



NIKON INSTRUMENTS INC.

NIS.API Client Demo Application

Quick Start Guide

App v1.0.0.0 • Requires NIS-Elements 7.01 Build 2222 or newer

What Is This Demo Application?

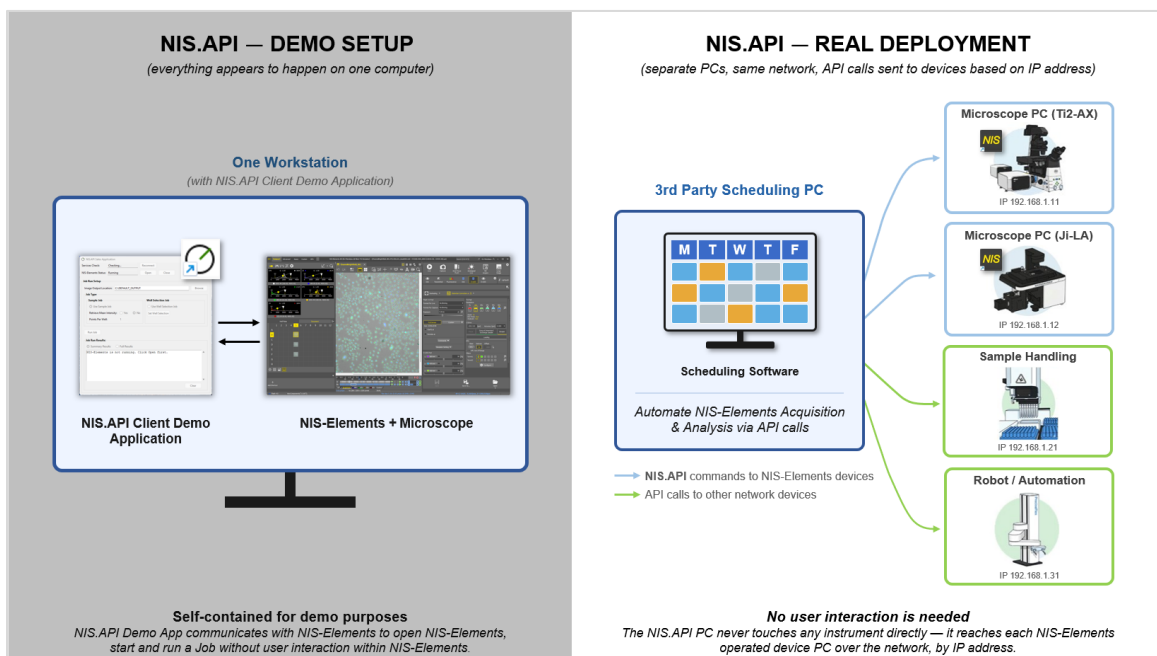
The NIS.API Client Demo Application demonstrates how lab automation and LIMS systems can control NIS-Elements by starting and running imaging jobs automatically, without anyone touching the microscope. It uses the same NIS.API calls that a real production integration would send, so what you see in the demo is exactly how NIS.API behaves in a live deployment.

Fully Automated — No Clicks Required

- Once **Run Job** is clicked, the application starts a JOB inside NIS-Elements completely on its own.
- The clicking you do during a demo is you triggering the simulation and operating NIS-Elements & microscope without user input. NIS-Elements receives the exact same hands-free commands a real automated system would send.

How It Works

The NIS.API Client Demo Application runs on the same workstation as NIS-Elements, simulating the API calls that an external system would send in a real deployment. This self-contained setup is purely for demonstration purposes. In a live environment, NIS.API commands would originate from a separate PC running third-party scheduling or automation software, communicating with NIS-Elements over the network by IP address.

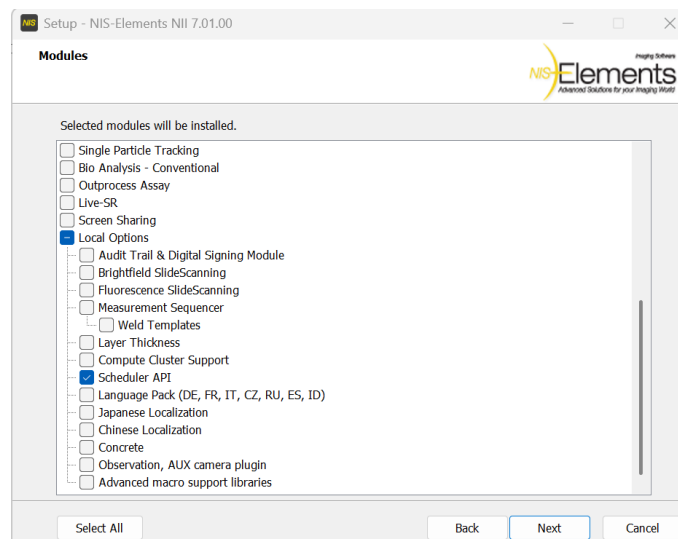


API calls are routed over the network from a 3rd party scheduling software. The NIS.API commands can drive NIS-Elements devices based on their IP address, automating workflows with other devices anywhere on the network.

Installation and Setup Steps

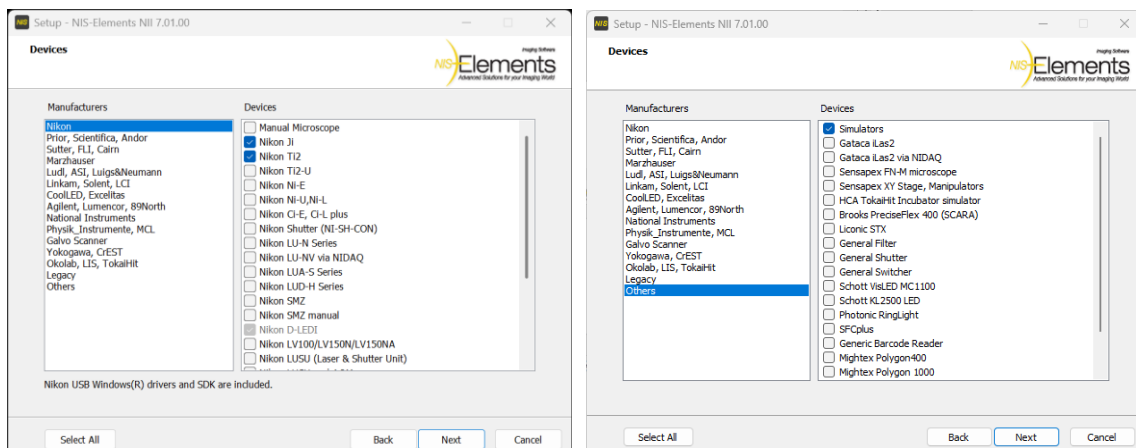
Follow the steps in the order mentioned below:

- 1 NIS-Elements 7.01 Build 2222 or newer must be installed.
- 2 Enable **Scheduler API** under Local Options in the Modules window of NIS-Elements setup.



Note: if these options were not selected at the time of installation, proceed with **Modify Install** to enable the Scheduler API under Local Options Modules.

- 3 Enable devices used under the **Devices** window of NIS-Elements setup to install necessary drivers.
- Note:** If Device Simulators are used ensure to select **Simulators** under **Others**.

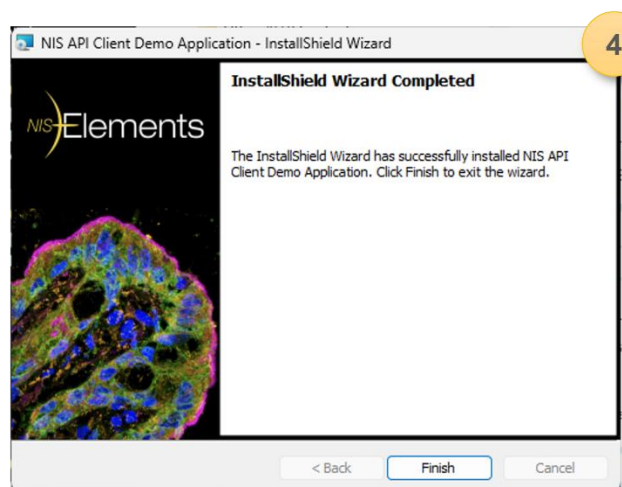
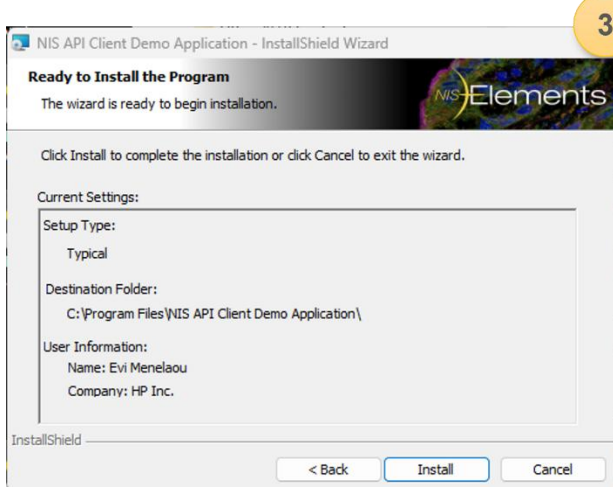
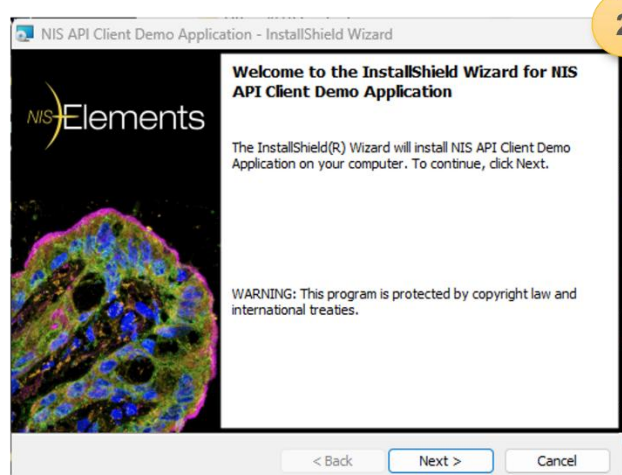
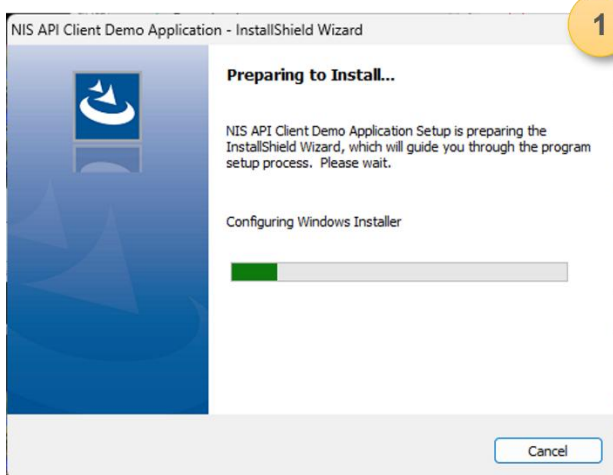


NIS-Elements Configuration & Requirements:

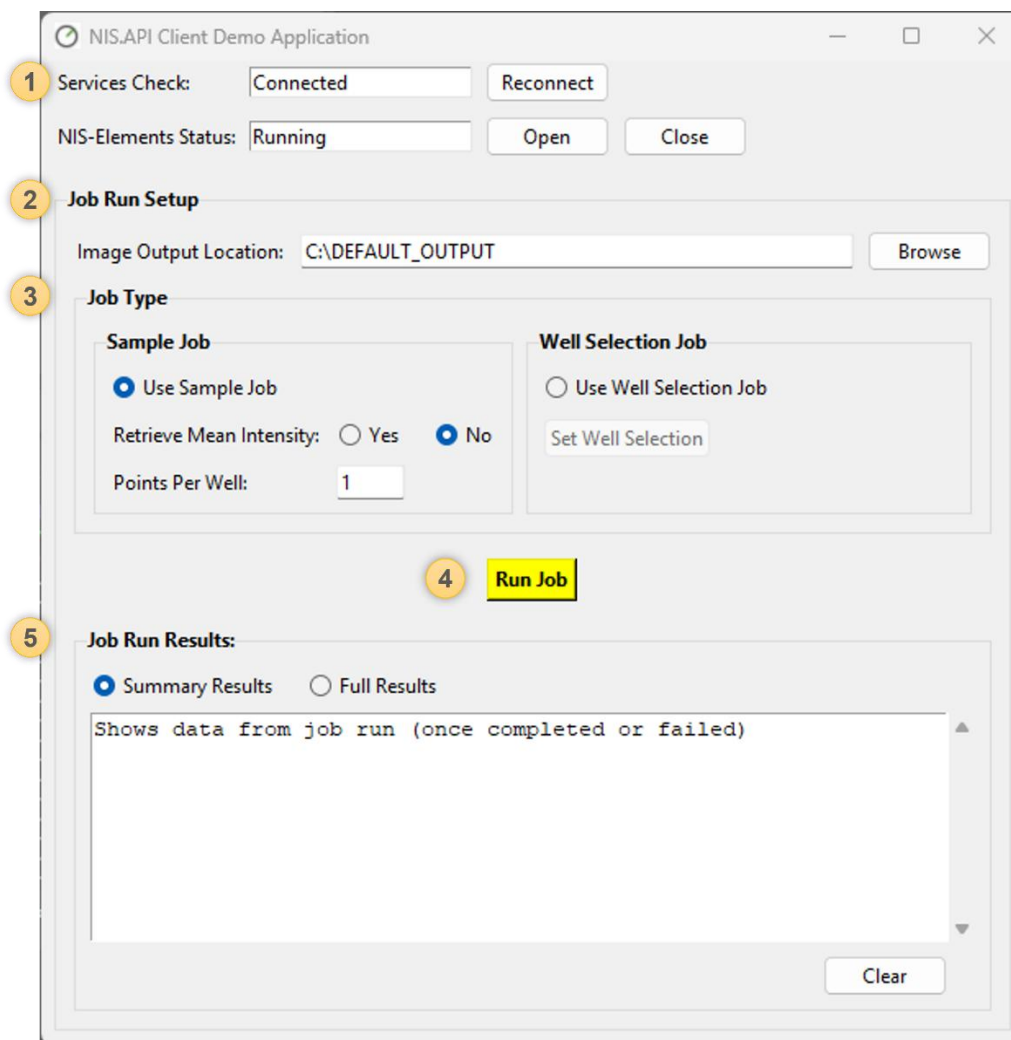
- 4
 - ✓ Hardware Setup with automated microscope and motorized stage is set.
 - ✓ Objectives are installed
 - ✓ **Required** - Aligned 96-well plate

5 Install NIS.API Client Demo Application

 NIS_API_Client_Demo_Application_v1.0.0.0



NIS.API Client Demo Application – Quick Glance



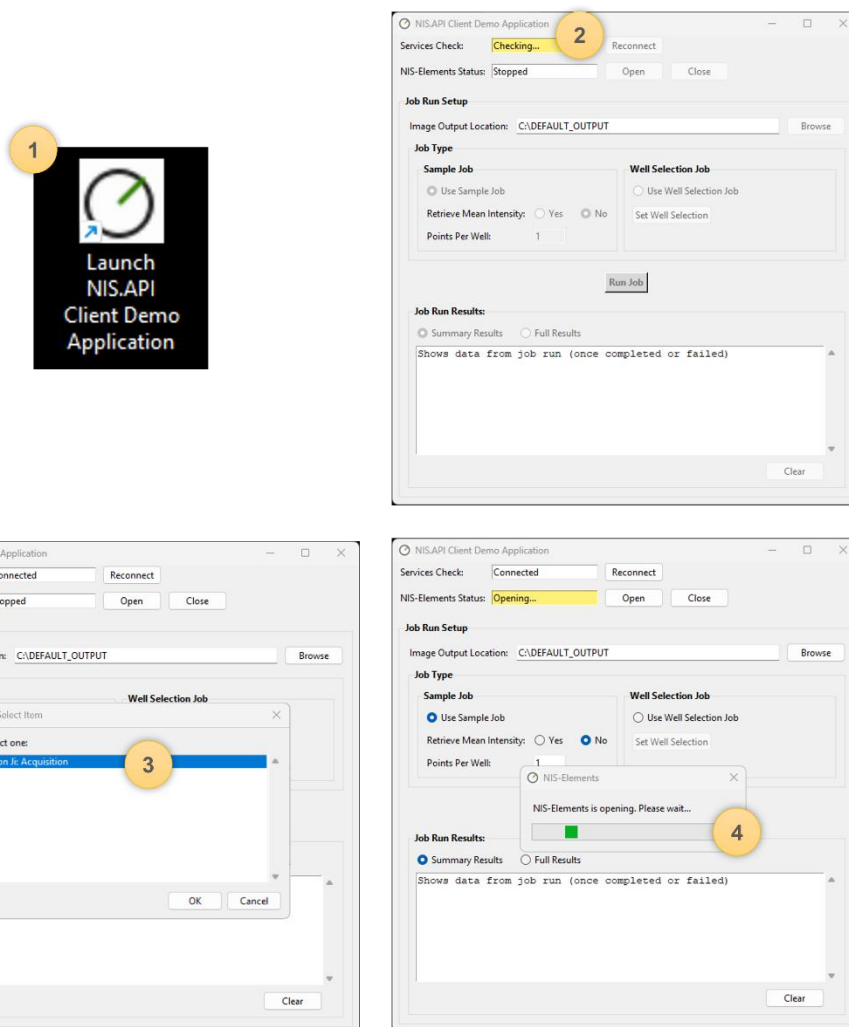
The screenshot shows the NIS.API Client Demo Application window. It features a 'Services Check' section with a 'Connected' status and a 'Reconnect' button. Below this is the 'NIS-Elements Status' section, showing 'Running' with 'Open' and 'Close' buttons. The 'Job Run Setup' section includes an 'Image Output Location' field set to 'C:\DEFAULT_OUTPUT' with a 'Browse' button. The 'Job Type' section has two tabs: 'Sample Job' and 'Well Selection Job'. The 'Sample Job' tab is active, showing 'Use Sample Job' selected, 'Retrieve Mean Intensity' set to 'No', and 'Points Per Well' set to '1'. The 'Well Selection Job' tab has 'Use Well Selection Job' selected and a 'Set Well Selection' button. A yellow 'Run Job' button is located between the 'Job Type' and 'Job Run Results' sections. The 'Job Run Results' section has 'Summary Results' selected and a text area showing 'Shows data from job run (once completed or failed)'. A 'Clear' button is at the bottom right.

1	Connection status — confirms NIS.API Services and NIS-Elements are running and linked
2	Image Output Location — destination folder for the images this job run captures.
3	Job Type — choose Sample Job (built-in) or Well Selection Job (pick your own wells).
4	Run Job — sends the start command. NIS-Elements takes it from here, fully automated.
5	Job Run Results — status, output file paths, and (if enabled) Mean Intensity values appear automatically.

Running a Demo, Step-by-Step

Run the NIS-API Client Demo App & Connect to NIS-Elements

Launch *NIS-API Client Demo Application.exe* from the desktop (1), and accept the prompt to run as Admin. On startup, the app automatically restarts the NIS-API Services (2), when prompted select an NIS-Elements Hardware Setup (3), and click OK to start NIS-Elements automatically (4).



Quick Check

- “Connected” + “Running” means you're ready to go.
- If Services Check reads “Not Connected,” click Reconnect — no need to relaunch the app.
- **Image Output Location** sets where job images are saved (default: C:\DEFAULT_OUTPUT). Browse to a folder or paste a path (if path doesn't exist yet, it will be created automatically when the job runs).



Setup a JOB & Run – Two Demo Job Types to Choose From

The two demo Job types included with this application are simple pre-built examples created for demonstration purposes. They are not representative of the full capability of NIS-Elements Jobs. In a real deployment, the job triggered by NIS.API can be as complex as needed and works with any existing Job already configured in NIS-Elements.

Sample Job

One click, no setup

WELL LOCATIONS
3 fixed wells — B5, D5 & F5

MEAN INTENSITY PER WELL
✓ Optional — switch Yes / No

IMAGES CAPTURED
You set points captured per well

BEST FOR
*Fast, no-setup demos —
show a job running in seconds.*

Well Selection Job

Full control over the plate

WELL LOCATIONS
You choose any wells on the plate

MEAN INTENSITY PER WELL
✗ Not available for this job type

IMAGES CAPTURED
1 image captured per selected well

BEST FOR
*Demonstrating precise, custom
control over the well plate.*

✕ Sample Job

Choose Sample Job (1), select Yes or No (2) to display Mean Intensity for each well at the end of the Job Run, type in the number of points to image per well (3), and click Run Job (4).

NIS.API Client Demo Application

Services Check:

NIS-Elements Status:

Job Run Setup

Image Output Location:

Job Type

Sample Job

1 ☒ Use Sample Job

2 Retrieve Mean Intensity: ☒ Yes ☐ No

3 Points Per Well:

Well Selection Job

☐ Use Well Selection Job

4

Job Run Results:

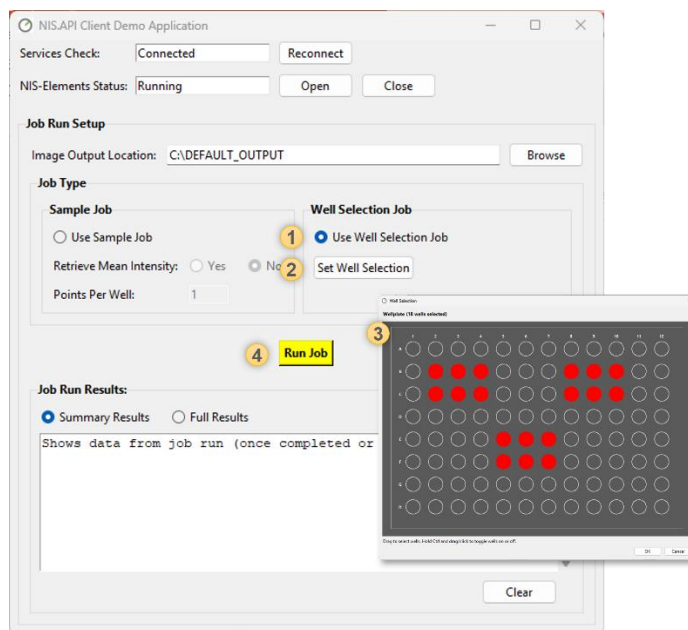
☒ Summary Results ☐ Full Results

Shows data from job run (once completed or failed)

Mean Intensity:

Well Selection Job

Choose Well Selection Job (1), click Set Well Selection (2), in the well selection window select the wells to image (3) and click Run Job (4).

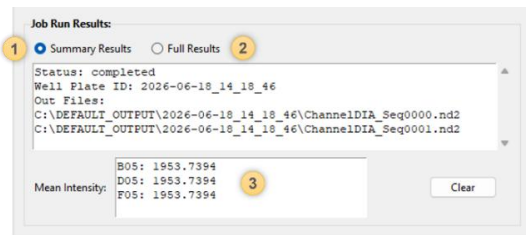


From Here, It's Hands-Off

The application sends the start command and NIS-Elements runs and completes the JOB — **no further clicks needed!**

Review the Results

The NIS-API Application window can display Job Run results (Summary or Full Results). To review captured images after a Job run, open the output .nd2 file(s) directly in NIS-Elements. The file path is listed in the **Job Run Results** panel once the job completes.



- | | |
|---|---|
| 1 | Summary Results — shows job status, well plate ID, and output file locations. |
| 2 | Full Results — shows the complete API response for more detailed information. |
| 3 | Mean Intensity Results — If <i>Retrieve Mean Intensity</i> was set to Yes, mean intensity values for each captured well will be displayed automatically. |