How to apply User Defined Types (UDT) in AVEVA™ InTouch HMI

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What is a UDT?

- A “structure” (shape, template)

- Similar to:
  - Supertag (InTouch)
  - Class (Edge)
  - Equipment (Plant SCADA)

- User Defined Data type
  - Extension of existing data types, Bool, Int, Real/Float, String/Message
  - Allows the User to create their own

- First define the Template, then create Instances
Why use UDTs?

• Allows more efficient creation of tags/projects. Use UDTs as building blocks, or modular definitions
  • Repetitive station logic
  • Promotes modular design

• When you need to re-use the structure
  • A Tank could have Level, Temperature, Pressure, Contents
  • A mailing address (bill to, ship to)

• Multiple Levels (up to 6)
  • Nesting to group logical parts and subsystems

• Most PLCs and controllers have adopted UDTs
User Defined data Types (UDT) Structure support

1. Define new Data Type
   - UDT, Instance and default values are saved outside of Tagname Dictionary

2. Rename, Delete (Can’t delete if used), Duplicate

3. Export/Import (JSON Format), to/from another application
   - Can externally “bulk edit”
   - Notepad++ with “JSON Viewer” plugin example
   - Plan to add “bulk edit” in WindowMaker
UDT Continued

- All properties will be modifiable except name and type
- Alarm in Properties
- Alarms in EAC
- Drag-and-Drop to create graphic element
- Owning Object, “Me.” support
Summary/Benefits

• **Efficiency**: Allows more efficient creation of tags/projects.
• **Modularity**: Use UDTs as building blocks, or modular definitions
• **Alignment with PLCs**: Most PLCs and controllers have adopted UDTs
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