



Medialon Calendar MxM and Web Application

User Guide

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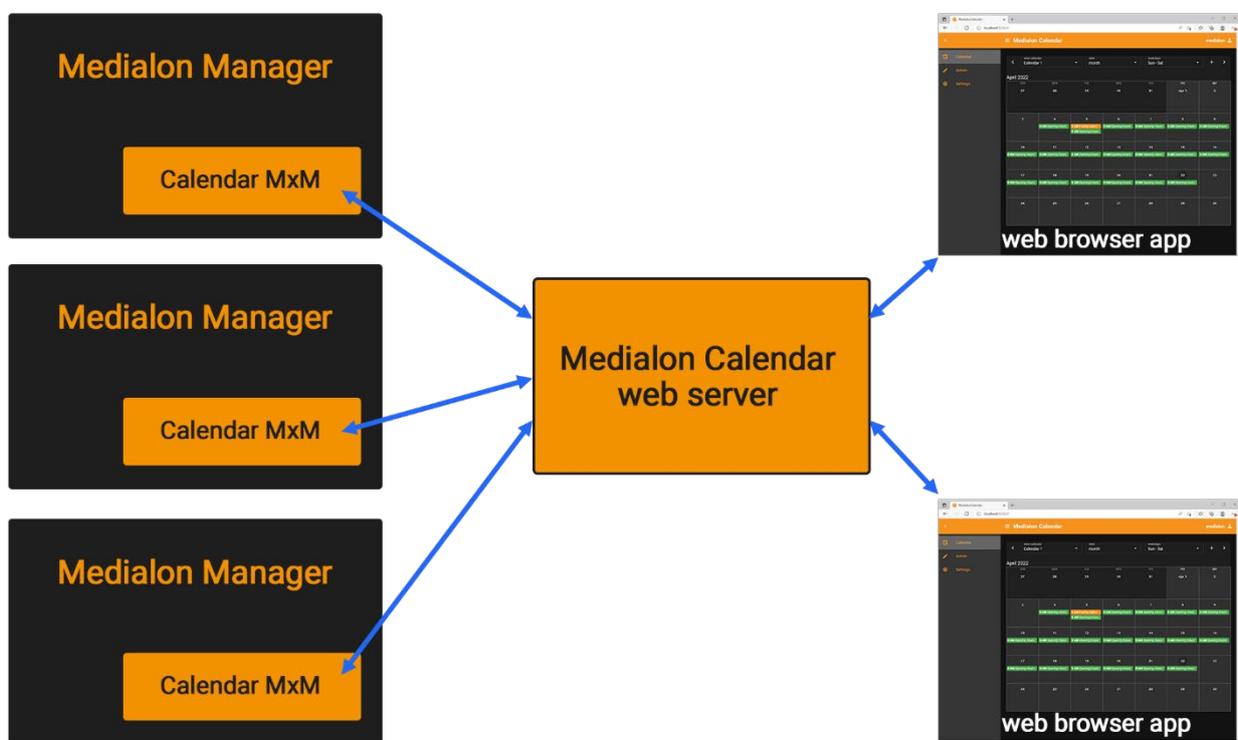
Overview

The Medialon Calendar Web application, in conjunction with the Manager Calendar MxM, provides a powerful time of day scheduling solution for Manager and Showmaster installations. The flexible scheduling model allows calendars to be shared among Manager instances or used in a one to one mode where each Instance can have its own unique calendar.

This guide provides the technical information suitable for a Programmer or system Installer to setup and configure the Calendar system.

General Concepts

The following diagram illustrates the main components of the Medialon Calendar application.



To enable scheduling on a Manager Instance, a single Calendar MxM object is created and configured. This MxM retrieves scheduled events from a web server running on a network accessible PC. This can be the same PC used for Manager. In addition to the MxM Interface, the Calendar Web server provides a browser application which is used for configuration and event creation.

This basic model provides a large amount of flexibility in how the components are used. The simplest installation might have a single Manager instance, with a Web server running on the same PC, whilst a complex multi-site installation might have multiple Manager instances all pointing at the same Web Server and sharing a common calendar.

Terminology

This section introduces some core concepts and terms used by the Calendar system to help in understanding and using the web application for installers and users.

Calendars and events

Events are the basic scheduling element within the Medialon Calendar infrastructure. They share some similarities to events in almost any Calendar application (Microsoft Outlook or Google Calendar for example), but have some notable differences. A Medialon Calendar event has a start time, end time, an optional recurrence pattern, and optional Manager actions that can take place at the start and/or end of the event.

A Calendar is simply a group of events. Each running Instance of Manager is configured to use a single Calendar, however a calendar can be shared by multiple Manager Instances.

Macros

In most cases a Manager or Showmaster system is setup and configured by an experienced AV designer or show programmer, and then operated by a facility manager or AV technician. The basic action in a Calendar event is to start a Manager task or to set a Manager variable. Since these are really 'programmer' level concepts, macros are used to create events in a more user-friendly manner.

Example

A Manager show might contain a task called Trigger_Exhibit_Open, which is responsible for starting an exhibit hall in the morning. The show programmer would create a macro as part of installation called 'Open Exhibit', which a user can then select when setting an opening time event in the Calendar.

User access

Medialon Calendar provides three levels of User access with the following permissions.

User: Create, edit and delete events on any calendar

Admin: Create, edit and delete events on any calendar
Create, edit and delete Users

Programmer: Create, edit and delete events on any calendar
Create, edit and delete Users
Create Macros
Create Manager Instances

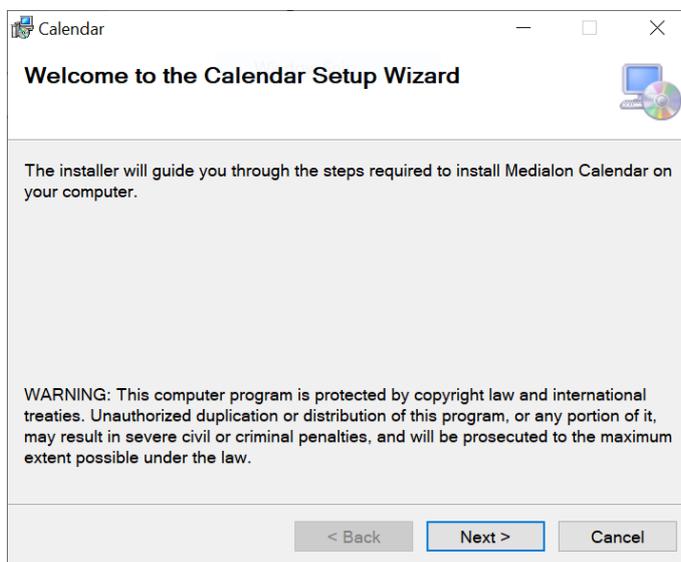
Installation

This section provides information on the setup and configuration of the Calendar components.

Web Server Installation

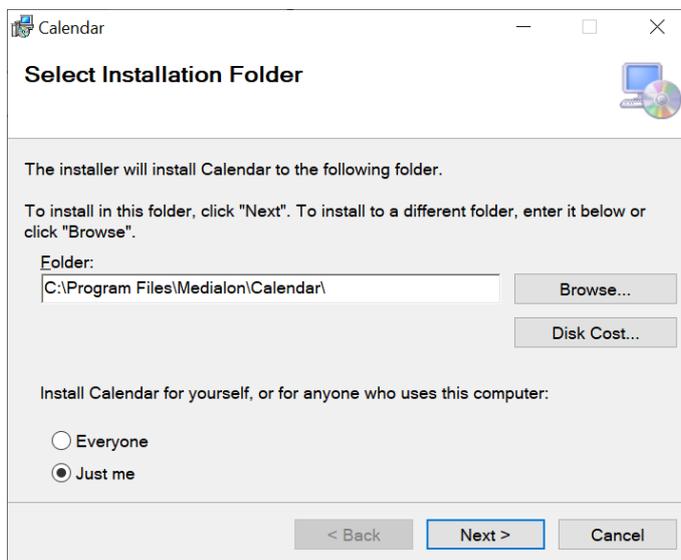
The Calendar Web Server is provided as a standalone Windows .exe with its own application installer. The installer can be found on the Manager V7 installation media, or is available on request for existing Manager V6 installations.

To begin the installation process, run the setup.exe application in the install folder.



Click 'Next' after reviewing the copyright notice.

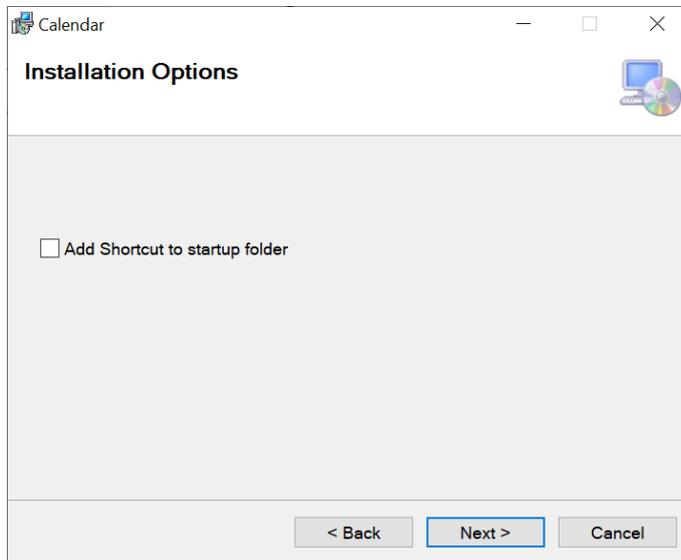
Select the installation folder, and choose whether the Calendar server is available for all users.



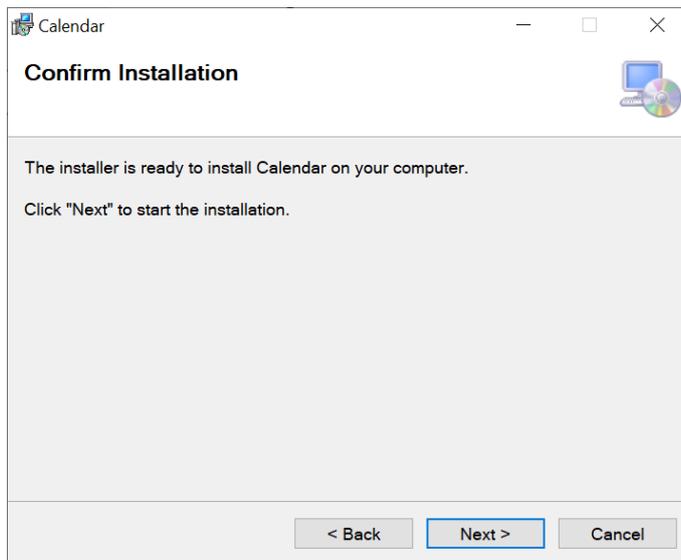
Installation

Click 'Next' to continue.

Check the 'Add Shortcut to startup folder', if you wish to have the Calendar server start automatically when the PC boots up.



Click 'Next' on the final confirmation screen to proceed with the installation.



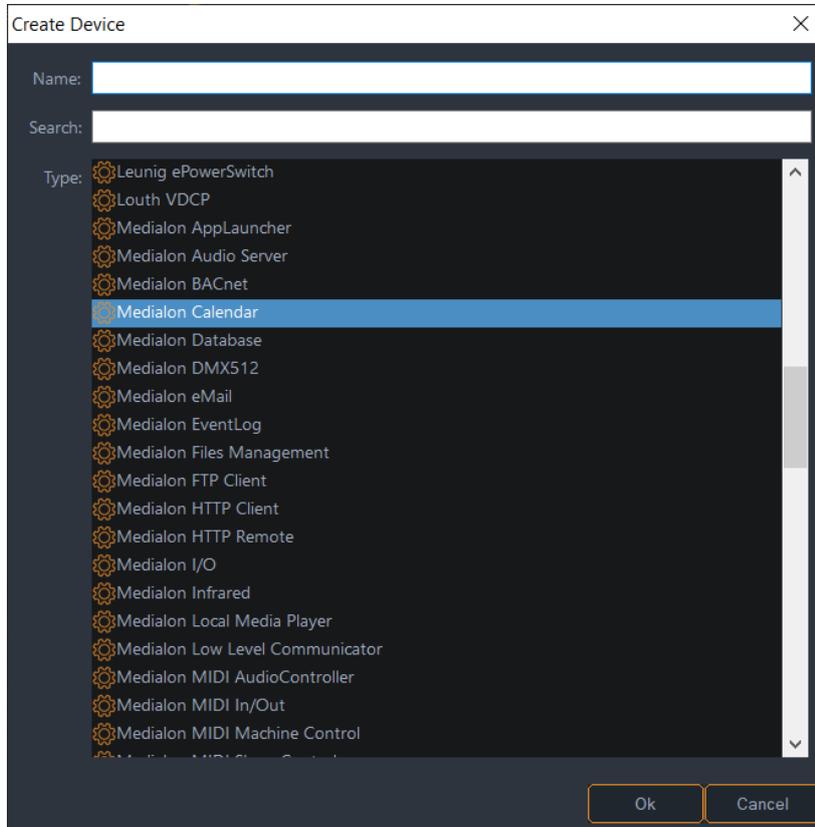
Install as a service

The Calendar application installs and runs as a standard Windows application. In some cases it may be preferable for the Calendar server to run as a windows service. This allows the server to run outside of a user account, which can be desirable.

7thSense recommends using the [third party nssm application](#), which provides a wrapper around a Windows application, allowing it to run as a service.

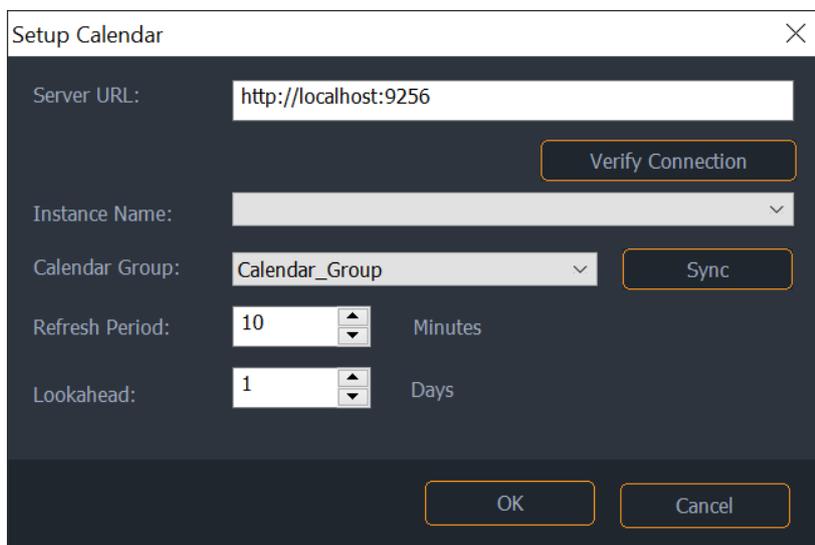
Add a Calendar MxM as a New Device in Manager

With the Web Server now running, in Medialon Manager, add a New Device in your Project, selecting Medialon Calendar. With MxM 7.2.2, multiple instances of the MxM can be used:



Multiple instances allow subsections of a Manager project to be controlled by their own calendars. *Example:* a mini-theatre in a museum hall. A general calendar controls opening and closing of the entire hall, while a separate calendar schedules the mini-theatre, e.g. on a 30-minute cycle.

Right-click to 'Setup Device...'



Installation

The Calendar setup screen contains the following fields.

Server URL

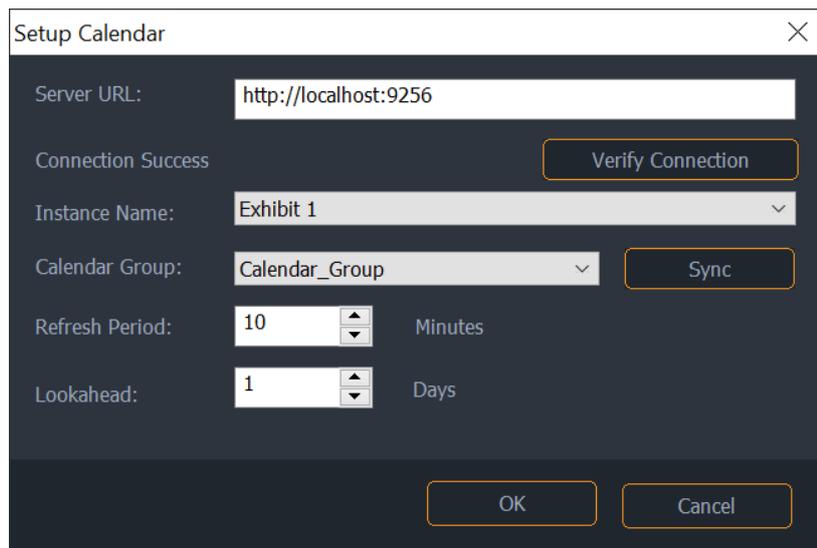
This specifies the location of the Calendar server. Multiple Manager instances can point to the same server.

Verify connection

When clicked, this button sends a request to the server and retrieves the list of defined Instances. This serves two purposes. First it validates the URL and network connection, and also supplies the list of instances from which the appropriate Name can then be selected.

During initial setup or when reconfiguring calendar MxM, 'Verify Connection' should always be used to populate the Instance Names list. This is the only way to select which Instance is used by the MxM.

The following screenshot shows a successful connection to the server. Once this step has been completed, select the required Instance from the dropdown list.



The screenshot shows a 'Setup Calendar' dialog box with the following fields and controls:

- Server URL:** A text input field containing 'http://localhost:9256'.
- Connection Success:** A button labeled 'Verify Connection'.
- Instance Name:** A dropdown menu currently showing 'Exhibit 1'.
- Calendar Group:** A dropdown menu currently showing 'Calendar_Group' and a 'Sync' button.
- Refresh Period:** A spinner control set to '10' with the unit 'Minutes'.
- Lookahead:** A spinner control set to '1' with the unit 'Days'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

Instance Name

The Calendar system is designed to support a number of different environments, from simple single-location systems, to complicated multi-location installations with 1 or more shared calendars. Each Manager or Showmaster running needs to be given an identity (i.e. Instance Name) that is used to retrieve its assigned calendar.

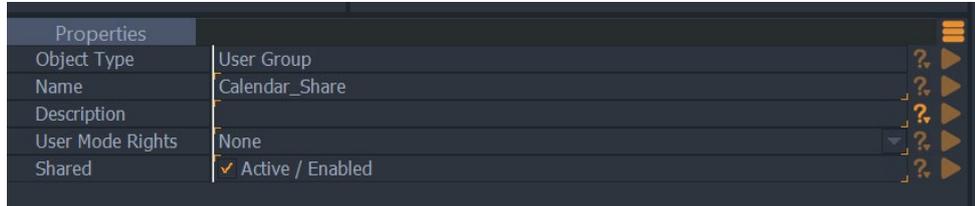
Calendar Group

The Calendar macro mechanism uses a defined list of Tasks and/or Variables for creating the actions that occur in events. The Calendar Group specifies to the Calendar MxM which variables and tasks are available for macros. For performance reasons it is best to keep the number of items in this group as small as possible. In addition, a single Manager group cannot contain

Installation

variables *and* tasks. For this reason, the MxM will also enumerate any child groups when processing the Calendar Group. It is recommended practice to create separate variable and task groups as children of the main Calendar Group.

For the Calendar MxM to recognise a group, it must have the shared flag set.



Sync

The sync button instructs the Calendar MxM to synchronise the list of items in the Calendar Group with the Web Server database. This can be a time-consuming operation, that will generally be very infrequent. For this reason, it is left under programmer control. Sync is only required when the contents of the Calendar Group changes. A sync command is also available for shows that dynamically change items in the group, for example dynamic creation of enum variable values.

Refresh Period

The Calendar MxM makes periodic requests to the web server to retrieve its scheduled events. This parameter specifies the interval between each request. This value should be as long as possible while ensuring that schedule updates are captured. For example: in an exhibit with simple daily 'opening time and closing time' events, that may only change a day in advance, the refresh period can be set to something like 12 hours (or $12 \times 60 = 720$ minutes), to minimise processing overhead.

Lookahead

This parameter specifies how many days in advance the MxM should request events. This feature is really provided as a safety measure in the event of network issues. Ideally the MxM is retrieving data daily, but there may a scenario where a Manager instance is making requests to a remote calendar server across an unreliable network connection, and a safety margin is required.

Device Commands

The calendar MxM provides the following commands.

Disable

Disable the Calendar operation. This command will cause the calendar to stop triggering events and to stop making requests to the server.

Enable

Enables the Calendar operation.

Installation

Refresh

Trigger an immediate connection to the server and request the latest calendar events.

Sync DB

Force the MxM to synchronise the contents of the Calendar Group with the Server database. This command should generally only be called when the Calendar Group changes.

Device Variables

NextRefreshTime

[Time] Specifies the next time that the MxM will contact the server.

LastRefreshTime

[Time] Specifies the time that the MxM last contacted the server.

LastEvent

[String] the name of the last calendar event that was triggered.

LastEventTime

[Time] Contains the time that the last event was triggered. Note this is not cleared out at the start of day and could show the last event from the previous day.

LastEventAction

[String] Contains the action of the last event - such as start_task.

NextEvent

[String] Contains the name of the next calendar event in today's schedule.

NextEventTime

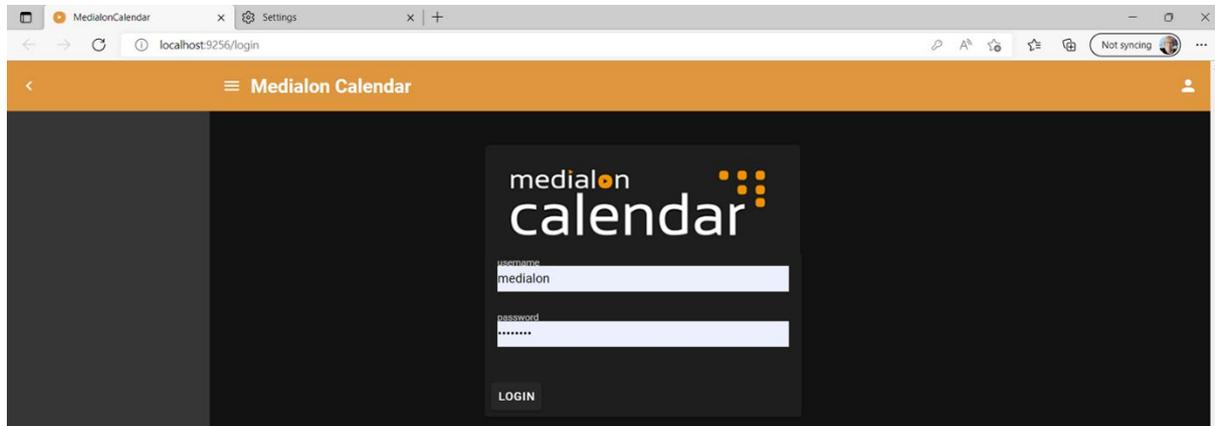
[String] Contains the time that the next event will occur.

NextEventAction

[String] Contains the action of the next event – such as start_task.

The Calendar Web Application

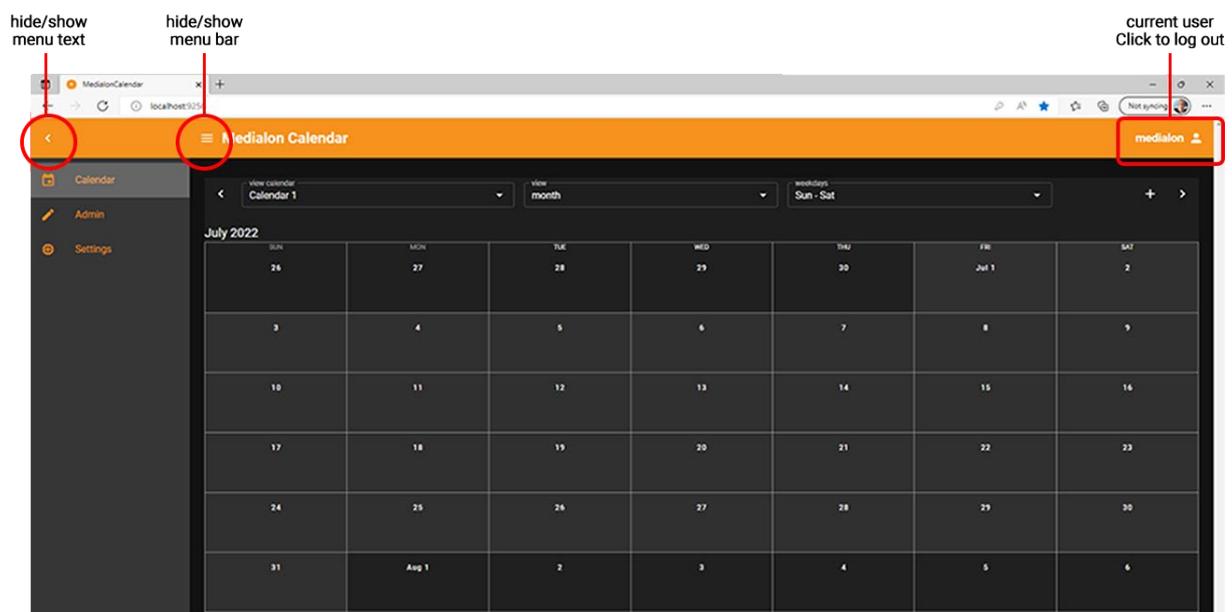
The Calendar website is served from a standalone application on port 9256. The URL to access the web site from the same PC as installed is **http://localhost:9256**



Following a fresh install, a single user 'medialon' is created with an empty password. To login with this user, enter 'medialon' for username, and any text for the password.

Note that this is a special case only applicable after install. In practice, every user must have a password, and once logged in, it is highly recommended that the 'medialon' user is assigned a password in the Admin tab, as described in a later section of this guide.

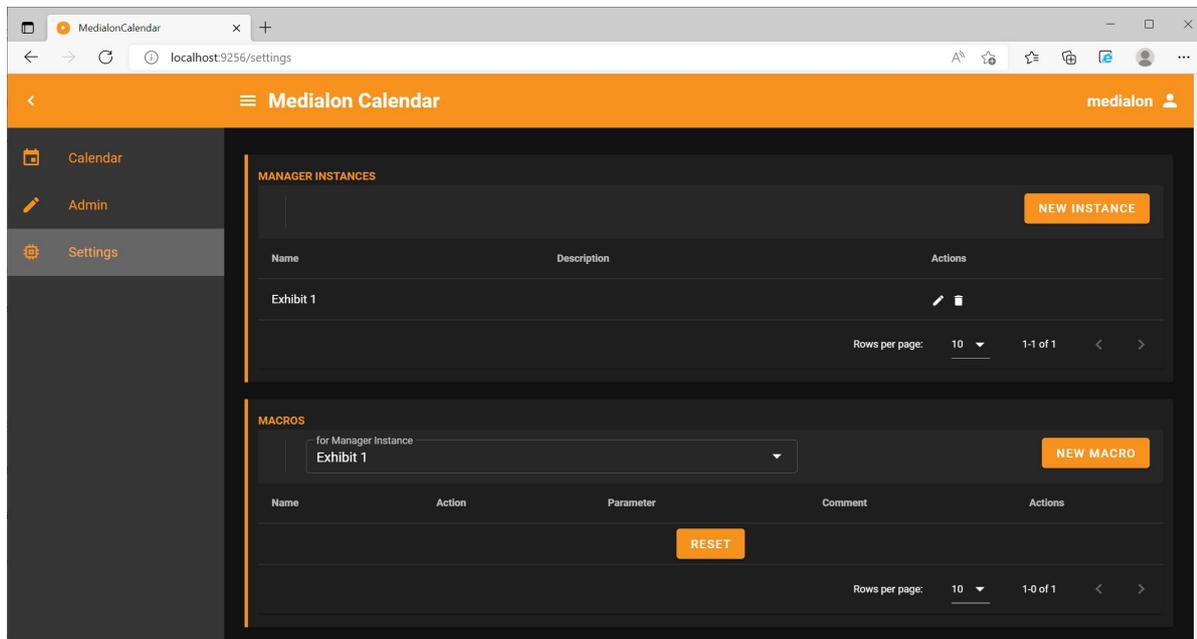
After login, the main calendar screen is shown. Buttons are available to hide the menu bar or show just the icons. This feature is useful when viewing the web application on smaller screens, such as a mobile device. The top right of the title bar shows the active user, along with an icon that can be used to log out. The web application will remember the logged-in user's credentials, and automatically restore the user if the browser is closed and reopened.



The Settings tab

The settings tab is only available to users with programmer access rights, and is used to configure the active Manager instances and event macros.

Manager instances



The **Manager Instances** list is used to tell the web application about all Manager or Showmaster instances linked to this Calendar installation. In most cases, there should be a one-to-one mapping between the Manager instances listed in the web site and the actual Manager software installations.

To create a new Instance, click on the 'New Instance' button, and enter a suitable name and optional description in the Instance dialog.

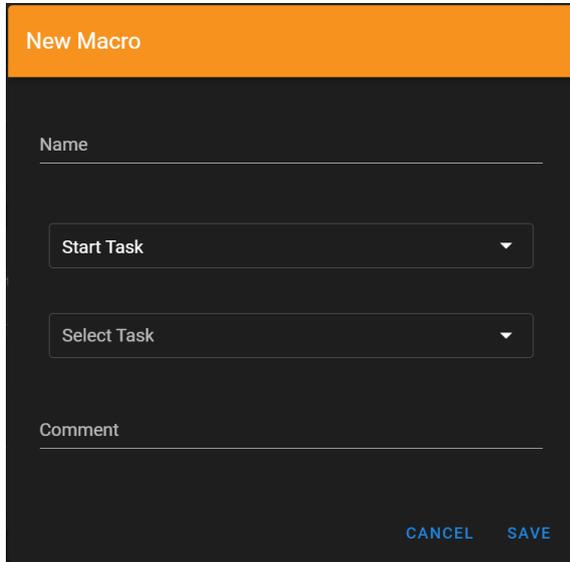
A dialog box titled 'New Instance' with an orange header. It contains two text input fields: 'Name' and 'Description'. At the bottom right, there are two buttons: 'CANCEL' and 'SAVE'.

Macros

The Calendar application has two ways to interact with Manager, by triggering tasks or setting Manager variables. These actions occur according to events created in the schedule. Since tasks

and variables are programmer level constructs, a more user friendly naming mechanism is desirable. Macros provide a way to map Manager actions to more user oriented names.

To create a new Macro, click on the New Macro button.

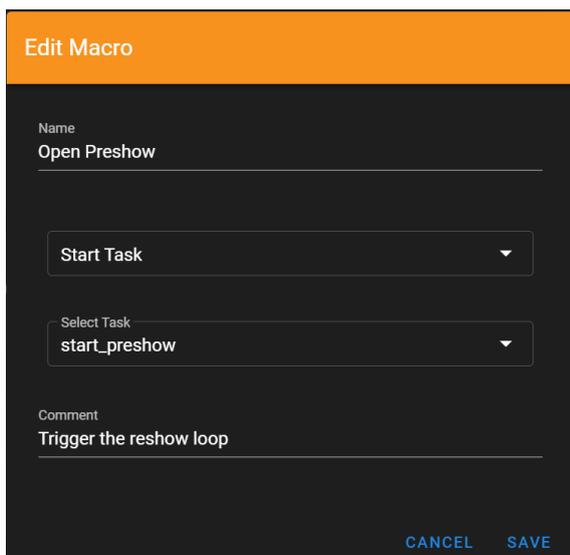


A macro has a name, an action, action parameters and an optional comment.

Note: If you are familiar with version 1 of Calendar, the biggest change is that the Manager MxM now exchanges task names and variable names with the web application. This removes the potential for errors through manually entering task names, and also restricts the available tasks to those shared as part of the Manager Calendar Group.

Task Macros

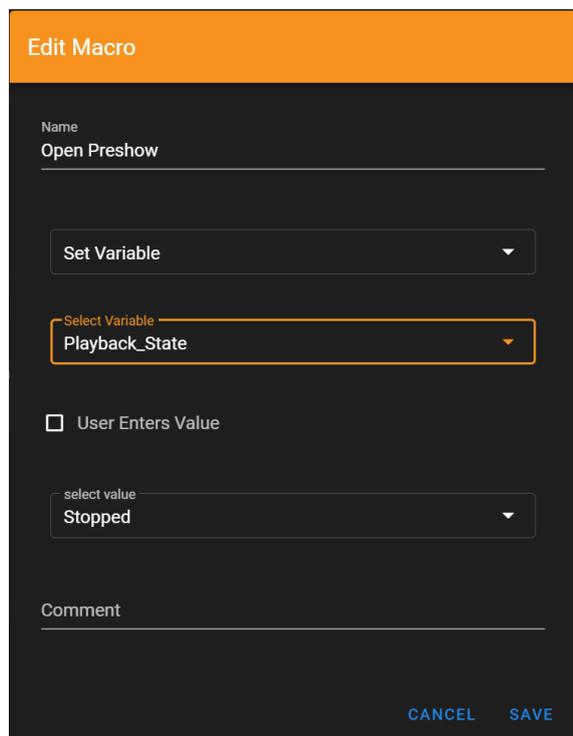
A 'Start Task' macro takes a single task name as the parameter. The following screenshot shows an example of a typical macro that might be found in a museum exhibit hall installation.



Variable Macros

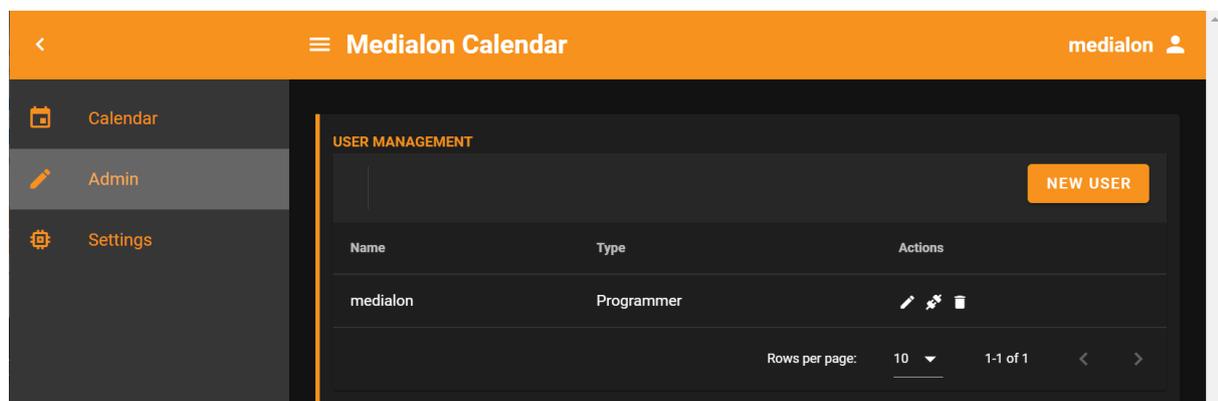
A set variable macro is used to change the value of a variable of type string, int or enum. The value of the variable can be specified as part of the macro, or if 'User Enters Value' is selected, the value can be entered directly into an event on the calendar page. This feature is extremely useful for situations where an installation has some dynamic data. An example could be a playing video content, that changes over time. An easy way to program such a requirement is to dynamically create an enum variable with the names of available video clips in Manager, and make this variable available to a calendar macro. The user of the calendar can then create events and choose content from the enum values.

The following screenshot shows an example of a variable macro which sets an enum value.



The Admin Tab

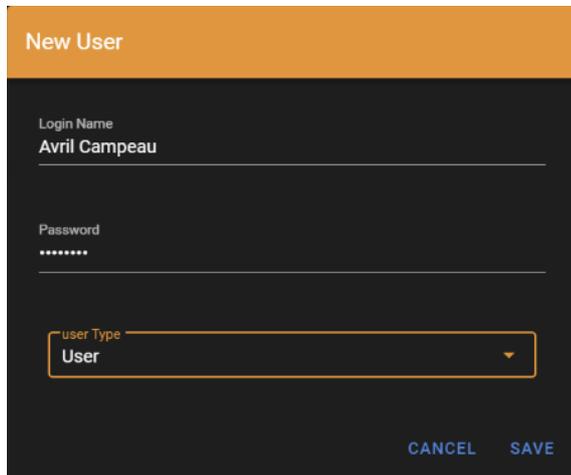
The Admin tab is only available to users with Programmer or Admin access rights.



User management

The 'user management' section is used to create, edit and delete users, or reset passwords for existing users.

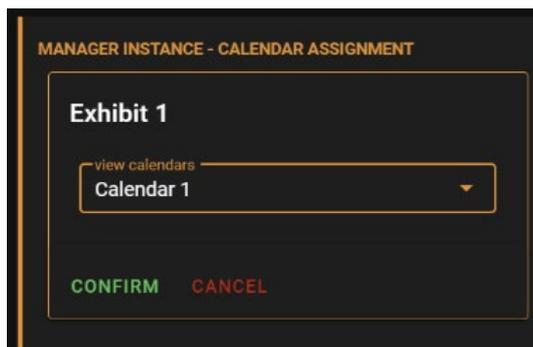
To create a new user, click on the New User button.



Login Name can be any suitable text string and every newly created user must have a password. The Calendar app does not enforce any particular password strength requirements, however, it is recommended to use accepted password security techniques, such as mixing case, including numbers and using special characters.

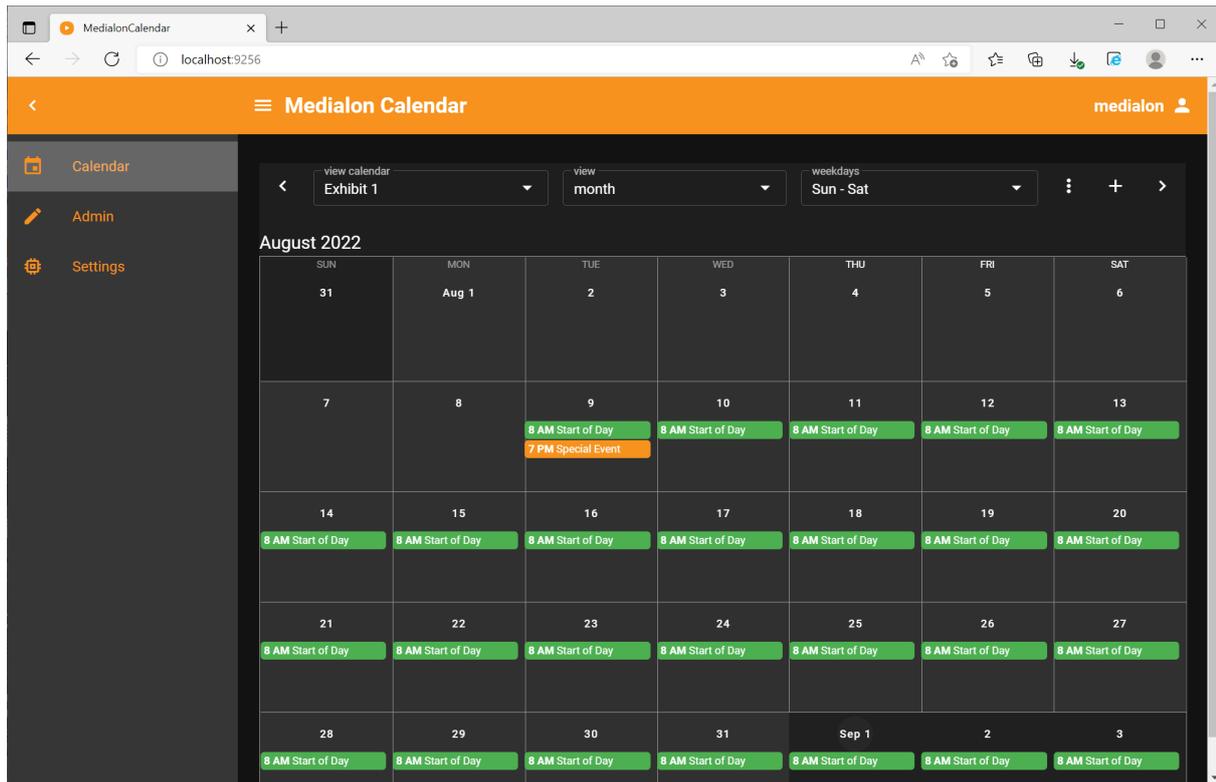
Reset password

A user password can be reset using the 'reset password' icon in the actions column next to the current user's name.



Calendar Tab

The calendar tab is accessible to all levels of user. It is used to create and edit the events for a schedule. The following screenshot shows a typical calendar with some events. The calendar supports two different types of events, recurring (green) and non-recurring (orange). These event types are described in detail below.



The current calendar can be changed by clicking on the 'view calendar' dropdown box. This will present a list of available calendars.

The Calendar provides four different view options that can be used to visualise the calendar events with different levels of granularity. These are month, week, day and 4 days, and can be selected using the 'view' dropdown.

The 'weekdays' dropdown provides some options for changing how a week is presented to the user on the calendar display. The options are Sunday to Saturday, Monday to Sunday or Monday to Friday – which will hide the weekends from view.

Creating events

There are multiple ways to create an event on the calendar, with the primary difference being the initial values of the start and end time. Clicking the plus '+' icon will open the event editor with the start and end time set to the current time and date. Clicking on a specific date on the calendar month view will open the event editor with start and end set to that specific date. Clicking on a specific time on the calendar day or 4day view will open the event editor with start and end set to that specific date and time.

Each method will open the same event editor.

Each event has the option to specify a name. This is purely for display in the calendar and does not have to be unique.

Clicking over the start or end date will show a pop-up calendar, allowing a different date to be selected. Times can be selected from the dropdown menu in 30-minute increments, or entered manually by typing in the time field. Note that manually-entered times must match the format HH:MM AM (or PM), or HH:MM:SS AM (or PM), or a warning will be displayed.

The 'action at start' dropdown allows a macro to be selected, which will be invoked by Manager when the start time of the event is crossed.

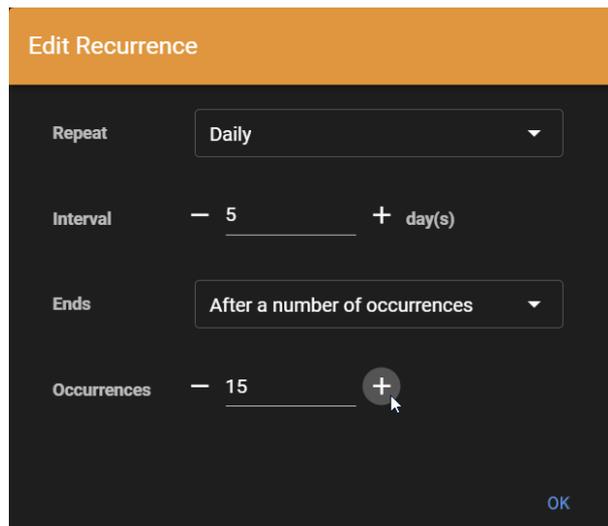
The 'action at end' dropdown allows a macro to be selected which will be invoked by Manager when the end time of the event is crossed.

Both actions are optional. Select 'None' if no action is required.

The Repeat checkbox allows the user to set up a recurrence pattern for the event. In common with most Calendar applications, a recurrence pattern allows a single event to be scheduled for multiple days in a given date range.

Setting the repeat checkbox initialises the event to repeat daily and displays a clickable description as shown in the following screenshot.

Click on the 'daily' link to display the recurrence editor.



The recurrence editor broadly follows the Internet task force iCal methodology with some simplifications that aren't applicable to non-meeting type calendar applications. Enter numeric values directly, or use the plus/minus increment buttons.

A recurrence pattern contains the following elements.

A **frequency**, i.e. how often the event repeats. This can be Daily, Weekly, Monthly or Yearly.

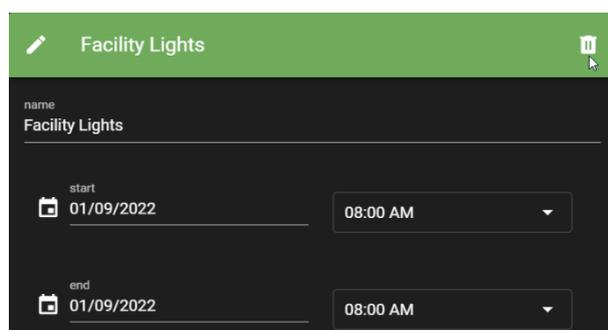
An **interval**, which indicates a step size for the event. For example, in the pattern shown above, an interval of 5 days would schedule the event every 5 days.

A **duration**, described by the 'Ends' field. The duration can be:

- forever (i.e. Ends = Never)
- on a specific date, or
- after a specific number of occurrences (in the illustration, after 15×5 days).

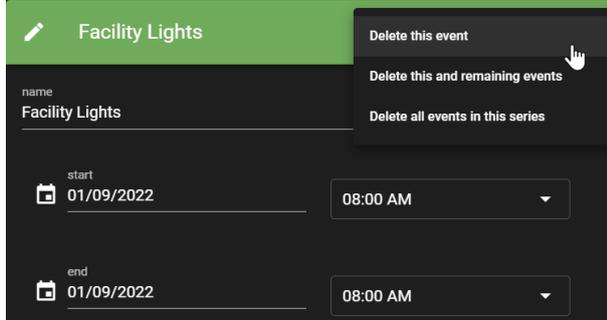
Deleting events

When creating recurring events it is often useful to exclude certain days from the pattern. To facilitate this, the event editor provides the following options when deleting events, accessible from the trash can icon in the event editor title bar.



Delete this event

If the event is one time (orange header, repeat unchecked) then this will delete the event. If the event has a recurrence pattern (repeat checked), this option will remove just this one day and leave the rest of the recurrence pattern intact.



Delete this and remaining events

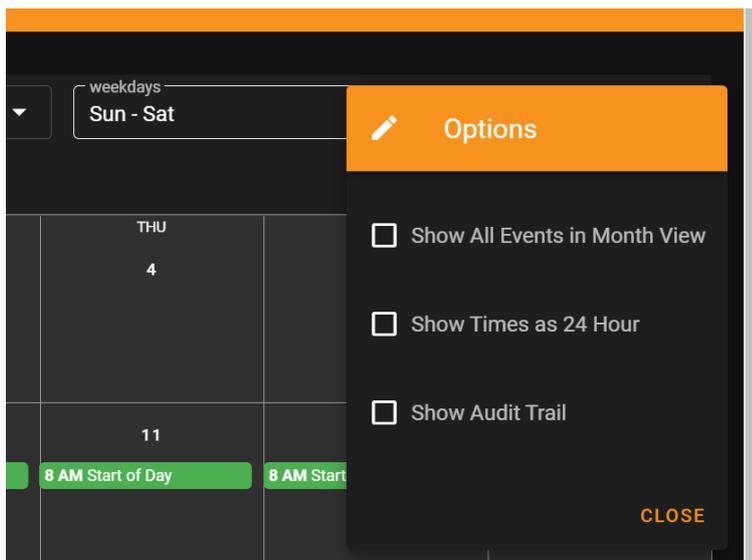
This option only applies for repeating events, and will set the recurrence end to the date prior to the date clicked. Note. If the event was created with an end of 'Never', or 'Number of Occurrences', the event end type will be changed to 'On a Specific Date'.

Delete all events in this series

This option only applies to repeating events and will delete the event and all its recurrences.

Calendar Options

Clicking the three vertical dots in the calendar toolbar displays the view options dialog for the Calendar.



Show All Events in Month View

By default the month view shows each day using a fixed size. If a calendar has many events on the same day, only a subset of the events can be shown, making editing more difficult. By selecting this option, the calendar will switch to a variable height view where all events are displayed.

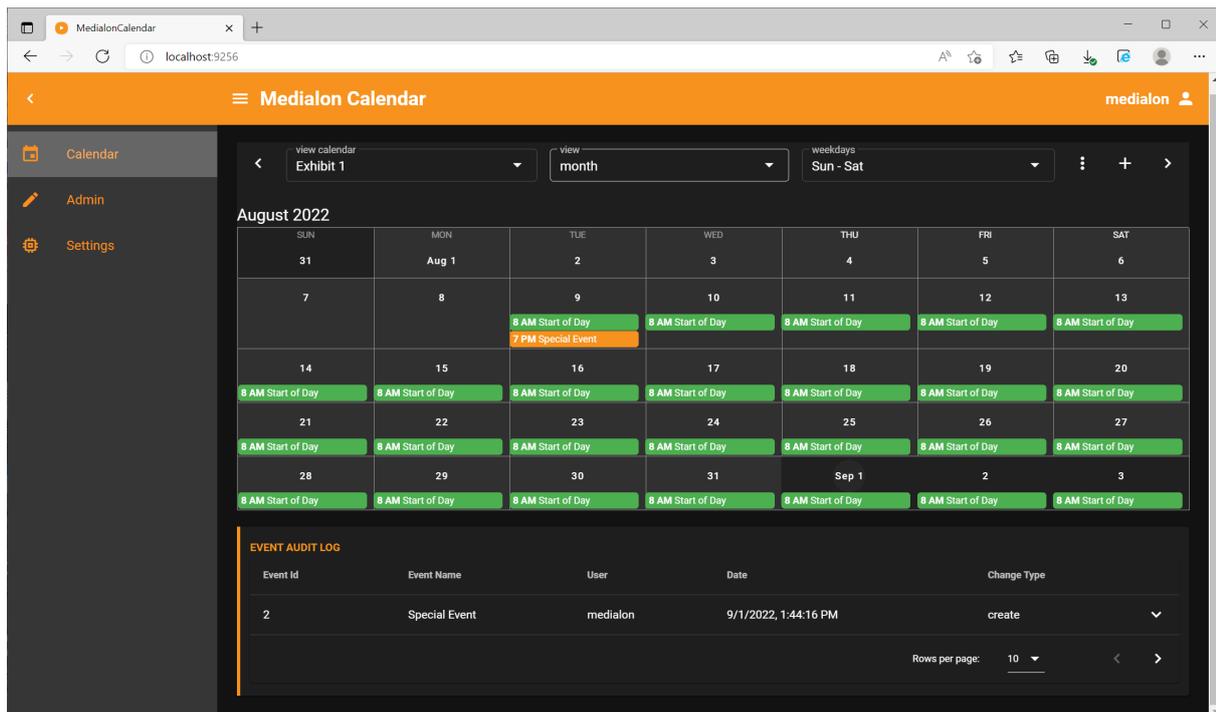
Show Times as 24 Hour

By default the event time entry fields in the Calendar use a 12 hour format with AM and PM suffixes. Selecting this option will switch to 24 hour time entry where times range from 00:00:00 to 23:59:59.

Show Audit Trail

The Calendar application keeps track of changes to events as they are made. This can sometimes be helpful if an Administrator wishes to see who made changes and when.

With the is option selected, the display changes to include an Event Audio Log. In this mode, clicking on an event will show it's audit trail instead of allowing the event to be edited.



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