



## Dark Sky Driver

# Installation and Usage Guide

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## Overview

The Dark Sky service provides free (upto 1000 calls per day) weather data and forecast. Forecast.io is backed by a wide range of data sources, which are aggregated together statistically to provide the most accurate forecast possible for a given location.

The Chowmain Dark Sky driver brings all of this data into Control4 for use in the home automation system. This is useful for automating services within the home based upon the external environment.

Note that this is not a replacement for a personal weather station. We recommend utilising Extra Vegetables Cumulus Weather Stations or WeatherHawk weather station drivers/hardware if you require accurate readings as this provides accurate real time local weather information.

## Disclaimer

This driver relies on a 3<sup>rd</sup> party online weather service (<http://darksky.net>) and as such Chowmain cannot guarantee the uptime or indefinite availability of these services. Chowmain will however to the best of its ability implement new API's if API's change.

Do not utilise this driver for any safety systems or systems that cannot handle any form of down time from this driver. Internet downtime or weather service downtime can potentially cause failure to execute the irrigation system. If you utilise this driver for irrigation purposes you do so at your own risk.

## Features

- Ability to select the Unit type (auto, us, si, ca, uk)
- Ability to specify location by latitude and longitude
- Current Weather Conditions for:
  - Temperature (degrees)
  - Humidity (percentage)
  - Pressure (hPa)
  - Wind Speed (mps)
  - Wind Direction (degrees)
  - Clouds (percentage)
  - Precipitation Intensity
  - Precipitation Probability
  - Dew Point (degrees)
  - Ozone
  - Weather Conditions (string)
- Forecasted Weather Conditions (Today & Tomorrow) for:
  - Icon (string – useful for programming)
  - Temperature Minimum
  - Temperature Maximum
  - Precipitation Intensity
  - Precipitation Probability
  - Wind Speed (mps)
  - Wind Direction (degrees)
  - Pressure (hPa)
  - Humidity (percentage)
  - Clouds (percentage)
  - Moon Phase (percentage)
  - Dew Point (degrees)
  - Ozone
  - Weather Conditions (string)

## Usage Scenarios

This driver can be used for several different scenarios. Some examples are as below but the limit is really your imagination.

- Humidifiers can be turned on automatically if it is going to be a dry day.
- Towel rails can be turned on automatically if it is going to be a humid day.
- If it is going to be a hot and sunny day, close the shutters to shut the heat out
- If it is hotter indoors than it is outdoors and the wind direction is facing the motorised windows then open the windows.
- If it is going to be a hot day turn on the AC
- If it is going to rain don't automatically water the garden (I would also put in some additional logic to ensure that it will water the garden if it is extremely hot and if it hasn't watered the garden in X amount of days).
- If it is going to be a cloudy day and the customer has solar then don't turn on the smart appliances until tomorrow.
- Full Moons have special meanings to some religions. You can now automate that house based upon full moon events.
- Combine with our Advanced Announcements driver to read the weather forecast out in the morning.

## Change Log

### Version #20160923 - 23-SEP-2016

- forecast.io being consolidated into Dark Sky name. As such api.forecast.io endpoint has changed to api.darksky.net

### Version #20160416 - 16-APR-2016

- Made improvements to licencing algorithm. Should resolve issues on OS 2.8 systems with intermittent internet connections.

### Version #20150818 - 18-AUG-2015

- Implemented Dealer Demo Licencing

### Version #20150618 - 18-JUN-2015

- Changed wind direction from string type variable to number type

### Version #20150407 - 07-APR-2015

- Resolved issue where logs on 2.6 systems would fill out controller storage causing system stability issues. This only effects systems where people have set the debug logs to 'print and log' or 'log' and have forgotten about it over longer periods of time.

**Version #20141118** - 18-NOV-2014

- Converted from c4i to c4z filetype

**Version #20141105**- 05-NOV-2014

- Updated Precipitation Probability to percentage rather than decimal value in variable.

**Version #20140515**- 15-MAY-2014

- Implemented fix for locales that use commas as decimal points rather than a full stop.

**Version #20140514** - 14-MAY-2014

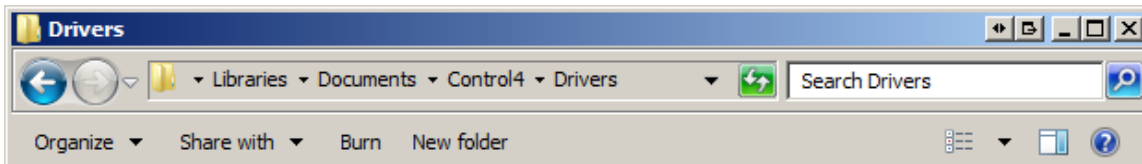
- Initial Driver Release

## Driver Installation

1. The driver you have downloaded will be in a zip file. Double click on this file to open it in your preferred zip program (WinZip, WinRar, etc.).



2. Extract the c4i file to the My Documents\Control4\Drivers directory. If you are using Windows 7 or 8 this will be extracted to the Libraries\Documents\Control4\Drivers directory.




3. You are now ready to add and configure the driver via the Composer Pro software.

## Adding the driver to your project

**IMPORTANT** – Before undertaking the installation of the driver please follow the licencing steps outlined at the end of this document.

1. Launch the Composer Pro application and connect to your project
2. In the **'System Design'** page select the **'Search'** tab on the right hand side.
3. Select **'Chowmain'** as the manufacturer.



4. Double click on the **'Dark Sky weather'** driver to add it to your project
5. Highlight the **'Dark Sky weather'** driver on the left hand side.
6. In the driver properties enter in the Extra Vegetables licence details.
7. It will ask you for an API key.

**Note:** This can be obtained by registering as a developer on <http://darksky.net/>

Each key will limit you to 1000 free calls per day in which afterwards you will need to pay for.



8. Select the desired unit type for the outputted data.



9. Enter in the **'Latitude'** and **'Longitude'** of the location you want to get the weather for.



10. Verify that the Time Zone matches the country and city.

11. Congratulations your driver has been set up. You now need to program an event to get the weather



## Getting the weather information

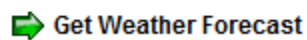
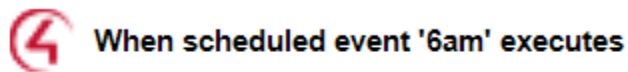
1. Click on the '**Programming**' Tab



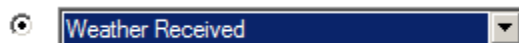
2. Select the event you want to get the weather forecast in (we recommend a scheduled event in the morning).
3. Under 'Device Actions' select the '**Dark Sky weather**' driver
4. Under the '**Forecast.io weather Actions**' select radio button next to '**Device Specific Command**'
5. In the dropdown box select the '**Get Weather**'.



6. Drag and drop the green arrow into the script section.



7. On the events side of the screen select the '**Dark Sky weather**' driver.
8. Click on the event '**Weather Received**' (this event is fired when the data has been obtained).



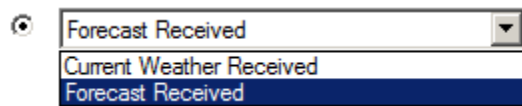
9. Add in your desired programming logic into the script. See other sections for examples.

## How to use variables

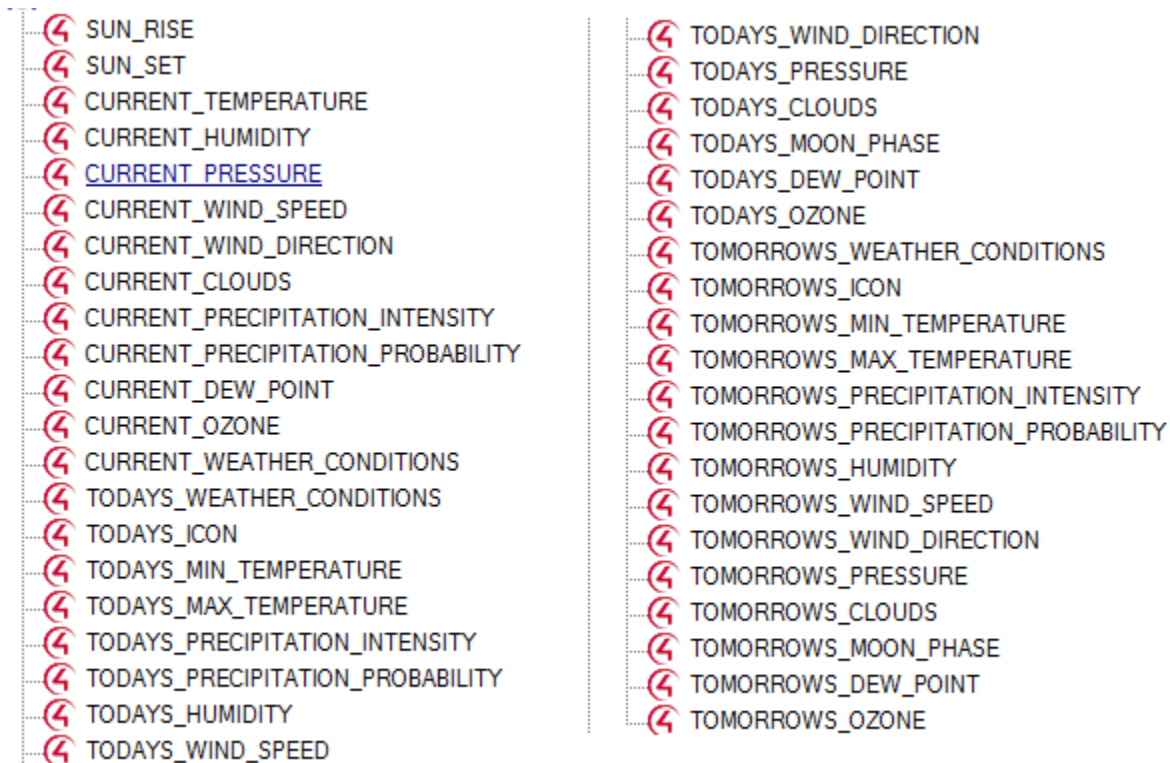
1. Click on the 'Programming' Tab



2. On the events side of the screen select the 'Dark Sky' driver.
3. Click on the event 'Current Weather Received' or 'Forecast Received' (depends on what event you want to program for).




4. Under 'Device Actions' expand the 'Dark Sky' driver



5. Click on the variable you want to program against.

6. Setup the condition you want (in this case we want to based the condition of more than 30 degrees celcius)

TODAYS\_MAX\_TEMPERATURE Actions

 **If Room->Forecast.io weather->TODAYS\_MAX\_TEMPERATURE GREATER THAN 30**

Commands      Conditionals      Loops

Is

Is  the value of

7. Drag the question mark into the script section
8. Drag an action over the question mark (make sure it is over the icon)



**Received Weather from forecast.io**

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 **If Room->Forecast.io weather->TODAYS\_MAX\_TEMPERATURE GREATER THAN 30**  
 **Set the cool set point on Development->Generic IR Thermostat to 22C**

9. Congratulations you have set up the conditional logic based upon weather information.

## Viewing obtained values

Once you have obtained values by following the 'Get Weather Information' section of the document you can view the values in the properties page of the driver. This is useful for troubleshooting any issues that may arise from programming your logic.

Properties	Documentation	Lua
Time Zone		Australia/Melbourne
Sun Rise		07:18:39
Sun Set		17:17:31
-CURRENT CONDITIONS-		
Current Data Last Updated		08:18:22 05/20/14
Temperature		15
Humidity		81%
Pressure		1019.62
Wind Speed		2.03
Wind Direction		353
Clouds		91%
Precipitation Intensity		0
Precipitation Probability		0
Dew Point		11.27
Ozone		279.1
Weather Conditions		Mostly Cloudy
-TODAY'S FORECAST-		
Today's Date		05/20/14
Today's Conditions		Drizzle starting in the aftern
Today's Icon		rain
Today's Temperature Min		14
Today's Temperature Max		20
Today's Precipitation Intensi		1
Today's Precipitation Probab		1
Today's Wind Speed		2
Today's Wind Direction		297
Today's Pressure		1020
Today's Humidity		80%
Today's Clouds		52%
Today's Moon Phase		69%
Today's Dew Point		13
Today's Ozone		275
-TOMORROW'S FORECAST-		
Tomorrow's Date		05/21/14
Tomorrow's Conditions		Partly cloudy until afternoon
Tomorrow's Icon		partly-cloudy-day
Tomorrow's Temperature Min		13
Tomorrow's Temperature Ma		20
Tomorrow's Precipitation Int		1
Tomorrow's Precipitation Pro		1

## Licencing

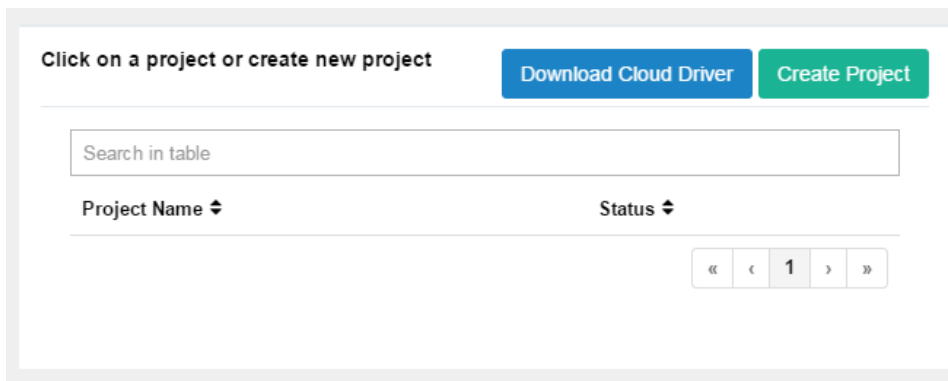
Chowmain drivers require a valid licence to use the driver. Drivers can be purchased from our distributor [driverCentral](#) however all Chowmain drivers come with a 7 day trial. We recommend that prior to purchasing a driver that you test the driver out to ensure that it will work with your hardware and will meet your requirements. The licencing procedure is broken down into 4 steps. A summary of the steps are below along however we have also provided detailed steps if the summary is not sufficient.

## Summary

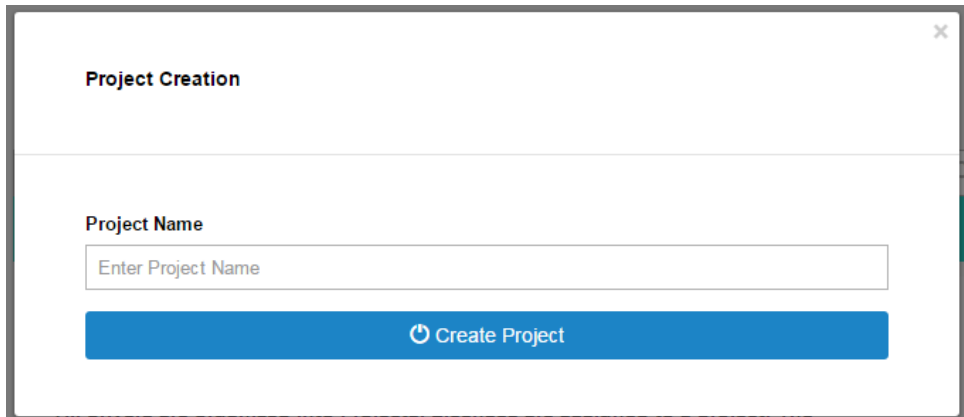
1. Create your project on the driverCentral.io website (This will generate a specific token which you will use in the next step)
2. Download, install and activate the driverCentral cloud driver in your project (Only once per project. Use the token generated in step 1)
3. (Optional) To try a driver, simply download it and install it in your project
4. To purchase a driver:
  - a. On driverCentral, purchase a license and register it to your project
  - b. If the driver is not already installed in your project, download it and install it
  - c. If necessary, use the cloud driver's Action: "Check Drivers" to force licence download to the project.

## STEP 1 - Creating your project on driverCentral

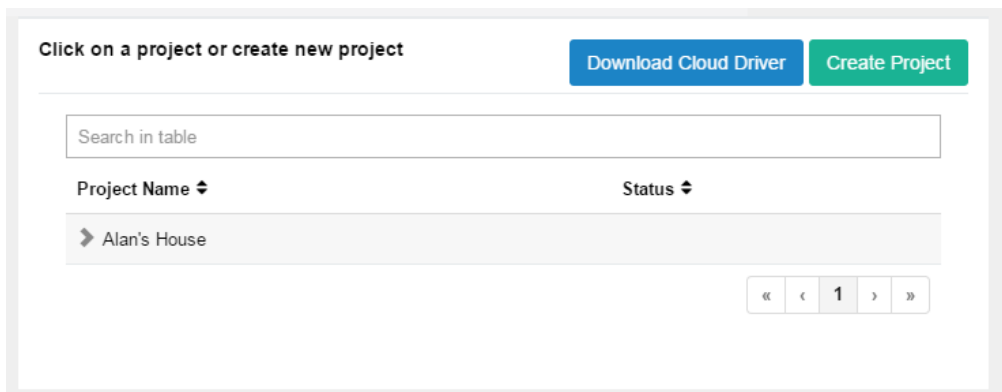
1. Visit <http://www.drivercentral.io>
2. Log into your driver Central dealer account.
3. Visit the Project Portal
4. Click on Create Project



- It will prompt you for a project name. Type in a meaningful name for your customer's project



- Click on Create Project
- Click on the project we just created to expand the project



- Take note of the Project Token as this will be used in STEP 3 when we install the driverCentral cloud driver.

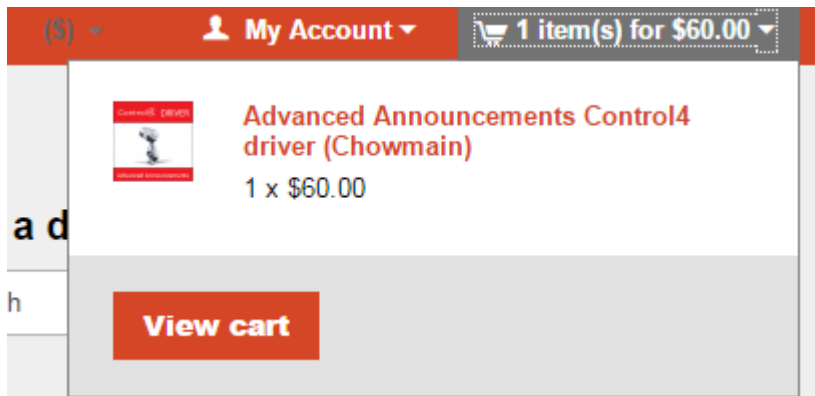
Project Name: <input type="text" value="Alan's House"/>	MAC Address: <b>Not Connected to Project</b>	Action:
Project Token: <b>ABCDEFGHIJ</b>	Last Communication: <b>Not Connected</b>	Connection Status: <b>Not Connected</b>

## STEP 2 –Purchase driver licence

1. Visit <https://www.drivercentral.io/chowmain-ltd/> and find the product/driver you want to purchase a licence for.
2. Click on the Add to Cart button



3. Click on the Shopping Cart icon in the top right corner and click on View cart



4. Confirm that your order is correct and click on Proceed to checkout



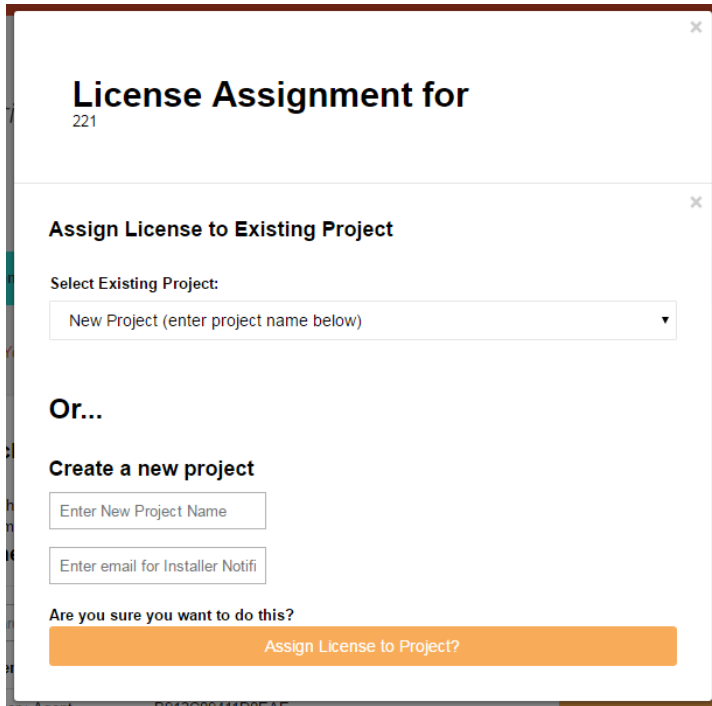
5. Follow the prompts and click on Submit my order



6. This will take you to PayPal for payment.
7. Pay via PayPal. It will automatically return to the marketplace when confirmed.
8. You will now be at a page where you can see your purchased licence.

License Name ↕	License Key ↕	Project Assigned ↕	Action ↕
[REDACTED]			Assign to Project

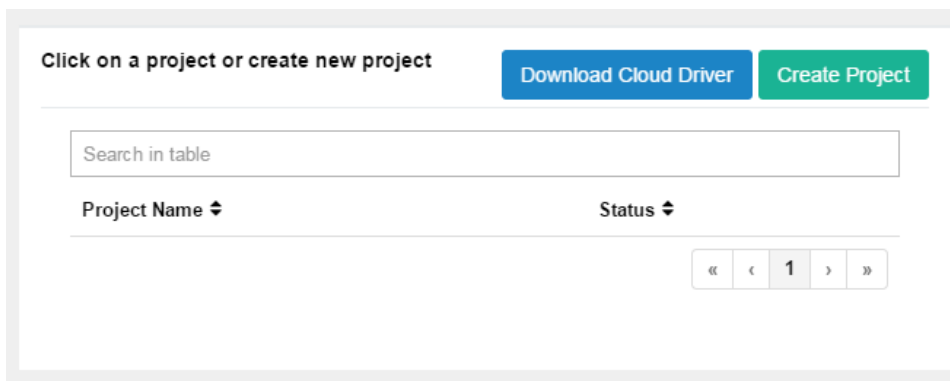
- From here assign the licence to the project we created or if you did not follow that step create a new project



### STEP 3 – Install and activate the driverCentral cloud driver

**NOTE:** Only one instance of the driverCentral cloud driver installed per project. Do not install additional cloud drivers.

- Visit <http://www.drivercentral.io>
- Log into your driver Central dealer account.
- Visit the Project Portal
- Click on Download Cloud Driver



- Copy the C4Z driver to My Documents\Control4\Drivers directory.
- Add the driver to your project.



- Click on the driver to view it's properties

<b>Cloud Status</b>	Please enter cloud project token below...
<b>Project Information</b>	(1) Total, (0) Licensed, (0) Trials, (1) Expired, (0) Updates.
<b>Driver Version</b>	1001
<b>Project Token</b>	<input type="text"/>
	Project token from driverCentral.io project portal
<b>Driver Actions</b>	<input type="button" value="v"/>
<b>Debug Mode</b>	Off <input type="button" value="v"/>

- Type in the project token we took note of in STEP 1.
- Click on the Actions tab
- Click on Check Drivers

#### STEP 4 - Install Chowmain driver

- Install the Chowmain driver
- You will notice that the Activation Status reflects a Licence Activated state.
- Any driver that does not have a purchased licence will have a trial licence activated via the marketplace. Note that there is no way to reactivate the trial so please use wisely.
- If you do not then press the Check Drivers action in the driverCentral Cloud driver again.

<b>Activation Status</b>	Update Available!!! License Activated
<b>Driver Version</b>	1002
<b>Driver Information</b>	Navigate to connections tab and make serial binding
<b>Automatic Updates</b>	Off <input type="button" value="v"/>