



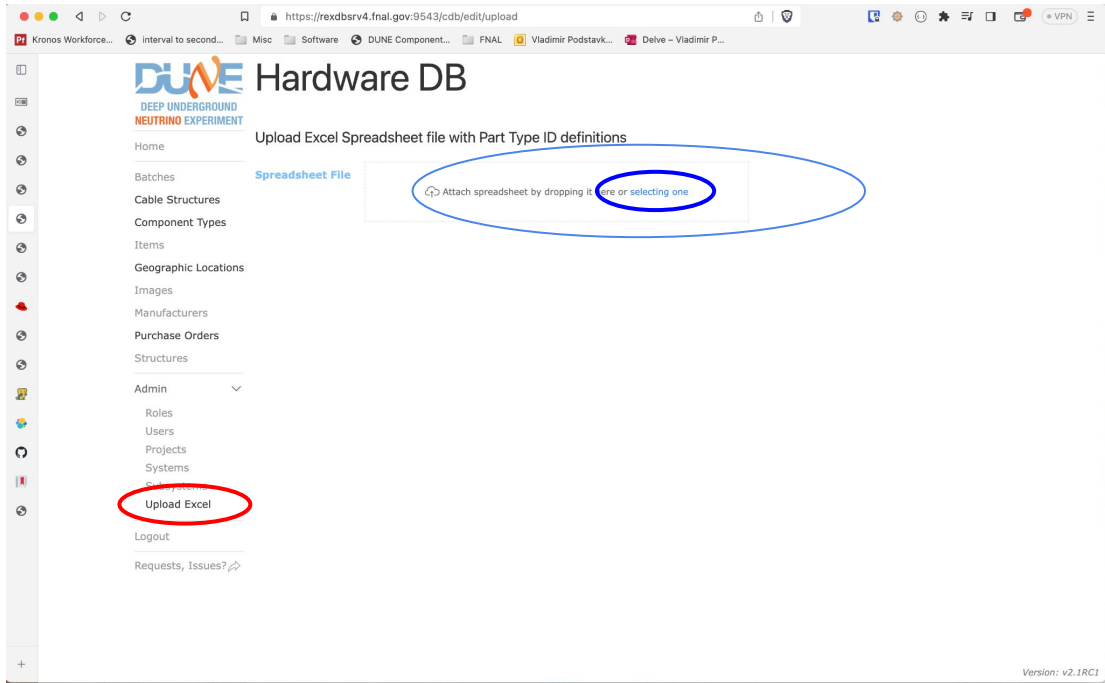
Dune Hardware DB Latest Additions

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Excel Spreadsheet Upload

- A new web form has been added to upload a single Excel spreadsheet file. It's located under Admin menu on the left

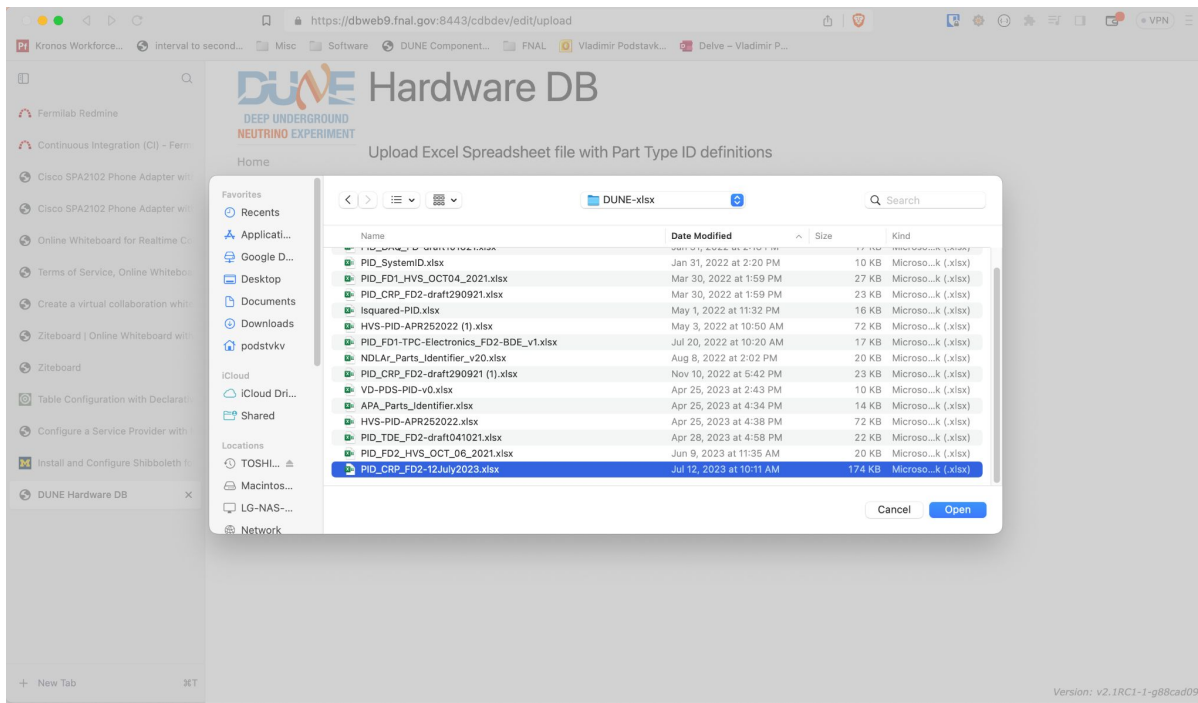


The screenshot displays the 'DUNE Hardware DB' web application. The main content area is titled 'Upload Excel Spreadsheet file with Part Type ID definitions' and features a 'Spreadsheet File' upload box with the instruction 'Attach spreadsheet by dropping it here or selecting one'. The left sidebar contains a navigation menu with the 'Admin' section expanded, and the 'Upload Excel' option highlighted with a red circle. The browser's address bar shows the URL 'https://rexdsrv4.fnal.gov:9543/cdb/edit/upload'.

Version: v2.1RC1

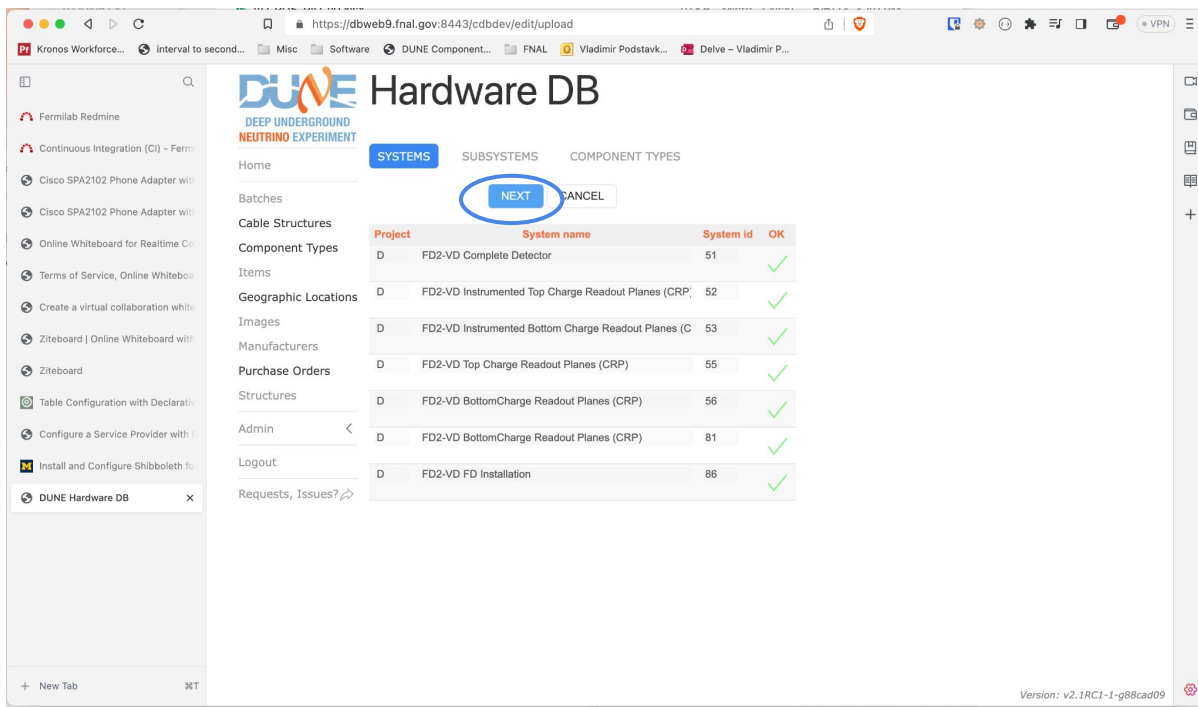
Excel Spreadsheet Upload (2)

- Select and upload the file:



Excel Spreadsheet Upload (3)

- Review the list of systems that will be created:



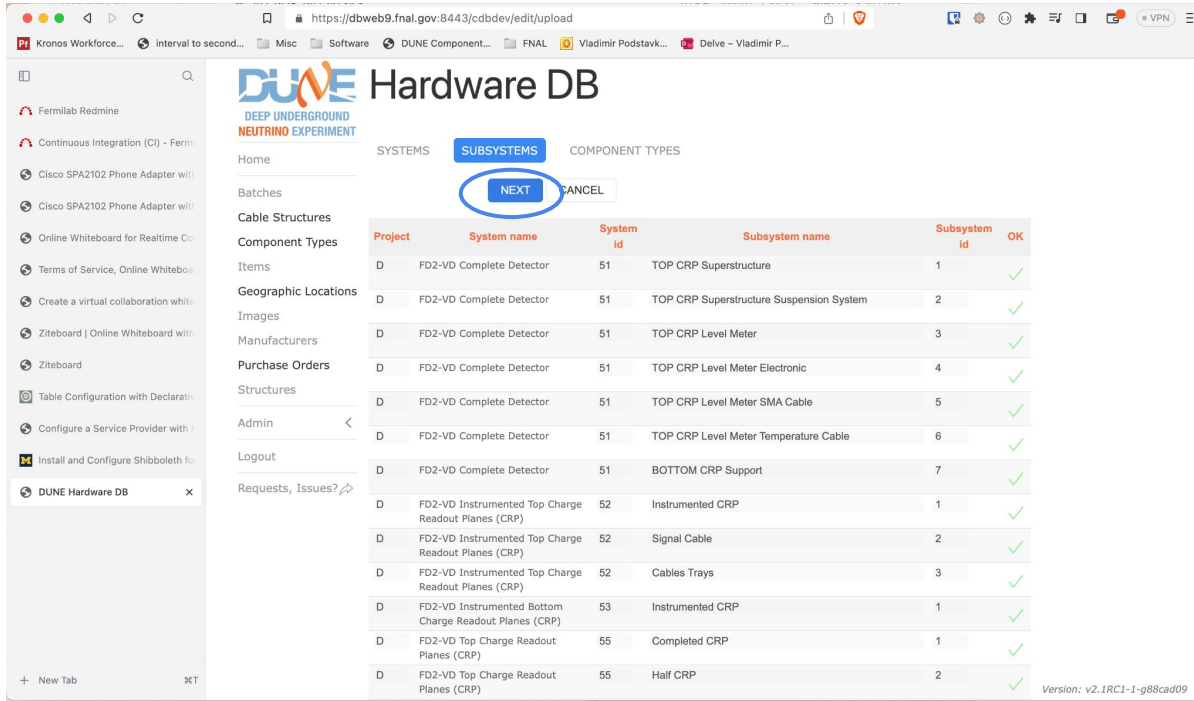
The screenshot shows the 'DUNE Hardware DB' web application interface. The browser address bar displays 'https://dbweb9.fnal.gov:8443/cdbdev/edit/upload'. The application header includes the 'DUNE' logo and the text 'DEEP UNDERGROUND NEUTRINO EXPERIMENT'. Below the header, there are navigation tabs for 'SYSTEMS', 'SUBSYSTEMS', and 'COMPONENT TYPES'. A 'NEXT' button is highlighted with a blue circle, and a 'CANCEL' button is also visible. The main content area displays a table of systems to be created, with columns for 'Project', 'System name', 'System id', and 'OK'.

Project	System name	System id	OK
D	FD2-VD Complete Detector	51	✓
D	FD2-VD Instrumented Top Charge Readout Planes (CRP)	52	✓
D	FD2-VD Instrumented Bottom Charge Readout Planes (C	53	✓
D	FD2-VD Top Charge Readout Planes (CRP)	55	✓
D	FD2-VD BottomCharge Readout Planes (CRP)	56	✓
D	FD2-VD BottomCharge Readout Planes (CRP)	81	✓
D	FD2-VD FD Installation	86	✓

Version: v2.1RC1-1-g88cad09

Excel Spreadsheet Upload (4)

- Review the list of subsystems that will be created:



The screenshot shows the 'DUNE Hardware DB' web application interface. The main content area displays a table of subsystems to be created, with a 'NEXT' button highlighted by a blue circle. The table has columns for Project, System name, System id, Subsystem name, Subsystem id, and OK status.

Project	System name	System id	Subsystem name	Subsystem id	OK
D	FD2-VD Complete Detector	51	TOP CRP Superstructure	1	✓
D	FD2-VD Complete Detector	51	TOP CRP Superstructure Suspension System	2	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter	3	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter Electronic	4	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter SMA Cable	5	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter Temperature Cable	6	✓
D	FD2-VD Complete Detector	51	BOTTOM CRP Support	7	✓
D	FD2-VD Instrumented Top Charge Readout Planes (CRP)	52	Instrumented CRP	1	✓
D	FD2-VD Instrumented Top Charge Readout Planes (CRP)	52	Signal Cable	2	✓
D	FD2-VD Instrumented Top Charge Readout Planes (CRP)	52	Cables Trays	3	✓
D	FD2-VD Instrumented Bottom Charge Readout Planes (CRP)	53	Instrumented CRP	1	✓
D	FD2-VD Top Charge Readout Planes (CRP)	55	Completed CRP	1	✓
D	FD2-VD Top Charge Readout Planes (CRP)	55	Half CRP	2	✓

Version: v2.1RC1-1-g88cad09

Excel Spreadsheet Upload (5)

- Review the list of component types that will be created:
- And finally save everything

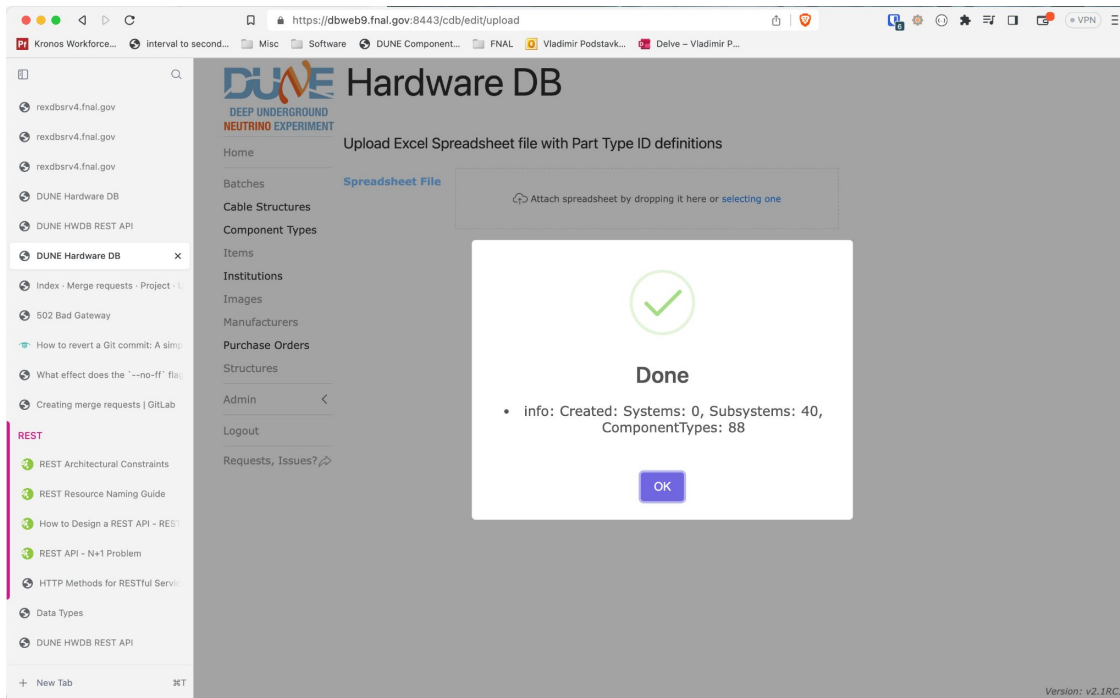
The screenshot shows the 'DUNE Hardware DB' web application interface. The 'COMPONENT TYPES' tab is selected, and the 'SAVE' button is highlighted with a red circle. The table below displays the list of component types to be created.

Project	System name	System id	Subsystem name	Subsystem id	Item type name	Item type id	OK
D	FD2-VD Complete Detector	51	TOP CRP Superstructure	1	TOP CRP Large Superstructure	1	✓
D	FD2-VD Complete Detector	51	TOP CRP Superstructure	1	TOP CRP Small Superstructure	2	✓
D	FD2-VD Complete Detector	51	TOP CRP Superstructure Suspension System	2	TOP CRP Superstructure Suspension System	1	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter	3	TOP CRP Level Meter	1	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter Electronic	4	TOP CRP Level Meter Electronic	1	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter SMA Cable	5	TOP CRP Level Meter SMA Cable Type 1	1	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter SMA Cable	5	TOP CRP Level Meter SMA Cable Type 2	2	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter Temperature Cable	6	TOP CRP Level Meter Temperature Cable Typ	1	✓
D	FD2-VD Complete Detector	51	TOP CRP Level Meter Temperature Cable	6	TOP CRP Level Meter Temperature Cable Typ	2	✓
D	FD2-VD Complete Detector	51	BOTTOM CRP Support	7	BOTTOM CRP Support Type 1	1	✓
D	FD2-VD Complete Detector	51	BOTTOM CRP Support	7	BOTTOM CRP Support Type 2	2	✓

Version: v2.1RC1-1-g88cad09

Excel Spreadsheet Upload (6)

- If everything is OK, you'll see a confirmation message:



Independent connector definitions for Component Type

- In previous version the connector definitions was handled as a single object.
 - To protect data integrity, no changes were allowed if any of the connector definitions were used to build part of the detector hierarchy
 - This turned out to be too restrictive
- In new version the definitions are now independent.
 - A new one can be added/changed/deleted without affecting the rest, **if it has not been used yet!**

Independent connector definitions (2)

The screenshot displays a web application interface for configuring a connector definition. The browser address bar shows the URL: <https://rexdsrv4.fnal.gov:9543/cdb/edit/ctype/19>. The interface is divided into a sidebar on the left and a main content area on the right.

Sidebar: Contains navigation options: Items, Geographic Locations, Images, Manufacturers, Purchase Orders, Structures, Admin, Logout, and Requests, Issues?.

Main Content Area: Shows the configuration form for a connector definition. The form includes the following fields:

- Full Name:** X.Test system 101.Subsystem 201.MOBO01updated
- Part Type ID:** X10120100019
- Comments:** MOBO type 1
- Category:** generic
- Managed by:** x new-board x tester
- Manufacturers:** x Daugherty, Beahan and O'Hara x Huel Inc x Reichel Group x Stiedemann-Hill
- Created:** 2023-04-10 14:35:14
- Created by:** Vladimir Podstavkov
- Version:** 3
- Created:** 2023-04-10 14:35:14-05:00
- Created by:** Vladimir Podstavkov
- Datasheet:** Gain: - v0 - v1 Size: null Type: null Array: []

Connectors in use: A table below the form lists connectors that are currently in use. The table has two columns: a connector ID (s0-s6) and a Part Type ID (X10120100018). The first four rows (s0-s3) are circled in red, and the fifth row (s4) is circled in green.

Connector ID	Part Type ID
s0	X10120100018
s1	X10120100018
s2	X10120100018
s3	X10120100018
s4	X10120100018
s5	X10120100018
s6	X10120100018

At the bottom of the form, there are two buttons: **SAVE** and **DONE**.

Version: v2.1RC1

Top Level Workflow for Component Types

- The Architect uploads Excel Spreadsheets
 - This creates a set of Component Types **stubs**
- Administrators finalize the type definitions by
 - Assigning necessary attributes to types
 - Adding connector definitions if necessary
 - Assigning the user roles to the types
 - Defining the tests if necessary
- Users with the corresponding roles can now
 - Create the Components
 - Do the tests if necessary
 - **Declare the components ready to be used**
- Build the assemblies of components by
 - Mounting the sub-components on corresponding components...