GETTING STARTED WITH THE *groov* SERVER FOR WINDOWS FREE TRIAL

Ready to take *groov* View for a test drive?

Get started with the free trial of *groov* Server for Windows, Opto 22's easy-to-use tool for building and viewing mobile operator interfaces so you can monitor and control systems, equipment, and data.

The free trial isn't a demo version; it's the fully featured *groov* View software, including the server for Windows and unlimited clients. You can:

- Explore the demo project
- Try out gadgets with the Data Simulator
- Build your *groov* View screens for web browsers and mobile devices

This technical note shows you how to quickly get started with the free trial of *groov* Server for Windows. It's a simple 4-step process:

1. Register for the free trial and download *groov* Server for Windows
2. Install *groov* Server and set up a user account.
3. Explore possibilities in the demo project.
4. Build your own interface in *groov* View.

STEP 1. REGISTER AND DOWNLOAD *groov* SERVER FOR WINDOWS

1. Open your favorite web browser (we recommend Chrome) and go to
   https://info.opto22.com/try-groov-for-free

2. Complete the form on the right and click Get the *groov* Free Trial.
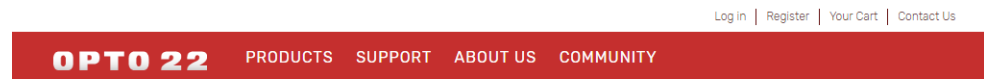
3. Click Download your free trial now.

The file begins downloading immediately.

STEP 2. INSTALL *groov*

1. Once the download is complete, double-click it to install *groov* Server.
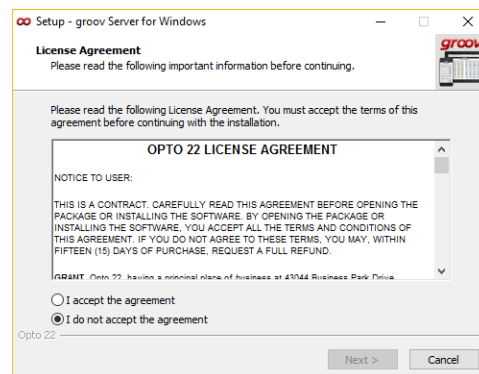
2. Accept the license agreement and accept defaults during installation, including the one to open port 443.

3. When installation is finished, go back to your browser and enter this address: `https://localhost`

This address takes you to the new *groov* Server for Windows you just installed.

*TIP: Don't forget the **s** in http**s**. That means it's a secure link.*

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4. Accept all security warnings from your browser.
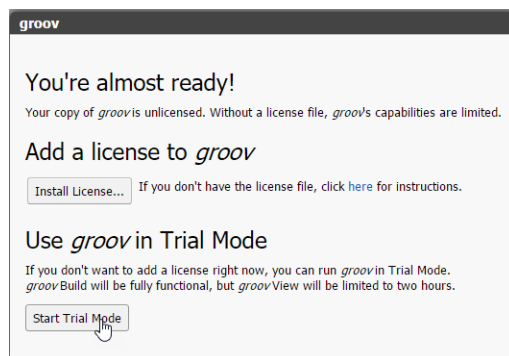
5. Click Start Trial Mode.
6. At the Welcome screen, create your first account.

   IMPORTANT: *Remember your username and password! There is no way to recover them should you forget.*

7. Click Go to *groov* Build. Keep this tab open.

STEP 3. SEE THE POSSIBILITIES
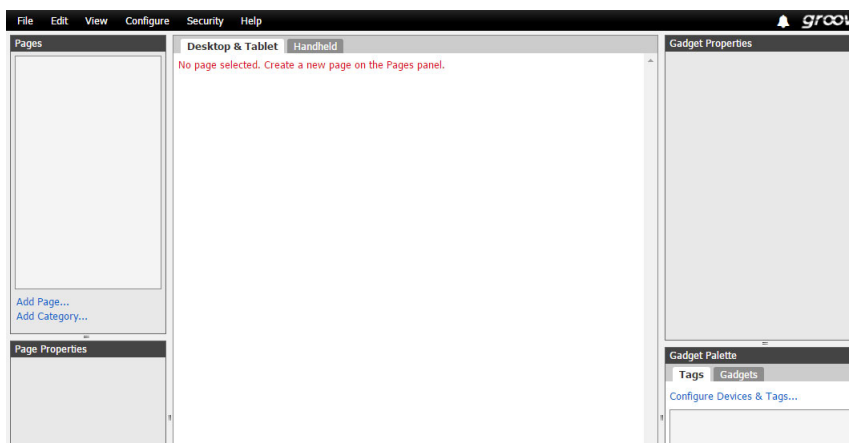
You're now in *groov* View's Build mode, and you can start building your own operator interface.

But first, we recommend you explore the demo project to see the possibilities. In the demo project you'll see how to:

- Show the value from a temperature sensor in the submersible James Cameron used to explore the bottom of the Marianas Trench
- Control a tank level and an auger in a brewery
- Trend electrical demand data for a wind farm

We'll also look at some more complex capabilities, like these:

- Show a rotating graphic in your interface, like a compass
- Show machinery states with animated GIFs, like the turbines at the wind farm
- Indicate changes with multiple images, like the fermenter's tank level in the brewery

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Here's how to back up your *groov* View project and load the demo.

1. **IMPORTANT:** Before you load the demo project, back up your own project—even if it is blank—so you can come back to it later or start fresh:

    a. Choose File > Backup Project to Computer.

   The file is downloaded to your computer just like any other file you download from the Internet. Notice that the filename contains the archive date and time. For example, D02172019.T140705 indicates a Date of February 17, 2019, and a Time of 14:07:05 (2:07:05 P.M.).

    b. Add `myproject` to the beginning of the filename and save the file to your desktop.

2. Get the demo project:

    a. Go to the *groov* View Demo Project (follow the link or go to opto22.com and search on *groov* View Demo).

    b. Click Download and save the file to your computer.

3. Now, load the demo project:

    a. Choose File > Restore Project from Computer.

    b. Click the Browse button and locate the demo project file you saved.

    c. For the username and password, enter:

    Username: `opto`

    Password: `opto22`

    d. Click Restore. Click OK to verify.

    e. Wait while the project is restored and *groov* View restarts.

4. Click Start Trial Mode again. Log in using the username `opto` and password `opto22`

    The demo project opens in Build mode. Let's see how it looks in *groov* View.

5. Choose File > Switch to *groov* View.
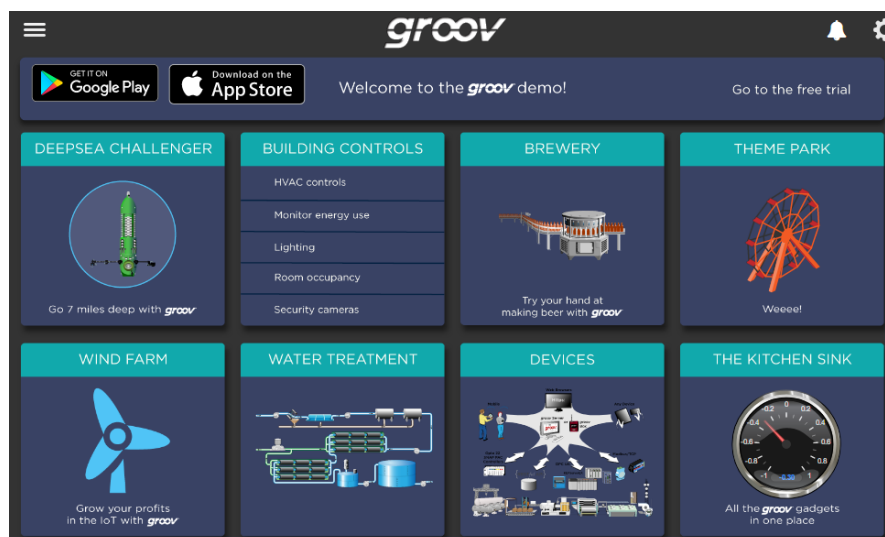
NOTE: *Your two-hour trial period starts when you look at the interface in groov View. If the two hours are over before you finish exploring, don't worry. Just restart groov Server to continue. The groov View project remains intact.*

Sensor value

We'll start by seeing how sensor values are shown, with a built-in *groov* View gadget connected to a sensor tag.

1. Click the big DEEPSEA CHALLENGER button.

Link to Batteries page   Gear icon (switch to Build mode)

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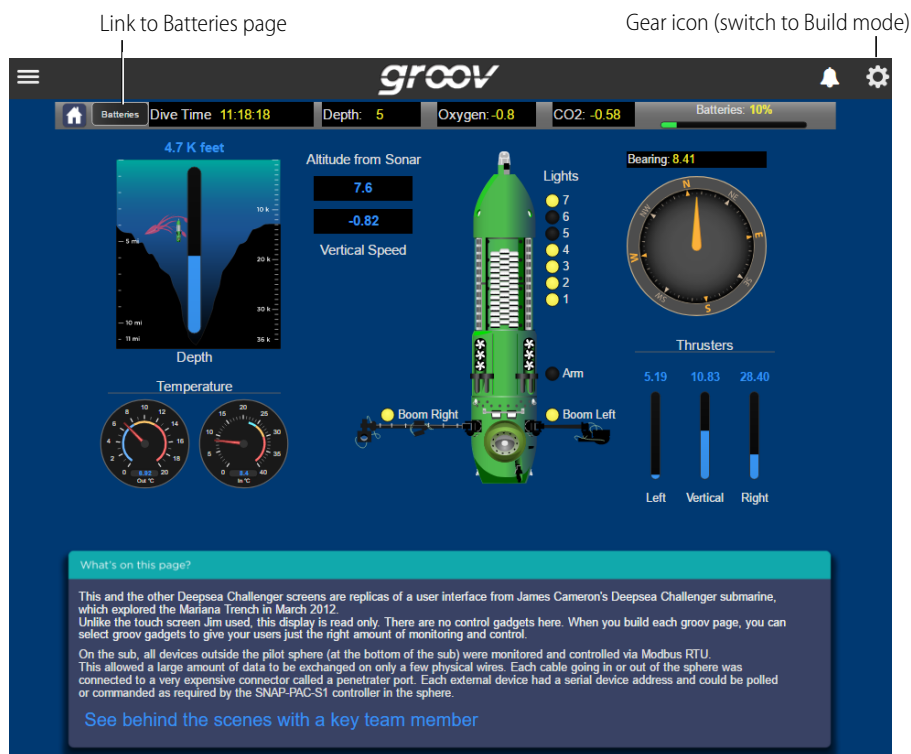
You'll find lots of interesting stuff here to explore. (Don't miss the Batteries page, too.) But first let's look at some basic state and value indicators.

Notice the temperature gauges on the left. These gauges are tied to tags in the control strategy running on the submersible's controller. Other kinds of indicators are on this page, too, from the Altitude, to the Lights, to the Thruster values. Let's go back to Build mode and see how these indicators are built.

2.　Click the gear icon in the upper-right corner of the page and choose Switch to Build mode.

Page panels　　　Workspace showing current page　　　Gadget panels
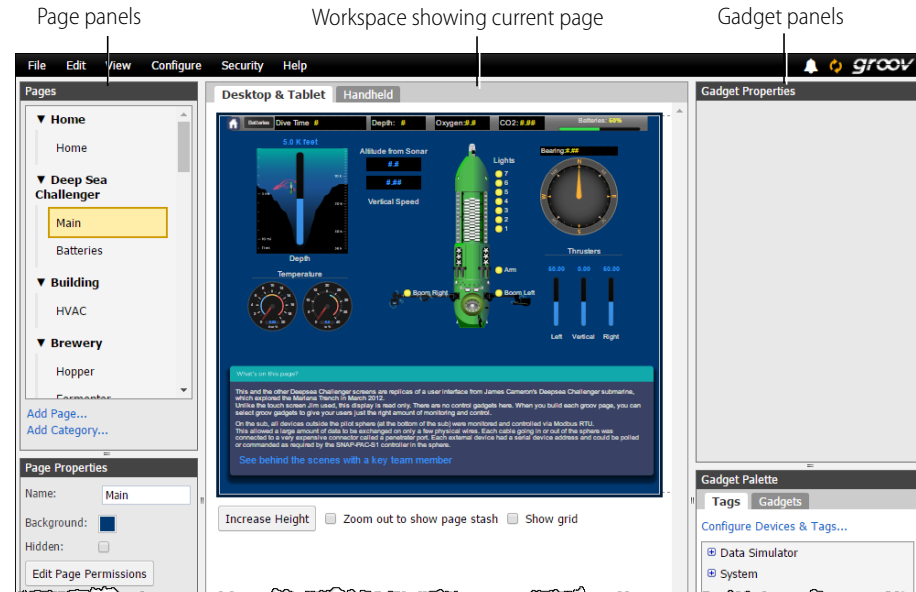
Each item on this page was built with one or more of the gadgets included in *groov* View. Each gadget is tied to a tag, which represents an I/O point to a physical sensor or device, a control variable, or a data item in software or equipment. Each gadget also has other properties—value details, colors, text, orientation, and a lot more—that you assign to it when you build the page.

3.　Click one of the temperature gauges.
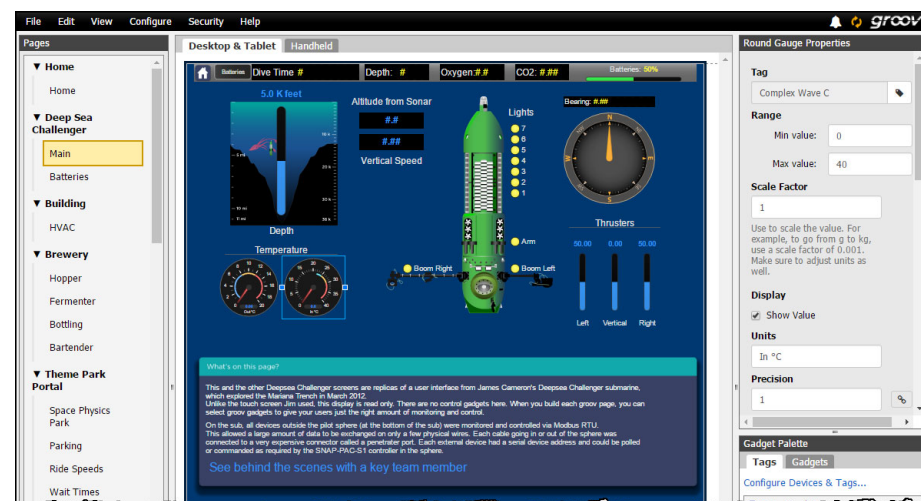
This is a Round Gauge gadget. When you click a gadget on the page in Build mode, you see its properties in the right-hand panel. As an Admin user in *groov* View, you can change these properties and add or delete gadgets. (For complete information on using Build mode, see the *groov* View User's Guide.)

4. Notice that the gadget's tag is the first property. Click the tag icon 🏷 to see the list of tags on the Data Simulator in *groov* View.

    The Data Simulator is used in the demo to simulate tags on real sensors and equipment. When you build your *groov* View interface, you'll add the devices and tags needed for your application.

5. Click Cancel to go back. Then scroll down in the panel to see all the properties for the Round Gauge gadget.

6. While you're here, click one of the other gadgets, like the black box under the "Altitude from Sonar" label, and look at its properties.

7. When you've finished, choose File > Switch to *groov* View. If you made any changes, click NO when asked if you want to save them.
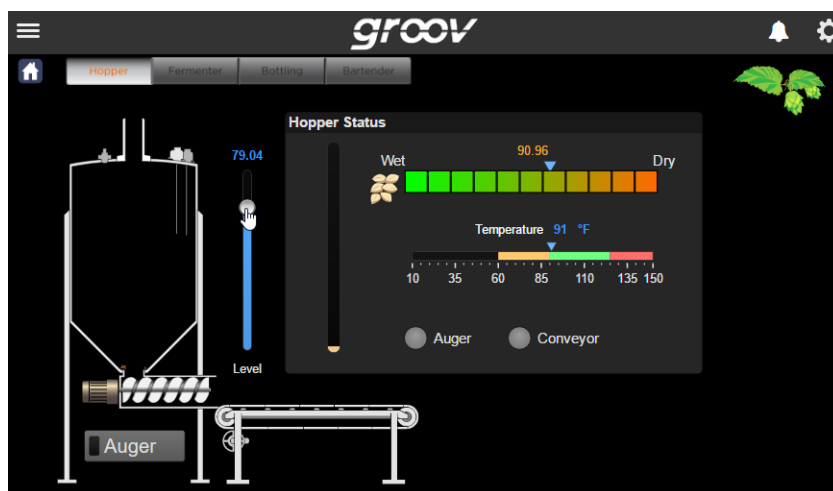
Control

The gadgets we just explored show data—status or values—from tags. You can also use a *groov* View interface for control.

1. In *groov* View, click the Home button 🏠 . On the home page, click Brewery.
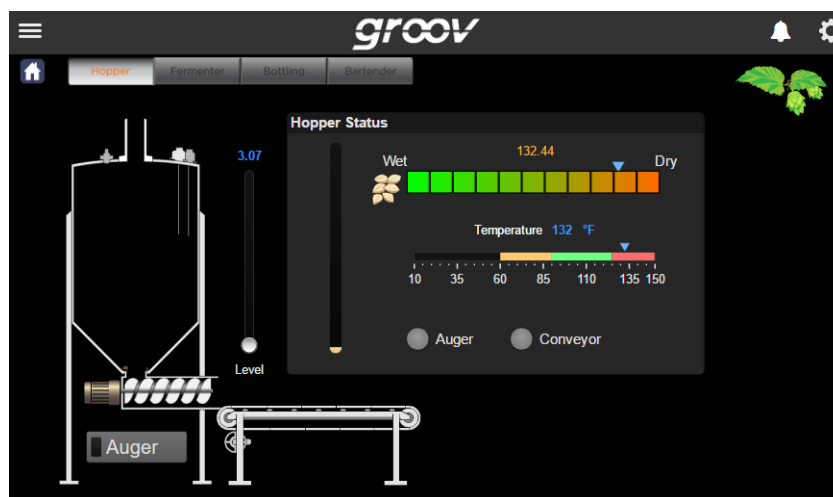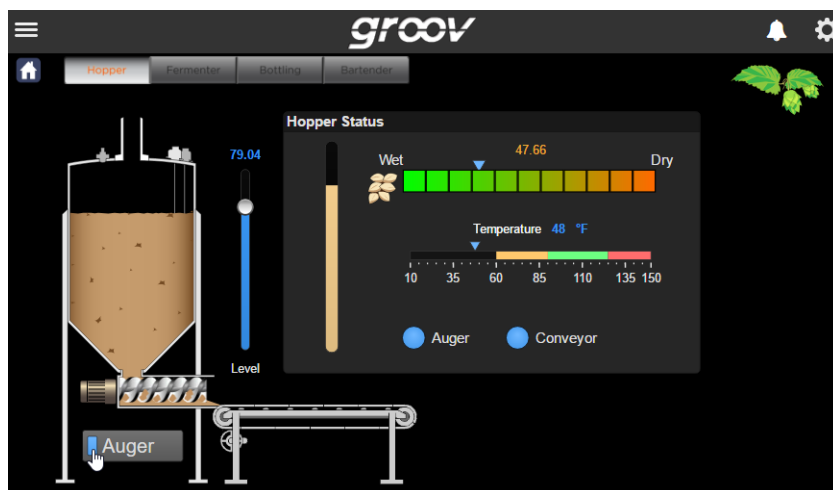

We're on the Hopper page, and here we can control the level of hops in the tank. We can also turn on the auger.
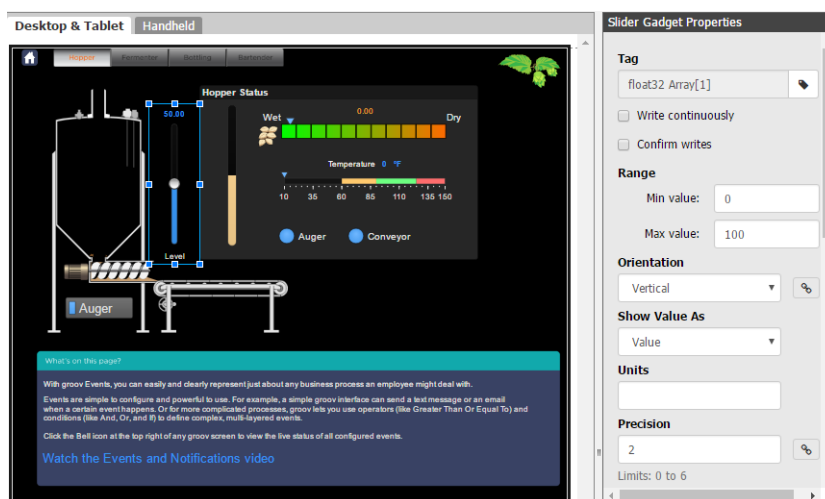
2. See the Level slider next to the tank? Move the slider up.

3. When you see the hops in the tank, click the Auger to turn it on.

4. To see how a control gadget works, click the gear icon in the upper right and switch to Build mode.
5. Click the Level slider and take a look at its properties.

A control gadget is very much like an indicator gadget. The tag you're controlling is at the top of the panel, with other properties below. You choose the appropriate range of values for whatever you're controlling. You can orient this Slider gadget either vertically or horizontally on the page. You also control colors and labeling.

**6.** Now click the Auger to see its properties.

The Auger is an Indicator Button gadget, which incorporates both control and status in the same gadget.

In the properties panel, notice that you can check the "Confirm writes" box to force the operator to verify this action. Also notice that instead of using a button, you could choose to use an image for this gadget. Lots of options.

7. Choose File > Switch to *groov* View, and again, don't save if you made any changes.

Trend data

groov View offers trending for data over a period of up to 5 years. Each trend can show one to four data tags (pens). Let's see how a trend works.

1. In *groov* View, go back to the home page and then click Wind Farm.
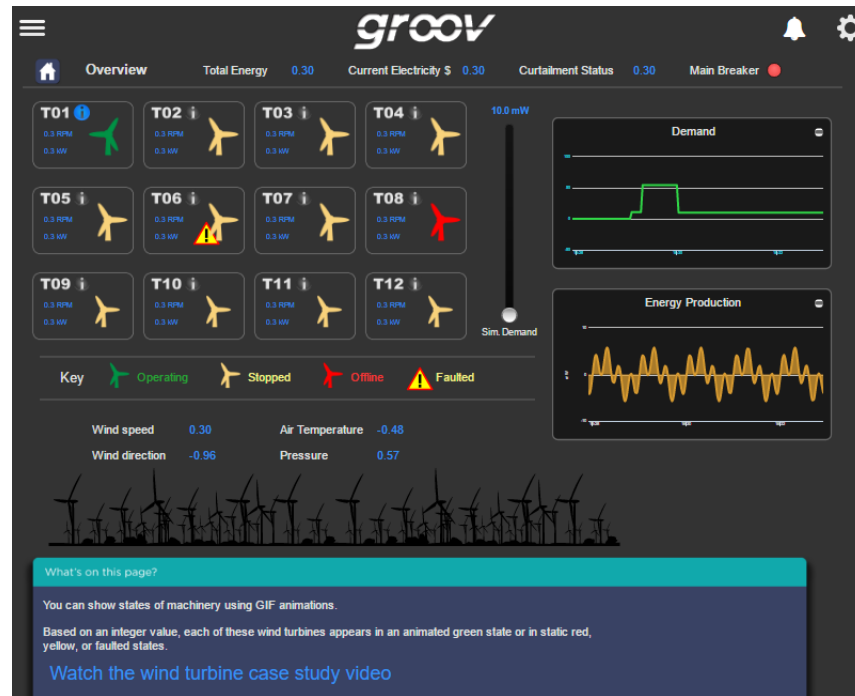
This page contains two simple trends, one for Demand and one for Production.

2. Change demand by moving the Simulated (Sim) Demand slider up, and see your changes reflected in the Demand trend. Hover over the trend with your mouse to see the value at any point in time.

3. Click the gear in the upper right and switch to Build mode.

4. In Build mode, click the Demand trend gadget and to see its properties. Click Configure Data Sources to see the tag this trend shows.
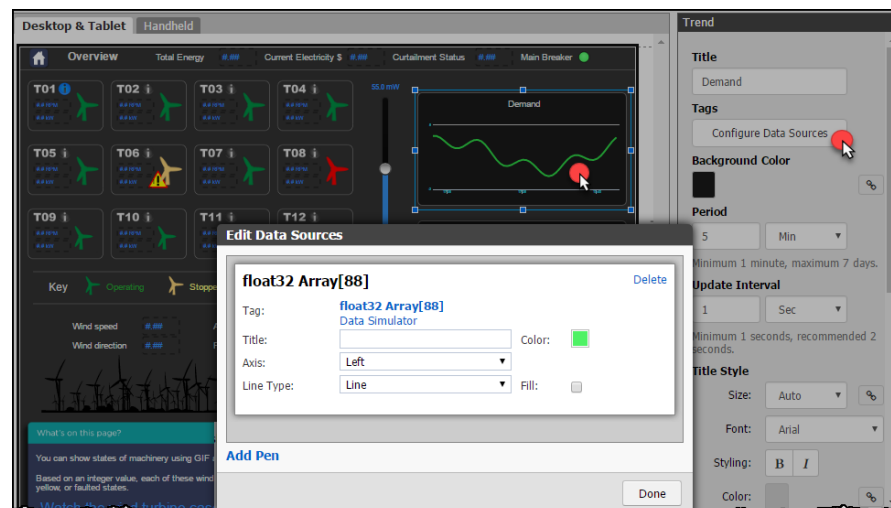
This trend is a simple one with just one tag (pen). You can add more pens as needed.

You can find a lot more on using trends (and all the other *groov* View gadgets) in Chapter 4 of the *groov* View User's Guide.

Rotating graphic

Are you ready for something more complicated? If so, let's dissect a rotating graphic—the compass on James Cameron's submersible, the Deepsea Challenger. As you'll see, this is a complex graphic made up of several gadgets.

1. Choose File > Switch to *groov* View. Then click the DEEPSEA CHALLENGER button.
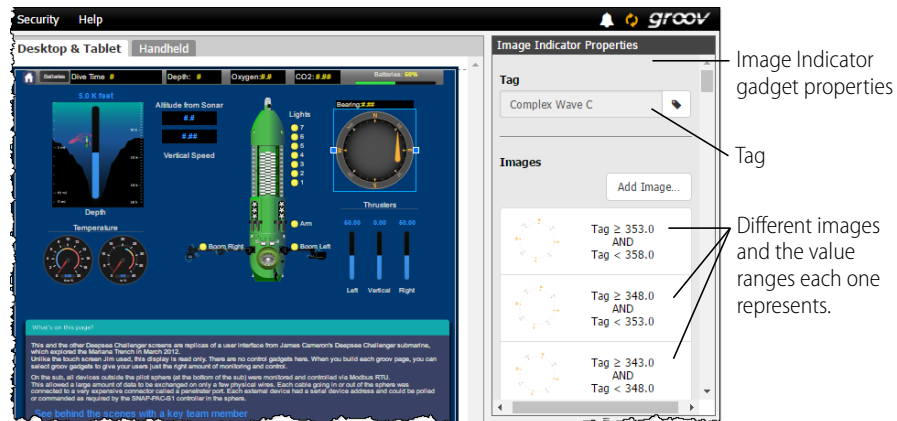

Notice how the compass at the right rotates based on the submersible's heading. You can build this kind of moving object using several images placed on top of each other. Let's see how it's done.

2. Click the gear icon in the upper right and choose Switch to Build mode.

3. In Build, click the compass.

   This is an Image gadget, and its properties appear in the panel at right. But you see only the needle in the compass, not the whole compass, so there must be something behind it:


Image gadget properties
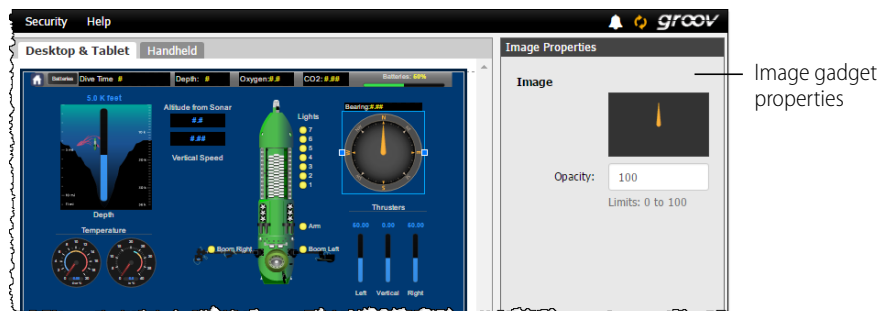
4. Go back to the compass in the workspace and drag it slightly to the right. Then click the image behind it.

   This is an Image Indicator gadget, and it's used to show a different image depending on the current value of the tag it represents.

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Image Indicator gadget properties

Tag

Different images and the value ranges each one represents.

You can see it takes a lot of images to create the compass—in this case, one image for each 5 degrees of rotation. But these images are all just markers on the compass face, so there must be something else behind this gadget, too.

5. Drag the Image Indicator gadget slightly to the right where the compass needle is, and click the image behind it to see the base of the compass face:

Image gadget for compass base
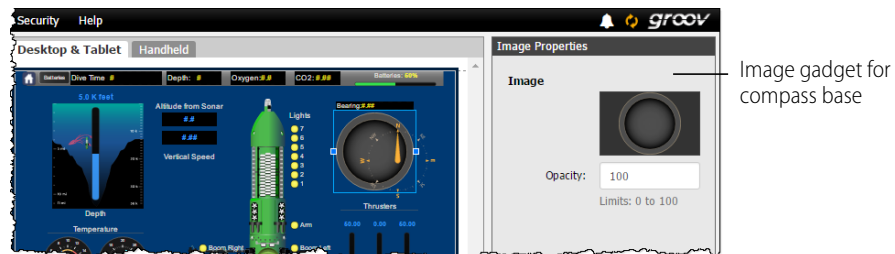
So now you've seen how to use the Image Indicator gadget and the Image gadget to create a rotating graphic for your *groov* View interface.

6. To put everything back where it was, don't save. Instead, choose File > Switch to *groov* View and then click No to avoid saving.

States with animated GIFs

Did you know that you can indicate the state of a tag not just with an image, but also with an animated GIF? Let's check out the turbines at the wind farm.

1. In *groov* View, click the menu in the upper left, open Wind Farm in the tree, and click Turbine overview.

Here we see the states of several turbines. The color of the turbine indicates its state: green for operating, yellow for stopped, and red for offline. (The state of the turbines in your project may be different from those in this image.)

2. Click the gear icon in the upper right, and choose Switch to Build mode.

3. Click T01 in the upper left and look at its properties.

    This is a Page Navigator gadget, and it can do two things at once: link to another page in your *groov* View interface, and show an image. In this case we're linking to a page showing details on this turbine, and we're showing the background image for the turbine.

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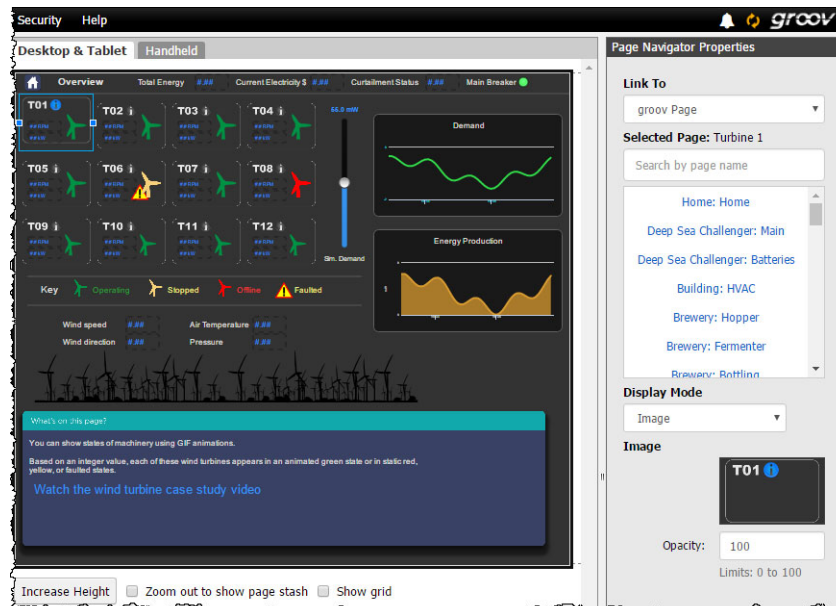
4.   Drag the Page Navigator gadget out of the way, and then click the green turbine that was behind it.
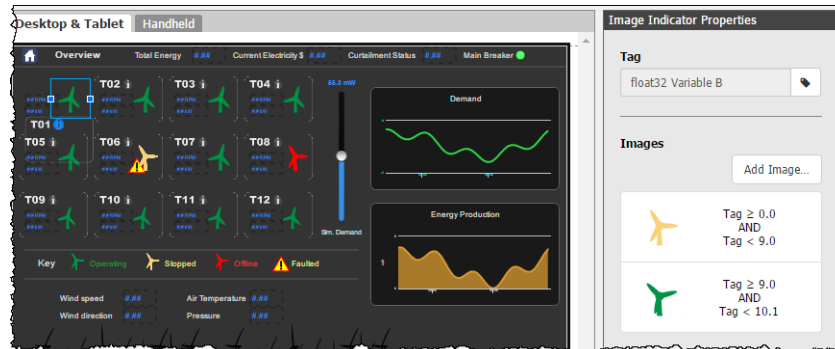

The image of the yellow turbine is static, but the image of the green turbine is moving. The yellow turbine is a PNG file, but the green turbine is an animated GIF. If you hover your mouse over the image in the Properties panel, you can see the name of the file. All image files are stored in the Image Library. For more on the Image Library and on using all gadgets, see the *groov* View User's Guide.

Multiple image indicator

The rotating graphic was one example of indicating a value change with a different image. Let's see another, this one a tank level in the brewery.

Menu

1.   In *groov* View, click the menu in the upper left, open Brewery in the tree, and click Fermenter.
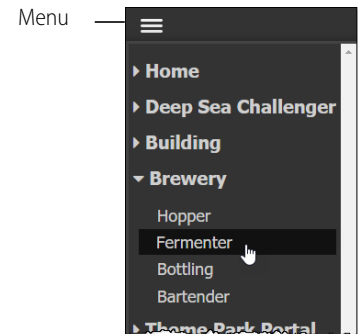
In this screen you can control what happens in the tank, so let's make some changes.

2. Drag the level up so the tank is partly filled (1 in the image at right). Then click the Agitator (2) and Aerator (3) buttons to start some action inside the tank.

   Here's another case where multiple images are used to indicate change. And an animated GIF is used, as well.

   Let's look at the parts that build what we see in the interface.

3. Click the gear icon in the upper right and choose Switch to Build mode. In Build, click the tank. You can see in the gadget Properties panel that this is just part of the tank (the valve indicator), so click and drag it to one side.

4. Click the tank again and drag the next image to one side. This is the tank outline, so click the image behind it.

   Depending on what area you click, you may find the aerator (in two parts, each an animated GIF), the agitator, or the green block that indicates the tank level.

5. Click the green tank level block and look at its properties (image at right).

   As in the compass, this is an Image Indicator gadget, where you can choose multiple images and indicate the specific range of values each one represents. You can scroll down to see them all.

6. Explore the other parts of the tank (or other items on this page) as you wish. Remember NOT to save when you've finished exploring. Just choose File > Switch to *groov* View and click NO when asked if you want to save.
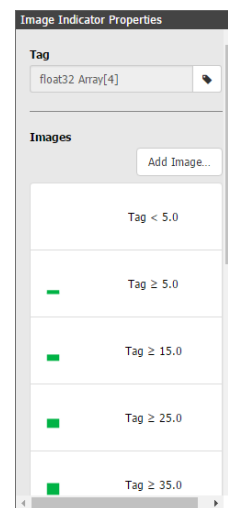
Free image source online

So where do you get these images to use in your *groov* View interface? Of course you can make them yourself to show whatever you want. But we also have a library of useful images already made for you to use and adapt: the SVG Image Library.

Follow the link above, or go to opto22.com and search for svg image library.

From the list on the left, choose your image. For example, click Field Devices and choose the image you want from the compressors, motors, pumps, valves, and so on.

Once you've chosen your image, you can flip or rotate it, change its colors, and then download and save it. It's delivered as an SVG file, which is perfect for a *groov* View interface that automatically resizes elements for any size screen the interface is viewed on, from a smartphone to an HDTV.
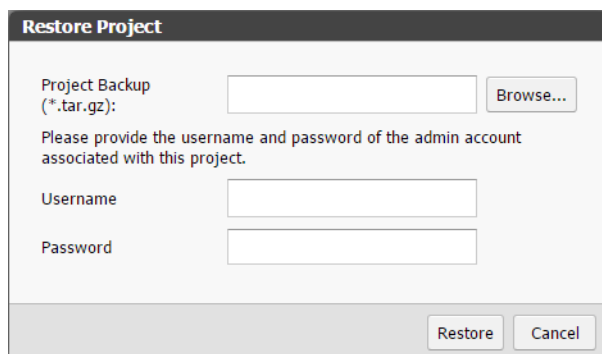
More exploration

Explore the rest of the demo at your own pace to see how interface elements are constructed and used. Then continue with the next section to build your own *groov* View interface.

STEP 4. BUILD YOUR OWN

Now that you've looked around in the demo project, it's time to start your own.

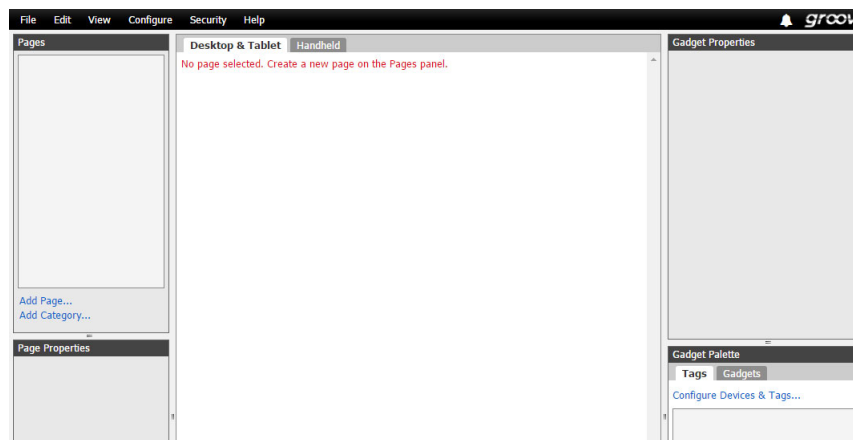1. Restore your original *groov* View project as follows:

a. In Build mode, choose Restore Project from Computer.

b. Browse to your project archive, which you saved to your desktop (with `myproject` at the beginning of the filename).

c. Enter the username and password you used for your first *groov* View account.

d. Click Restore.

Your original project appears:

2. To get started, choose Help > *groov* User's Guide, and follow the steps in "Building a Sample Project" in Chapter 2. Or click this link to open the guide: *groov View User's Guide*.

In the guide you'll also find complete instructions for setting up users, configuring the devices and tags you want to connect to, and using the pre-built gadgets.

WHAT'S NEXT?

Remember that your two-hour trial period starts when you look at your interface in *groov* View. When the two hours are over, you can simply restart *groov* Server to continue. Your project remains intact.

When you're ready to buy, just apply your license file. Your project is ready to use.

FOR HELP

Check out our *groov* forum.

If you have problems getting started with the *groov* Server for Windows free trial and you can't find the solution in this tech note, give us a call. Product Support for *groov* View, like all our products, is free.

Phone:	800-TEK-OPTO (800-835-6786 toll-free in the U.S. and Canada) 951-695-3080 Monday through Friday, 7 a.m. to 5 p.m. Pacific Time	*NOTE: Email messages and phone calls to Opto 22 Product Support are grouped together and answered in the order received.*
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