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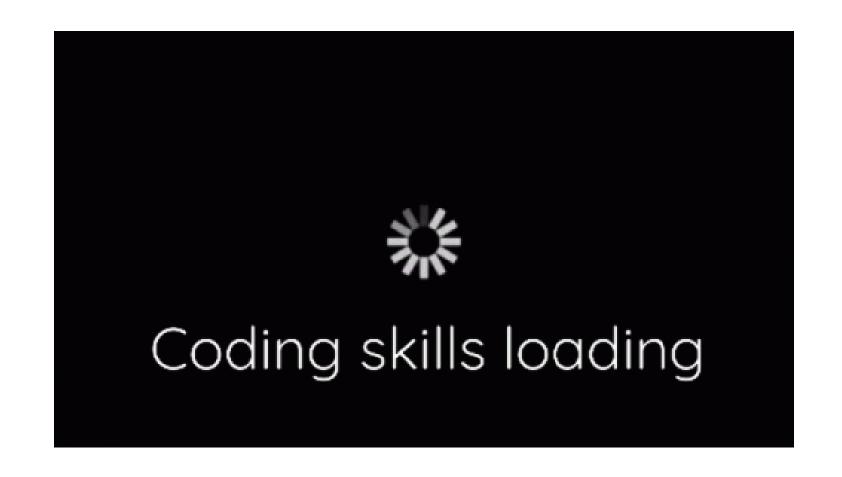
Open API Understanding your Agency's IT Landscape

Jacob Armour, P.E.

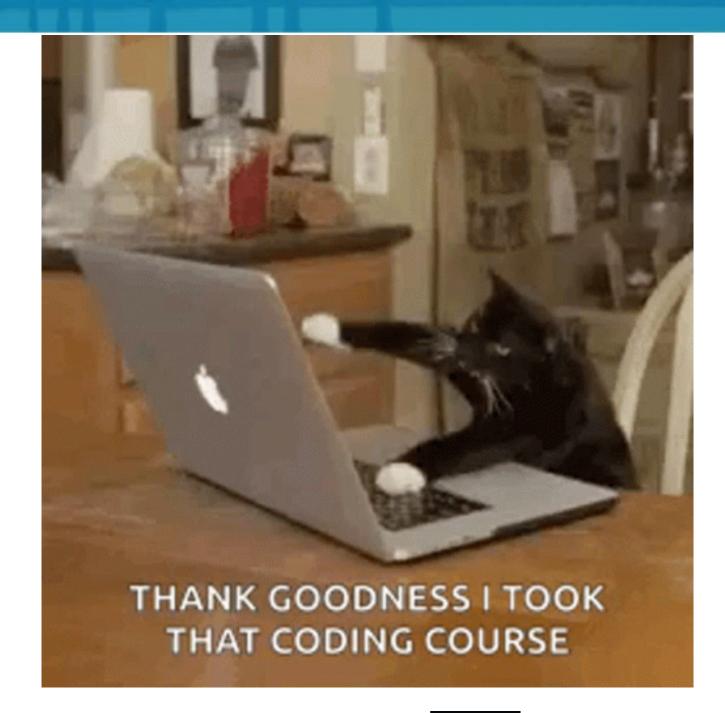
Bridge Management Systems Engineer armourj1@michigan.gov

2025 Bridge Management User Group Meeting Providence, RI | September 9-10, 2025

Programmer?

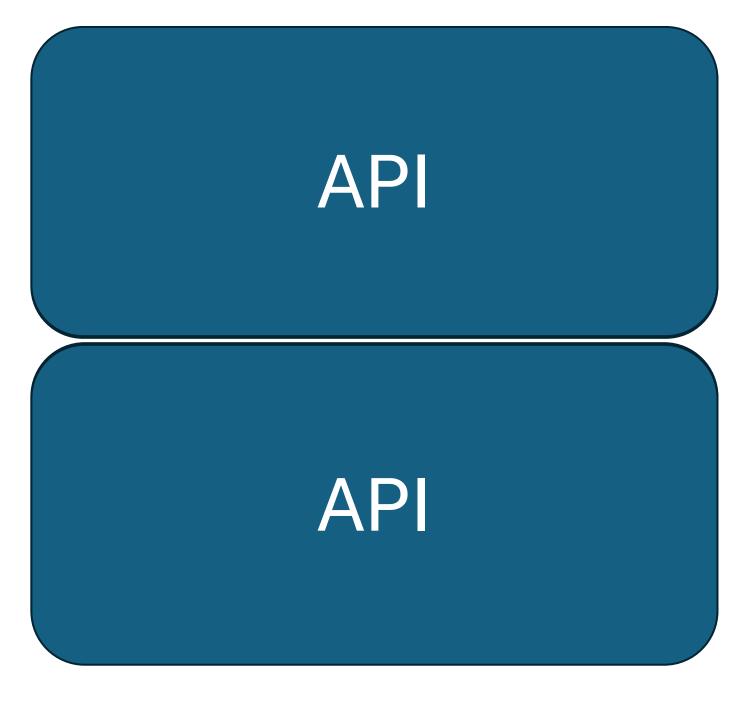


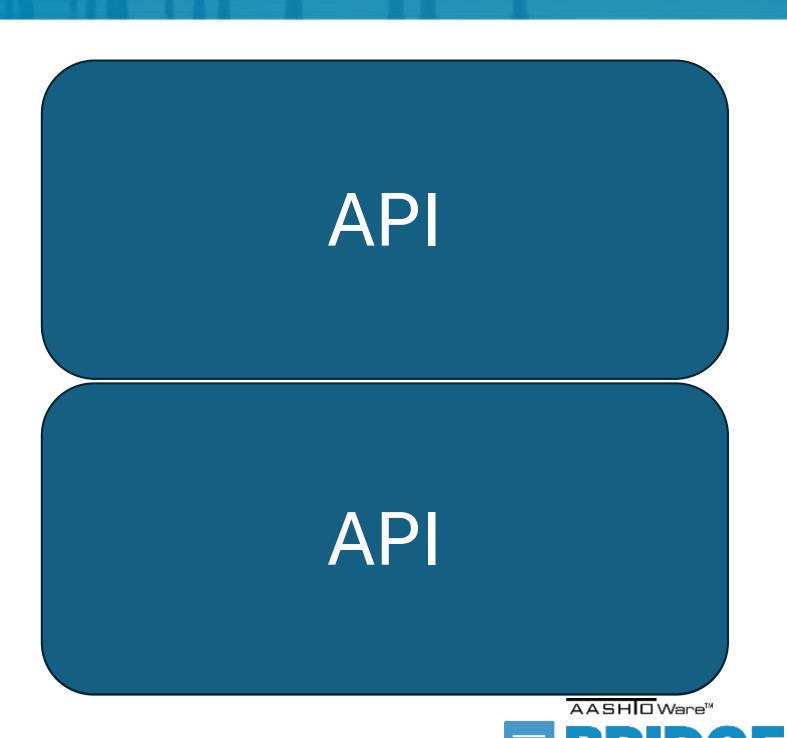




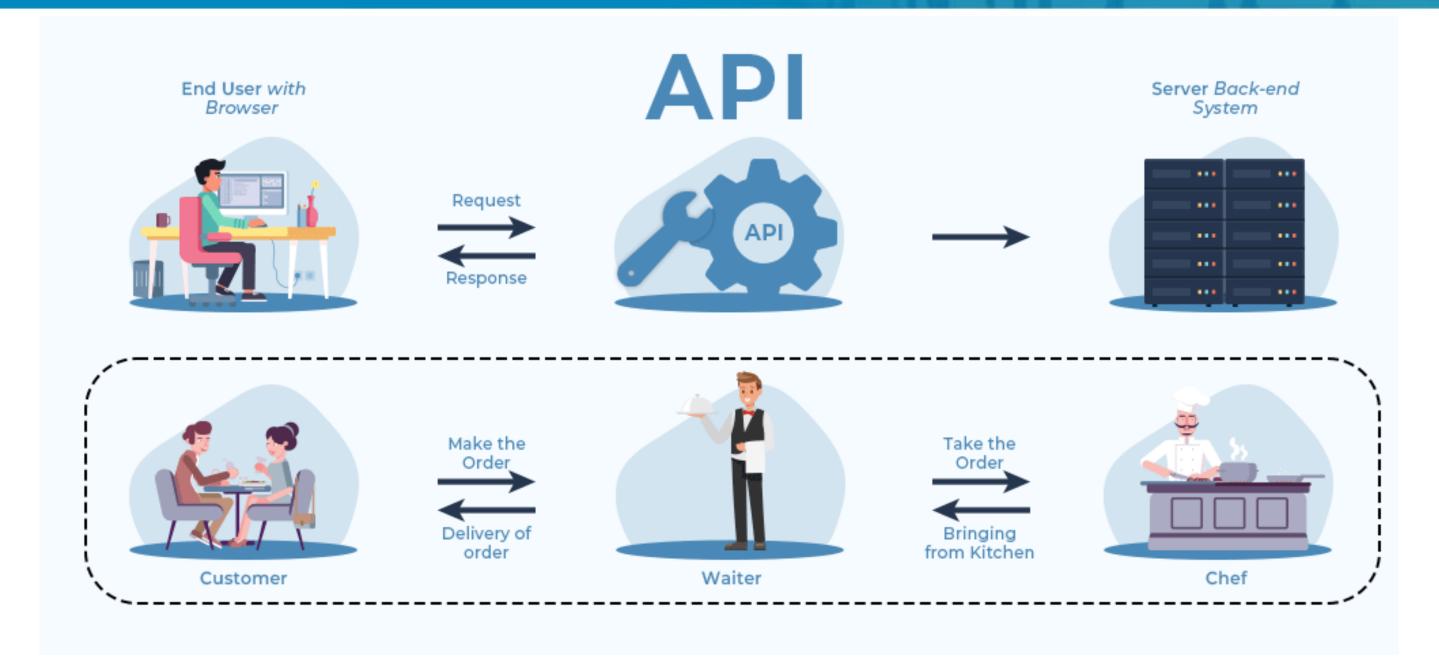


API?





API?



Source: https://www.geeksforgeeks.org/software-testing/what-is-an-api/



Open API Benefits



- Security
 - Control Access to Specific API Calls
- Interoperability
 - Ohio using Integration that Michigan Enhanced
- Database Integrity
 - Adheres to Database Integrity Rules by Default
 - Can Incorporate Buinsess Logic/Validation
- Cost
 - Free



How to Access OpenAPI?

- https://developer.aashtoware.org/
 - Use Free AASHTOWare Account

- Configure OpenAPI Key in BrM
- Agency Agnostic Testing Environment





Home Case Studies Re APIS unt Help Desk Sign out

APIs

Welcome to the AASHTOWare OpenAPI Developer Portal. The APIs displayed here are specifically curated based on your portal account and the access privileges associated with it. Please note that for visitors who have not registered or logged in, the visibility of APIs will be restricted to a select few demonstrations and samples. To gain comprehensive access to our portal resources, we kindly encourage you to **sign-up** and **sign-in**.

Group by tag



Name	Description	Туре
AASHTOWare BrM API Lab	AASHTOWare BrM API Lab - Innovation Summit Exclusive Release	REST
AASHTOWare Demo	This is an example of applying API Management for the AASHTOWare suite of products	REST
AASHTOWare ETicketing Service	Prelim AASHTOWare OpenAPI-delivered ETicketing services prototype	REST



Requests to the Asset Tracker OpenAPI require an x-api-key header with a valid API key. The Asset Tracker System Settings page has an "API Keys" tab where keys can be created, edited, or de...

application and third-party tools to securely retrieve and update

BrM 7.1 API **AASHTOWare BrM API** REST **Overview**: The BrM API is an externally-accessible version of the API service used by the BrM application. The API allows programs, application and third-party tools to securely retrieve and update system data through the business I... **BrM API** AASHTOWare BrM API REST Overview:The BrM API is an externally-accessible version of the API service used by the BrM application. The API allows programs, application and third-party tools to securely retrieve and update system data through the business la... **BrM API Technical Preview AASHTOWare BrM API** REST **Overview**: The BrM API is an externally-accessible version of the API service used by the BrM application. The API allows programs,

system data through the business I...

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Uses Swagger like Interface



Retrieves the latest inspection records for the specified asset and inspection types.

- Returns a list of dynamic records representing the most recent inspections for the given asset, filtered by the provided list of inspection type identifiers.
- The filtering is performed dynamically by building an appropriate SQL query based on the inspection type IDs.

InspectionType

Request

POST https://api.aashtoware.org/brm/{instance}/api/InspectionType/GetLatestInspections/{selectedAssetId}[?api-version]

Request parameters

Name In Required Type Description



Show URL path



OST Create a new Assessment Type

Create a new Asset Location

ost Create a new Bridge

OST Create a new Bridge Critical Finding

Create a new Bridge Inspection

Create a new Bridge Inspection Assessment

POST Create a new Bridge Load Posting Status

POST Create a new Bridge Load Rating

POST Create a new Contact

POST Create a new Contact Link

POST Create a new Detour Route

POST Create a new Element

POST Create a new Element Inspection

POST Create a new Event Equipment

POST Create a new Event Procedure

AASHTOWare BrM API

Overview: The BrM API is an externally-accessible version of the API service used by the BrM application. The API allows programs, application and third-party tools to securely retrieve and update system data through the business layer in AASHTOWare BrM using HTTP API calls.

Introduction: Instructions for authenticating to the API and retrieving tokens can be found in the Reference section. An introductory BrM API Usage guide with example API calls is also available.

Key Features: The BrM API uses an OAuth 2 security model which currently supports the client credential flow to limit unauthorized access to the API. It supports full CRUD operations across bridge management resources via RESTful endpoints. The API allows dynamic asset and event data modeling through extensible definitions and parameters. It also advanced filtering and search capabilities across various domain entities.

Data Interoperability: The API enables seamless data exchange between AASHTOWare BrM and other software solutions, enhancing Interoperability and integration capabilities.

Flexible Data Retrieval: The service supports various querying options allowing users to retrieve specific data sets.

Efficient Data Updates: The API facilitates efficient updates to system data, ensuring data consistency and integrity across different applications and tools.

The BrM API provides a comprehensive, RESTful interface for managing bridge assets, inspections, events, and related data. It supports advanced search, export, multimedia handling, and extensible definitions to enable seamless integration with third-party systems and custom applications.

Create a new Assessment Type

Create a new Assessment Type

Bridge Inspection Assessments



Create a new Work Event

Create a new Work Event Type

Delete a contact link by its Event and

Contact IDs

Delete a single Assessment Type by its ID

Delete a single Asset Location by its ID

DEL Delete a single Bridge by its ID

Delete a single Bridge Critical Finding by its

ID

DEL Delete a single Bridge Inspection

Assessment by its ID

L Delete a single Bridge Inspection by its ID

DEL Delete a single Bridge Load Posting Status

by its ID

DEL Delete a single Bridge Load Rating by its ID

DEL Delete a single Contact by its ID

DEL Delete a single Detour Route by its ID

DEL Delete a single Element by its ID

DEL Delete a single Element Inspection by its ID

DEL Delete a single Event Equipment by its ID

BrM. APIv2. Assessment Types. Assessment Type View Model





Name	Required	Read-only	Туре	Description
ID	false	true	string	The unique identifier for the Assessment Type
AssetTypeID	true	false	string	The ID of the Asset Type this Assessment Type is associated with
Name	true	false	string	The name of the Assessment Type
Description	false	false	string	A description of the Assessment Type
MaxLikelihood	true	false	number (double)	Maximum Likelihood value for the Assessment Type
MinLikelihood	true	false	number (double)	Minimum Likelihood value for the Assessment Type
MaxConsequence	true	false	number (double)	Maximum Consequence value for the Assessment Type
MinConsequence	true	false	number (double)	Minimum Consequence value for the Assessment Type

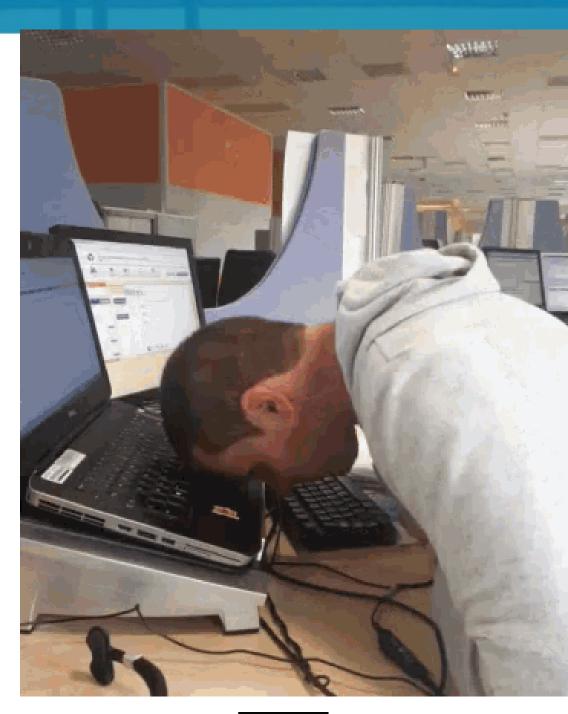
DOT AASHTOWare Open API Issues?

Tier 1 Support

- Have DOT EUD Enter Support Ticket with Mayvue
 - Support.Mayvue.com
 - •brm@mayvue.com

Tier 2 Support

- Have DOT Technical Resource submit Tickey
- Contact AASHTOWare Open API Vender
- https://developer.aashtoware.org/support/helpdesk





Questions?

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