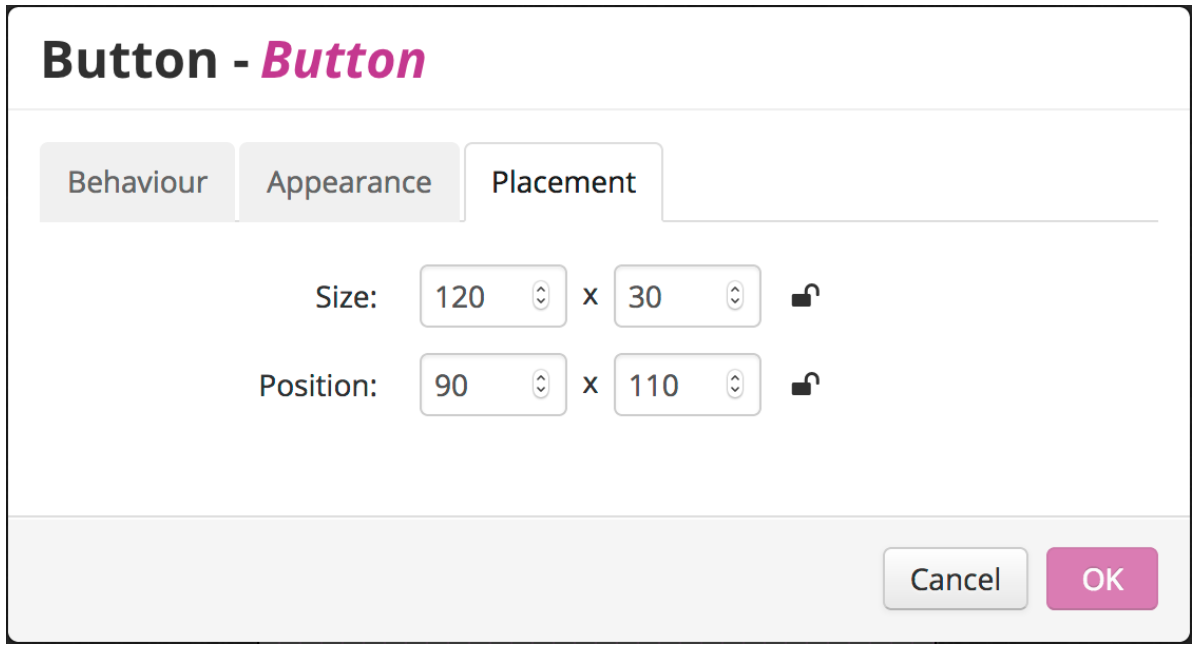
Appearance tab of specifications dialog for a Button item

The **Passive** state is the "normal" state of an item. The appearance settings for this state remain in effect until a user interacts with the item.

Active state is unique to a button item and comes into effect when the action of a button is in progress. For example, this could be when a button's action is to play a WATCHOUT timeline and that timeline is currently playing, or if a button action is navigation to a specific page or section, and that is the page or section currently displayed on the panel.

The **Pressed** state is activated whenever a user interacts with the item, e.g. clicking a button or changing the value of a slider, dial, or joystick. Although different states contain the same appearance setting options, the appearance of an item is set separately for each state. There are also, where applicable, general appearance settings for an item which affect the visual appearance of the item across all states.

Placement tab is where the size and position of an item is set. With the exception of Dial items, the tab permits setting the position and size in X and Y pixel coordinates. For a dial, the size is specified as a diameter, also in pixels.



Placement tab of specifications dialog of a Button Item

Once an item has been positioned and sized it is possible to lock the position and/or size to prevent further changes by clicking the padlock next to the input field(s). An item with its position or size locked will show a red pulsating border when selected in the editing area. The input field of the locked property is disabled and the padlock icon next to the input field is locked.

Removing Panel Items

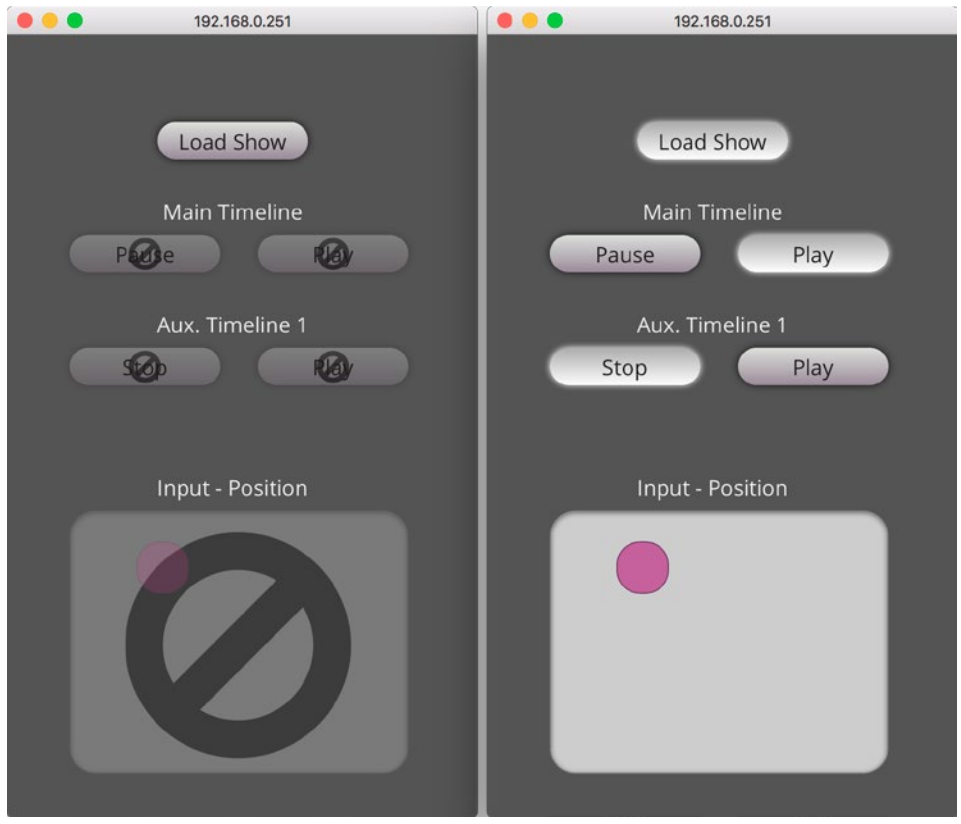
Panel items are removed by selecting one or more items and then choosing “Delete” from the Edit Menu.

PANEL ITEM BEHAVIOR

The behavior of a panel item governs what happens when an end-user interacts with the item through a panel. All panel items, except text and images, have customizable behavior and the available settings depend on the type of item.

Unavailable items

Panel items that directly target WATCHOUT properties, e.g. not through script actions, will become unavailable if the target cluster or production computer is not in a state where the property can be set. The illustration below shows a WATCHNET panel in its normal state on the right and its unavailable state to the left.



A WATCHNET Panel while unavailable (left) and normal (right)

The conditions under which an item becomes unavailable differ depending on whether the target of a panel item is a cluster or a production computer: For production computers items are unavailable when WATCHNET is not connected to the computer. For clusters they are unavailable either when no connection is active or when a production computer is connected to the cluster. The exception to this is the Button panel item which, when controlling which show is loaded on a cluster, will remain available under all circumstances since loading a show on a cluster also connects to the cluster.

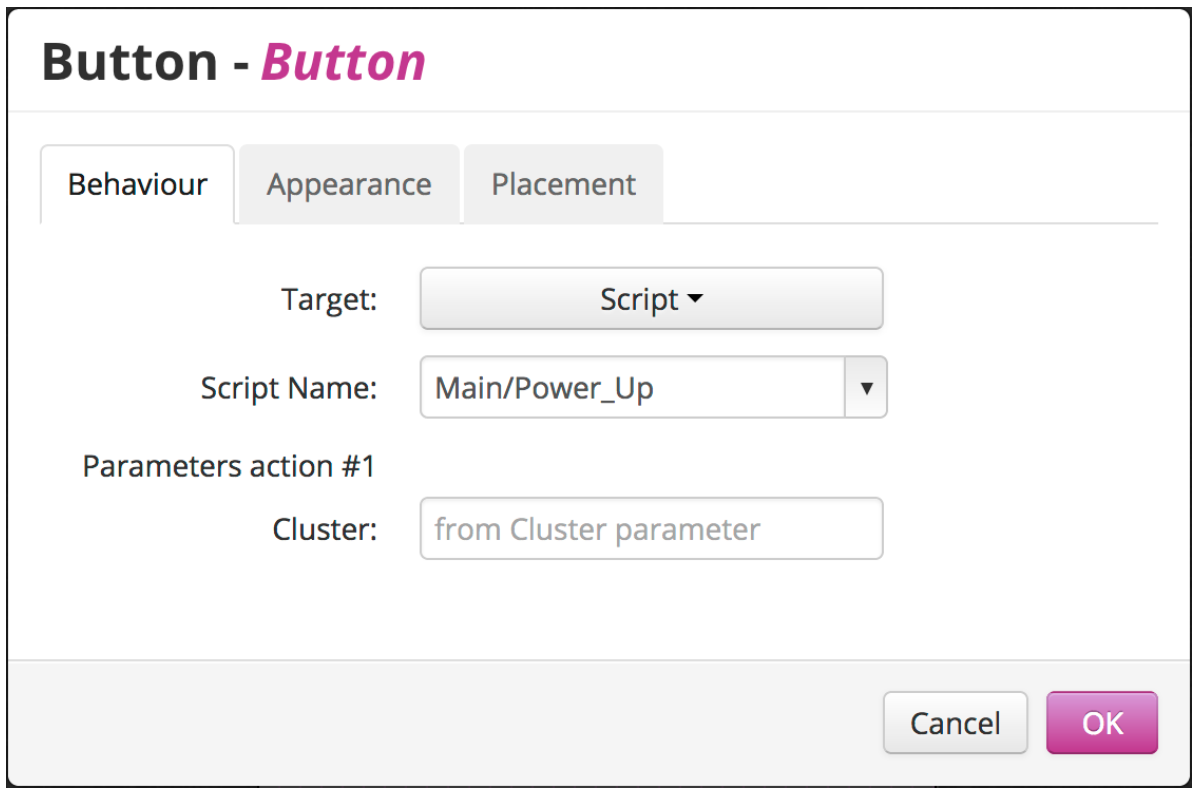
Button

A button can trigger a script, navigate between sections and pages, or directly control certain WATCHOUT functions such as timelines or inputs. Set the desired functionality of a button by selecting the appropriate “Target” from the drop-down list.

Script

If the target is set to script, pressing the button executes a script. The script to be executed must be specified in the “Script Name” field. If any scripts are present in the system they will appear in the drop-down list ordered by their script group.

HINT: It is also possible to manually enter a script to be executed in the "Script Name" field. The script must be specified with its group and name separated by a forward slash, e.g. "Group_1/Script_1".



Script target of Button behavior

As seen in the illustration above, any parameters in a selected script will appear below the script name field, specified per script action and name. Any parameter values specified here will override default parameter values set in the script.

IMPORTANT: Script execution will fail if no value is specified for a parameter, and the script does not define a default value for that parameter. In the event of failed execution, this will be noted in the log.

WATCHOUT

If Target is set to WATCHOUT, the button can directly control certain properties of the specified cluster or production computer, such as timelines and inputs. In the case of controlling a cluster it is also possible to control the loading of shows. The WATCHOUT property being controlled is specified by the "Property" field.

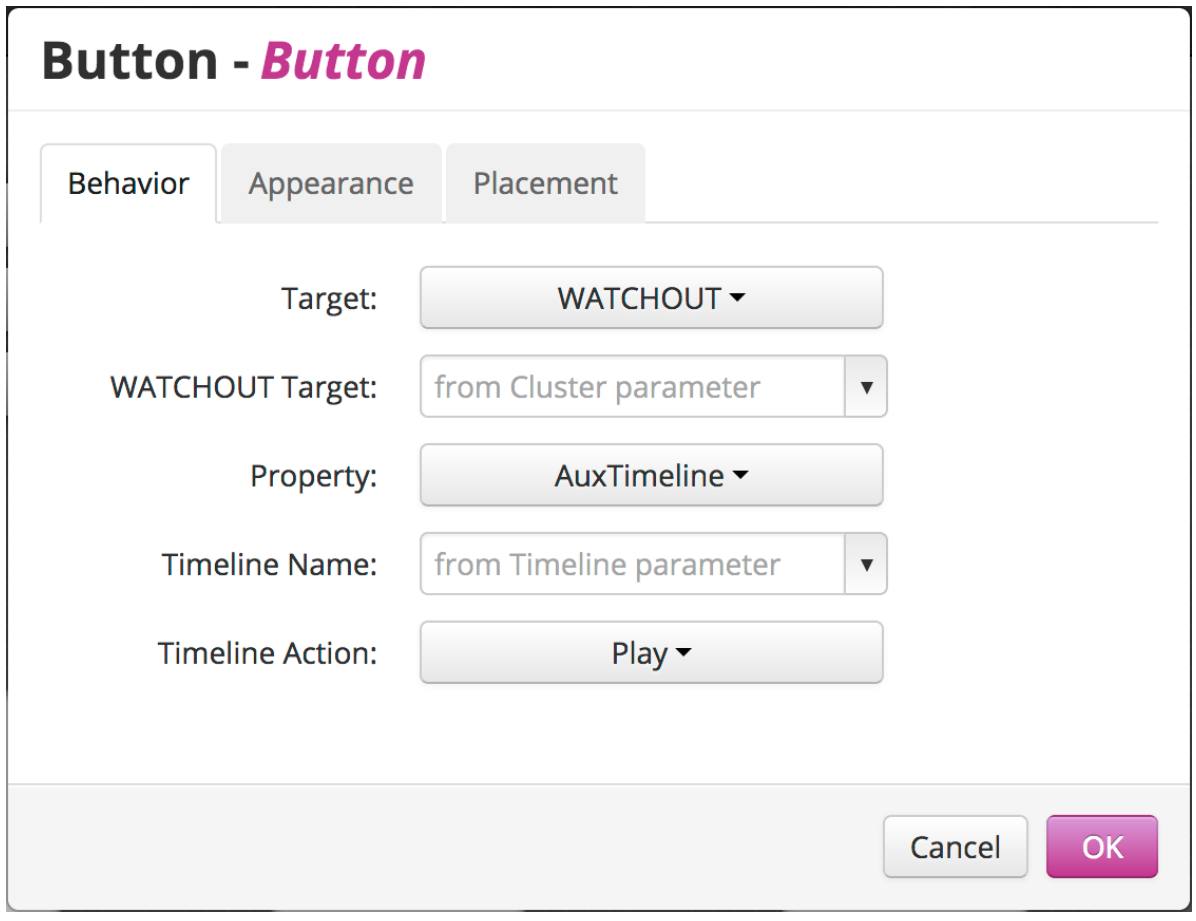
NOTE: The names of WATCHOUT properties, such as inputs and auxiliary timelines, are obtained from the cluster/production computer itself. For this to work, a cluster or production computer must be specified in the WATCHOUT field, and that cluster/production computer must have the correct show loaded. It is also possible to type the name of a timeline or input into the corresponding fields. In that case, make sure the names are spelled exactly as they are used in the show to be controlled. Names are case-sensitive.

Three different WATCHOUT properties may be controlled: Main Timeline, Aux Timeline and Input. If a cluster is being controlled it is also possible to control shows using the ShowName property.

Main/Aux Timeline The action should target the main timeline, or one of the auxiliary timelines. If auxiliary timeline is selected as the property then the name of the auxiliary timeline must also be specified. The following timeline actions are available:

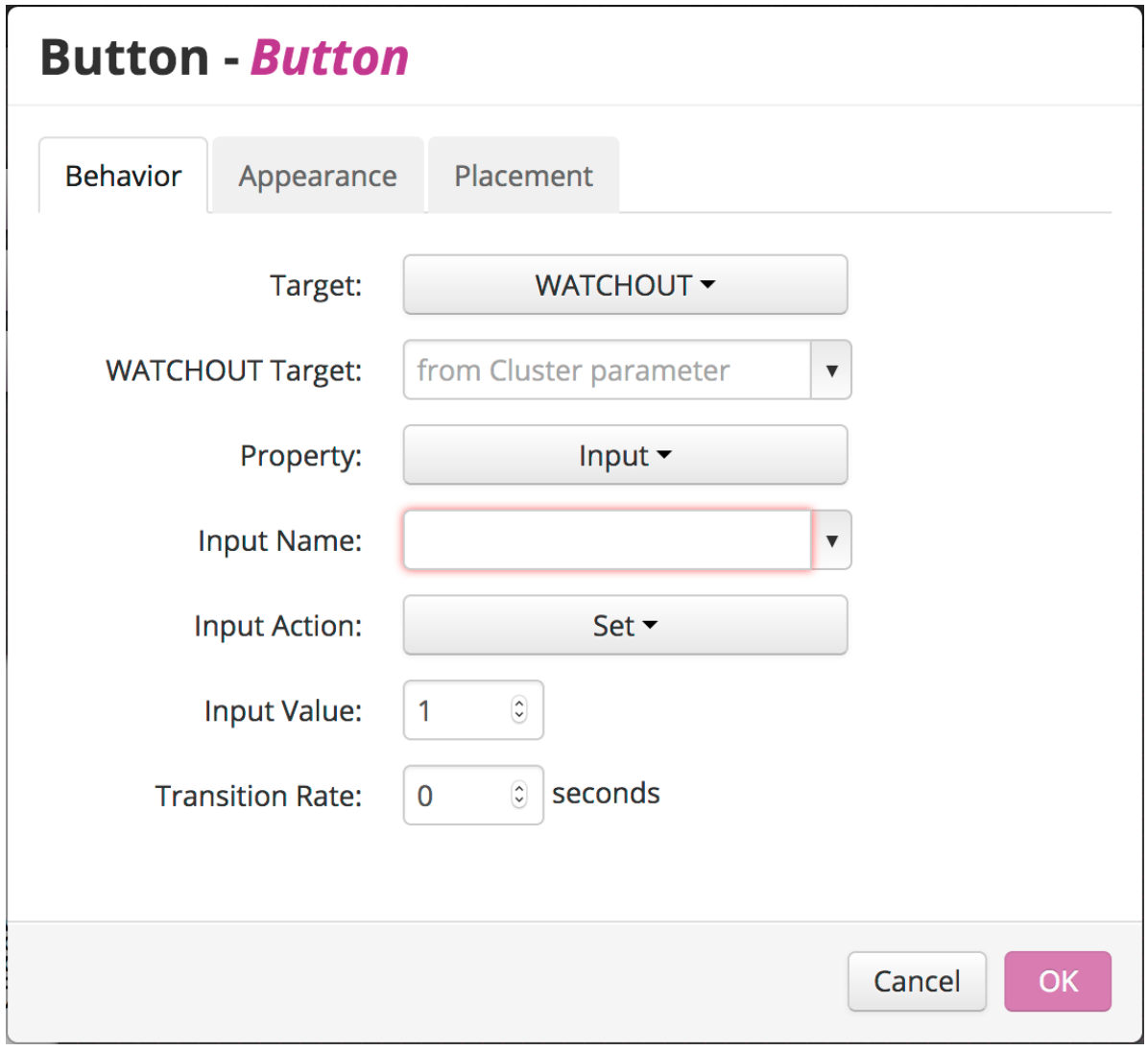
- **TimePosition** Tells the timeline to go to a specified position in time. The button will be in its active state while the timeline is at that position.

- **ControlCuePosition** Tells the timeline to go to a specified position in time. The button will be in its active state while the timeline is at that position.
- **Play** Plays the timeline. The button will be in its active state while the timeline is playing.
- **Pause** Pauses the timeline. The button will be in its active state while the timeline is paused.
- **TogglePlay** Plays the timeline if it is paused or stopped, otherwise pauses it. The button will be in its active state while the timeline is playing.
- **Stop** Stops the timeline, rendering it inactive (this option applies to auxiliary timelines only).



Timeline Property target of Button behavior

Input Controls a WATCHOUT input, which can subsequently be used to control parameters of cues, such as brightness, volume or position. Three initial settings must be specified: “Input Name”, “Input Action” and “Transition Rate”.



Cluster Input target of Button behavior

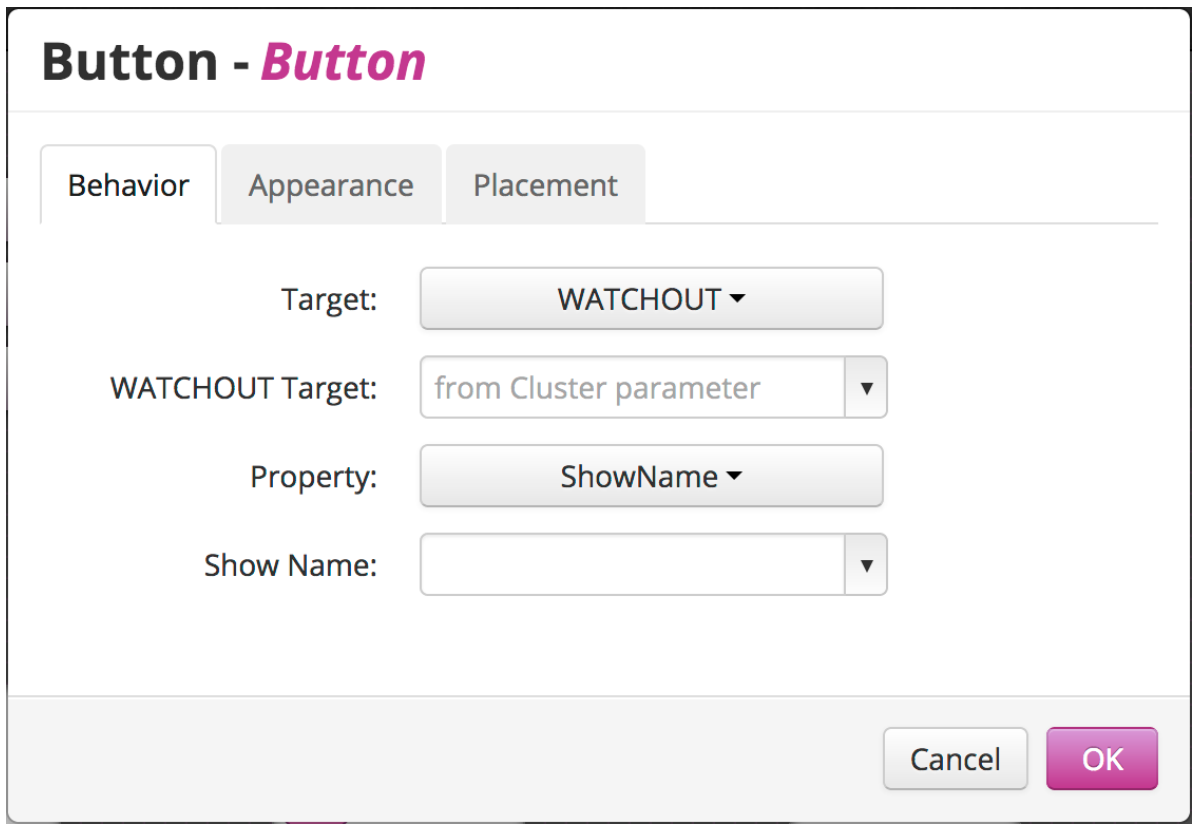
“Input Name” specifies the name of the input to control.

“Input Action” determines what should happen to the value of the input. The following input actions can be chosen:

- **Set** Sets the input to the specified value. The button will remain in its active state while the input has this value.
- **Increase/Decrease** Increases or decreases the input value by the specified amount. This can, for example, be used to create buttons that increase/decrease the sound volume of a running presentation.
- **Momentary** Sets the value to the first parameter for as long as the button is pressed, then sets it to the second value when it is released.
- **Toggle** Sets the value to the first parameter if it does not already have that value, otherwise sets it to the second value.

The “Transition Rate” field specifies how long it will take for the input to reach the specified value, allowing for gradual fading of the input to the target value rather than an abrupt change.

ShowName Controls which show is loaded into a WATCHOUT cluster. The show to be loaded is specified in the Show Name field.



Cluster ShowName target of Button behavior

IMPORTANT: The "ShowName" property is not available when controlling a WATCHOUT production computer, it may only be used when controlling a display cluster.

Panel
The panel target controls the panel itself, allowing for navigation between sections and pages. The navigation destination is set by the "Go To" field, the following options are available:

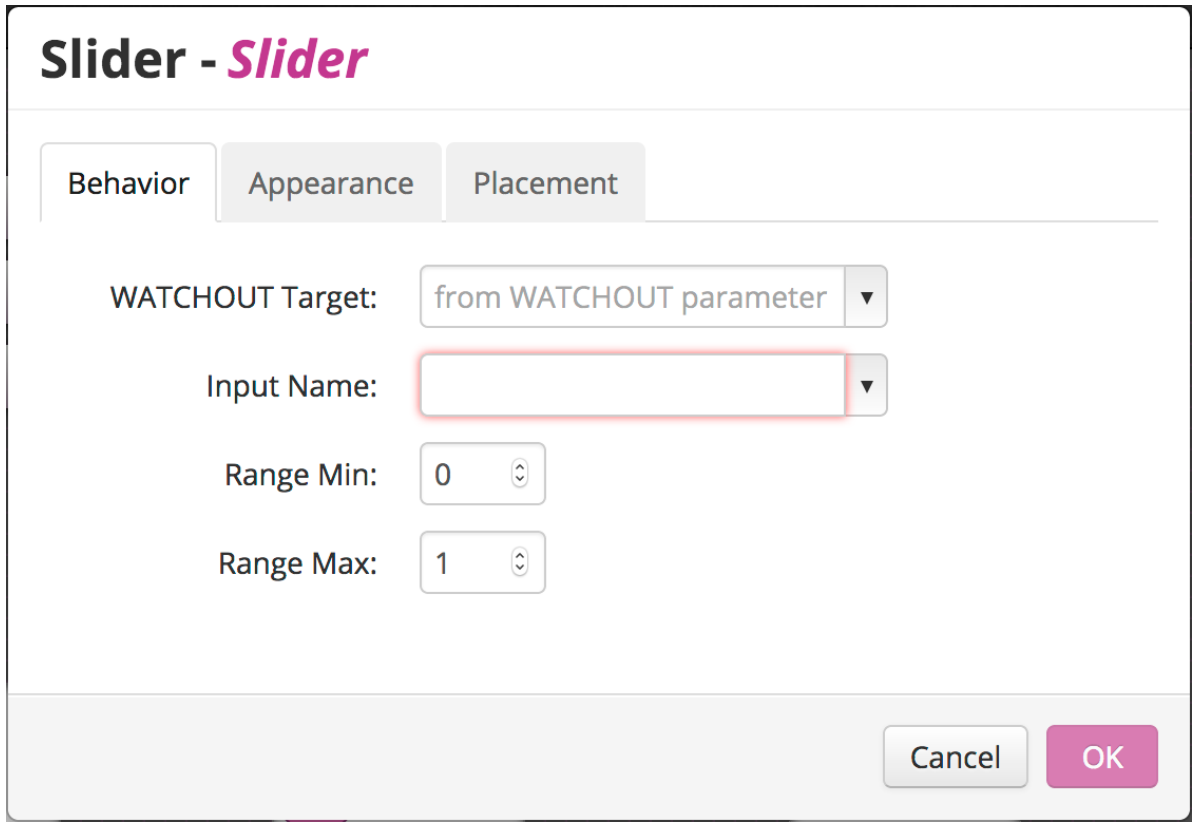
- **PreviousPage/NextPage** Go to the previous or next page in the current section.
- **NamedPage** Go to the specified page of the specified section. If no page is specified, go to the first page of the specified section.
- **URL** Go to any URL. This allows you to move away from the panel to display another web page, possible unrelated to WATCHNET. May also be used to load a different panel into your device by specifying a full panel path.

Slider

A slider directly controls a WATCHOUT input, which can subsequently be used to control cue parameters such as brightness, volume or position.

For the slider to work, "WATCHOUT Target" and "Input Name" fields must be specified. If a valid cluster or production computer name is entered, or selected from the list, and that cluster or production computer has the desired show loaded, the input name can be obtained from the cluster/production computer itself. An input name may also be typed into this field. Note that the input name must be spelled exactly as it is specified in the WATCHOUT show and that input names are case-sensitive. It is also possible to specify a range for the input as the lower and upper bounds of the input values.

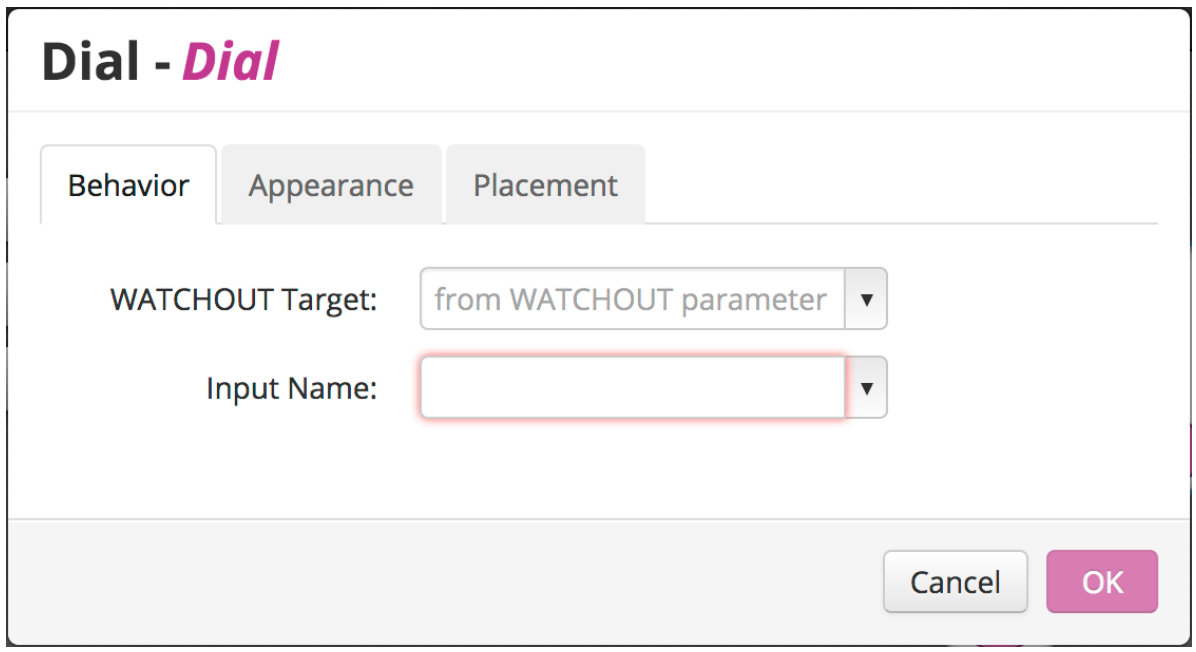
HINT: The slider behavior may be inverted by entering minimum range which is higher than the maximum value. For example, a minimum range of 1 and a maximum range of 0.



Behavior tab of a Slider item

Dial

A dial directly controls a WATCHOUT input, and is especially useful for controlling "endless" input values such as rotate angle or color hue. Such values are normalized in the range 0 through 1 in WATCHOUT, where 1 is a full revolution. In terms of rotation angle or color hue, the values 0 and 1 are equivalent. A dial always has a value in the range of 0 through 1, wrapping around to 0 again as it reaches a full revolution.



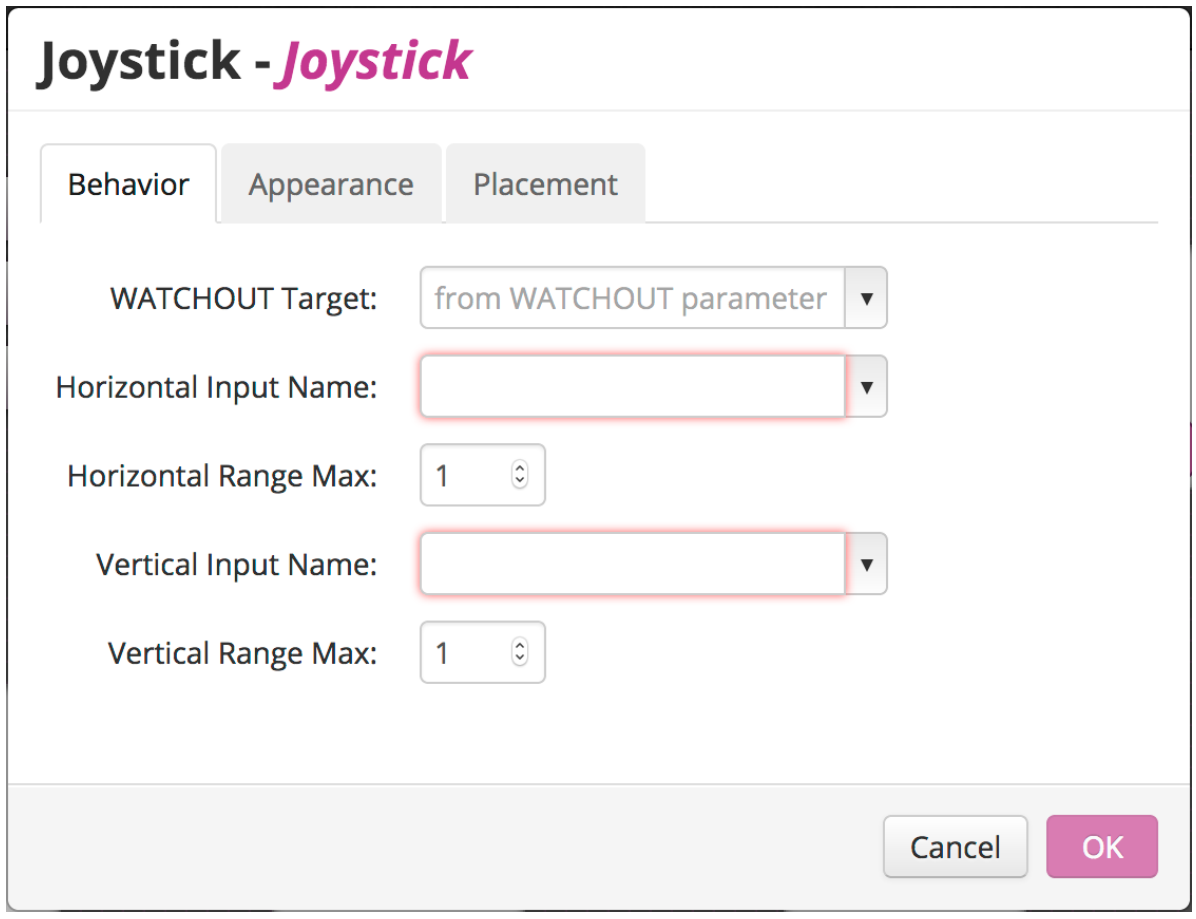
Behavior tab of a Dial Item

Like the Slider, "WATCHOUT Target" and "Input Name" must be defined before the dial can be used. Once a valid cluster or production computer name has been entered or selected, and the appropriate show is loaded in WATCHOUT, the input name drop-down list will list all available input names for that show.

Joystick

A joystick directly controls two WATCHOUT inputs, think of it as a two-dimensional slider, where one input value is controlled by the horizontal axis and the other value by the vertical axis. This makes the joystick particularly useful for controlling values that are inherently two-dimensional, such as position or size.

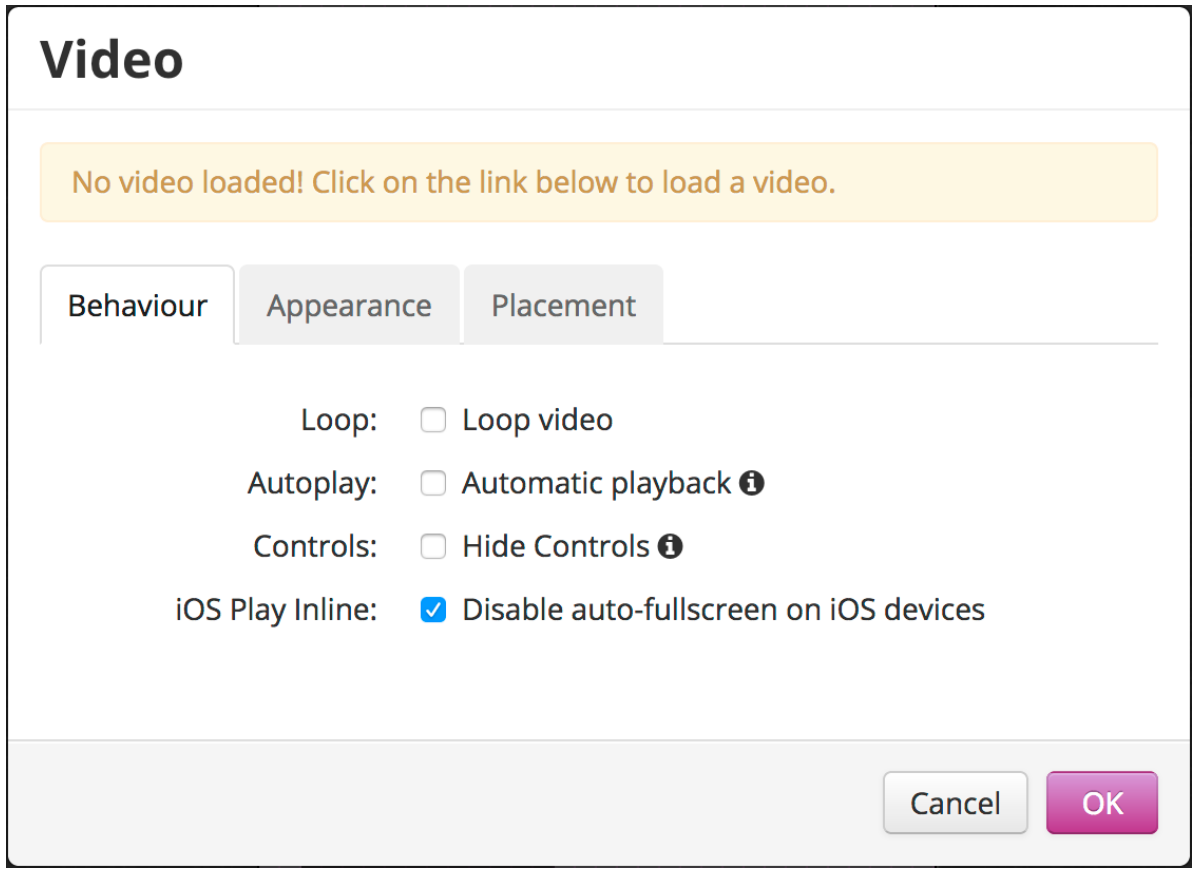
Like the slider and dial, the joystick needs a valid "WATCHOUT Target", "Horizontal Input Name", and "Vertical Input Name". It is also possible to set the upper bound of the input values through the range property. The input values will then range from 0 to the selected upper bound.



Behavior tab of a Joystick item

Video

The video item is the only decorative item that also has behavior settings. These settings govern how the video should play on the panel.



Behavior tab of a Video item

Loop Set whether or not the video should start playing again from the beginning as soon as it finishes playing.

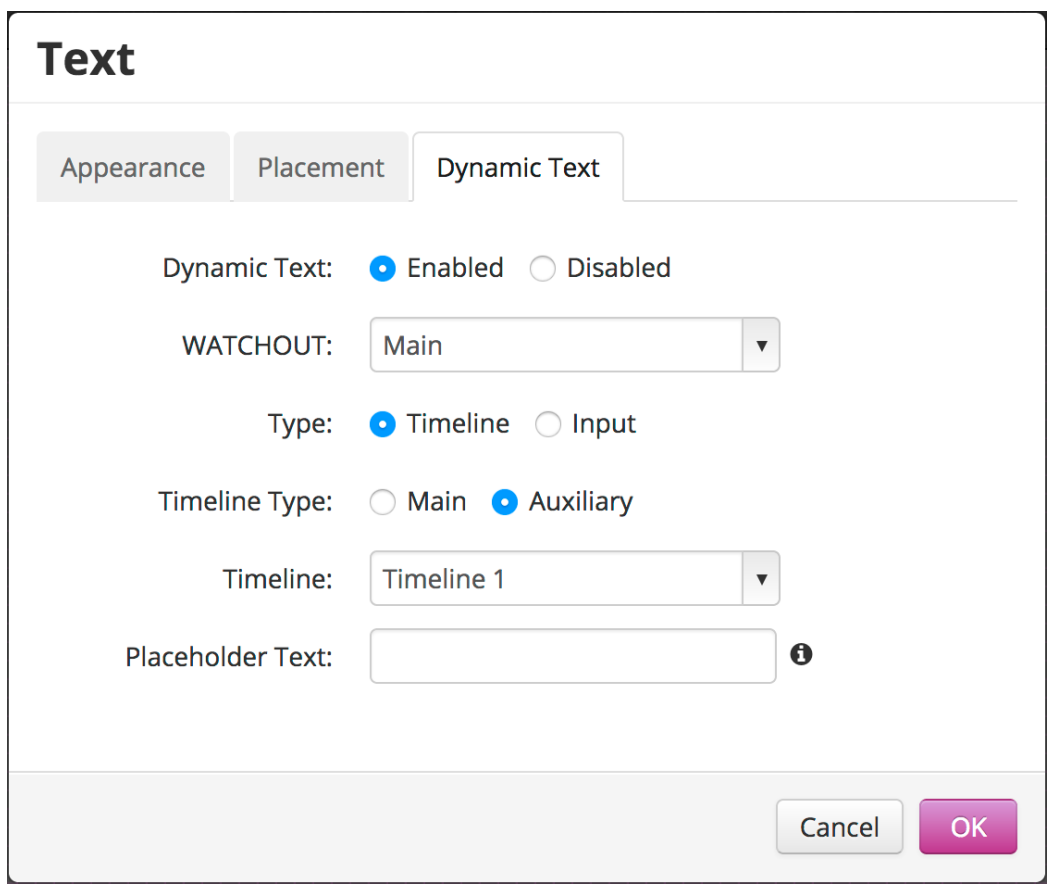
Autoplay Sets whether or not the video should start playing as soon as the section or page on which it is located is entered.

Controls Show or hide the video controls, e.g. play and pause buttons.

iOS Play Inline Set whether or not the video should default to full-screen mode when playing on iOS devices such as iPhones or iPads.

Text

The text item is used to display informational text on a panel section/page. The text may be static, simply the text entered into the text item itself, or dynamic. Dynamic text allows for important properties of a currently running WATCHOUT show to be displayed in place of the "regular" text on the item.



Dynamic Text tab of a Text item

With dynamic text enabled, it is possible to display either the current time position of a main/auxiliary timeline or the value of any WATCHOUT input that is controlled through WATCHNET (e.g. through a slider).

NOTE: When controlling a production computer running WATCHOUT version 6.2 or higher it is possible to display Input values in real-time even for Inputs not directly controlled through WATCHNET.

When a text item displays the current value of a WATCHOUT input it is possible to select whether to display its "Raw" value or to display it as "Percentage". With "Raw" selected the text will display the value of the WATCHOUT input with three decimals. If "Percentage" is selected the value will be multiplied by 100 and a "%" sign added, e.g. an input value of 2.5 will be displayed as "250%" without decimals.

IMPORTANT: While it is possible to display the values of WATCHOUT inputs not directly controlled by WATCHNET, they will not be updated if changed from outside, e.g. through an external control source.

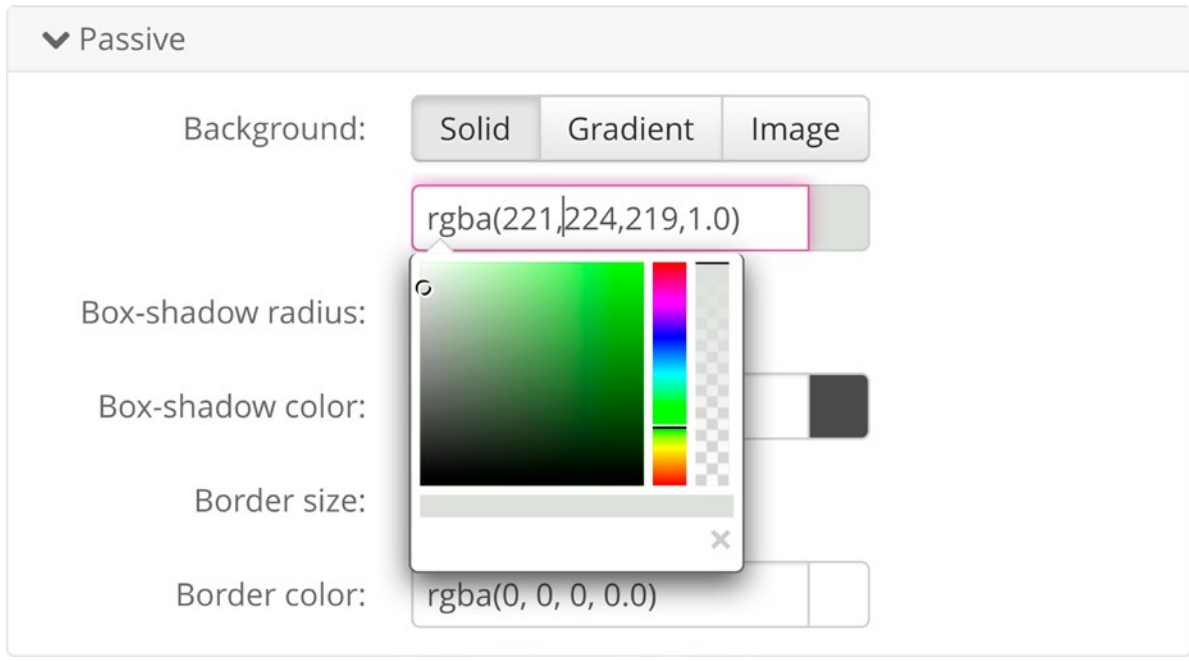
If the timeline type option is set to "Auxiliary" then there is an additional property which may be set; "Placeholder Text". This text will be displayed in place of the auxiliary timeline time position when the timeline is stopped.

PANEL ITEM APPEARANCE

Buttons, Sliders, Joysticks and Dials, can display titles at all times. The title of an item is set in the General section of the Appearance tab. If this field is left empty, no title will be displayed on the item.

Setting a Color

Most items in WATCHNET that can be added to a panel have one or more appearance options for color selection, e.g. border color or background color. The current color is displayed in the input field as rgba (Red, Green, Blue, Alpha) and in the color swatch on the right. Clicking the input field, or the color swatch, brings up the color picker, as seen below.



Color picker for background color selection

The color picker lets you select both color and alpha. Select a color by clicking in the main color selection area and alpha by using the vertical slider on the far right. The resulting color is displayed on the horizontal bar on the bottom of the color picker and in the color swatch next to the input field.

A color may also be copied between fields by selecting and copying the text in one input field and pasting it into another field.

Border

With the exception of decorative items, it is possible to customize the color of the border of items on a panel. The button item also has a setting for the size of the border.

HINT: It is possible to remove the border of an item even if it does not have a setting for border size. Set the alpha value of the border color to zero to completely remove the border.

Background

You can set a background on all items in WATCHNET, except the decorative ones. The Button item has a single background setting for each of its states, whereas the Slider, Dial, and Joystick, have two background options - Main Controller and Thumb. Thumb refers to the movable, smaller, part of the controller and main controller refers to the rest of the controller.

There are three different modes available for the background of an item or its thumb: Solid color, Linear Gradient, and Image. The currently selected background mode is indicated by which of the three buttons- Solid, Gradient, or Image, is active.

Solid Color. With the solid color mode selected you can only select a color and alpha. The item will then be displayed with a uniform color and alpha value.

Gradient. When gradient mode is selected, two different color and alpha values must be chosen. The result will be a vertical linear gradient in both color and alpha ranging from the first selected color (the top one) to the second selected color (the lower one).

Image. Selecting image as the background mode for an item reveals two options: the image to be displayed as the background and the opacity value to be used for the image. Opacity for an image and alpha for a color behave in the same way: a lower value yields a more transparent result.

Item-Specific Visual Customization

Button

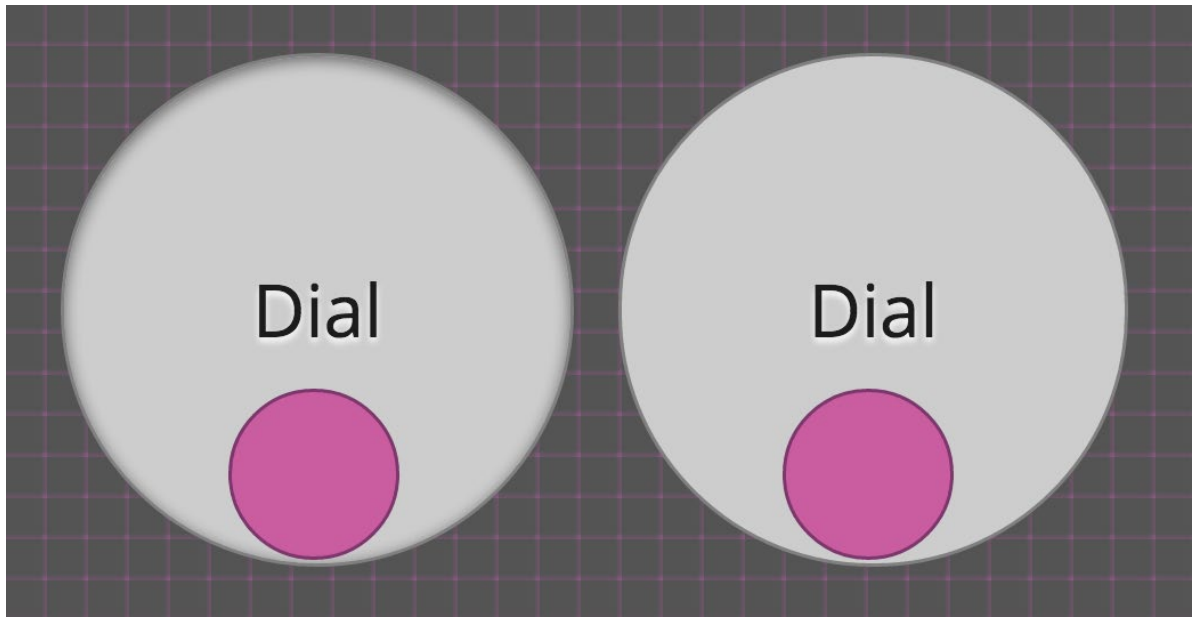
The corner radius of a button item can be set in the General section of the Appearance tab. By adjusting the size of a button and its corner radius you can create anything from a rectangular button to a fully circular one.

The effect of different corner radius settings for a Button item

Setting the corner radius to zero yields a rectangular button; smooth, rounded corners are obtained by increasing the corner radius. Setting a large value for the corner radius and resizing the button to equal width and height results in a circular button.

Dial

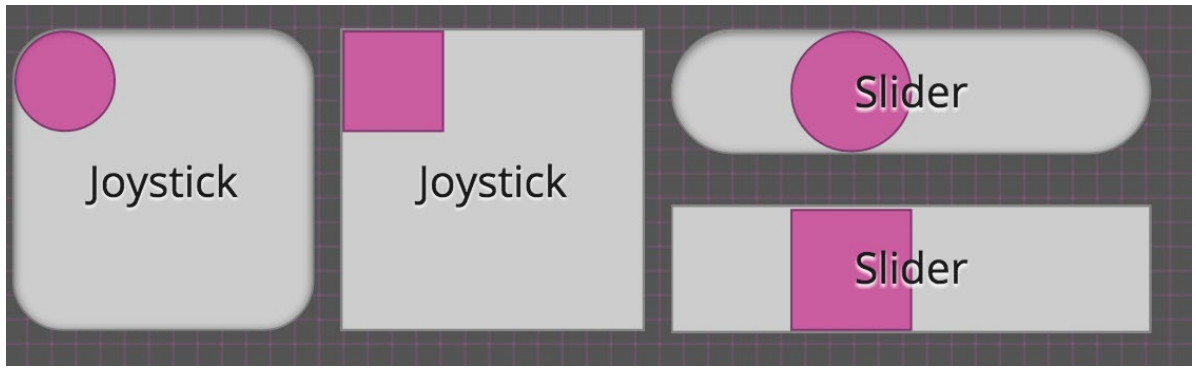
In the General section of the Appearance tab for a dial, the shading on the main controller may be activated or deactivated. The effect of having shading turned on or off is illustrated in the image below. The left dial has shading turned on and the right one has shading turned off.



The effect of having component shading turned on (left) versus turned off (right)

Sliders and Joysticks
Aside from the shading option in the dial item, sliders and joysticks also have the option of turning component rounding on and off. In the example below, the left joystick has shading and rounding turned on while the right joystick has shading and rounding turned off.

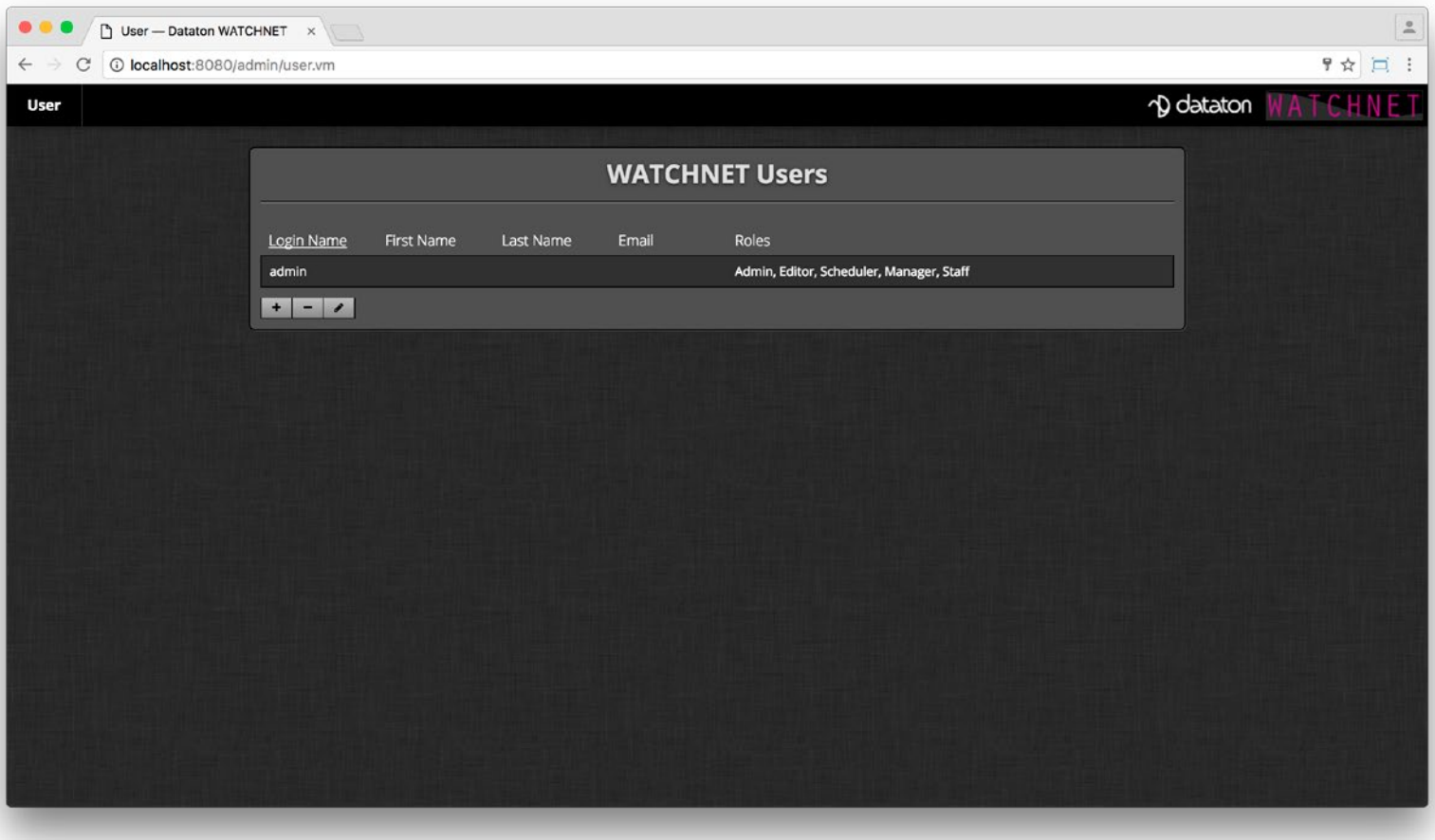
The top slider has shading and rounding turned on whereas the slider below has shading and rounding turned off.



The effect of corner radius and shading for a Joystick item

USER

The user page, seen in the illustration below, lists all users authorized to access the server. All module pages, except the start page, require a user to be logged in. It is also possible to protect WATCHNET panels by requiring a user to log in to view them.

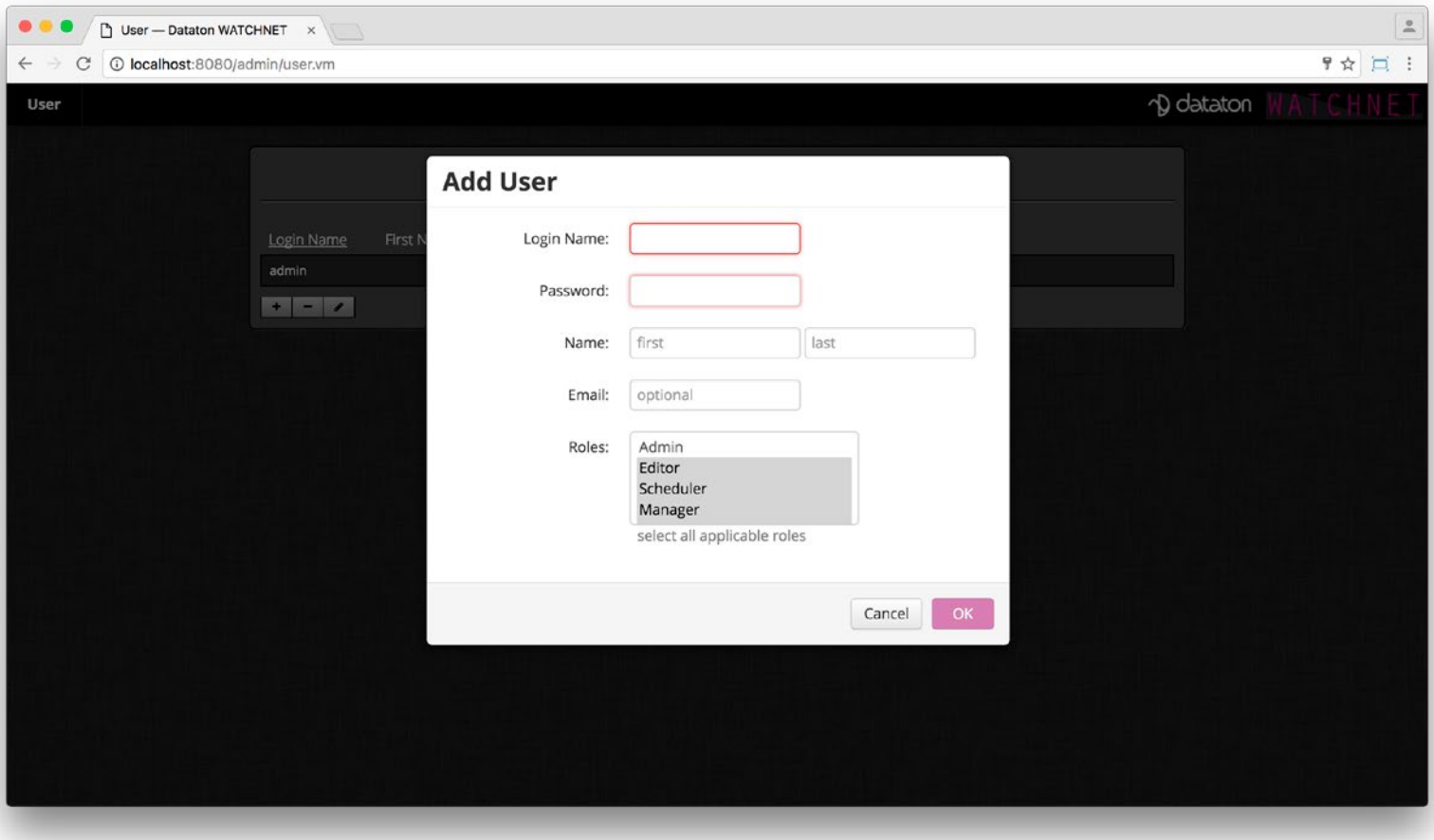


WATCHNET User page

MANAGING USERS

Adding a user

A new user is added by clicking the plus button below the list of all users. This brings up the "Add User" dialog window, seen in the illustration below.



Add User dialog

The following fields are available when configuring a user:

Login Name The name used to identify the user when logging in.

Password The password used to authorize the user when logging in.

Name The full name of the user as first and last name (optional).

Email A user's email address (optional).

Roles The roles associated with this user (see below). Select all that apply.

Editing a User

Select an existing user in the list of users and click the pen button, or simply double-click the desired user, to edit the settings for that user.

Removing a User

To remove a user, select it in the list and click the minus button.

NOTE: It is not possible to remove or rename the user called "admin".

USER ROLES

The roles associated with a user determine the parts of WATCHNET that are accessible by that user. Note that a user may be associated with one or more roles. Multiple roles can be assigned to a user by Command/Control-clicking the desired roles in the list.

The following roles may be set for a user:

Admin Access any part of WATCHNET, including the ability to add or edit users and their passwords.

Editor Create and edit Scripts and Panel designs.

Scheduler Create and edit scheduled events.

Manager Access panel sections restricted to the Manager or Staff roles.

Staff Access panel sections restricted to the Staff role.

CAUTION: A user with the Admin role implicitly has all roles, allowing access to all parts of WATCHNET.