CIM Interface

(*Cisco Infrastructure Management*)

Version	Date	Author	Description
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Conventions
Status Codes

1. Illumination

This section describes the model and the query interface for lights.

Model
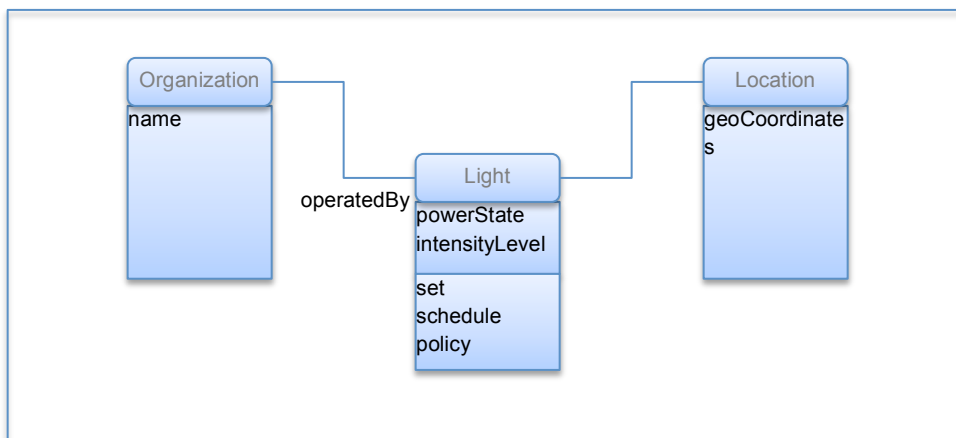
Attributes

Model	Attribute	Description	Domain
Light			
	powerState	Defines the state of the light	On, Off, Unknown
	intensityLevel	Defines the intensity level of the light	0-100%
	operatedBy	Operations organization	
	geoCoordinates	Location of the light	{lat, lon}

Actions

Model	Action	Description	Domain

Light			
	set		
	powerState	Sets the state of the light	On, Off, Unknown
	intensityLevel	Sets the intensity level of the light	0-100%
	schedule	Sets the schedule for light	
	policy	Defines the policy for the lights	

Request

Method	URL
POST	`http://mqciscocls.mqidentity.net:8080/fid-SmartLightGateway`

Type	Params	Values
POST	Query	`json`

Response

Status	Response
200	`json`
403	
400	
401	
500	`{"error":"Something went wrong. Please try again later."}`

Examples - Find

Attribute	Request

geocoordinates	{
	   "query": {
	      "documentation": *"Get all lights operated by specified organization within the specified viewport. Lat is specified in the format minLat,maxLat and Lon is specified as minLong, maxLong"*,
	        "find": {
	          "light": {
	            "operatedBy": *"sensity-qa"*,
	            "geocoordinates": {
	               "lat": *"+37.232976,+37.442615"*,

```
                    "lon": "-122.174149,-121.771088"
                }
            }
        }
    }
}
```

Response

```
"lights": [
    {
        "id": "Sensity.*JPCDKKH8",
        "fixture": {
            "type": "TypeA",
            "name": "TypeA",
            "description": "TypeA"
        },
        "geocoordinates": {
            "latitude": 37.38254771790752,
            "longitude": -121.98718015293909,
            "altitude": null
        },
        "latitude": 37.38254771790752,
        "longitude": -121.98718015293909,
        "altitude": null,
        "powerstate": "ON",
        "intensitylevel": "100",
        "policy": {
            "type": null,
            "name": null,
            "description": null
        },
        "schedule": {
            "type": null,
            "name": null,
            "description": null
        }
    },
    {
        "id": "Sensity.*J2V1JXBA",
        "fixture": {
            "type": "TypeA",
            "name": "TypeA",
            "description": "TypeA"
        },
        "geocoordinates": {
            "latitude": 37.384767961550246,
            "longitude": -121.98840012837195,
            "altitude": null
        },
        "latitude": 37.384767961550246,
        "longitude": -121.98840012837195,
        "altitude": null,
        "powerstate": "ON",
        "intensitylevel": "100",
        "policy": {
            "type": null,
            "name": null,
            "description": null
        },
        "schedule": {
            "type": null,
            "name": null,
            "description": null
        }
```

	`}`
	`}`

Attribute	Request
| id | ```
{
    "query": {
        "documentation": "Get all lights operated by specified organization and with the given ids. Id's are comma separated and case insensitive",
        "find": {
            "light": {
                "operatedBy": "sensity-qa",
                "id" : [
                        "sensity.*HH6DTAMb",
                        "sensity.*Q2BGKVGZ"
                    ]
            }
        }
    }
}
``` |

	Response
| | ```
{
    "lights": [
        {
            "id": "sensity.*KFVYKG3G",
            "fixture": {
                "type": "canopy",
                "name": "canopy",
                "description": "https://s3-us-west-2.amazonaws.com/netsense-light-fixtures/canopy.png"
            },
            "intensitylevel": 0,
            "powerstate": "OFF",
            "schedule": {
                "id": "*H02N5RRE"
            },
            "geocoordinates": {
                "latitude": 37.3822975997539,
                "longitude": -121.98768062030695,
                "altitude": null
            },
            "latitude": 37.3822975997539,
            "longitude": -121.98768062030695,
            "altitude": null
        },
        {
            "id": "sensity.*19QHS60K",
            "fixture": {
                "type": "canopy",
                "name": "canopy",
                "description": "https://s3-us-west-2.amazonaws.com/netsense-light-fixtures/canopy.png"
            },
            "intensitylevel": 0,
            "powerstate": "OFF",
            "schedule": {
                "id": "*H02N5RRE"
            },
            "geocoordinates": {
``` |

```
      "latitude": 37.3827209412883,
      "longitude": -121.98821497825426,
      "altitude": null
    },
    "latitude": 37.3827209412883,
    "longitude": -121.98821497825426,
    "altitude": null
  },
  {
    "id": "sensity.*ESDBNJZH",
    "fixture": {
      "type": "canopy",
      "name": "canopy",
      "description": "https://s3-us-west-2.amazonaws.com/netsense-light-
fixtures/canopy.png"
    },
    "intensitylevel": 0,
    "powerstate": "OFF",
    "schedule": {
      "id": "*H02N5RRE"
    },
    "geocoordinates": {
      "latitude": 37.38342148182253,
      "longitude": -121.98610740734769,
      "altitude": null
    },
    "latitude": 37.38342148182253,
    "longitude": -121.98610740734769,
    "altitude": null
  },
  {
    "id": "sensity.*2DV8SHSJ",
    "fixture": {
      "type": "canopy",
      "name": "canopy",
      "description": "https://s3-us-west-2.amazonaws.com/netsense-light-
fixtures/canopy.png"
    },
    "intensitylevel": 0,
    "powerstate": "OFF",
    "schedule": {
      "id": "*3NM4AAME"
    },
    "geocoordinates": {
      "latitude": 37.383627062535176,
      "longitude": -121.98641707429046,
      "altitude": null
    },
    "latitude": 37.383627062535176,
    "longitude": -121.98641707429046,
    "altitude": null
  },
  {
    "id": "sensity.*65WRCX5Z",
    "fixture": {
      "type": "canopy",
      "name": "canopy",
      "description": "https://s3-us-west-2.amazonaws.com/netsense-light-
fixtures/canopy.png"
    },
    "intensitylevel": 0,
    "powerstate": "OFF",
    "schedule": {
      "id": "*H02N5RRE"
    },
    "geocoordinates": {
```

```
          "latitude": 37.38240888280234,
          "longitude": -121.98736995847125,
          "altitude": null
        },
        "latitude": 37.38240888280234,
        "longitude": -121.98736995847125,
        "altitude": null
      },
      {
        "id": "sensity.*52463T33",
        "fixture": {
          "type": "canopy",
          "name": "canopy",
          "description": "https://s3-us-west-2.amazonaws.com/netsense-light-
fixtures/canopy.png"
        },
        "intensitylevel": 0,
        "powerstate": "OFF",
        "schedule": {
          "id": "*Z394YA07"
        },
        "geocoordinates": {
          "latitude": 37.384917972468045,
          "longitude": -121.98611927746447,
          "altitude": null
        },
        "latitude": 37.384917972468045,
        "longitude": -121.98611927746447,
        "altitude": null
      }
    ]
}
```

Attribute	Request

operatedBy	```
	{
	  "query": {
	    "documentation": "Get all lights operated by specified organization (maps to logical scopes)",
	    "find": {
	      "light": {
	        "operatedBy": "sensity-qa"
	      }
	    }
	  }
	}
	``

	Response

	``
	{
	  "lights": [
	    {
	      "id": "Sensity.*HC5CY8GM",
	      "fixture": {
	        "type": "TypeA",
	        "name": "TypeA",
	        "description": "TypeA"
	      },
	      "geocoordinates": {
	        "latitude": 37.38655722701925,
	        "longitude": -121.9885611760122,
	        "altitude": null
	``

```
        },
          "latitude": 37.38655722701925,
          "longitude": -121.9885611760122,
          "altitude": null,
          "powerstate": "ON",
          "intensitylevel": "100",
          "policy": {
            "type": null,
            "name": null,
            "description": null
          },
          "schedule": {
            "type": null,
            "name": null,
            "description": null
          }
        },
        {
          "id": "Sensity.*J2V1JXBA",
          "fixture": {
            "type": "TypeA",
            "name": "TypeA",
            "description": "TypeA"
          },
          "geocoordinates": {
            "latitude": 37.384767961550246,
            "longitude": -121.98840012837195,
            "altitude": null
          },
          "latitude": 37.384767961550246,
          "longitude": -121.98840012837195,
          "altitude": null,
          "powerstate": "ON",
          "intensitylevel": "100",
          "policy": {
            "type": null,
            "name": null,
            "description": null
          },
          "schedule": {
            "type": null,
            "name": null,
            "description": null
          }
        },
        {
          "id": "Sensity.*CTC0231B",
          "fixture": {
            "type": "TypeA",
            "name": "TypeA",
            "description": "TypeA"
          },
          "geocoordinates": {
            "latitude": 37.38280001319052,
            "longitude": -121.98788176332091,
            "altitude": null
          },
          "latitude": 37.38280001319052,
          "longitude": -121.98788176332091,
          "altitude": null,
          "powerstate": "ON",
          "intensitylevel": "100",
          "policy": {
            "type": null,
            "name": null,
            "description": null
```

```
        },
        "schedule": {
          "type": null,
          "name": null,
          "description": null
        }
      }
    ]
}
```

Examples - Process

Action	Request
set powerState	```{
"query": {
"documentation": "Turn on all lights operated by specified organization (maps to logical scopes)",
"process": {
"set": {
"powerstate": "ON"
}
},
"find": {
"light": {
"operatedBy": "sensity-qa"
}
}
}
}```
	Response
	``{
"Include": "OK"
}```

Action	Request
set powerState	```{
"query": {
"documentation": "Turn off all lights lights operated by sensity-lab",
"find": {
"light": {
"operatedby": "sensity-qa"
}
},
"process": {```

	"set": { "powerstate": "off" }
	    }
	  }
	}

	Response

	{
	  "Include": "OK"
	}

Action	Request

set intensitylevel	{
	  "query": {
	    "documentation": "Set the intensity level to 50 for all lights operated by specified organization (maps to logical scopes) and within a specified viewport",
	    "process": {
	      "set": {
	        "intensitylevel": "50"
	      }
	    },
	    "find": {
	      "light": {
	        "operatedBy": "sensity-qa",
	        "geocoordinates": {
	          "lat": "+37.232976,+37.442615",
	          "lon": "-122.174149,-121.771088"
	        }
	      }
	    }
	  }
	}

	Response

	{
	  "Include": "OK"
	}

Action	Request

schedule	{
	  "query": {
	    "documentation": "Set the intensity level to 50 for all lights operated by specified organization (maps to logical scopes) for 10 mins",
	    "process": {
	      "set": {
	        "intensitylevel": "50"
	      },
	      "schedule" {

```
          "duration" : 10
        }
    },
    "find": {
      "light": {
        "operatedBy": "sensity-qa",
        "geocoordinates": {
          "lat": "+37.232976,+37.442615",
          "lon": "-122.174149,-121.771088"
        }
      }
    }
  }
}
```

Response	

```
{
  "Include": "OK"
}
```

Action	Request
policy	```{
"query": {
"documentation": "Turn on all specified lights on 1st of Sep 2014 @ 6 AM",
"policy" : {
"name" : "Policy1",
"trigger" : {
"name" : "Trigger1",
"year" : {
"eq" : 2014,
"month" : {
"eq" : "SEP",
"day" : {
"eq" : "1",
"hour" : {
"eq" : 6
}
}
}
}
},
"action" : {
"name" : "Action1",
"set": {
"powerstate": "ON"
}
}
},
"find": {
"light": {
"operatedBy": "sensity-qa",```

```
            "id" : [
                "sensity.*HH6DTAMb",
                "sensity.*Q2BGKVGZ"
            ]
        }
      }
    }
}
```

Response

```
{
   "Include": "OK"
}
```

Action	Request

policy	{
	  "query": {
	    "documentation": "Set intensity level of all specified lights to 50% on 1st of Sep 2014 @ 6:30 AM and then make it 100% at 1st of Sep 2014, 8:00 AM",
	    "policy" :[{
	    "name" : "Policy1",
	    "trigger" : {
	    "name" : "Trigger1",
	    "year" : {
	    "eq" : 2014,
	    "month" : {
	     "eq" : "SEP",
	     "day" : {
	     "eq" : "1",
	     "hour" : {
	      "eq" : 6,
	      "minute" : {
	      "eq" : "30"
	     }
	     }
	     }
	    }
	    }
	    },
	    "action" : {
	     "name" : "Action1",
	     "set": {
	        "intensitylevel": "50"
	      }
	    }
	    },
	    "policy" : {
	    "name" : "Policy2",
	    "trigger" : {
	    "name" : "Trigger2",
	     "year" : {

```
          "eq" : 2014,
          "month" : {
          "eq" : "SEP",
          "day" : {
           "eq" : "1",
           "hour" : {
            "eq" : 8
           }
          }
         }
        }
       },
       "action" : {
        "name" : "Action2",
        "set": {
            "intensitylevel": "100"
          }
        }
       }]},
       "find": {
         "light": {
            "operatedBy": "sensity-qa"
          }
        }
       }
      }
     }
    }
```

Response

```
{
   "Include": "OK"
}
```

Action	Request

policy	`{`
	`  "query": {`
	`    "documentation": "Set intensity level of all specified lights to 50% on 1st of Sep 2014 @ 6:30 AM and then make it 100% at 1st of Sep 2014, 8:00 AM",`
	`    "policy" :[ {`
	`    "name" : "Policy1",`
	`    "trigger" : {`
	`    "name" : "Trigger1",`
	`    "year" : {`
	`    "eq" : 2014,`
	`    "month" : {`
	`    "eq" : "SEP",`
	`    "day" : {`
	`    "eq" : "1",`
	`    "hour" : {`
	`    "eq" : 6,`
	`     "minute" : {`
	`     "eq" : "30"`
	`     }`

```
                }
               }
              }
             }
            },
          "action" : {
           "name" : "Action1",
           "set": {
                "intensitylevel": "50"
              }
            }
          },
          "policy" : {
          "name" : "Policy2",
          "trigger" : {
          "name" : "Trigger2",
          "year" : {
          "eq" : 2014,
          "month" : {
           "eq" : "SEP",
           "day" : {
            "eq" : "1",
            "hour" : {
             "eq" : 8
            }
           }
          }
         }
        },
         "action" : {
          "name" : "Action2",
          "set": {
              "intensitylevel": "100"
            }
          }
         }],
         "find": {
           "light": {
              "operatedBy": "sensity-qa"
            }
          }
        }
      }
    }
```

Response

```
{
  "Include": "OK"
}
```

2. Parking

This section describes the model and the query interface for parking.

Model

Attributes

Model	Attribute	Description	Domain
ParkingSpace			
	Id	Defines the identifier of the parking space	Alphanumeric string
	type	Defines the type of the parking space	{Self, ParknRide, Valet, Airport, MeetnGreet, ParknFly, Demarcated, Unmarked}
	operatedBy	Operations organization	
	geoCoordinates	Location of the parking space	{lat, lon}
	State	Current tally for the parking space	{vacant, occupied, reserved, total, available }
ParkingSpot			
	State	Current state of the parking spot	{occupied, reserved}

Actions

Model	Action	Description	Domain

Request

Method	URL
POST	`http://mqciscocls.mqidentity.net:8080/fid-ParkingGateway`

Type	Params	Values
POST	Query	`json`

Response

Status	Response
`200`	`json`
`403`	
`400`	
`401`	
`500`	`{"error":"Something went wrong. Please try again later."}`

Examples - Find

Attribute	Request

operatedBy	{
	  "query": {
	    "documentation": "Get parking space operated by specified organization",
	    "find": {
	      "parkingSpace": {
	        "operatedBy": "sensity-qa"
	      }
	    }
	  }
	}

	Response

	{
	  "parkingSpace": [
	   {
	    "id": null,
	    "type": "demarcated",
	    "facility": {

```
              "type": "building",
              "location": {
                "route": "notSpecified"
              }
            },
            "metering": "singleMeter",
            "orientation": "angle",
            "parkingSpots": [
              {
                "label": "PS-A2",
                "state": {
                  "occupied": true,
                  "reserved": false
                },
                "lastUpdated": "2014-08-24T15:16:25.000Z",
                "size": "compact",
                "geocoordinates": {
                  "latitude": 37.38445,
                  "longitude": -121.98757,
                  "altitude": null
                }
              },
              {
                "label": "PS-B1",
                "state": {
                  "occupied": true,
                  "reserved": false
                },
                "lastUpdated": "2014-08-24T10:31:00.000Z",
                "size": "compact",
                "geocoordinates": {
                  "latitude": 37.38445,
                  "longitude": -121.98757,
                  "altitude": null
                }
              },
              {
                "label": "PS-B2",
                "state": {
                  "occupied": true,
                  "reserved": false
                },
                "lastUpdated": "2014-08-24T10:31:00.000Z",
                "size": "compact",
                "geocoordinates": {
                  "latitude": 37.38445,
                  "longitude": -121.98757,
                  "altitude": null
                }
              },
              {
                "label": "PS-A1",
                "state": {
                  "occupied": false,
                  "reserved": false
                },
```

```
            "lastUpdated": "2014-08-24T00:00:00.000Z",
            "size": "compact",
            "geocoordinates": {
               "latitude": 37.38445,
               "longitude": -121.98757,
               "altitude": null
            }
         }
      ],
      "state": {
         "vacant": 1,
         "occupied": 3,
         "reserved": 0,
         "total": 4,
         "available": 1
      }
   }
  ]
}
```

Attribute	Request

state	<pre>{
	  "query": {
	    "documentation": "Get parking space operated by specified organization, but retrieve only
	parking spots with specified state",
	    "find": {
	      "parkingSpace": {
	        "operatedBy": "sensity-qa",
	        "parkingSpots": {
	          "state": {
	            "occupied": false
	          }
	        }
	      }
	    }
	  }
	}</pre>

	Response

	<pre>{
	  "parkingSpace": [
	   {
	    "id": null,
	    "type": "demarcated",
	    "facility": {
	      "type": "building",
	      "location": {
	        "route": "notSpecified"
	      }
	    },
	    "metering": "singleMeter",</pre>

```
          "orientation": "angle",
          "parkingSpots": [
            {
              "label": "PS-A1",
              "state": {
                "occupied": false,
                "reserved": false
              },
              "lastUpdated": "2014-08-24T00:00:00.000Z",
              "size": "compact",
              "geocoordinates": {
                "latitude": 37.38445,
                "longitude": -121.98757,
                "altitude": null
              }
            }
          ],
          "state": {
            "vacant": 1,
            "occupied": 0,
            "reserved": 0,
            "total": 1,
            "available": 1
          }
        }
      ]
    }
```

Attribute	Request
geocoordinates	``` { "query": { "documentation": "Get nearby parking spots (distance in miles)", "find": { "var": { "name": "queryPoint", "geocoordinates": { "latitude": 37.38445, "longitude": -121.98757 } }, "parkingSpace": { "le": { "target": "distance(this.parkingSpots, queryPoint)", "value": "1.0" } } } } } ```
	Response

```json
{
  "parkingSpace": [
    {
      "id": null,
      "type": "demarcated",
      "facility": {
        "type": "building",
        "location": {
          "route": "notSpecified"
        }
      },
      "metering": "singleMeter",
      "orientation": "angle",
      "parkingSpots": [
        {
          "label": "PS-A1",
          "state": {
            "occupied": true,
            "reserved": false
          },
          "lastUpdated": "2014-08-24T00:00:00.000Z",
          "size": "compact",
          "geocoordinates": {
            "latitude": 37.38445,
            "longitude": -121.98757,
            "altitude": null
          }
        },
        {
          "label": "PS-A2",
          "state": {
            "occupied": false,
            "reserved": false
          },
          "lastUpdated": "2014-08-24T00:00:00.000Z",
          "size": "compact",
          "geocoordinates": {
            "latitude": 37.38445,
            "longitude": -121.98757,
            "altitude": null
          }
        },
        {
          "label": "PS-B1",
          "state": {
            "occupied": false,
            "reserved": false
          },
          "lastUpdated": "2014-08-24T00:00:00.000Z",
          "size": "compact",
          "geocoordinates": {
            "latitude": 37.38445,
            "longitude": -121.98757,
            "altitude": null
          }
        },
```

```
              {
                "label": "PS-B2",
                "state": {
                  "occupied": false,
                  "reserved": false
                },
                "lastUpdated": "2014-08-24T00:00:00.000Z",
                "size": "compact",
                "geocoordinates": {
                  "latitude": 37.38445,
                  "longitude": -121.98757,
                  "altitude": null
                }
              }
            ],
            "state": {
              "vacant": 3,
              "occupied": 1,
              "reserved": 0,
              "total": 4,
              "available": 3
            }
          }
        ]
      }
```
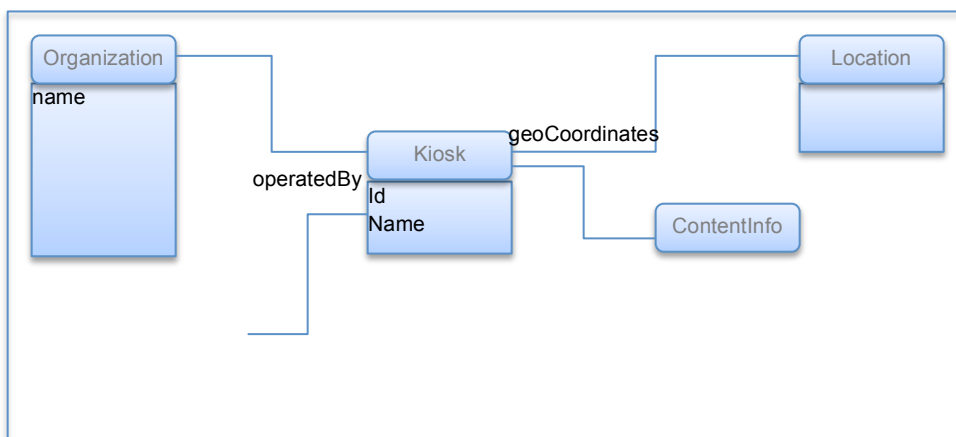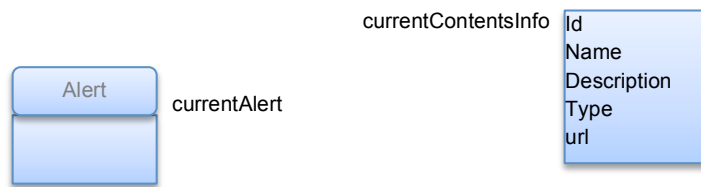
3. Kiosks

This section describes the model and the query interface for kiosks.

Model

Attributes

Model	Attribute	Description	Domain
Kiosk			
	Id	Defines the identifier of the kiosk	Alphanumeric string

currentContentsInfo

Id
Name
Description
Type
url

Alert

currentAlert

	name	Defines the name of the kiosk	
	operatedBy	Operations organization	
	geoCoordinates	Location of the parking space	{lat, lon}
ContentInfo			
	id	Defines the identifier of the content	Alphanumeric string
	name	Defines the name of the content	
	description	Descripton of the content	
	type	Type of the content	
	url	url for the content	

Actions

Model	Action	Description	Domain
Kiosk			
	Set currentContentinfo	Sets the current content to be displayed on the kiosk	
	Set currentAlert	Sets the current notification/alert to be displayed on the kiosk	

Request

Method	URL
POST	http://mqciscocls.mqidentity.net:8080/fid-ParkingGateway

Type	Params	Values
POST	Query	json

Response

Status	Response
200	json
403	
400	
401	
500	{"error":"Something went wrong. Please try again later."}

Examples - Find

Attribute	Request
| null | ```
{
   "query": {
      "documentation": "Get all kiosks",
      "find": {
         "kiosk": {}
      }
   }
}
``` |
| | **Response** |
| | ```
{
   "kiosk": [
      {
         "id": 1,
         "geocoordinates": {
            "latitude": 41.87938,
            "longitude": -87.624551
         }
      }
   ]
}
``` |

Attribute	Request
| geocoordinates | ```
{
   "query": {
      "documentation": "Get kiosks near specified geocoordinates",
      "find": {
         "var": {
            "name": "queryPoint",
``` |

```
            "geocoordinates": {
                "latitude": 37.38545,
                "longitude": -121.98857
            }
        },
        "kiosk": {
            "le": {
                "target": "distance(this, queryPoint)",
                "value":"5ft"
            }
        }
    }
  }
}
```

Response

```
{
  "kiosk": [
    {
      "id": 1,
      "geocoordinates": {
        "latitude": 41.87938,
        "longitude": -87.624551
      }
    }
  ]
}
```

Examples - Process

Action	Request
set ContentInfo	```{
"query": {
"documentation": "Set content for specified kiosk",
"find": {
"kiosk": {
"id": ["1"]
}
},
"process": {
"set": {
"currentContentsInfo": [
{
"id": "someContentId"
}
]
}
}
}
}```

	}
	Response

	``
	{
	  "status": [
	    "Success"
	  ]
	}
	``

Action	Request

set currentAlert	```
	{
	  "query": {
	    "documentation": "Set notification for specified kiosks",
	    "find": {
	      "kiosk": {
	        "id": ["1", "2"]
	      }
	    },
	    "process": {
	      "set": {
	        "currentAlert": "some notification"
	      }
	    }
	  }
	}
	``

	Response

	``
	{
	  "status": [
	    "Success",
	    "Success"
	  ]
	}
	``

Action	Request

set currentAlert	```
	{
	  "query": {
	    "documentation": "Cancel the notification for specified kiosks",
	    "find": {
	      "kiosk": {
	        "id": ["1", "2"]
	      }
	    },
	    "process": {
	      "set": {
	        "currentAlert": null
	``

| | ```
        }
      }
    }
}
``` |
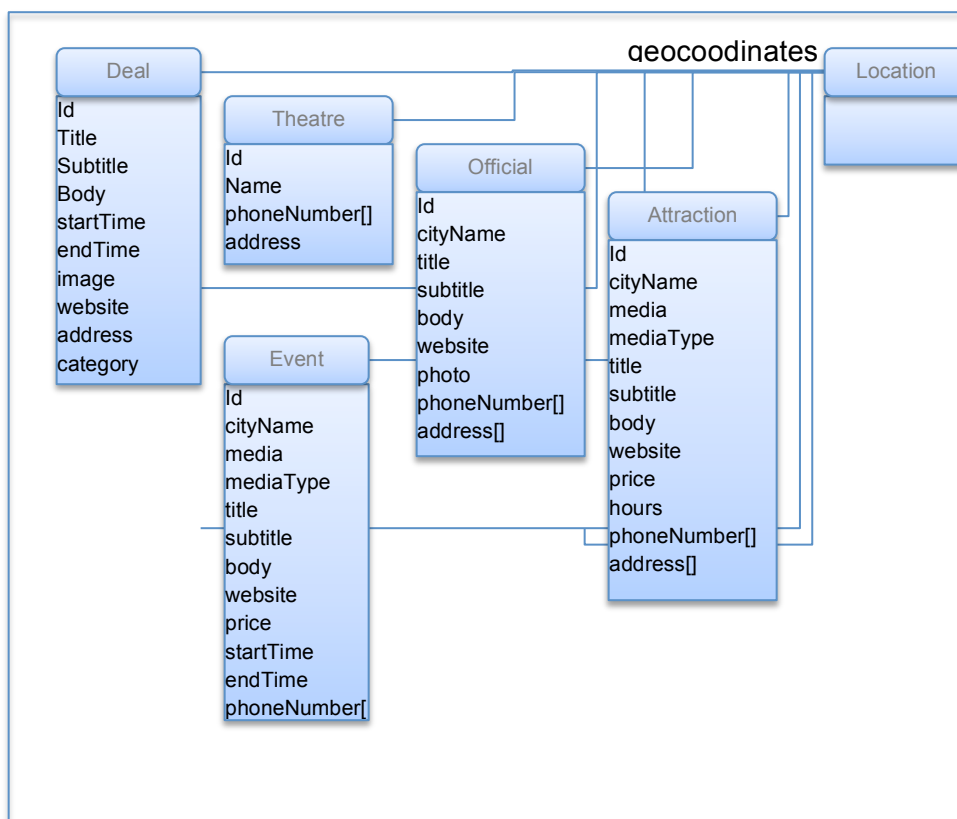| | **Response** |
| | ```
{
  "status": [
    "Success",
    "Success"
  ]
}
``` |

4. City Data

This section describes the model and the query interface for city data.

Model

Attributes

Model	Attribute	Description	Domain
Theatre			
	id		
	name		
	phoneNumber[]	{title, number}	
	address	{title, street1, street2, city, state, zip, geocoordinates}	
	location		
Movie			
	id		
	title		

Spotlight
Id
cityName
media
mediaType
title
subtitle
body

Movie
Id
Title
Description
Length
Ratings
Stars
Showtime
Image
trailer

	description		
	length		
	ratings		
	stars		
	showtime		
	image		
	trailer	{format, url}	
	theatre	{theatreId}	Theatre
Deal			
	id		
	title		
	subtitle		
	body		
	startTime		
	endTime		
	image		
	website		
	address	{title, street1, street2, city, state, zip, geocoordinates}	
	category	{id, name}	
Event			
	id		
	cityName		
	media		
	mediaType		
	title		
	subtitle		
	body		
	website		
	price		
	startTime		

	endTime		
	phoneNumber	{title, number}	
	address[]	{title, street1, street2, city, state, zip, geocoordinates}	
Attraction			
	Id		
	cityName		
	media		
	mediaType		
	title		
	subtitle		
	body		
	website		
	price		
	hours		
	phoneNumber[]	{title, number}	
	address[]	{title, street1, street2, city, state, zip, geocoordinates}	
Official			
	Id		
	cityName		
	title		
	subtitle		
	body		
	website		
	photo		
	phoneNumber[]	{title, number}	
	address[]	{title, street1, street2, city, state, zip, geocoordinates}	

Request

Method	URL

POST	`http://mqciscocls.mqidentity.net:8080/fid-SmartCityInfoGateway`
	`http://mqciscocls.mqidentity.net:8080/fid-SmartMovieGateway`
	`http://mqciscocls.mqidentity.net:8080/fid-SmartDealGateway`

Type	Params	Values
POST	Query	`json`

Response

Status	Response

200	json
403	
400	
401	
500	{"error":"Something went wrong. Please try again later."}

Examples – Find CityInfo

Attribute	Request

cityName	```
	{
	  "query": {
	    "documentation": "Get all city information for specified city",
	    "find": {
	  "event": {"cityName": "Chicago"}
	    }
	  }
	}
	``

	Response

	``
	{
	  "event": [
	    {
	      "id": null,
	      "cityName": null,
	      "media": "htpp://someurl",
	      "mediaType": "video",
	      "title": "sometitle",
	      "subtitle": "subtitle",
	      "body": "body",
	      "website": "http://someSite",
	      "phoneNumber": [
	        {
	          "title": "title1",
	          "number": "12345"
	        },
	        {
	          "title": "title2",
	          "number": "56789"
	        }
	      ],
	      "address": [
	        {
	          "title": "title1",
	          "street1": "street11",
	          "street2": "street21",
	          "city": "city1",
	          "state": "state1",
	          "zip": "zip1",
	          "geocoordinates": {
	            "latitude": 37.38445,
	            "longitude": -121.98757
	``

```
              }
            }
          ],
          "price": "$123",
          "startTime": "2014-10-13T00:00:00-05:00",
          "endTime": "2014-10-24T00:00:00-05:00"
        }
      ]
    }
```

Attribute	Request

startTime
endTime
	`{`
	  `"query": {`
	    `"documentation": "Get events in specified time frame",`
	    `"find": {`
	  `"event": {`
	  `"cityName": "Chicago",`
	  `"startTime": {"le" : "2014-10-22T00:00:00-05:00"},`
	  `"endTime": {"ge": "2014-10-21T00:00:00-05:00"}`
	  `}`
	    `}`
	  `}`
	`}`

	Response

	`{`
	  `"event": [`
	    `{`
	      `"id": null,`
	      `"cityName": null,`
	      `"media": "htpp://someurl",`
	      `"mediaType": "video",`
	      `"title": "sometitle",`
	      `"subtitle": "subtitle",`
	      `"body": "body",`
	      `"website": "http://someSite",`
	      `"phoneNumber": [`
	        `{`
	          `"title": "title1",`
	          `"number": "12345"`
	        `},`
	        `{`
	          `"title": "title2",`
	          `"number": "56789"`
	        `}`
	      `],`
	      `"address": [`
	        `{`
	          `"title": "title1",`
	          `"street1": "street11",`
	          `"street2": "street21",`
	          `"city": "city1",`
	          `"state": "state1",`
	          `"zip": "zip1",`
	          `"geocoordinates": {`
	            `"latitude": 37.38445,`
	            `"longitude": -121.98757`
	          `}`

```
            }
         ],
         "price": "$123",
         "startTime": "2014-10-13T00:00:00-05:00",
         "endTime": "2014-10-24T00:00:00-05:00"
      }
   ]
}
```

Attribute	Request

location	`{`
	`   "query": {`
	`      "documentation": "Get city events in specified location."`
	`      "find": {`
	`         "event": {`
	`   "location": {"zone": "businessZone"}`
	`         }`
	`      }`
	`   }`
	`}`

	Response

	`{`
	`   "event": [`
	`      {`
	`         "id": null,`
	`         "cityName": null,`
	`         "media": "htpp://someurl",`
	`         "mediaType": "video",`
	`         "title": "sometitle",`
	`         "subtitle": "subtitle",`
	`         "body": "body",`
	`         "website": "http://someSite",`
	`         "phoneNumber": [`
	`            {`
	`               "title": "title1",`
	`               "number": "12345"`
	`            },`
	`            {`
	`               "title": "title2",`
	`               "number": "56789"`
	`            }`
	`         ],`
	`         "address": [`
	`            {`
	`               "title": "title1",`
	`               "street1": "street11",`
	`               "street2": "street21",`
	`               "city": "city1",`
	`               "state": "state1",`
	`               "zip": "zip1",`
	`               "geocoordinates": {`
	`                  "latitude": 37.38445,`
	`                  "longitude": -121.98757`
	`               }`
	`            }`
	`         ],`
	`         "price": "$123",`

```
      "startTime": "9 Mar 2014 4:00pm",
      "endTime": "9 Mar 2014 5:00pm"
    }
  ]
}
```

Attribute	Request
cityName	```{
"query": {
"documentation": "Get all city information for specified city",
"find": {
"spotlight": {"cityName": "someCityName"},
"event": {"cityName": "someCityName"},
"attraction": {"cityName": "someCityName"},
"official": {"cityName": "someCityName"}
}
}
}```
	Response
	``{
"spotlight": [
{
"id": null,
"cityName": null,
"media": "htpp://someurl",
"mediaType": "video",
"title": "sometitle",
"subtitle": "subtitle",
"body": "body"
}
],
"event": [
{
"id": null,
"cityName": null,
"media": "htpp://someurl",
"mediaType": "video",
"title": "sometitle",
"subtitle": "subtitle",
"body": "body",
"website": "http://someSite",
"phoneNumber": [
{
"title": "title1",
"number": "12345"
},
{
"title": "title2",
"number": "56789"
}
],
"address": [
{
"title": "title1",
"street1": "street11",
"street2": "street21",
"city": "city1",```

```json
              "state": "state1",
              "zip": "zip1",
              "geocoordinates": {
                 "latitude": 37.38445,
                 "longitude": -121.98757
              }
            }
          }
        ],
        "price": "$123",
        "startTime": "9 Mar 2014 4:00pm",
        "endTime": "9 Mar 2014 5:00pm"
      }
    ],
    "attraction": [
      {
        "id": null,
        "cityName": null,
        "media": "htpp://someurl",
        "mediaType": "video",
        "title": "sometitle",
        "subtitle": "subtitle",
        "body": "body",
        "website": "http://someSite",
        "phoneNumber": [
          {
            "title": "title1",
            "number": "12345"
          },
          {
            "title": "title2",
            "number": "56789"
          }
        ],
        "address": [
          {
            "title": "title1",
            "street1": "street11",
            "street2": "street21",
            "city": "city1",
            "state": "state1",
            "zip": "zip1",
            "geocoordinates": {
               "latitude": 37.38445,
               "longitude": -121.98757
            }
          }
        ],
        "price": "$123",
        "hours": "3"
      }
    ],
    "official": [
      {
        "id": null,
        "cityName": null,
        "title": "sometitle",
        "subtitle": "subtitle",
        "body": "body",
        "website": "http://someSite",
        "phoneNumber": [
          {
            "title": "title1",
            "number": "12345"
          },
          {
```

```
              "title": "title2",
              "number": "56789"
          }
        ],
        "address": [
          {
            "title": "title1",
            "street1": "street11",
            "street2": "street21",
            "city": "city1",
            "state": "state1",
            "zip": "zip1",
            "geocoordinates": {
                "latitude": 37.38445,
                "longitude": -121.98757
            }
          }
        ],
        "photo": "http://someUrl"
      }
    ]
}
```

Examples – Find Deals

Attribute	Request
startTime endTime	```{
"query": {
"documentation": "Get all deals in specified time frame",
"find": {
"deal": {
"startTime": {"le" : "2014-10-22T00:00:00-05:00"},
"endTime": {"ge": "2014-10-21T00:00:00-05:00"}
}
}
}
}```
	Response
	``{
"deal": [
{
"id": "deal.1",
"title": "Placeholder Deal",
"subtitle": "This is the subtitle",
"body": "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam lorem libero, blandit auctor varius sit amet, pretium sit amet tellus. Vivamus dolor diam, convallis at tortor in, maximus viverra augue. Nunc molestie odio vel tempus tincidunt. Sed a sagittis sapien, eget fermentum leo. Sed enim quam, accumsan at ex nec, iaculis gravida arcu. Nam id varius odio, et interdum quam. Praesent iaculis dolor sed velit tristique, eu tempus tellus suscipit. Nunc at arcu vitae libero lobortis aliquet. Praesent vel nisi sed justo eleifend commodo. Vivamus molestie tortor id dui finibus hendrerit. Curabitur vulputate nibh sit amet pretium finibus.",
"startTime": "2014-09-01T00:00:00-05:00",
"endTime": "2014-10-31T00:00:00-05:00",
"image": "http://placehold.it/200x300",```

```
                    "website": "http://www.elevatedigital.com/",
                    "address": [
                      {
                        "title": null,
                        "street1": "200 N Michigan Ave.",
                        "street2": "STE 1305",
                        "city": "Chicago",
                        "state": "IL",
                        "zip": "60604",
                        "geocoordinates": {
                          "latitude": 41.87938753653472,
                          "longitude": -87.62455134897898
                        }
                      }
                    ],
                    "category": [
                      {
                        "id": null,
                        "name": "Placeholders"
                      }
                    ]
                  }
                ]
              }
```

Attribute	Request
geocoordinates	```{
"query": {
"documentation": "Get nearby deals",
"find": {
"var": {
"name": "queryPoint",
"geocoordinates": {
"latitude": 41.87938,
"longitude": -87.624551
}
},
"deal": {
"le": {
"target": "distance(this.address, queryPoint)",
"value": "10.0"
}
}
}
}
}```
	Response
	``{
"deal": [
{```

```
      "id": "deal.1",
      "title": "Placeholder Deal",
      "subtitle": "This is the subtitle",
      "body": "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam lorem libero, blandit
auctor varius sit amet, pretium sit amet tellus. Vivamus dolor diam, convallis at tortor in, maximus
viverra augue. Nunc molestie odio vel tempus tincidunt. Sed a sagittis sapien, eget fermentum leo.
Sed enim quam, accumsan at ex nec, iaculis gravida arcu. Nam id varius odio, et interdum quam.
Praesent iaculis dolor sed velit tristique, eu tempus tellus suscipit. Nunc at arcu vitae libero lobortis
aliquet. Praesent vel nisi sed justo eleifend commodo. Vivamus molestie tortor id dui finibus
hendrerit. Curabitur vulputate nibh sit amet pretium finibus.",
      "startTime": "2014-09-01T00:00:00-05:00",
      "endTime": "2014-10-31T00:00:00-05:00",
      "image": "http://placehold.it/200x300",
      "website": "http://www.elevatedigital.com/",
      "address": [
        {
          "title": null,
          "street1": "200 N Michigan Ave.",
          "street2": "STE 1305",
          "city": "Chicago",
          "state": "IL",
          "zip": "60604",
          "geocoordinates": {
             "latitude": 41.87938753653472,
             "longitude": -87.62455134897898
          }
        }
      ],
      "category": [
        {
          "id": null,
          "name": "Placeholders"
        }
      ]
    }
  ]
}
```

Attribute	Request

Location	`{`
	`  "query": {`
	`    "documentation": "Get deals in specified location"`
	`    "find": {`
	`      "deal": {`
	`  "location": {"zone": "businessZone"}`
	`      }`
	`    }`
	`  }`
	`}`

	Response

```
{
  "deal": [
    {
      "id": null,
"title": "someTitle",
"subtitle": "subtitle",
"body": "body",
      "startTime": "9 Mar 2014 4:00pm",
      "endTime": "9 Mar 2014 5:00pm",
"image": "http://someurl",
      "website": "http://someSite",
"address": {
 "title": "title1",
 "street1": "street1",
 "street2": "street2",
 "city": "city1",
 "state": "state1",
 "zip": "zip1",
 "geocoordinates": {
  "latitude": 37.38445,
  "longitude": -121.98757
 }
},
"category": {
 "id": null,
 "name": "someName"
}
    }
  ]
}
```

Attribute	Request
Category.name	```{
"query": {
"documentation": "Get deals in specified categories",
"find": {
"deal": {
"category.name": ["cat1", "cat2", "Placeholders"]
}
}
}
}```
	Response
	``{
"deal": [
{
"id": "deal.1",
"title": "Placeholder Deal",
"subtitle": "This is the subtitle",
"body": "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam lorem libero, blandit```

auctor varius sit amet, pretium sit amet tellus. Vivamus dolor diam, convallis at tortor in, maximus viverra augue. Nunc molestie odio vel tempus tincidunt. Sed a sagittis sapien, eget fermentum leo. Sed enim quam, accumsan at ex nec, iaculis gravida arcu. Nam id varius odio, et interdum quam. Praesent iaculis dolor sed velit tristique, eu tempus tellus suscipit. Nunc at arcu vitae libero lobortis aliquet. Praesent vel nisi sed justo eleifend commodo. Vivamus molestie tortor id dui finibus hendrerit. Curabitur vulputate nibh sit amet pretium finibus.",

```
        "startTime": "2014-09-01T00:00:00-05:00",
        "endTime": "2014-10-31T00:00:00-05:00",
        "image": "http://placehold.it/200x300",
        "website": "http://www.elevatedigital.com/",
        "address": [
          {
            "title": null,
            "street1": "200 N Michigan Ave.",
            "street2": "STE 1305",
            "city": "Chicago",
            "state": "IL",
            "zip": "60604",
            "geocoordinates": {
              "latitude": 41.87938753653472,
              "longitude": -87.62455134897898
            }
          }
        ],
        "category": [
          {
            "id": null,
            "name": "Placeholders"
          }
        ]
      }
    ]
}
```

Attribute	Request

categoryName	```{
	  "query": {
	    "documentation": "Get categories of deals",
	    "find": {
	      "deal": {}
	    }
	  "select": {"categoryName": "[:category.name:]"}
	  }
	}```

	Response

	``{
	  "categoryName": [
	    "Placeholders"
	  ]
	}```

Attribute	Request

	``
	{
	  "query": {
	    "documentation": "Get nearby deals in specified time frame, of specified categories",
	    "find": {
	      "var": {
	        "name": "queryPoint",
	        "geocoordinates": {
	          "latitude": 41.87938,
	          "longitude": -87.624551
	        }
	      },
	      "deal": {
	        "le": {
	          "target": "distance(this.address, queryPoint)",
	          "value": "10.0"
	        },
	  "startTime": {"le" : "2014-10-22T00:00:00-05:00"},
	  "endTime": {"ge": "2014-10-21T00:00:00-05:00"},
	  "category.name": ["cat1", "cat2", "Placeholders"]
	      }
	    }
	  }
	}
	``

	Response

	``
	{
	  "deal": [
	    {
	      "id": "deal.1",
	      "title": "Placeholder Deal",
	      "subtitle": "This is the subtitle",
	      "body": "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam lorem libero, blandit auctor varius sit amet, pretium sit amet tellus. Vivamus dolor diam, convallis at tortor in, maximus viverra augue. Nunc molestie odio vel tempus tincidunt. Sed a sagittis sapien, eget fermentum leo. Sed enim quam, accumsan at ex nec, iaculis gravida arcu. Nam id varius odio, et interdum quam. Praesent iaculis dolor sed velit tristique, eu tempus tellus suscipit. Nunc at arcu vitae libero lobortis aliquet. Praesent vel nisi sed justo eleifend commodo. Vivamus molestie tortor id dui finibus hendrerit. Curabitur vulputate nibh sit amet pretium finibus.",
	      "startTime": "2014-09-01T00:00:00-05:00",
	      "endTime": "2014-10-31T00:00:00-05:00",
	      "image": "http://placehold.it/200x300",
	      "website": "http://www.elevatedigital.com/",
	      "address": [
	        {
	          "title": null,
	          "street1": "200 N Michigan Ave.",
	          "street2": "STE 1305",
	          "city": "Chicago",
	          "state": "IL",
	          "zip": "60604",
	          "geocoordinates": {
	``

```
                                 "latitude": 41.87938753653472,
                                 "longitude": -87.62455134897898
                         }
                     }
                 ],
                 "category": [
                     {
                         "id": null,
                         "name": "Placeholders"
                     }
                 ]
             }
         ]
     }
```

Examples – Find Theatre

Attribute	Request

geocoordinates	<pre>{
	  "query": {
	    "documentation": "Get theaters within specified distance from specified point",
	    "find": {
	      "var": {
	        "name": "queryPoint",
	        "geocoordinates": {
	          "latitude": 37.38545,
	          "longitude": -121.98857
	        }
	      },
	      "theater": {
	        "le": {
	          "target": "distance(this.address, queryPoint)",
	          "value":"5ft"
	        }
	      }
	    }
	  }
	}</pre>

	Response

	<pre>{
	  "theater": [
	    {
	      "id": null,
	      "name": "someTheater",
	      "phoneNumber": [
	        {
	          "title": "title1",
	          "number": "12345"
	        }
	      ],
	      "address": {</pre>

```
                    "title": "title1",
                    "street1": "street1",
                    "street2": "street2",
                    "city": "city1",
                    "state": "state1",
                    "zip": "zip1",
                    "geocoordinates": {
                     "latitude": 37.38445,
                     "longitude": -121.98757
                    }
                   }
                      }
                   ]
                }
```

Attribute	Request
location	```{
"query": {
"documentation": "Get theaters in specified location."
"find": {
"theater": {
"location": {"zone": "businessZone"}
}
}
}
}```
	Response
	``{
"theater": [
{
"id": null,
"name": "someTheater",
"phoneNumber": [
{
"title": "title1",
"number": "12345"
}
],
"address": {
"title": "title1",
"street1": "street1",
"street2": "street2",
"city": "city1",
"state": "state1",
"zip": "zip1",
"geocoordinates": {
"latitude": 37.38445,
"longitude": -121.98757
}
}```

Attribute	Request
| | ```
}
]
}
``` |

Attribute	Request
| Theatre.id | ```
{
  "query": {
    "documentation": "Get movies in specified theater"
    "find": {
        "movie": {
  "theater": {
   "id": "someTheaterId"
  }
        }
      }
    }
}
``` |
| | **Response** |
| | ```
{
  "movie": [
    {
        "id": null,
  "title": "someTitle",
  "description": "someDescription",
  "length": "120 mins",
  "rating": "PG-13",
  "stars": "3",
  "showtime": ["13:00", "17:30", "23:00"];
  "image": "http://someurl";
  "trailer": {
   "format": "someFormat",
   "url": "http://someVideoUrl"
  }
    }
  ]
}
``` |

Glossary

Conventions

- **Client** - Client application.
- **Status** - HTTP status code of response.
- All the possible responses are listed under 'Responses' for each method. Only one of them is issued per request server.
- All response are in JSON format.
- All request parameters are mandatory unless explicitly marked as [optional]
- The type of values accepted for a *request* parameter are shown the the values column like this [10|<any number>] .The | symbol means *OR*. If the parameter is [optional], the default value is shown in blue bold text, as **10** is written in [**10**|<any number>].

Status Codes

All status codes are standard HTTP status codes. The below ones are used in this API.

2XX - Success of some kind
4XX - Error occurred in client's part
5XX - Error occurred in server's part

Status Code	Description
200	OK
201	Created
202	Accepted (Request accepted, and queued for execution)
400	Bad request
401	Authentication failure
403	Forbidden
404	Resource not found
405	Method Not Allowed

409	Conflict
412	Precondition Failed
413	Request Entity Too Large
500	Internal Server Error
501	Not Implemented
503	Service Unavailable

References

TQL.docx: "Thing Query Language" and "Time and Trigger" Language