

The autoHome web interface was designed to be very user-friendly. Upon logging into the system, the user is greeted with their Dashboard. The autoHome Dashboard provides several important aspects including Active Rules, Active Devices, Important Alerts, as well as Local Weather and Favorite Stocks. The listed Active Rules and Active Devices can be clicked on for additional information about the respective rules or devices. Important Alerts are color coded to catch the user's attention. Alerts are colored red for critical alerts and yellow for warnings. Local Weather widget is useful for user to manage different devices with respect to current weather. Lastly, with Favorite Stock widget user can receive notification about the stock, for example, if the stock price drops.

On the left side of the screen, the user is greeted with a column of options that provides different system settings to the user to configure. The pages that the user can access consist of Devices, Device Types, Room & Locations, Configure Rules, User, Logs & Alerts and Backup / Restore. We will traverse the list from top to bottom and talk about what user can do in each page.

The Devices page shows the user all devices that are currently connected to the system. The Dashboard simply shows only active devices on the system (devices that are currently "on" in the house), whereas on the Devices page, all configured devices are shown regardless of activity. Devices are listed in a tabular format to make it easier for user to read. The device table shows the Name (name of the device), Device type (type of the device), Room (where the device is located), Active (state of the device: on or off), Default value, and the options to show all information about the device in a new window (separate from the table), edit the device, or delete the device from the system. In addition, on the top-right corner of the table, the user can click on "Add New Device" to add a new device to the system and specify their own values for each category in the table. The tabular format also allows for a number of additional functionalities. First, the user can sort the table based on any of the aforementioned categories. There is also the functionality to search the table for keywords that appear in any category. This is especially useful since in a house, there will be a lot of different devices, device types, and rooms. If a user types "kitchen" into the search box, all devices that are located in the kitchen will only appear. This is proven to be especially useful when looking for a single device or a cluster of related devices (e.g. all devices in the kitchen). The tabular format makes it easier to have many entries (devices) and allows them to be displayed on multiple pages. Thus, our Devices page has page functionalities such as First,

Previous, Next, Last, and a list of all page numbers for travelling to specific page, directly built into the table.

Next on the list is the Device Types page. This page provides a very similar look to the Devices page in terms of the same tabular format. However, the categories in the table for this page consist of Name (name of the device type), Module name (the device type that the system recognizes), Data type (analog or binary), Data flow (the units in which the device measures or returns, e.g. volts, Celsius), and the same options of show, edit and delete. Just like the Devices page, user can search the table and sort it as he wishes. The user can also add a new device type to the table, specifying each value in every category, for example, adding a new sensor or alarm.

The next page is the Rooms & Locations page. This page is also in a tabular format and shows all rooms and locations in the house. The show, edit and delete options are also included in the same tabular style as the other pages. The difference between Rooms and Locations is that Rooms are rooms in the house (e.g. bedroom, bathroom) whereas Locations are the locations of where the devices are located in a certain room. Clicking on a certain room or location will bring up another page with all devices in the specified room. To add a new location, user must define an existing room where the device is placed, as well as the name of the location and description. Similarly, adding a new room requires the user to specify the name, floor and description of the room.

Configure Rules page is the most complex of the pages. The user is provided with five different tables; Rule Sets, Condition Sets, Conditions, Action Sets and Actions. Each table has the same search and sorting functionalities as the other tables. Since Action Set together with Condition Set form a Rule Set, user should start by either making an Action Set or a Condition Set. The Action Set table provides the name of the Action Set, a description, the user who made it. User then has to specify the Action with respect to the Action Set. The Action table consists of the corresponding Action set, Device involved in the Action Set, the value and the duration. Once the user has Action Sets created, he must create a condition set in order for the action to initiate. The Condition Set table is identical to the Action Set table, but obviously the user would want to set conditions rather than actions in the Condition Set table. The Conditions table consists of Condition set, Device (sensors), Comparison (condition: greater or less than), Value (triggering value). Here user has to specify a threshold of which the condition sets are triggered. For example, if the light sensor detects the light intensity lower than 800Lux,

the condition set "@Light Sensor Off" is triggered. Now that the Condition Sets and Action Sets table entries are entered, the user can categorize them into Rule Sets. the Rule Set table has the categories of name, the condition set it uses, the action set it takes, the user who created it, the description of the Rule Set, the status of the Rule Set, as well as the generic show, edit and delete options. As the Rule Set is activated, the corresponding devices should behave with respect to the conditions.

The Users page is very straightforward. The table lists the User Name, last login time, user permission, hashed password, last IP address they used to log in, phone number, as well as the generic show, edit and delete options. The table adopts the same search and sort functionalities and user can create additional user accounts for the system.

The Logs & Alerts tab displays a number next to it to inform the user of any alerts they may have not noticed in the Dashboard. The Logs & Alerts page shows alerts by default, including all critical alerts, warnings and successes of the system. The Logs tab on the page shows all events that have happened in the system since the system was last booted.

The last tab on the side of the autoHome page is Backup / Restore. This page allows the user to start the system backup or restore process. The page prompts the user to select a backup or restore device, and to then continue the process to finish backing up or restoring the autoHome system. In addition, the top of the page provides a notification of when the last backup was preformed. A backup is scheduled on a daily basis to ensure that if the system were to crash, the user would lose as little data as possible.

Overall, the autoHome web interface is laid out in a clean, user-friendly manner, while also being highly effective for the user. This documentation should answer most questions that the user may have, while also giving a step-by-step guide on how to use the web interface.