SHARING *groov* VIEW DATA WITH EXCEL

Many automation systems use desktop applications, such as Microsoft® Excel®, to store and analyze data; for example, to store information that an operator may need remotely to make a decision.

The groov_with_Excel.zip download file shows how use Excel to read and write to a *groov* View Data Store on a *groov* Server for Windows. The zip file includes a ready-to-use Excel workbook that gets and updates data by using *groov* View's RESTful API and Excel's Visual Basic for Applications® (VBA) code.

WHAT YOU NEED

- *groov* Server for Windows running *groov* View R3.3 or higher.
- Microsoft Excel 2007 (or higher).
- Your *groov* Server's IP address and a *groov* View API key.
- The files in the download file (also available for download from the Opto 22 website).

Files in the zip	Description
Opto22_groovRestAPI.xlsm	A macro-enabled workbook containing two worksheets: • **Readdatastore** (which reads data from the Data Store) • **Data Logging** (which lets you write data to the Data Store) These spreadsheets require only the IP address of a *groov* Server and a *groov* API key. The VBA code embedded in the workbook can be used to create your own customized logging file.
JsonConverter.bas	A third-party class for VBA created by MIT (copyright Tim Hall, https://github.com/VBA-tools/VBA-JSON). This file is available for general use as long as the provisions in its copyright are preserved.

WHAT YOU NEED TO DO

Follow these steps to open the *groov* project, configure the workbook, and start logging data.

1. Download groov_with_Excel.zip from the Opto 22 Downloads webpage, and then extract the files.
2. Open *groov* View. Click Menu on the top right-hand side and click Switch to Build mode.
3. Configure a new Admin-level user (Configure > Accounts), and then copy the new user's API Key. (You will paste the key into Excel.)
4. Now, open the Excel workbook.

    If prompted, click Enable Editing, and then click Enable Content.
5. In both worksheets:
    a. In cell B2, enter the IP address of your *groov* Server.
    b. In cell B3, paste the API Key.

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Reading Worksheet

Provide a valid PAC address or domain name here along with an API Key that has been defined on the PAC.

Reading using GET commands:
1. Get data stores.
2. Get tags for a data store.
3. Select a tag.

4. Select a index and count if the tag is a table (array).

Reading using the POST command:
1. Get all tags.
2. Choose a specific tag.
3. Add the tag to the JSON packet to send.

4. Edit the JSON if desired. E.g., you may want to change the Index an Count for tables.

Writing Worksheet

Provide a valid PAC address or domain name here along with log-in credentials that have been defined on the PAC.

Identify a tag to write to:
1. Select get all tags
2. Choose a tag by ID or Name.
3. Select an index if applicable.

Type a value and click the Write button.
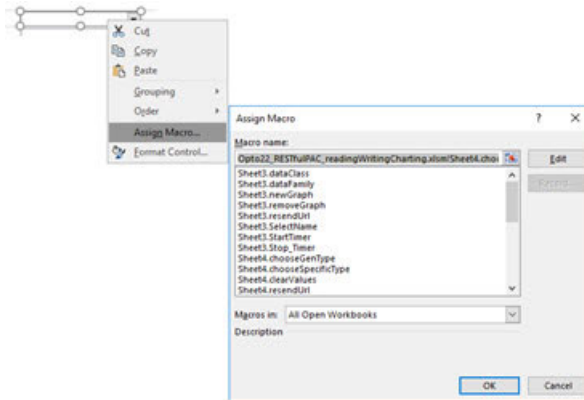For boolean tags, type "true" or "false"
For integers, type any integer.
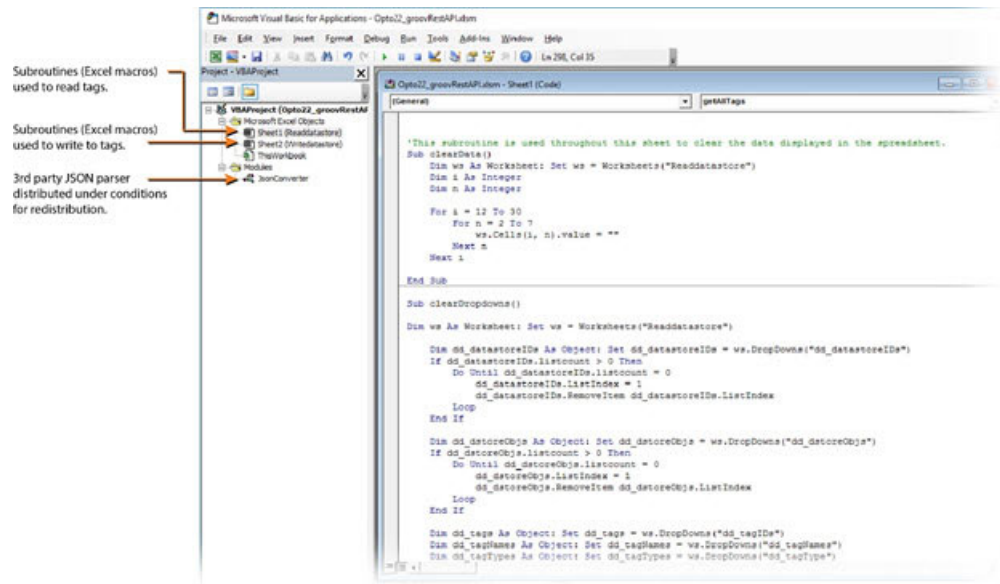For floats, type a floating point number.
For strings, type any string. Double quotes will be ignored. Single quotes can be used.

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Visual Basic

The code that reads, writes, and plots data resides in the spreadsheet as modules and macros. Macros are run from controls placed in the spreadsheets. Right-clicking a control, such as a drop-down list or a button, will reveal the list of macros that can be assigned to it.

To see the content of macros, you must open the Visual Basic Editor:

The VBA Editor is available from the Developer menu. The Developer menu is not displayed by default.

To display the Developer menu:

1. Choose File > Options.
2. In the Options window, select Customize Ribbon.
3. Select Developer under Main Tabs and close the Options window.
4. Select the Developer menu.
5. Select the Visual Basic icon.

FOR MORE INFORMATION

For more tips, help, and code samples, visit the Opto 22 Developer portal at http://developer.opto22.com.