



# CustDev API



# Contents

<b>Chapter 1: Overview</b>	<b>1</b>
Overview	2
<b>Chapter 2: Getting Started</b>	<b>3</b>
Getting Started	4
<b>Chapter 3: Serialization Scheme</b>	<b>5</b>
Serialization Scheme	6
<b>Chapter 4: Base URL</b>	<b>7</b>
BaseURL	8
<b>Chapter 5: Security</b>	<b>9</b>
Authentication	10
<b>Chapter 6: Resources</b>	<b>11</b>
Retrieve all Metadata Entity Families	12
Retrieve all Metadata Relationship Families	12
Retrieve an Entity	13
Retrieve an Array	14
Create an Entity	15
Update an Entity	16
Delete an Entity	17
Retrieve an Array of Relationships	17
Retrieve a Relationship	18
Create a Relationship	19
Delete a Relationship	19
<b>Chapter 7: Reference</b>	<b>21</b>

Parameters	22
Data Transfer Objects (DTOs)	23
Limitations	26
Customer Support	26

# Copyright GE Digital

© 2023 General Electric Company.

GE, the GE Monogram, and Predix are either registered trademarks or trademarks of All other trademarks are the property of their respective owners.

This document may contain Confidential/Proprietary information of and/or its suppliers or vendors. Distribution or reproduction is prohibited without permission.

THIS DOCUMENT AND ITS CONTENTS ARE PROVIDED "AS IS," WITH NO REPRESENTATION OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF DESIGN, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. ALL OTHER LIABILITY ARISING FROM RELIANCE UPON ANY INFORMATION CONTAINED HEREIN IS EXPRESSLY DISCLAIMED.

Access to and use of the software described in this document is conditioned on acceptance of the End User License Agreement and compliance with its terms.

# Chapter 1

---

## Overview

Topics:

- [Overview](#)

## Overview

This API provides customer developers a transaction-based interface to access the Core families. This API supports the following families:

- Equipment
- Equipment Has Equipment
- Functional Location
- Functional Location Has Equipment
- Has Event Detail
- Has Work History
- Work History
- Work History Detail

# Chapter 2

---

## Getting Started

### Topics:

- [Getting Started](#)

## Getting Started

This API is subject to all requirements and constraints of the existing WebApi endpoints, specifically, authentication, authorization, localization, globalization, and serialization.

- Family Key is required for each call.
- Data Transfer Objects (DTOs) are required content for Insert (POST) and Update (PUT) API calls. They are returned for the Retrieve (GET) calls. You must maintain an array of Family DTOs to provide referential data for each call to the API.
- This API provides option to retrieve. The API does not support search. You can, however, use the Query execution.
- Entity Id is not required to be unique in APM. When you retrieve by the Entity Id, an array is returned.
- Entity Key or Relationship Key must be zero for Insert.
- You must retrieve an entity before updating the entity.
  - Fields on relationships were obsoleted prior to 4.0. You can update a relationship only if you want to change legacy relationships which have fields.
  - Entity Key or Relationship Key cannot be zero for Update.
- If you delete an entity, any relationship the entity has is also deleted. The related entities, however, do not change.
  - Deleting a relationship does not change the related entities.
  - Entity Key or Relationship Key cannot be zero for Delete.
- PUT and POST methods will always have a required request content, a DTO, depending on whether it is an entity or relationship.
- The HTTP DELETE verb supports a request content, but this API does not.



# Chapter 3

---

## Serialization Scheme

### Topics:

- [Serialization Scheme](#)

## Serialization Scheme

Javascript Object Notation (JSON) is the only serialization scheme supported.

The Javascript language does not fully support signed 64-bit integers at the upper and lower value limits. DTO properties defined as type object that have a signed 64-bit integer value are deserialized as string. For example, `RowsetDTO.RowValueDTO.ColumnValue`.

For JSON serialization:

- Numeric and Boolean values are unquoted.
- Strings are quoted.
- Dates are quoted and are assumed to be in the time zone of the logged in user.
- Dates must be in the `yyyy-MM-ddTHH:mm:ss.fff` format. In this format, the following literal values are required:
  - Hyphen (-)
  - T
  - Colon (:)

# Chapter 4

---

## Base URL

### Topics:

- [BaseURL](#)

## BaseURL

api/custdev/core/

# Chapter 5

---

## Security

### Topics:

- [Authentication](#)

## Authentication

### POST

Returns a SessionDTO object. From this DTO, `sessionId`, `;` (semicolon), and `timezoneId` are concatenated to produce a Meridium Token value.

You must provide a request header, `meridiumtoken`, with this value on every subsequent API call.

The header `content-type` with value `application/json` is the only other header required by the application.

### Request Syntax

```
/core/security/login
```

### Request Body

```
{"DatasourceId":"V4050100_QA","Id":"miadmin","Password":"Usability"}
```

# Chapter 6

---

## Resources

### Topics:

- [Retrieve all Metadata Entity Families](#)
- [Retrieve all Metadata Relationship Families](#)
- [Retrieve an Entity](#)
- [Retrieve an Array](#)
- [Create an Entity](#)
- [Update an Entity](#)
- [Delete an Entity](#)
- [Retrieve an Array of Relationships](#)
- [Retrieve a Relationship](#)
- [Create a Relationship](#)
- [Delete a Relationship](#)

## Retrieve all Metadata Entity Families

### GET

Retrieves all metadata entity families.

### Request Syntax

GET/custdev/core/family/ent

### Return Type

array[Meridium.Api.CustDev.Core.FmlyDevDTO]

### Produces

This API call produces the `application/json` media type according to the `Accept` request header. The media type will be conveyed by the `Content-Type` response header.

### Success Response

200

### Response Example

```
[
  {
    "key": "64263570621",
    "id": "AAA_HEALTH_TEST_READING",
    "fields": [
      {
        "key": "64263570623",
        "id": "AAA_HEALTH_T_READING_VALUE_C"
      }, {
        "key": "64263570625",
        "id": "AAA_HEALTH_T_READING_VALUE_N"
      }, {
        "key": "64263570627",
        "id": "AAA_HEALTH_T_TIMESTAMP_D"
      }, {
        "key": "64263570629",
        "id": "AAA_HEALTH_T_NOTES"
      }
    ]
  }
]
```

## Retrieve all Metadata Relationship Families

### GET

Retrieves all metadata relationship families.



## Request Syntax

```
GET/custdev/core/relationship/{relFmlyKey}/pred/{predEntKey}/  
{predFmlyKey}/succ/{succEntKey}/{succFmlyKey}
```

## Return Type

```
array[Meridium.Api.CustDev.Core.RelDevDTO]
```

## Produces

This API call produces the `application/json` media type according to the Accept request header. The media type will be conveyed by the `Content-Type` response header.

## Success Response

200

Success

## Response Example

```
{  
  "key": "64263626272",  
  "familyKey": "64251800815",  
  "familyId": "MIR_FLHSEQ",  
  "predFamilyKey": "64251789393",  
  "predEntityKey": "64263626261",  
  "succFamilyKey": "64251784124",  
  "succEntityKey": "64263626258",  
  "updateDate": "2021-07-12T14:30:11.900"  
}
```

## Retrieve an Entity

### Request Syntax

```
GET/custdev/core/entity/{entKey}/{entFmlyKey}
```

### Return Type

```
Meridium.Api.CustDev.Core.EntDevDTO
```

### Produces

This API call produces the `application/json` media type according to the Accept request header. The media type will be conveyed by the `Content-Type` response header.

### Success Response

200

Success Meridium.Api.CustDev.Core.EntDevDTO

## Response Example

```
{
  "key": "64251821844",
  "id": " ~ SLACK WAX HEATER ~ HXST 1",
  "seqNum": "4",
  "familyKey": "64251784124",
  "familyId": "MI_EQUIP000",
  "updateDate": "2017-05-25T16:56:06.000",
  "fields": [
    {
      "key": "64251784126",
      "id": "MI_EQUIP000_EQUIP_ID_C",
      "value": "HXST 1"
    }
  ]
}
```

## Retrieve an Array

### GET

Retrieves an array of entities by Id.

### Request Syntax

```
GET/custdev/core/entity/id/{entId}/{entFmlyKey}
```

### Return Type

array[Meridium.Api.CustDev.Core.[EntDevDTO](#)]

### Produces

This API call produces the application/json media type according to the Accept request header. The media type will be conveyed by the Content-Type response header.

### Success Response

200

Success

## Response Example

```
[
  {
    "key": "64251821844",
    "id": " ~ SLACK WAX HEATER ~ HXST 1",
    "seqNum": "4",
    "familyKey": "64251784124",
    "familyId": "MI_EQUIP000",
    "updateDate": "2017-05-25T16:56:06.000",
```

```
"fields": [
  {
    "key": "64251784126",
    "id": "MI_EQUIP000_EQUIP_ID_C",
    "value": "HXST 1"
  }
]
```

## Create an Entity

### POST

Creates an entity.

#### Consumes

This API call consumes the `application/json` media type via the Content-Type request header.

### Request Syntax

```
POST/custdev/core/entity
```

### Request Body

body `Meridium.Api.CustDev.Core.EntDevDTO`

### Usage Sample

```
{
  "FamilyKey": "64251784124",
  "Fields": [
    {
      "key": "64251784137",
      "value": "tech number"
    },
    {
      "id": "MI_EQUIP000_EQUIP_SHRT_DESC_C",
      "value": "description"
    },
    {
      "key": "64251784126",
      "id": "MI_EQUIP000_EQUIP_ID_C",
      "value": "equip id"
    }
  ]
}
```

### Return Type

array[`Meridium.Api.CustDev.Core.EntDevDTO`]

## Produces

This API call produces the `application/json` media type according to the `Accept` request header. The media type will be conveyed by the `Content-Type` response header.

## Success Response

200

Success

## Update an Entity

### PUT

Updates an entity.

### Consumes

This API call consumes the `application/json` media types via the `Content-Type` request header.

## Request Syntax

`PUT/custdev/core/entity`

## Request Body

`body Meridium.Api.CustDev.Core.EntDevDTO (optional)`

## Request Body Example

```
{
  "Key": "64263626247",
  "FamilyKey": "64251784124",
  "SeqNum": 1,
  "Fields": [
    {
      "key": "64251784148",
      "value": "description changed"
    },
    {
      "id": "MI_EQUIP000_EQUIP_ID_C",
      "value": "equip id changed"
    }
  ]
}
```

## Return Type

None

## Success Response

204

Success

## Delete an Entity

### DELETE

Deletes an entity.

### Request Syntax

```
DELETE/custdev/core/entity/{entKey}/{entFmlyKey}
```

## Success Response

204

Success

## Retrieve an Array of Relationships

### GET

Retrieves an array of relationships by relationship family key and either predecessor or successor entity key.

### Request Syntax

```
GET/custdev/core/relationships/{relFmlyKey}/pred/{predFmlyKey}/succ/{succFmlyKey}/ent/{entKey}
```

## Return Type

```
array[Meridium.Api.CustDev.Core.RelDevDTO]
```

## Produces

This API call produces the `application/json` media type according to the `Accept` request header. The media type will be conveyed by the `Content-Type` response header.

## Success Response

204

Success

## Response Example

```
[{
  "key": "64263626272",
  "familyKey": "64251800815",
  "familyId": "MIR_FLHSEQ",
  "predFamilyKey": "64251789393",
  "predEntityKey": "64263626261",
  "succFamilyKey": "64251784124",
  "succEntityKey": "64263626258",
  "updateDate": "2021-07-12T14:30:11.900"
}]
```

## Retrieve a Relationship

### GET

Retrieves a relationship by relationship family key, predecessor entity and family keys, successor entity and family keys.

### Request Syntax

```
GET/custdev/core/relationship/{relFmlyKey}/pred/{predEntKey}/
{predFmlyKey}/succ/{succEntKey}/{succFmlyKey}
```

### Produces

This API call produces the `application/json` media type according to the Accept request header. The media type will be conveyed by the `Content-Type` response header.

### Success Response

200

Success

## Response Example

```
{
  "key": "64263626272",
  "familyKey": "64251800815",
  "familyId": "MIR_FLHSEQ",
  "predFamilyKey": "64251789393",
  "predEntityKey": "64263626261",
  "succFamilyKey": "64251784124",
  "succEntityKey": "64263626258",
  "updateDate": "2021-07-12T14:30:11.900"
}
```

## Create a Relationship

### POST

Creates a relationship.

### Consumes

This API call consumes the `application/json` media types via the Content-Type request header.

### Request Syntax

POST/custdev/core/relationship

### Request Body

```
body Meridium.Api.CustDev.Core.RelDevDTO (optional)
```

### Request Body Example

```
{
  "familyKey": "64251800815",
  "predFamilyKey": "64251789393",
  "predEntityKey": "64263626261",
  "succFamilyKey": "64251784124",
  "succEntityKey": "64263626258"
}
```

### Return Type

```
array[Meridium.Api.CustDev.Core.RelDevDTO]
```

### Produces

This API call produces the `application/json` media type according to the Accept request header. The media type will be conveyed by the Content-Type response header.

### Success Response

200

Success

## Delete a Relationship

### DELETE

Deletes a relationship.

## Request Syntax

```
DELETE /custdev/core/relationship/{relFmlyKey}/pred/{predEntKey}/  
{predFmlyKey}/succ/{succEntKey}/{succFmlyKey}
```

## Return Type

None

## Success Response

204

Success



# Chapter 7

---

## Reference

### Topics:

- [Parameters](#)
- [Data Transfer Objects \(DTOs\)](#)
- [Limitations](#)
- [Customer Support](#)

# Parameters

## Parameters

Name	In	Type	Format	Description	Required	Notes
entId	Path	String	N/A	Entity ID	Required	Entity Id is not required to be unique in APM
entKey	Path	Integer	int64	Entity Key	Required	<ul style="list-style-type: none"> <li>• Must be zero for Insert</li> <li>• Cannot be zero for Delete or Update</li> </ul>
entFmlyKey	Path	Integer	int64	Entity family key	Required	None
relFmlyKey	Path	Integer	int64	Relationship family key	Required	<ul style="list-style-type: none"> <li>• Must be zero for Insert</li> <li>• Cannot be zero for Delete or Update</li> </ul>
predEntKey	Path	Integer	int64	Predecessor entity key	Required	None
predFmlyKey	Path	Integer	int64	Predecessor family key	Required	None
succEntKey	Path	Integer	int64	Successor Entity Key	Required	None
succFmlyKey	Path	Integer	int64	Successor entity key	Required	None

## Data Transfer Objects (DTOs)

### EntDevDTO

Arguments/ Elements	Type	Format	Description	Required	Notes
Meridium.Api.CustDev.Core.EntDevDTO	object	N/A	Entity DTO	Required	None
Key	Integer/Long	Int64	Entity Key	Optional	Must be zero for insert, non-zero for update and cannot be changed.
id	String	N/A	Entity ID	Optional	Read only, computed value
seqNum	Integer/Long	Int64	Sequence Number	Optional	Required for insert and update. Enables consistency and concurrency for database transactions
familyKey	Integer/Long	Int64	Family Key of the entity	Optional	Required for insert and update.
familyId	String	N/A	Family Id of the entity	Optional	Nullable: true Not required for insert and update
updateDate	String	Date-time	Date and time of last update	Optional	Read only. This value will be in the local time zone of the session user
fields	Array	N/A	Family Fields	Optional	Only those field whose values are to be changed are required.

## FldDevDTO

Arguments/Elements	Type	Format	Description	Required	Notes
Meridium.Api.CustDev.Core.EntDev DTO	object	N/A	Entity field	Required	When creating or updating a field using FldDevDTO, either Key or Id are required but both.
Key	Integer	int64	Metadata field key.	Optional	Either Id or Key are required for insert and update
id	String	N/A	Metadata field key.	Optional	Either Id or Key are required for insert and update
value	Object	Date-time	Field value	Optional	Required for insert and update.

## FmlyDevDTO

**Table 1:**

Arguments/Elements	Type	Format	Description	Required	Notes
Meridium.Api.CustDev.Core.FmlyFLDDevDTO	Object	N/A	Metadata family field	Required	None
key	Integer	int64	Metadata family field	Optional	None
id	String	N/A	Metadata family field	Optional	None

## FmlyFLDDevDTO

**Table 2:**

Arguments/Elements	Type	Format	Description	Required	Notes
Meridium.Api.CustDev.Core.FmlyFLDDevDTO	Object	N/A	Metadata family field.	Required	None
key	Integer	int64	Metadata family field.	Optional	None
id	String	N/A	Metadata family field.	Optional	None

## RelDevDTO

Arguments/Elements	Type	Format	Description	Required	Notes
Meridium.Api.CustDev.Core.RelDevDTO	Object	N/A	Relationship DTO	Required	A relationship is uniquely identified by FamilyKey, PredEntityKey and SuccEntity key.
Key	Integer/Long	Int64	Relationship key	Optional	Read only, included for legacy purposes only.
familyKey	Integer/Long	Int64	Metadata family key of the relationship	Optional	Required for insert.
familyID	String	N/A	Metadata family Id	Optional	Nullable: true Not required for insert.
PredFmlyKey	Integer/Long	Int64	Predecessor entity family key	Optional	Required for insert
PredEntityKey	Integer/Long	Int64	Predecessor entity key	Optional	Required for insert
SuccFmlyKey	Integer/Long	Int64	Successor entity family key	Optional	Required for insert
SuccEntityKey	Integer/Long	Int64	Successor entity key	Optional	Required for insert

Arguments/ Elements	Type	Format	Description	Required	Notes
updateDate	String	Date-time	Date and time of last update	Optional	Read only. This value will be in the local time zone of the session user.
fields	Array	N/A	Obsolete	Optional	Included for legacy purposes only. There are no relationship families supported by this API which have fields.

## Limitations

### Limitations

This API supports the following entity families:

- Equipment
- Functional Location
- Work History
- Work History Details

## Customer Support

### Customer Support

To contact support, refer <http://www.ge.com/digital/support>.