



NIAGARA SUMMIT 2026

SEAMLESS CONNECTIVITY,
POWERFUL INTELLIGENCE

TRIDIUM 

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Logistics

- Accessibility – please ask the team
- Slides and videos will be published later
- Q&A Session
- support@tridium.com



Photography allowed



Fire exit – behind you



Silence Electronic Devices

Niagara 4 Timeline

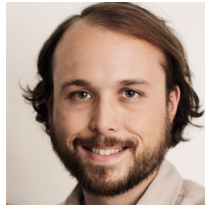


Introduction to Niagara



TREY WEST

Software Engineer 2 |
Tridium



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Engineer | Tridium



**VIKRAM
NAGULAN**

Sr Advanced Software
Engineer | Tridium



**MITHUN
TIRUVEDULA**

Advanced Software
Engineer | Tridium



**VIDYA
SHIVAMURTHY**

Sr Advanced Software
Engineer | Tridium





NIAGARA 101

TREY WEST

**NIAGARA
SUMMIT
2026
DEVELOPER**



What is Niagara?



Building Automation System



98 VAV Terminal Boxes

- Protocol: BACnet MS/TP
- Space Temperature (°F)
- Setpoint (°F)
- Airflow (cfm)
- Damper Position (%)

Building Automation System



98 VAV Terminal Boxes

- Protocol: BACnet MS/TP



4 Lighting Systems

- Light on/off status (boolean)
- Motion Detector Status (boolean)

Building Automation System



98 VAV Terminal Boxes

- Protocol: Modbus



4 Lighting Systems

- Electricity Usage (W)



4 Electric Meters

Building Automation System



98 VAV Terminal Boxes

- Protocol: LON



4 Lighting Systems

- Outside Air Temperature (°F)



4 Electric Meters

- Supply Air Temperature (°F)



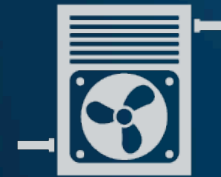
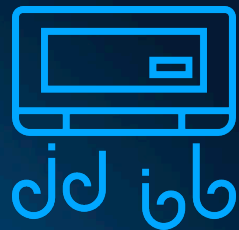
4 Rooftop Units (RTUs)

- Supply Fan Speed (%)

- Static Pressure (in/wc)

Building Automation System

- That comes in at roughly 5,000 points of data across 3 different protocols



Requirements

- Device Interoperability



Requirements

- Device Interoperability
- Control Logic



Requirements

- Device Interoperability
- Control Logic
- User Interface

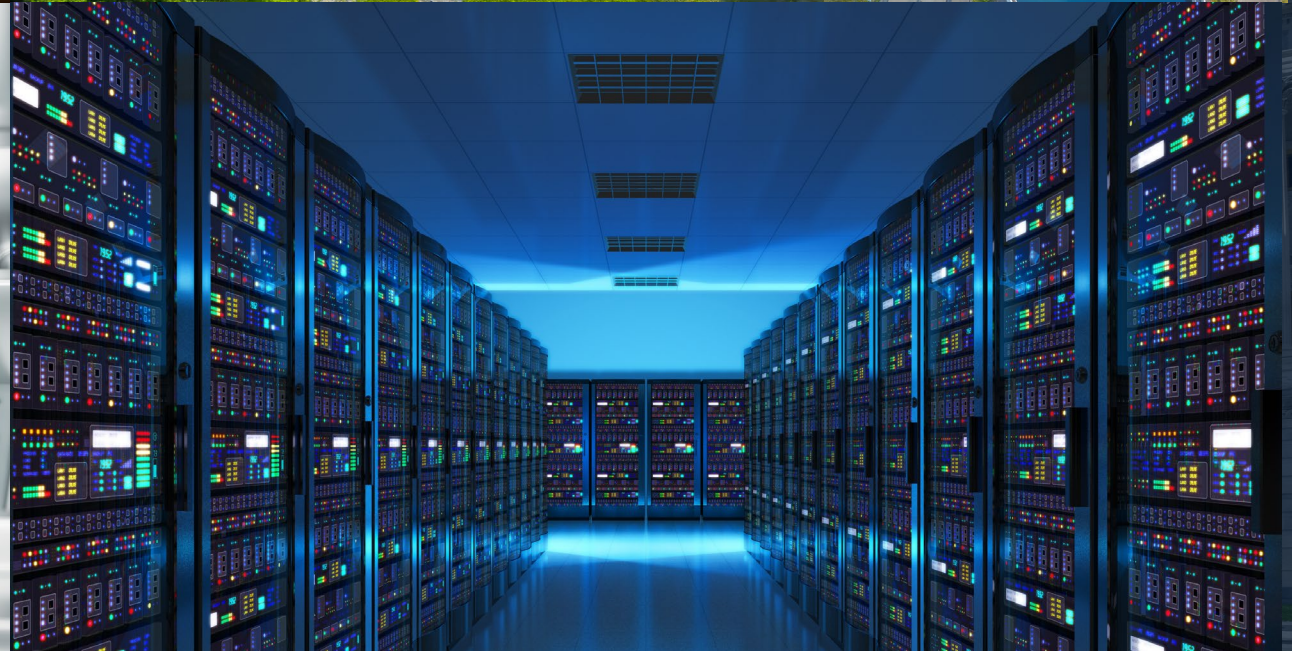


Requirements

- Device Interoperability
- Control Logic
- User Interface
- Remote Access



niagara



How does Niagara work?

Requirements

Device Interoperability

Control Logic

User Interface

Remote Access



Niagara Hosts

- When Niagara is installed on a device, we call that device a **Niagara Host**
- This could be:
 - A server
 - A PC
 - An embedded controller





Java Application Control Engine (JACE)

Niagara Modules

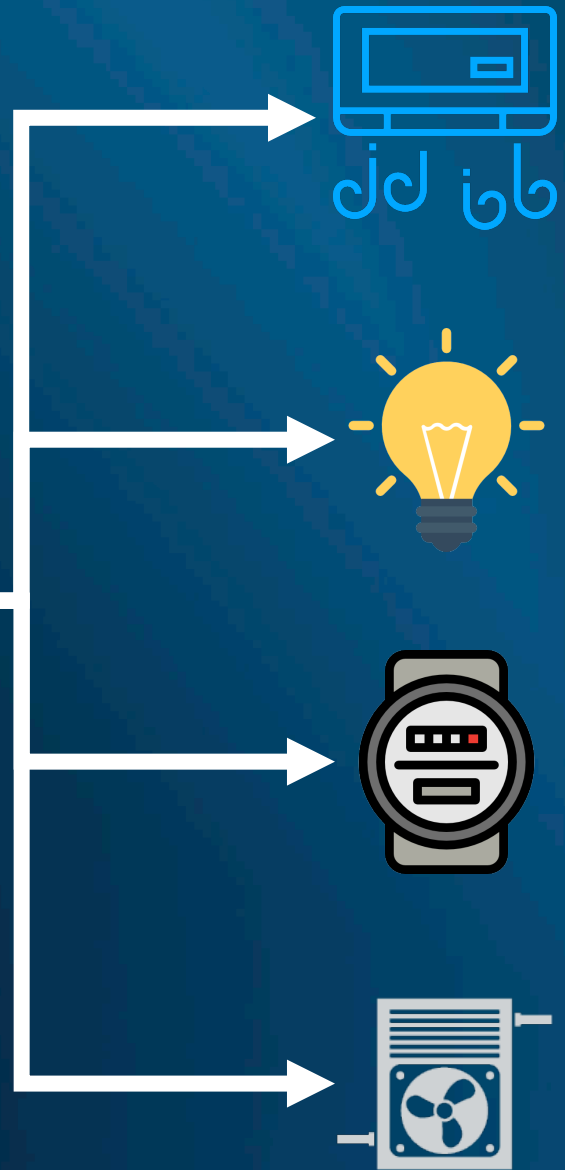
- Niagara features are installed on the host as JAR files
- We call these JAR files **Niagara modules**



Niagara Station

- A Niagara Host contains a Java Runtime Environment (JRE) to run Java code
- We call the process in the host containing the JRE the **station**





Niagara Drivers

- Drivers are Niagara modules used for communicating to external devices
- Drivers handle protocol-specific details and normalize everything into standard Niagara data types:
 - Numeric
 - String
 - Boolean
 - Enum

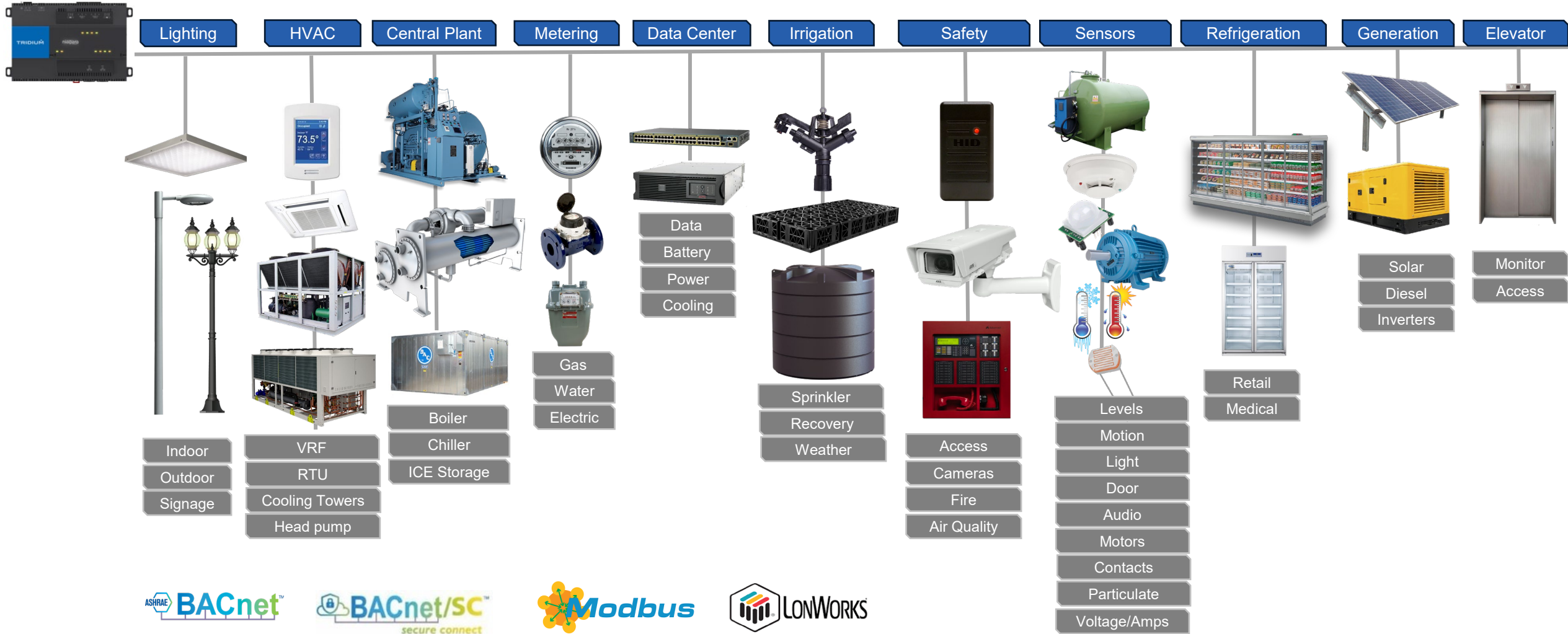


DischargeAirTemp	N
Numeric Point	
Out	74.3 °F {ok}

Meter1-1	N
Numeric Point	
Out	35880.0 W {ok}

StaticPressure	N
Numeric Point	
Out	2.1 in/wc {ok}

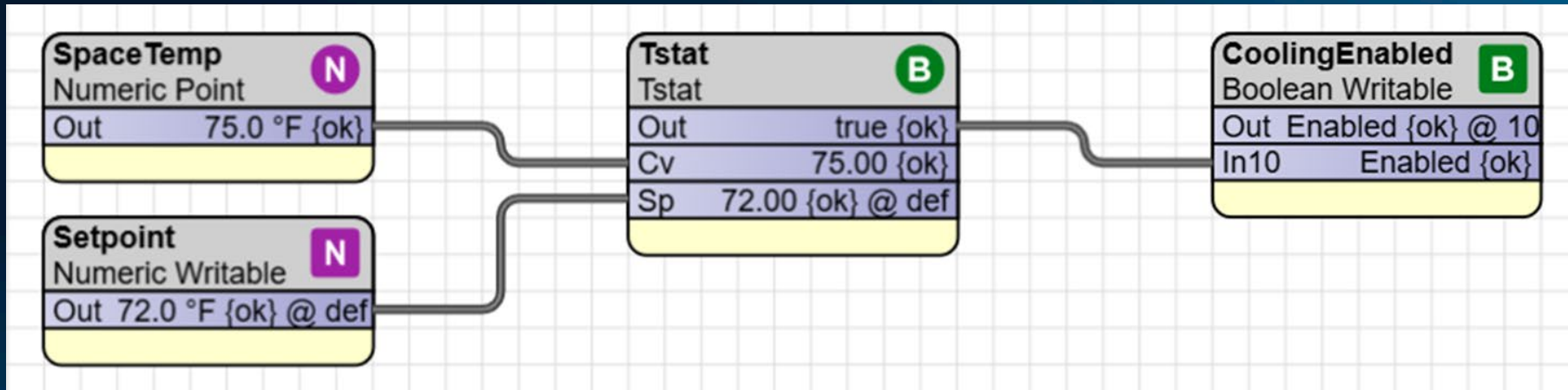
Limitless Device Integrations with Niagara



Requirements

- ☑ Device Interoperability
- Control Logic
- User Interface
- Remote Access





Requirements

- ☑ Device Interoperability
- ☑ Control Logic
- User Interface
- Remote Access



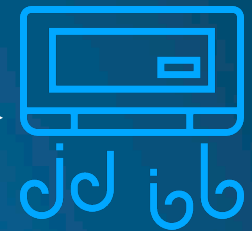
Niagara UI

- Niagara UI can be written in Java or JavaScript
- UI code is distributed in Niagara module JAR files

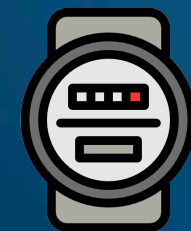




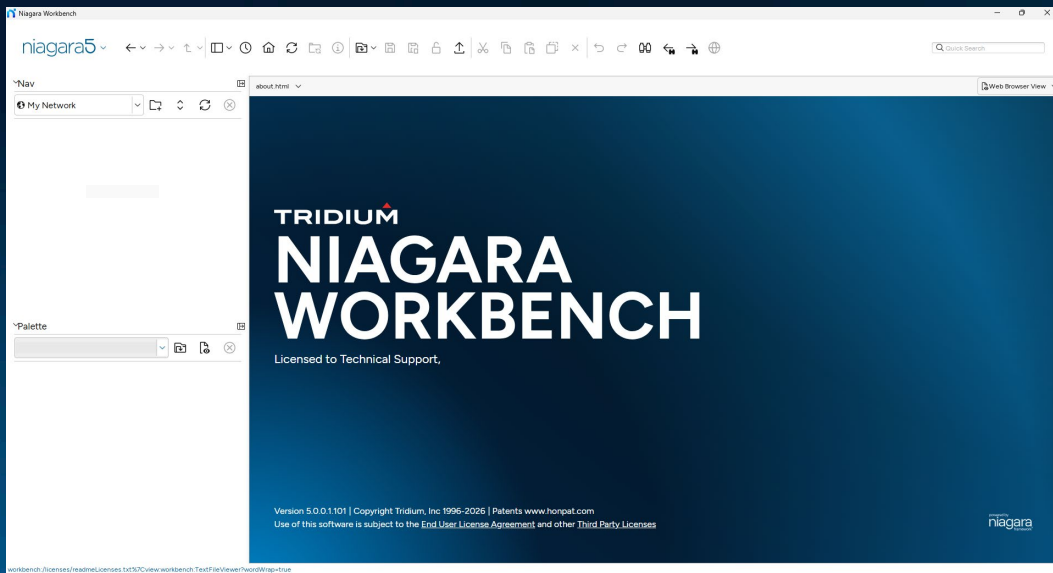
Client



Client



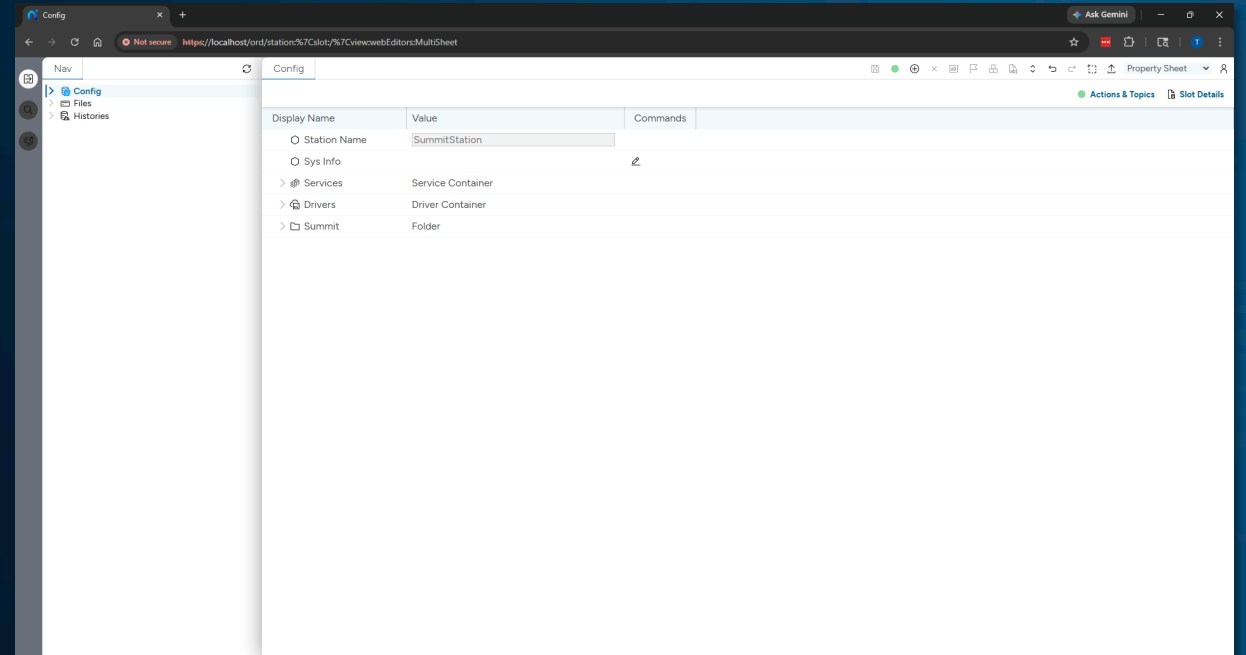
Niagara Workbench



Workbench is a Java-based client that communicates with Niagara Hosts using the foxs protocol

Web Browsers

Web browsers use open web technologies and communicate with Niagara Hosts using HTTPS



Requirements

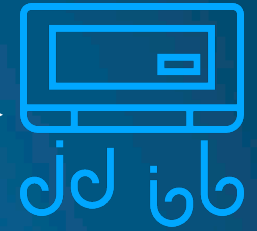
- ☑ Device Interoperability
- ☑ Control Logic
- ☑ User Interface
- Remote Access



Niagara Cloud Suite (NCS)



Client



Swagger UI niagara-cloud.com/api/v1/egress/swagger-ui/index.html Explore

Egress API 2.0 OAS 3.0

[/api/v1/egress/openapi.json](#)

[Authorize](#)

egress-controller

POST [/api/v1/egress/telemetry](#) Fetch device history

Schemas

- CloudLinkRequestWithList >
- HistoryDetailResponseWithList >
- HistoryDetails >
- HistoryDetailsWithList >
- PointDetails >

Niagara Data Service (NDS)

Niagara Cloud Suite

niagara-cloud.com/customers/5021987/devicedetails/history?deviceUuid=7d1acb24-29ec-4dbc-aa1c-826cc86b9f10&telemetryId=76b592ad-b143-4835-8286-5edf724d3ae8

niagara cloud

Home / Tridium University-NCS / JACE 22 / History

History

COMPARE HISTORY

/operatorStation/SpaceTemp_Tre...
Example Project>JACE 22

Custom Range

Download Save Report

73
72
71
70
69

°F

Apr 16 Apr 17 Apr 18 Apr 19 Apr 20 Apr 21 Apr 22 Apr 23 Apr 24 Apr 25 Apr 26 Apr 27 Apr 28 Apr 29 Apr 30 May 1 May 2

■ /operatorStation/SpaceTemp_Tr... ■ /operatorStation/SpaceTemp_Tr...

+ Add histories to compare

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Niagara Cloud Portal (NCP)

Config

8929e6c3-6e0e-4f3e-b57e-6860f0c7f31e.remote.niagara-cloud.com/ord/station:%7Cslot/

Property Sheet

Actions & Topics Slot Details

Display Name	Value	Commands
Station Name	CloudStation99	
Sys Info		
Services	Service Container	
Drivers	Driver Container	
Demo	Folder	
analyticsDEBUG	Folder	
Trial	Folder	
trial 2	Folder	

Niagara Remote

Requirements

- ☑ Device Interoperability
- ☑ Control Logic
- ☑ User Interface
- ☑ Remote Access

How do I extend Niagara?

Creating Custom Niagara Modules

- Extending Niagara means creating custom code and compiling it into JAR files
- These JAR files can then be installed as Niagara modules



Nav

My Network

- File
- Edit
- Search
- Bookmarks
- Tools
- Window
- Help

- Options
- AX Certificate Management
- Alarm Portal
- Bacnet EDE
- Certificate Management
- Certificate Signer Multiple Selection Tool
- Certificate Signer Tool
- Driver Upgrade Tool
- Embedded Device Font Tool
- Jar Signer Tool
- Lexicon Tool
- Local License Database
- Logger Configuration
- Lon Xml Tool
- Manage Credentials
- Module Info
- New ACE App
- New Driver
- New Module**
- New Station
- Request License
- Time Zone Database Tool
- Todo List
- Workbench Job Service
- Workbench Service Manager

TRIDIUM NIAGARA WORKBENCH

← Technical Support

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powered by
niagara
framework



New Module Wizard

Step 1 of 3

Create Module under Directory

/C:/NiagaraSummit



Module Name

summitDemo

Preferred Symbol

sd

Version

1.0

Description

A demo module for the 2026 Niagara Summit

Vendor

niagaraSummit

Create Palette

Include Bajaux support (requires Node.js install)

← Back

→ Next


✓ Finish

× Cancel

New Module Wizard

New Module Wizard
Step 1 of 3

Create Module under Directory



Module Name

Preferred Symbol

Version

Description

Vendor

Create Palette


Include Bajaux support (requires Node.js install)



New Module Wizard

New Module Wizard
Step 1 of 3

Create Module under Directory



Module Name

Preferred Symbol

Version

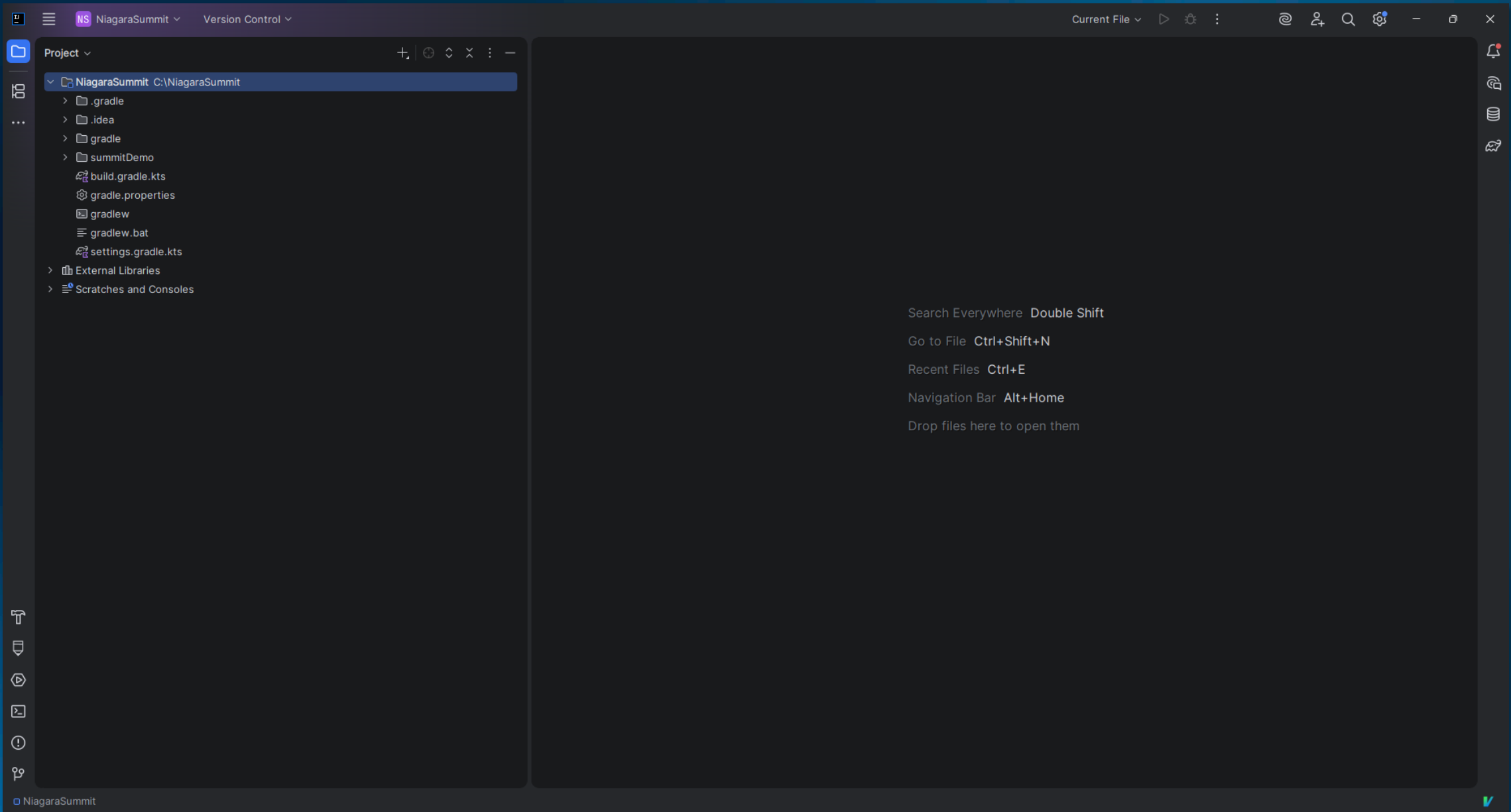
Description

Vendor

Create Palette

Include Bajaux support (requires Node.js install)





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TCP Level 1 Foundations AMER

TCP Level 2 Intermediate AMER

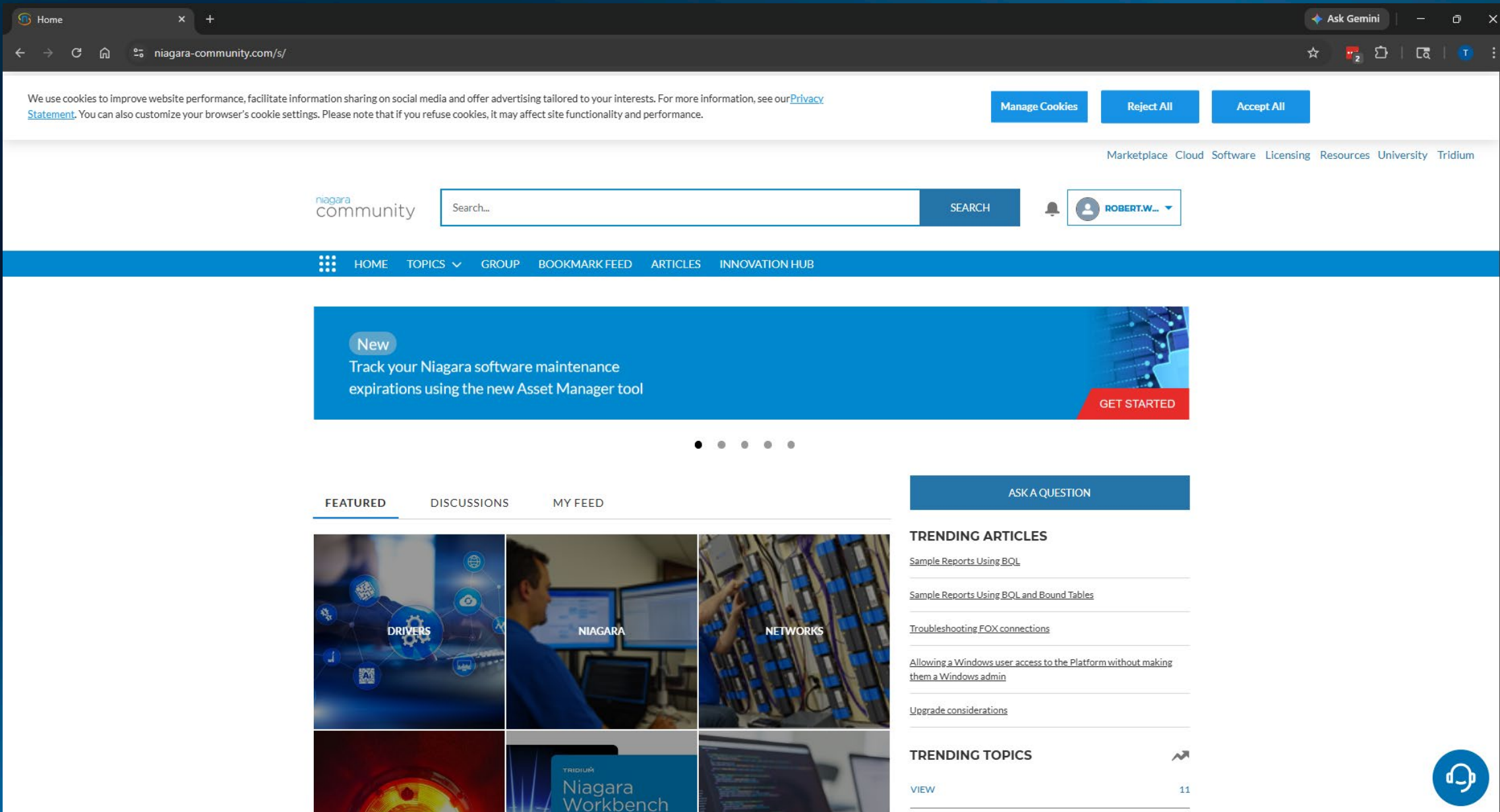
TCP Level 3 Advanced AMER

Niagara 4 Technical Certification Program (TCP) (AMER)

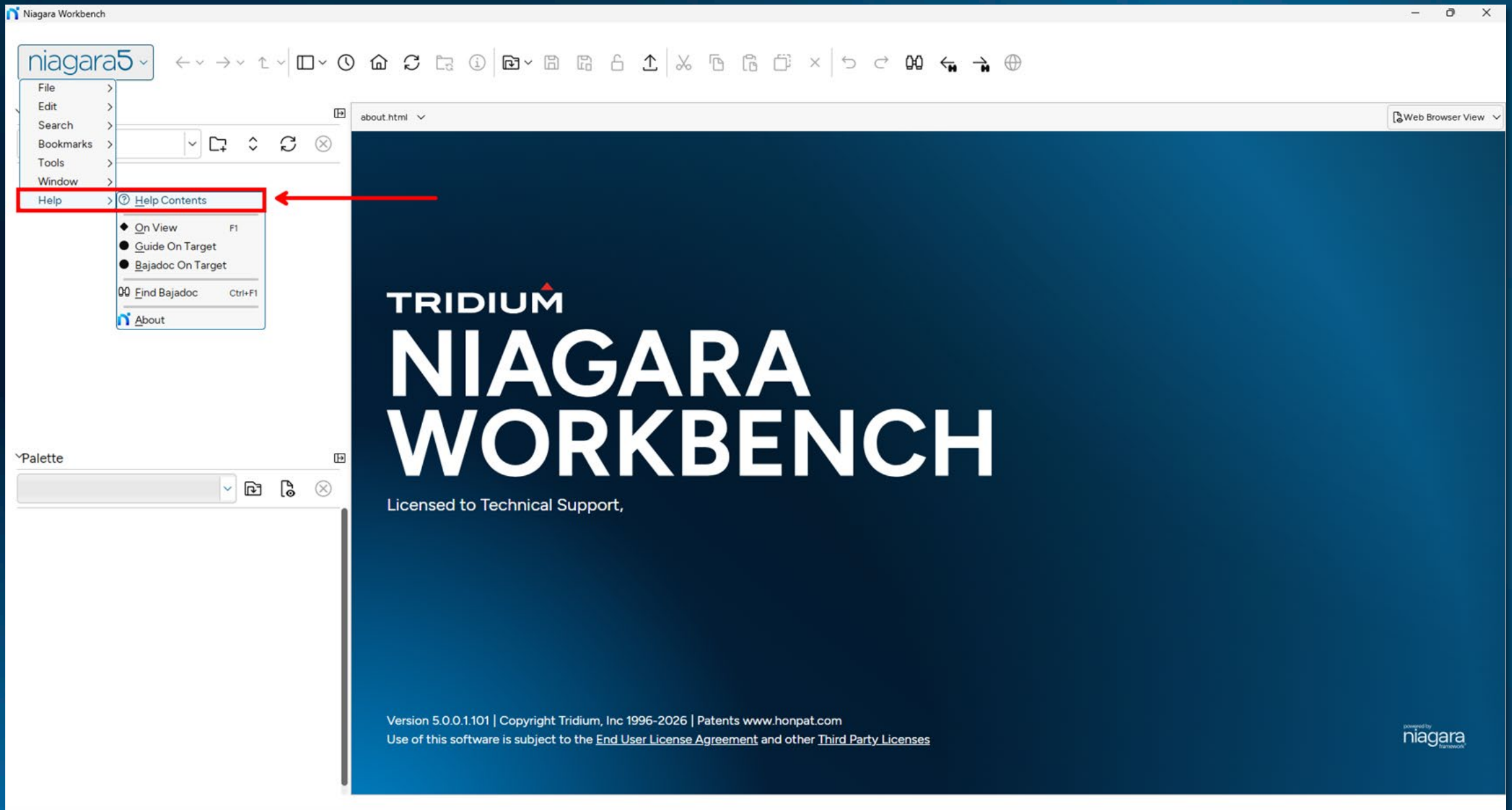
Niagara 4 Intermediate Technical Certification Program (TCP) (AMER)

Niagara 4 TCP Level 3 Advanced (Tridium) (TCP) (AMER)

Enroll in training at Tridium University



Check out Niagara Community Forums



Read docDeveloper in Niagara Help Menu



**UP NEXT:
MY FIRST COMPONENT
WITH BRIAN**



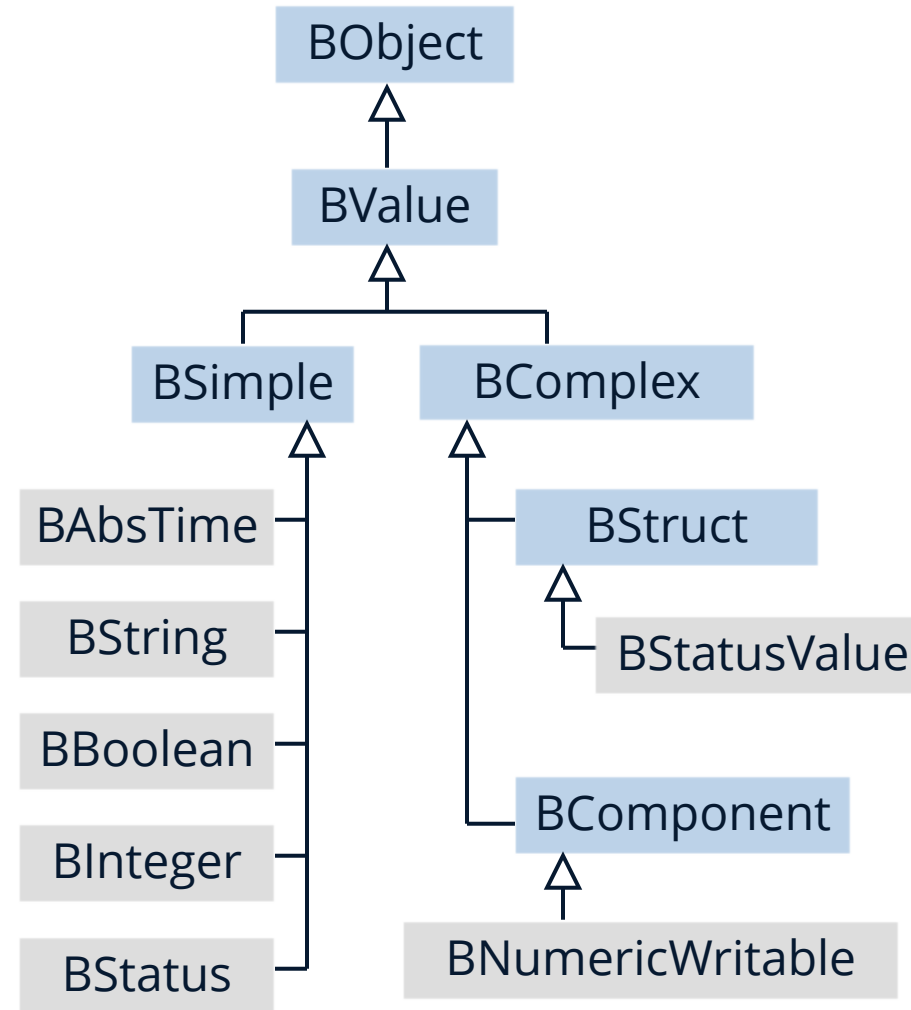
MY FIRST COMPONENT

BRIAN TODD

**NIAGARA
SUMMIT
2026
DEVELOPER**



Niagara Component Model



Component Declaration

```
@NiagaraType  
public class BEvChargingStation  
    extends BComponent  
{  
}
```

Component Definition

```
@NiagaraType  
@NiagaraProperty(...)  
public class BEvChargingStation  
    extends BComponent  
{  
}
```

@NiagaraProperty

```
/**  
 * The power draw of the charging station, in kW.  
 */  
@NiagaraProperty(  
    name = "powerDraw",  
    type = "BFloat",  
    defaultValue = "BFloat.make(0)"  
)
```

Component Behaviors

```
@NiagaraType  
@NiagaraAction(...)  
public class BEvChargingStation  
    extends BComponent  
{  
}
```

@NiagaraAction - Declaration

```
/**  
 * Initiates charging procedure for the vehicle.  
 */  
@NiagaraAction(  
    name = "startCharge",  
    parameterType = "BVehicle",  
    defaultValue = "new Bvehicle"  
)
```

@NiagaraAction - Implementation

```
/**  
 * Start charging the {@code BVehicle} until the  
 * battery is completely charged, or charging is  
 * otherwise disrupted.  
 */  
public void doStartCharge(BVehicle vehicle, Context cx)  
{  
    // ...  
}
```

Component Events

```
@NiagaraType  
@NiagaraTopic(...)  
public class BEvChargingStation  
    extends BComponent  
{  
}
```

@NiagaraTopic

```
/**  
 * Event indicating charging has completed.  
 */  
@NiagaraTopic(  
    name = "chargeCompleted",  
    eventType = "BString"  
)
```

Slotomatic

```
@NiagaraType  
@NiagaraSlots(...)  
public class BEvChargingStation  
    extends BComponent  
{  
}
```

Slotomatic - Invocation

```
ⓧ Ⓜ ⓩ ~Developer/Project/niagara-modules/n5-summit-demo ≡  
  
> gradlew slotomaticl  
  
> Configure project:  
  
BUILD SUCCESSFUL in 2s  
1 actionable task: 1 executed  
>|
```

Slotomatic

```
@NiagaraType
@NiagaraSlots(...)
public class BEvChargingStation
    extends BComponent
{
//region /*+ ----- BEGIN BAJA AUTO GENERATED CODE ----- +*/
//@formatter:off
/*@ $com.summitdemo.evCharging(3622536179)1.0$ @*/
/* Generated Fri Mar 27 12:49:20 EDT 2026 by Slot-o-Matic (c) Tridium, Inc. 2012-2026 */

    //...

//@formatter:on
//endregion /*+ ----- END BAJA AUTO GENERATED CODE ----- +*/
}
```

Slotomatic – BObject

```
@NiagaraType
@NiagaraSlots(...)
public class BEvChargingStation
    extends BComponent
{
//region /*+ ----- BEGIN BAJA AUTO GENERATED CODE ----- +*/
//...

    @Override
    public Type getType() { return TYPE; }
    public static final Type TYPE = Sys.loadType(BEvChargingStation.class);

//...
//endregion /*+ ----- END BAJA AUTO GENERATED CODE ----- +*/
}
```

Slotomatic – Property Slot

```
@NiagaraType
@NiagaraProperty(...)
public class BEvChargingStation
    extends BComponent
{
//region /*+ ----- BEGIN BAJA AUTO GENERATED CODE ----- +*/
//...

    public float getPowerDraw() { return getFloat(powerDraw); }
    public void setPowerDraw(float v) { setFloat(powerDraw, v, null); }

//...
//endregion /*+ ----- END BAJA AUTO GENERATED CODE ----- +*/
}
```

Slotomatic – Action Slot

```
@NiagaraType
@NiagaraAction(...)
public class BEvChargingStation
    extends BComponent
{
//region /*+ ----- BEGIN BAJA AUTO GENERATED CODE ----- +*/
//...

    public void startCharge(BVehicle parameter) {
        invoke(startCharge, parameter, null);
    }

//...
//endregion /*+ ----- END BAJA AUTO GENERATED CODE ----- +*/
}
```

Slotomatic – Topic Slot

```
@NiagaraType
@NiagaraTopic(...)
public class BEvChargingStation
    extends BComponent
{
//region /*+ ----- BEGIN BAJA AUTO GENERATED CODE ----- +*/
//...

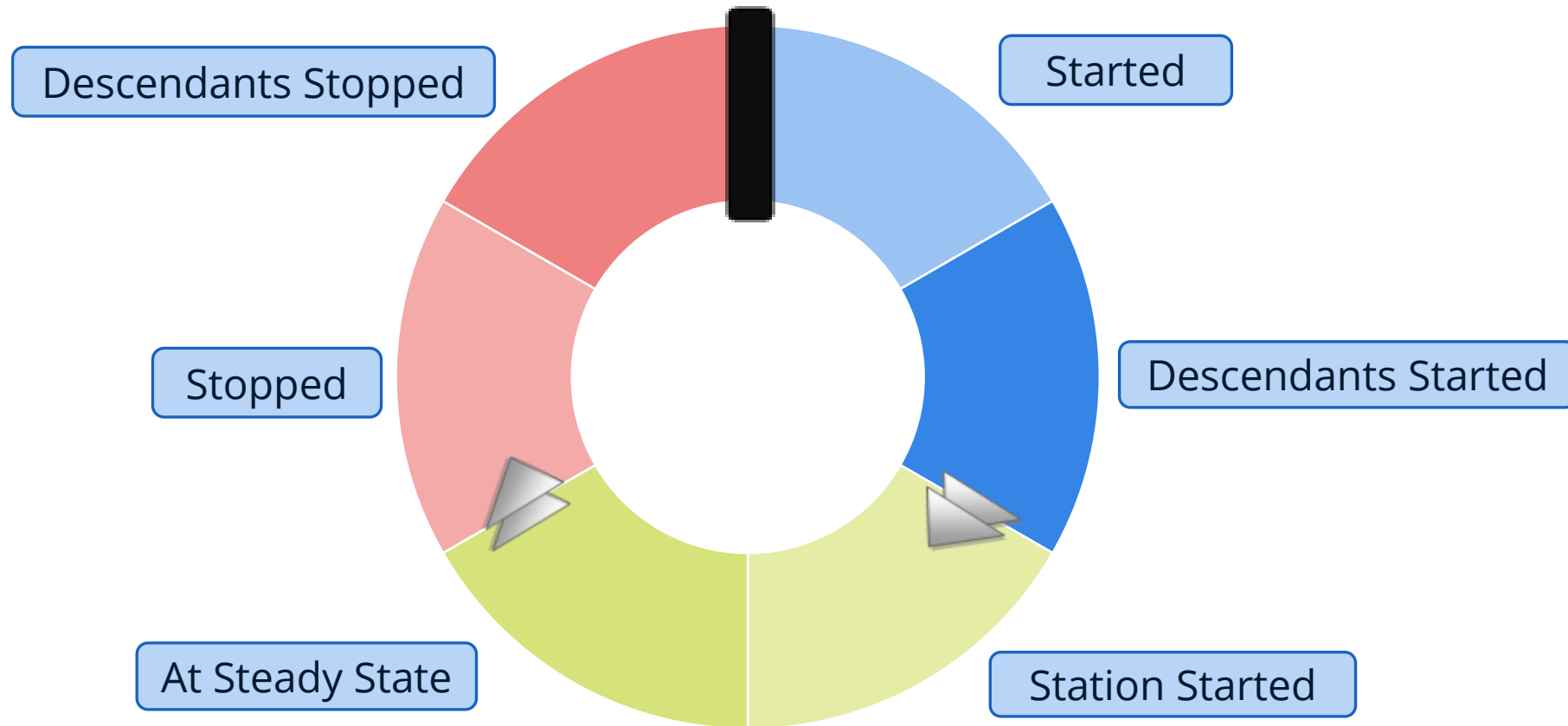
    public void fireChargeCompleted(BString event) {
        fire(chargeCompleted, event, null);
    }

//...
//endregion /*+ ----- END BAJA AUTO GENERATED CODE ----- +*/
}
```

@NiagaraTopic – Emitting Events

```
/**
 * Start charging the {@link BVehicle} until the battery is
 * completely charged, or charging is otherwise disrupted.
 */
public void doStartCharge(BVehicle vehicle, Context cx) {
    while(!vehicle.hasFullCharge()) {
        // Keep charging!
    }
    fireChargeCompleted(BString.make("Charging complete."));
}
```

BComponent Lifecycle



Component Callbacks

```
public void started()
```

```
public void descendantsStarted()
```

```
public void stationStarted()
```

```
public void atSteadyState()
```

```
public void stopped()
```

```
public void descendantsStopped()
```

Module Compilation and Installation

```
(x) (-) (+) ~Developer/Project/niagara-modules/n5-summit-demo ≡  
> gradlew jar |  
  
> Configure project:  
  
BUILD SUCCESSFUL in 3s  
7 actionable tasks: 2 executed, 5 up-to-date  
> |
```

Nav

My Network

- > UserService
- > AuthenticationService
- > DebugService
- > BoxService
- > FoxService
- > HierarchyService
- > HistoryService
- > AuditHistoryService
- > LogHistoryService
- > ProgramService
- > SearchService
- > TagDictionaryService
- > TemplateService
- > WebService
- > BatchJobService
- ✓ **EvChargingStationService**
 - > EvChargingStation
 - > PlatformServices
- > Drivers
- > Files
- > Hierarchy
- > History

Property Sheet

EvChargingStationService (Ev Charging Station Service)

Status {disabled}

Fault Cause

Enabled false

EvChargingStation Ev Charging Station

Status Available

Power Draw 0.0 kW

Session Energy 0.0 kW-hr

Vehicle Id

Charge Progress 0.00

Refresh Save

Nav

Views
Show on Wire Sheet
Actions
New
Edit Tags
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Paste Special Alt+Ctrl+V
Duplicate Ctrl+D
Delete Delete
Link Mark
Link From
Link To
Relation Mark
Relate From
Relate To
Rename
Set Display Name
Reorder
Composite
Export

Start Charge
Stop Charge

EvChargingStationService

Property Sheet

Actions & Topics Slot Details

Commands

{ok}

Cause

ed true

Ev Charging Station

Available

Power Draw 0.0 kW

Consumption Energy 0.0 kW-hr

Vehicle Id

Charge Progress 0.00

Start Charge void (evCharging:Vehicle)

Stop Charge void (evCharging:Vehicle)

Charge Completed baja:String

Charge Interrupted baja:String

Config

Services

- AlarmService
- BackupService
- CategoryService
- JobService
- SecurityService
- RoleService
- UserService
- AuthenticationService
- DebugService
- BoxService
- FoxService
- HierarchyService
- HistoryService
- AuditHistoryService
- LogHistoryService
- ProgramService
- SearchService
- TagDictionaryService
- TemplateService
- WebService
- BatchJobService

EvChargingStationService

PlatformServices

Drivers

Files

Histories



**UP NEXT:
MY FIRST WIDGETS
WITH VIKRAM**

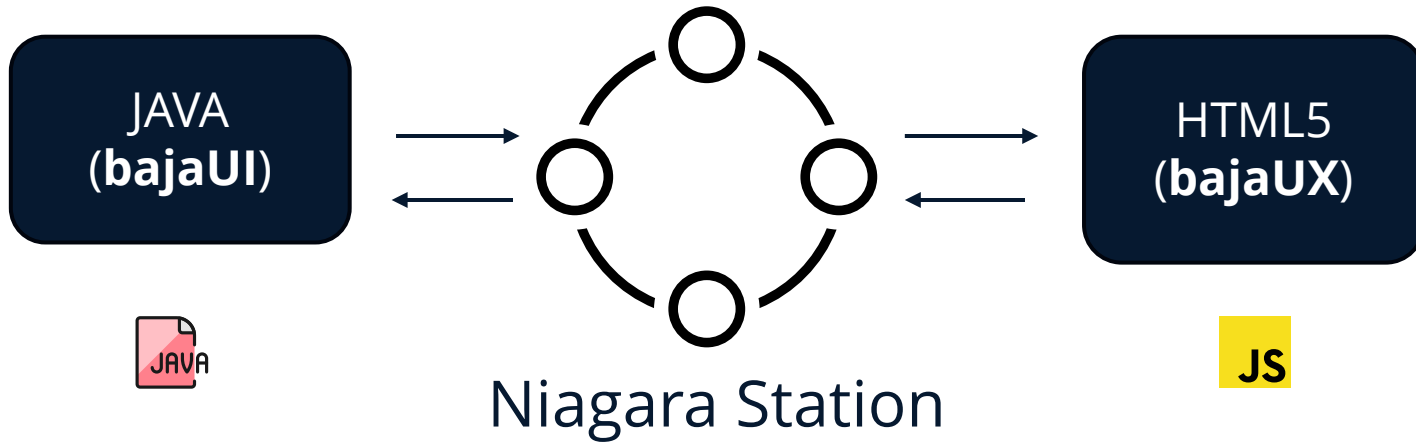


MY FIRST UI & UX WIDGETS

VIKRAM NAGULAN

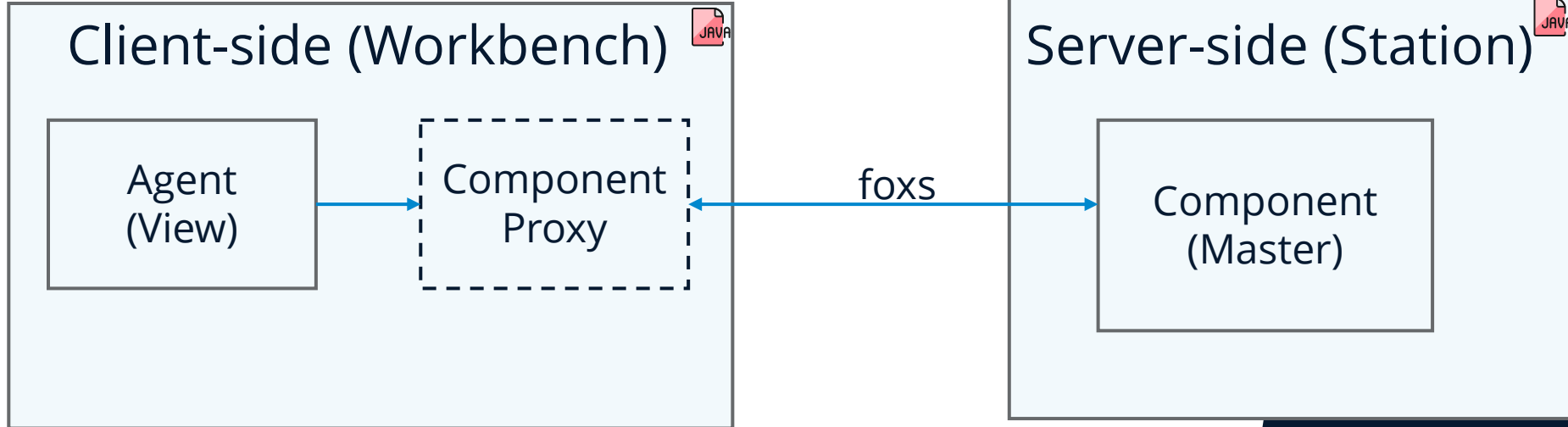
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2026
DEVELOPER**

Niagara UI





Workbench UI Architecture



```
@NiagaraType(  
    agent = @AgentOn(  
        types = "summitdemo: EvChargingStation"  
    )  
)  
public class BEvChargingStationView  
    extends BWComponentView  
{..}
```



Developing a Workbench (UI) View

`@Override`

```
protected void doLoadValue(BObject value, Context context)
```

`@Override`

```
public void computePreferredSize(ILayoutConstraints lc, IRenderContext cx)
```

`@Override`

```
public void doLayout(IRenderContext cx)
```

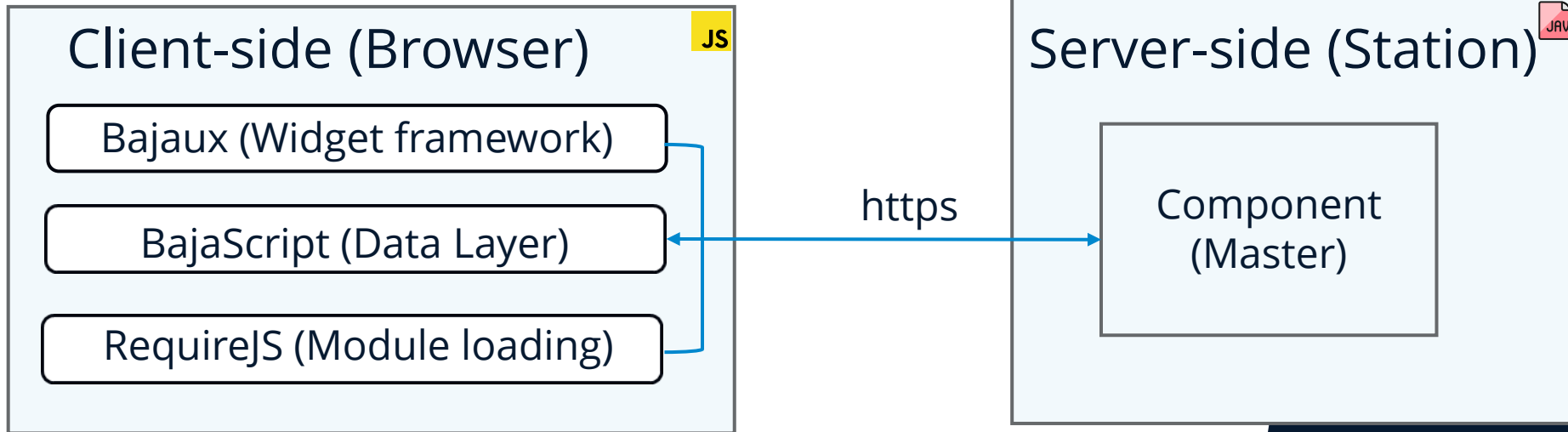
`@Override`

```
public void doPaint(Graphics g, IRenderContext cx)
```

`@Override`

```
protected BObject doSaveValue(BObject value, Context cx)
```

JS Modern Web View Architecture (N4+)



```
@NiagaraType(  
    agent = @AgentOn(  
        types = { "summitdemo: EvChargingStation",  
                "summitdemo: EvChargingStationView" }  
    )  
)  
@NiagaraSingleton  
public class BUxEvChargingStationView  
    extends BSingleton  
    implements BIJavaScriptWidget  
{...}
```

JS Developing a BajaUX View

`doInitialize(dom) // Bind to DOM`

`doLoad(value) // Update UI (Input)`

`doRead() // Read UI State`

`doSave() // Mitate the loaded value (Output)`

Developing a BajaUX View

Make life easier

1. Use spandrel and JSX.
2. State management





BEvChargingStation.java

@{...}

```
public class BEvChargingStation
```

```
    extends BComponent
```

```
{
```

```
    ...
```

```
@Override
```

```
public boolean isParentLegal(BComponent parent)
```

```
{
```

```
    return parent instanceof BEvChargingStationService;
```

```
}
```

```
public void doStartCharge(BVehicle vehicle, Context cx)
```

```
    throws InterruptedException, ExecutionException
```

```
{ ... }
```

```
public void doStopCharge(BVehicle vehicle, Context cx)
```

```
{ ... }
```



BEvChargingStationView.java

```
@NiagaraType(agent = @AgentOn(types = "evCharging:EvChargingStation"))
public class BEvChargingStationView
    extends BwbComponentView
{
    public BEvChargingStationView()
    {
        BGridPane container = new BGridPane(1);
        container.add("stationLabel", chargeStationLabel);
        ...
        setContent(container);
    }

    @Override
    protected void doLoadValue(BObject value, Context context)
        throws Exception
    {
        super.doLoadValue(value, context);
        BEvChargingStation chargingStation = (BEvChargingStation)value;
        chargeStationLabel.setText(chargingStation.getDisplayName(null));
        ...
    }
}
```

JS EvChargingStationView.js

```
define([...], function (
  baja, $, Promise, Command, spandrel, CommandButton, compUtils) {
  ...
  class EvChargingStationView extends spandrel((value, state) => {
    const { powerDraw, self, stationName, status, vehicleId, sessionEnergy } = state;
    return <div className="EvChargingStationView-Wrapper">
      <table className="EvChargingStationView-layout">
        <tr ...>
      </table>
    </div>;
  }, { strategy: 'niagara' }) {
    constructor(params) { super({ params, defaults: widgetDefaults() }); ... }

    toState(value) {...}
  }

  return EvChargingStationView;
});
```

& .CSS and .NSS

```
.EvChargingStationView
.EvChargingStationView-Wrapper
table {
  margin: 10px;
  background-color: beige;
  border: 1px solid black;
  border-radius: 4px;
}
```

```
evCharging|EvChargingStationView {
  & > [name=content] {
    background-color: beige;
    min-height: 200;
    padding: 8;
    & > [name=center] {
      ...
    }

    [name=stationLabel] {
      ...
    }

    bajaui|ProgressBar {
      ...
    }

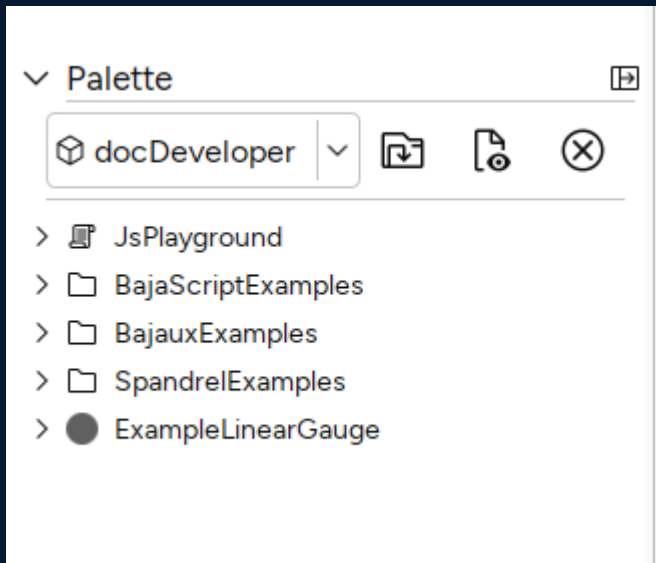
    bajaui|Button {
      ...
    }
  }
}
```

Demo



Need help?

docDeveloper





**UP NEXT:
MY FIRST NDRIVER
WITH MITHUN**



MY FIRST NDRIVER

MITHUN TIRUVEDULA

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SUMMIT
2026
DEVELOPER**



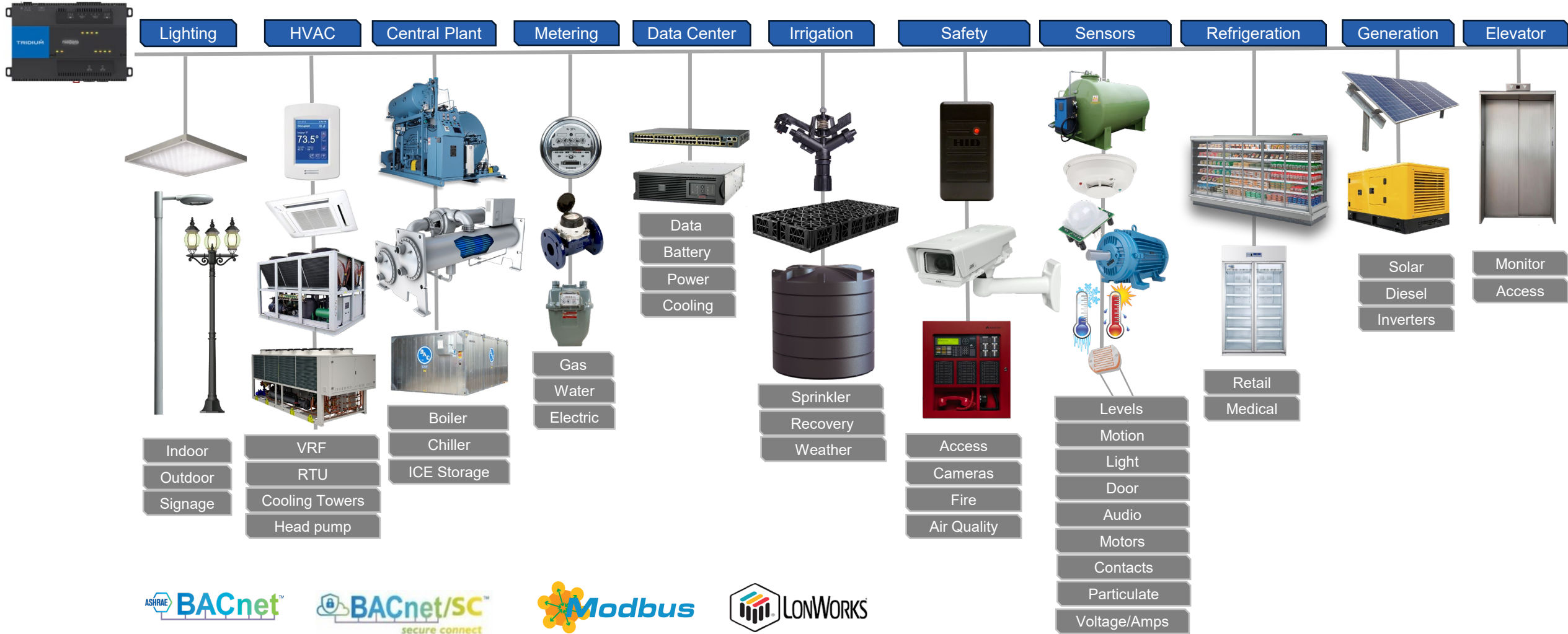
Agenda

Everything you need to get started on your first NDriver.

1. The NDriver Framework
2. My First NDriver
 - Preparation
 - New NDriver Wizard
 - NDriver Structure – Map to Reality
3. NDriver Capabilities
 - NDriver Communication
 - Connectivity
 - Points - Read and Write
 - Advanced



Limitless Device Integrations with Niagara



NDriver

The NDriver **framework** is the toolkit for building drivers that import and export data between a Niagara station and external systems.

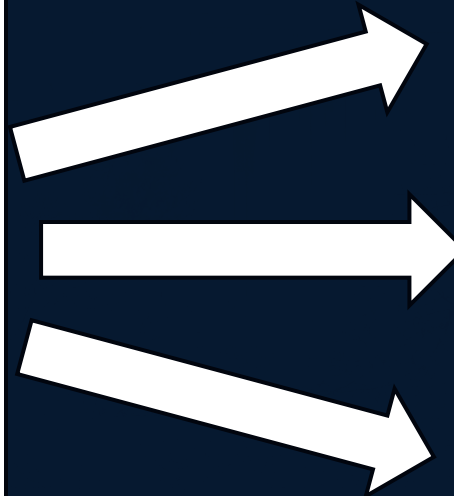
The toolkit you build with

An **NDriver** is a Niagara module that connects the framework to specific device families or protocols

The module you build

Framework

A set of reusable components, tools, and guidelines



What's neat about NDriver

Protocol Agnostic

Supports any device family or custom protocol

Bidirectional

Handles both import and export of external data

Framework Native

Deeply integrated with the Niagara station lifecycle

NDriver Capabilities

AKA Device Extensions

- Connectivity
 - Point
 - Alarm
 - History
 - Schedule

My First NDriver - Preparation

- Know your Protocol
- Scope Checklist:
 - ❑ Which **capabilities**? (Points, History, Alarms, Schedules)
 - ❑ **Transport** — TCP, UDP, Serial, HTTP, or custom?
 - ❑ **Communication Strategy** — Polling, subscriptions, event-based?
 - ❑ **Discovery** — Can you auto-discover devices and points?
 - ❑ **Configuration** — What user-facing properties does your protocol need?
 - ❑ **Data Type Mapping** — How do protocol types map to Niagara's object model?

Pro Tip:
Start Simple,
Expand
Gradually

My First NDriver - Wizard

New Driver Wizard

New Driver Wizard - NDriver
Step 2 of 5

Create Module under Directory

/C:/N4_Labs/NiagaraSummitDriver

Module Name: NiagaraSummitDriver

Preferred Symbol: nsd

Description: Sample Niagara Driver

Vendor: Tridium University

Version: 1.0

Author: Luke Skywalker

Base Package: com.tridiumUniversity.niagaraSummitDriver

Include Bajaux support (requires Node.js install)

[← Back](#) [→ Next](#) [✓ Finish](#) [× Cancel](#)

My First NDriver - Wizard

- Transport & Communication
 - Transport type:
 - TCP / UDP / Serial / HTTP
 - Or a combination
 - Or custom
 - Unsolicited messages support
 - Group polling support (**N5**)

New Driver Wizard

New Driver Wizard - NDriver
Step 3 of 5

Select the protocols supported by the driver:

- HTTP
- TCP/IP
- UDP/IP
- Serial

Process unsolicited messages

Group polling

<- Back >Next ✓ Finish × Cancel

My First NDriver - Wizard

- Device class, discovery and UI

New Driver Wizard - NDriver
Step 4 of 5

Class Prefix: NiagaraSummitDriver

DeviceNetwork: NiagaraSummitDriverNetwork

Device: NiagaraSummitDriverDevice

DeviceFolder: NiagaraSummitDriverDeviceFolder

Custom Device Manager

DeviceManager supports discovery

<- Back → Next ✓ Finish × Cancel

- Point class, discovery and UI

New Driver Wizard - NDriver
Step 5 of 5

Point Device Ext

PointDeviceExt: NiagaraSummitDriverPointDeviceExt

PointFolder: NiagaraSummitDriverPointFolder

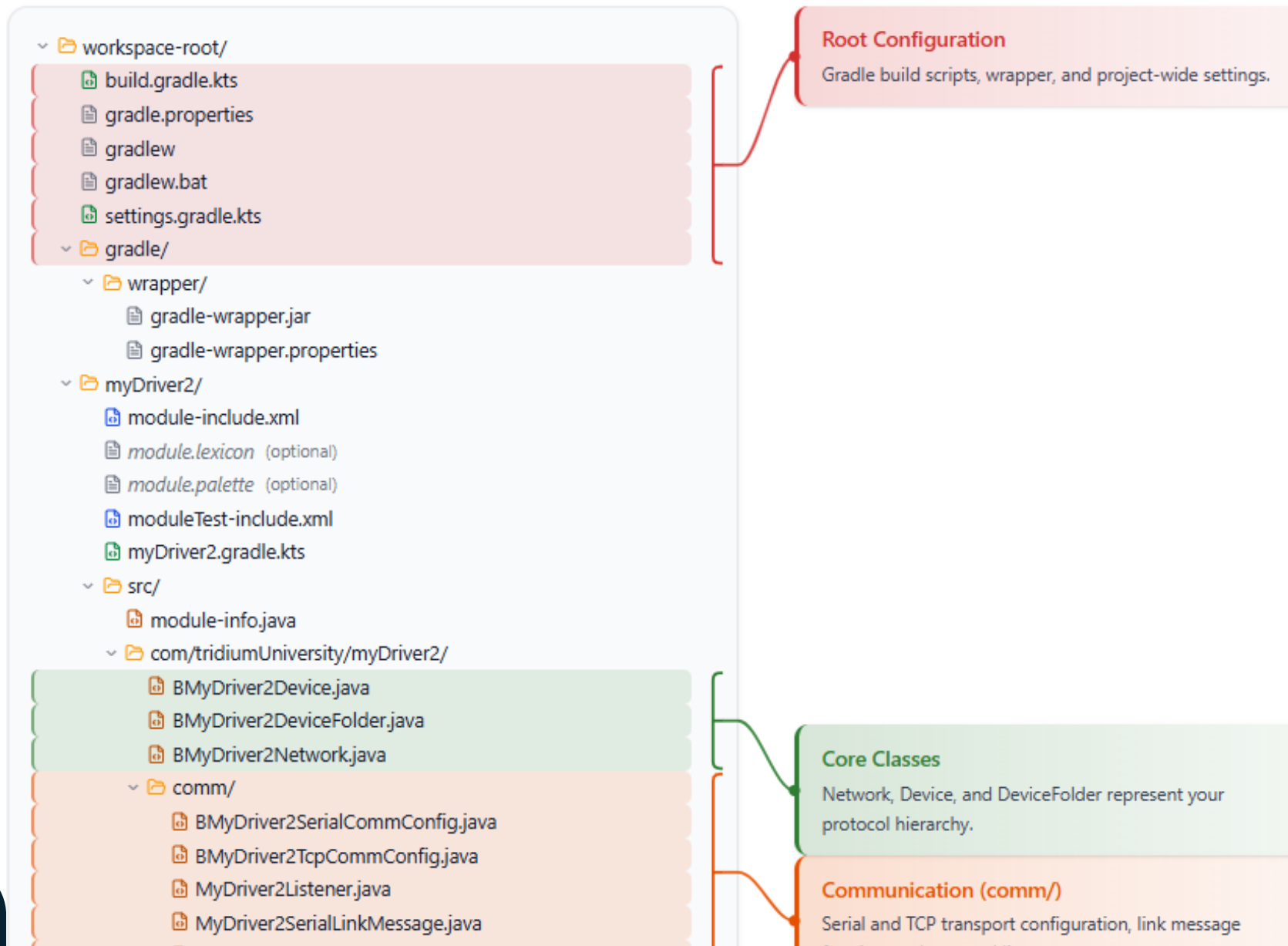
ProxyExt: NiagaraSummitDriverProxyExt

Custom Point Manager

PointManager supports discovery

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My First NDriver - Structure

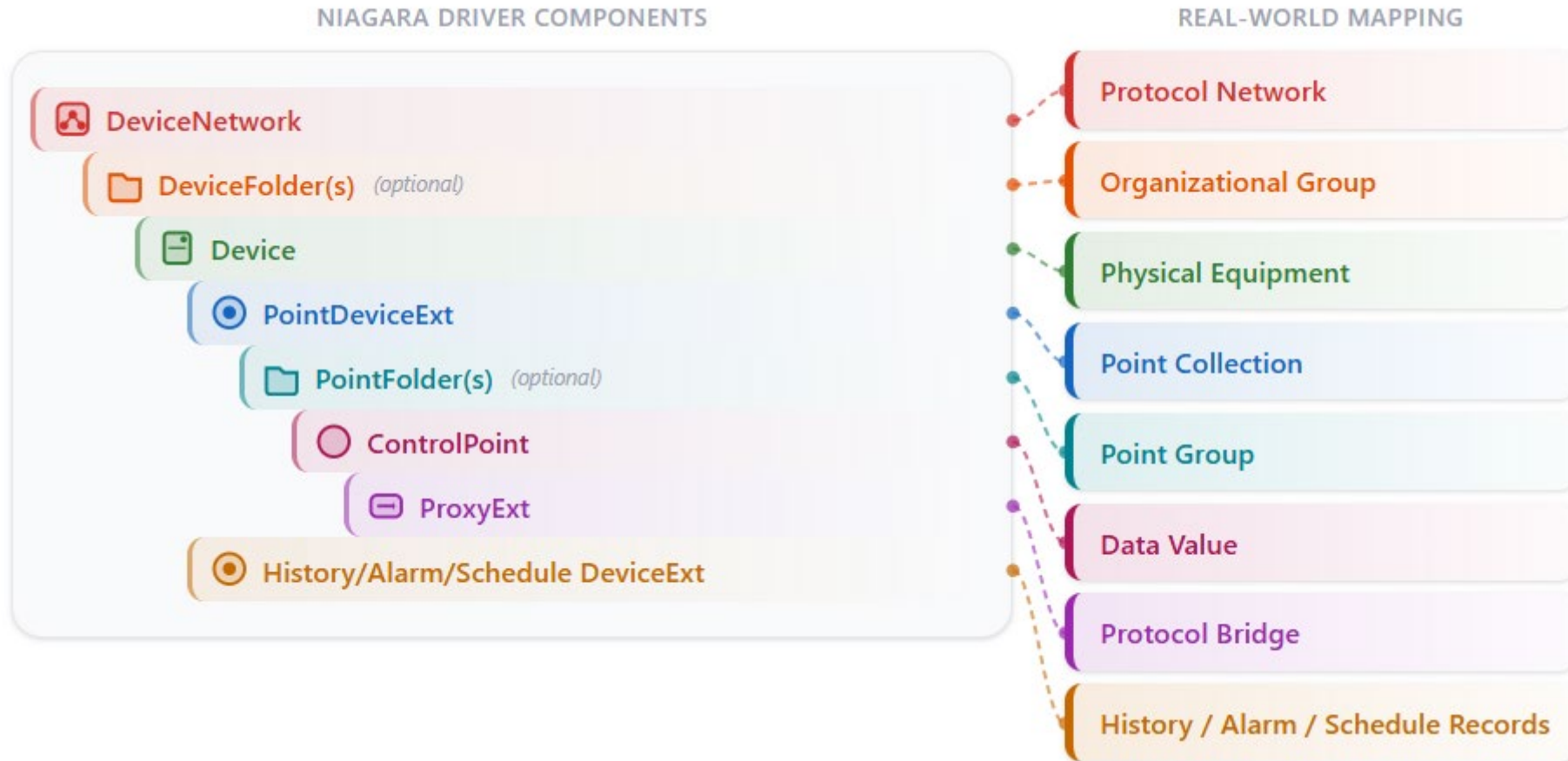




- Core Classes**
Network, Device, and DeviceFolder represent your protocol hierarchy.
- Communication (comm/)**
Serial and TCP transport configuration, link message framing, and protocol listener.
- Learn (learn/)**
Device discovery job and entry classes for auto-learning devices on the network.
- Message (message/)**
Application-level message encoding/decoding and factory classes.
- Point (point/)**
Point management, proxy extensions, discovery, and poll groups.
- UI (ui/) — Optional**
Custom workbench views for device and point management. Separate -wb module in N4.
- Optional Integrations**
Manually created history, alarm, and schedule integration packages.

Alarm, History, and Schedule device extensions are not generated. You must add them manually if needed.

NDriver – Real World



CODE



Capabilities: Messages – ABCs of your protocol

NMessage

Application-level

Your protocol's
request/response/
unsolicited logic

One subclass per
message type

LinkMessage

Wire-level

Raw bytes on the wire
Typically, one subclass
for the driver

NMessage Request @Override

```
public boolean toOutputStream(OutputStream out)  
public Object getTag()
```

NMessage Response @Override

```
public void fromInputStream(InputStream in)
```

LinkMessage Request `@Override`

```
public boolean receive(InputStream in)
```

```
public boolean setMessage(NMessage msg)
```

Capabilities: NCommConfig – Configurations

Signature	Purpose
makeMessageFactory()	Return factory that decodes incoming LinkMessage → NMessage

Capabilities: NComm – The Engine Room

Signature	Purpose
<u>sendRequest(NMessage)</u>	Synchronous request/response — handles transaction matching via tag and NCommTimer
<u>sendMessage(NMessage)</u>	Fire-and-forget — no response expected

Connectivity: NNetwork – Tippy top of your hierarchy

doPing()

Optional Override — send a protocol-level ping

Connectivity: NDevice – A Field Device

doPing()

Must Override — perform health check with the device

pingOk()

Call inside doPing when communication OK

pingFail(String cause)

Call inside doPing when communication fails

Capabilities: NDevice – A Field Device

- Extensions

- Point

- Alarm

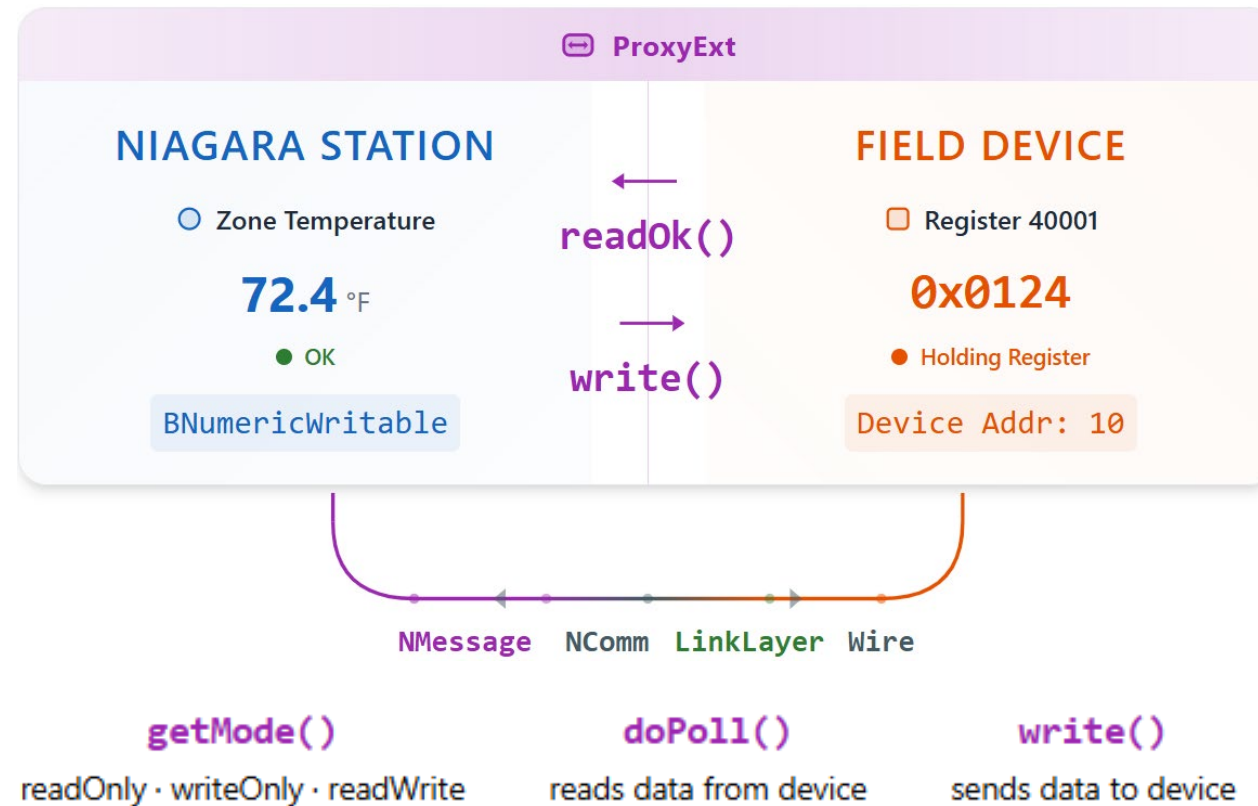
- History

- Scheule

Capabilities: Points – Live Data

ProxyExt?

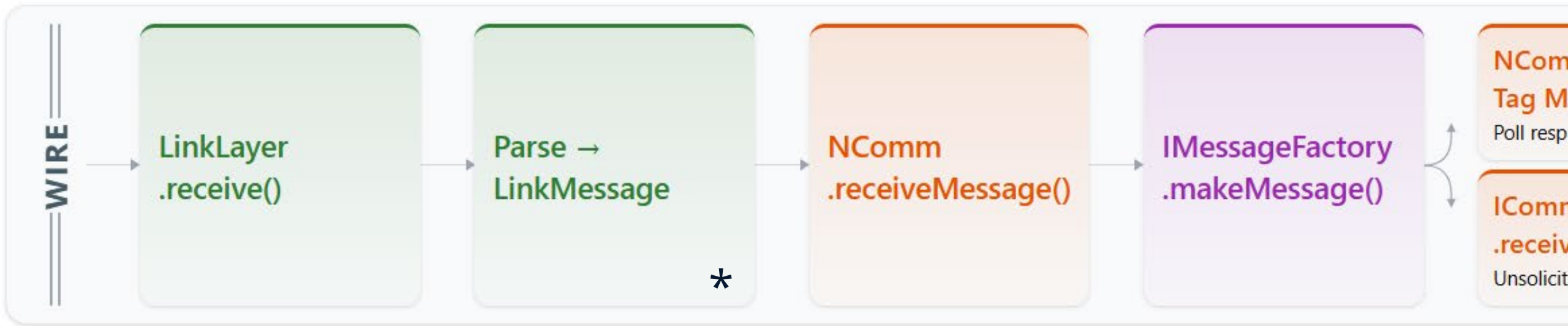
The **protocol bridge** between the driver control point and device data.



Capabilities: Points – Read Live Data

- Implement the doPoll() method

* To Implement



● Point / Proxy

● Application Message

● NComm

● Link / Transport

● Wire

Capabilities: Points – Read Live Data

- Implement the doPoll() method

* To Implement

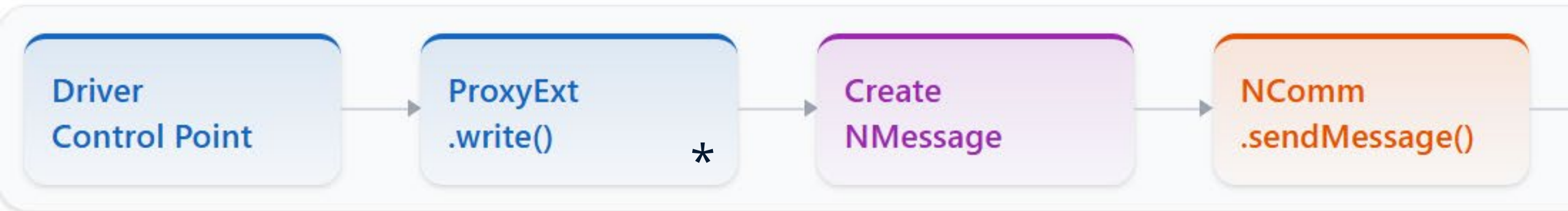


● Point / Proxy ● Application Message ● NComm ● Link / Transport ● Wire

Capabilities: Points – Write Live Data

- Implement the `write()` method

* To Implement



● Point / Proxy

● Application Message

● NComm

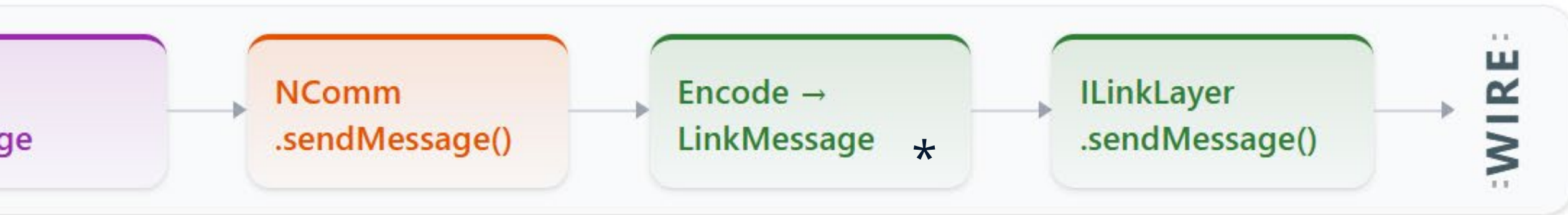
● Link / Transport

● Wire

Capabilities: Points – Write Live Data

- Implement the `write()` method

* To Implement



● Point / Proxy ● Application Message ● NComm ● Link / Transport ● Wire

Capabilities: Advanced

- **History** – Archive Records
- **Alarms** – Events
- **Schedules** – Supervisor/Subordinate Model
- **Managers** – What Users See



**UP NEXT:
MY FIRST CLOUD API CALL
WITH VIDYA**