



# Cisco IMC REST API Examples

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## Examples of Server Tasks

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### Establishing Session-based Authentication

Request:

```
curl -XPOST https://10.10.10.10/redfish/v1/SessionService/
Sessions --header "Content-Type: application/json;
charset=utf-8" -d '{"UserName": "admin", "Password": "admin123456"}'
--insecure -v
```

Response:

```
* About to connect() to 10.10.10.10 port 222 (#0)
* Trying 10.10.10.10... connected
* Connected to 10.10.10.10 (10.10.10.10) port 222 (#0)
* Initializing NSS with certpath: sql:/etc/pki/nssdb
* warning: ignoring value of ssl.verifyhost
* skipping SSL peer certificate verification
* SSL connection using TLS_RSA_WITH_AES_256_CBC_SHA256
* Server certificate:
* subject: E=null@null,CN=VASU-SL2,OU=PID,O=Cisco
  Self Signed,L=San Jose,ST=California,C=US
* start date: Dec 08 05:21:25 2016 GMT
* expire date: Dec 07 05:21:25 2021 GMT
* common name: VASU-SL2
* issuer: E=null@null,CN=VASU-SL2,OU=PID,
  O=Cisco Self Signed,L=San Jose,ST=California,C=US
> POST /redfish/v1/SessionService/Sessions HTTP/1.1
> User-Agent: curl/7.19.7 (x86_64-redhat-linux-gnu)
  libcurl/7.19.7 NSS/3.19.1 Basic ECC zlib/1.2.3 libidn/1.18 libssh2/1.4.2
> Host: 10.10.10.10
> Accept: */*
> Content-Type: application/json; charset=utf-8
> Content-Length: 47
>
< HTTP/1.1 200 OK
< Server: Monkey
< Date: Fri, 09 Dec 2016 06:01:12 GMT
```

```

< Transfer-Encoding: Chunked
< X-Auth-Token: 801854885944ad40a8544885a4950d8a
< Status: 201
< Content-Type: application/json
< Content-Length:140
<
{
  "@odata.id":"/redfish/v1/SessionService/Sessions/27",
  "Description":"Session of user: admin",
  "Name":"User Session #27",
  "Id":27
}

```

## Request:

```

curl -GET https://10.10.10.10/redfish/v1/Managers --header
'Authorization: OAuth 801854885944ad40a8544885a4950d8a' --insecure

```

## Response:

```

{
  "Members":[{"@odata.id":"/redfish/v1/Managers/CIMC"}],
  "Description":"Collection of Managers",
  "@odata.type":"#Manager.1.0.0.ManagerCollection",
  "@odata.id":"/redfish/v1/Managers",
  "Members@odata.count":1,
  "Name":"Manager Collection",
  "@odata.context":"/redfish/v1/$metadata#Managers"
}

```

## Request:

```

curl -GET https://10.10.10.10/redfish/v1/Managers
/CIMC --header 'Authorization: OAuth 801854885944ad40a8544885a4950d8a' --insecure

```

## Response:

```

{
  "DateTimeLocalOffset":"UTC+0000",
  "Id":"CIMC",
  "Links":{
    "ManagerForChassis":["/redfish/v1/Chassis/1"],
    "ManagerForServers":["/redfish/v1/Systems/FCH1623V07J"]
  },
  "ManagerType":"CIMC",
  "@odata.context":"/redfish/v1/$metadata#Managers/Members/$entity",
  "@odata.id":"/redfish/v1/Managers/CIMC",
  "VirtualMedia":{
    "@odata.id":"/redfish/v1/Managers/CIMC/VirtualMedia"
  },
  "Description":"VASU-SL2",
  "LogServices":{

```

```

    "@odata.id":"/redfish/v1/Managers/CIMC/LogServices"
  },
  "SerialInterfaces":{
    "@odata.id":"/redfish/v1/Managers/CIMC/SerialInterfaces"
  },
  "FirmwareVersion":"3.0(1S12)",
  "UUID":"B2686A10-D5B1-43A3-A808-CC88380DD77B",
  "Status":{
    "State":"Enabled",
    "Health":"OK"
  },
  "ManagerNetworkProtocol":{
    "@odata.id":"/redfish/v1/Managers/CIMC/ManagerNetworkProtocol"
  },
  "Name":"Cisco Integrated Management Controller",
  "Actions":{
    "#Oem.ImportBmcConfig":{
      "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
      "Passphrase@Redfish.AllowableValues":["Passphrase"],
      "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
      "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
      "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
      "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.ImportBmcConfig",
      "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
    },
    "#Oem.BmcFwUpdate":{
      "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
      "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.BmcFwUpdate",
      "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
      "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
      "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
      "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
    },
    .
    .
    .

    "CommandShell":{
      "MaxConcurrentSessions":4,
      "ConnectTypesSupported":["SSH","Telnet","IPMI","XML API"],
      "ServiceEnabled":true
    },
    "SerialConsole":{
      "MaxConcurrentSessions":4,
      "ConnectTypesSupported":["SSH","Telnet","IPMI","XML API"],
      "ServiceEnabled":true
    },
    "Model":"UCSC-C240-M3L",
    "EthernetInterfaces":{
      "@odata.id":"/redfish/v1/Managers/CIMC/EthernetInterfaces"
    }
  }
}

```

### Retrieving Redfish Version without Authentication

Request:

```
curl -GET https://10.10.10.10/redfish -k
```

Response:

```
{
  "v1":"/redfish/v1/"
}
```

### Retrieving Service Root without Authentication

Request:

```
curl -GET https://10.10.10.10/redfish/v1 -k
```

Response:

```
{
  "Chassis":{
    "@odata.id":"/redfish/v1/Chassis"
  },
  "@odata.id":"/redfish/v1/",
  "JSONSchemas":{
    "@odata.id":"/redfish/v1/JSONSchemas"
  },
  "RedfishVersion":"1.0.0",
  "EventService":{
    "@odata.id":"/redfish/v1/EventService"
  },
  "Systems":{
    "@odata.id":"/redfish/v1/Systems"
  },
  "Description":"Root Service",
  "Name":"Cisco RESTful Root Service",
  "Links":{
    "Sessions":{
      "@odata.id":"/redfish/v1/SessionService/Sessions"
    }
  },
  "TaskService":{
    "@odata.id":"/redfish/v1/TaskService"
  },
  "Managers":{
    "@odata.id":"/redfish/v1/Managers"
  },
  "@odata.type":"#ServiceRoot.1.0.0.ServiceRoot",
  "SessionService":{
    "@odata.id":"/redfish/v1/SessionService"
  },
  "@odata.context":"/redfish/v1/$metadata#ServiceRoot",
  "Id":"RootService",
  "AccountService":{
    "@odata.id":"/redfish/v1/AccountService"
  },
  "MessageRegistry":{
    "@odata.id":"/redfish/v1/MessageRegistry"
  }
}
```

### Retrieving Metadata without Authentication

Request:

```
curl -GET https://10.10.10.10/redfish/v1/\$metadata -k
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?><!--
Copyright 2014-2015 Distributed Management Task Force, Inc. (DMTF). All rights reserved.-->
<edmx:Edmx xmlns:edmx="http://docs.oasis-open.org/odata/ns/edmx" Version="4.0">

  <edmx:Reference Uri="http://docs.oasis-open.org/odata/odata/
    v4.0/cs01/vocabularies/Org.OData.Core.V1.xml">
    <edmx:Include Namespace="Org.OData.Core.V1" Alias="OData"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/Resource.xml">
    <edmx:Include Namespace="Resource.1.0.0" />
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/RedfishExtensions.xml">
    <edmx:Include Namespace="RedfishExtensions.1.0.0" Alias="Redfish"/>
    <edmx:Include Namespace="Validation.1.0.0" Alias="Validation"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/EventService.xml">
    <edmx:Include Namespace="EventService"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/AccountService.xml">
    <edmx:Include Namespace="AccountService"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/ComputerSystemCollection.xml">
    <edmx:Include Namespace="ComputerSystemCollection"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/ChassisCollection.xml">
    <edmx:Include Namespace="ChassisCollection"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/ManagerCollection.xml">
    <edmx:Include Namespace="ManagerCollection"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/TaskService.xml">
    <edmx:Include Namespace="TaskService"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/SessionService.xml">
    <edmx:Include Namespace="SessionService"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/Message.xml">
    <edmx:Include Namespace="Message"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/JsonSchemaFileCollection.xml">
    <edmx:Include Namespace="JsonSchemaFileCollection"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/MessageRegistryFileCollection.xml">
    <edmx:Include Namespace="MessageRegistryFileCollection"/>
  </edmx:Reference>
  <edmx:Reference Uri="http://redfish.dmtf.org/schemas/v1/SessionCollection.xml">
    <edmx:Include Namespace="SessionCollection"/>
  </edmx:Reference>

  <edmx:DataServices>

    <Schema xmlns="http://docs.oasis-open.org/odata/ns/edm" Namespace="ServiceRoot">

      <EntityType Name="ServiceRoot" BaseType="Resource.1.0.0.Resource">
        <Annotation Term="OData.Description"
          String="This object represents the root Redfish service."/>
      </EntityType>
    </Schema>
  </edmx:DataServices>
</edmx:Edmx>
```

```

    <Annotation Term="OData.LongDescription"
      String="This object represents the root Redfish service.
      All values for resources described by this schema shall comply to the requirements
      as described in the Redfish specification."/>
  </EntityType>
</Schema>

<Schema xmlns="http://docs.oasis-open.org/odata/ns/edm" Namespace="ServiceRoot.1.0.0">

  <EntityContainer Name="ServiceContainer">
    <Singleton Name="Service" Type="ServiceRoot.ServiceRoot"/>
    <Singleton Name="Systems" Type="ComputerSystemCollection.ComputerSystemCollection"/>

    <Singleton Name="Chassis" Type="ChassisCollection.ChassisCollection"/>
    <Singleton Name="Managers" Type="ManagerCollection.ManagerCollection"/>
    <Singleton Name="Tasks" Type="TaskService.TaskService"/>
    <Singleton Name="AccountService" Type="AccountService.AccountService"/>
    <Singleton Name="SessionService" Type="SessionService.SessionService"/>
    <Singleton Name="EventService" Type="EventService.EventService"/>
    <Singleton Name="Registries"
      Type="MessageRegistryFileCollection.MessageRegistryFileCollection"/>
    <Singleton Name="JsonSchemas"
Type="JsonSchemaFileCollection.JsonSchemaFileCollection"/>
    <Singleton Name="Sessions" Type="SessionCollection.SessionCollection"/>
  </EntityContainer>

  <EntityType Name="ServiceRoot" BaseType="ServiceRoot.ServiceRoot">
    <Annotation Term="OData.Description"
      String="This object represents the root Redfish service."/>
    <Annotation Term="OData.LongDescription"
      String="This object represents the root Redfish service.
      All values for resources described by this schema shall comply to the
      requirements as described in the Redfish specification."/>
    <Property Name="RedfishVersion" Type="Edm.String" Nullable="false">
      <Annotation Term="OData.Permissions" EnumMember="OData.Permissions/Read"/>
      <Annotation Term="OData.Description" String="The version of the Redfish service"/>

      <Annotation Term="OData.LongDescription" String="The value of this string shall
      represent the version of the Redfish service.
      The format of this string shall be of the format majorversion.minorversion.errata
      in compliance with Protocol Version section of the Redfish specification. "/>
      <Annotation Term="Validation.Pattern" String="^\d+\.\.\d+\.\.\d+$"/>

      .
      .
      .
    </Property>
  </EntityType>

  <ComplexType Name="Links" BaseType="Resource.Links">
    <NavigationProperty Name="Sessions" Type="SessionCollection.SessionCollection">
      <Annotation Term="OData.Permissions" EnumMember="OData.Permissions/Read"/>
      <Annotation Term="OData.Description" String="Link to a collection of Sessions"/>
      <Annotation Term="OData.LongDescription"
        String="This property shall contain the link to a collection of Sessions."/>
      <Annotation Term="OData.AutoExpandReferences"/>
    </NavigationProperty>
  </ComplexType>

</Schema>
</edmx:DataServices>

```



```
</edmx:Edmx>
```

### Retrieving 'odata' without Authentication

Request:

```
curl -GET https://10.10.10.10/redfish/v1/odata -k
```

Response:

```
{
  "Value": [{
    "url": "/redfish/v1",
    "name": "Service",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/Systems",
    "name": "Systems",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/Chassis",
    "name": "Chassis",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/Managers",
    "name": "Managers",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/TaskService",
    "name": "TaskService",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/EventService",
    "name": "EventService",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/AccountService",
    "name": "AccountService",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/SessionService",
    "name": "SessionService",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/JSONSchemas",
    "name": "JSONSchemas",
    "kind": "Singleton"
  }, {
    "url": "/redfish/v1/MessageRegistry",
    "name": "MessageRegistry",
    "kind": "Singleton"
  }
  ],
  "@odata.context": "/redfish/v1/$metadata"
}
```

### Retrieving Chassis Details

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Chassis -k -u admin:Admin123
{
  "Members": [{
    "@odata.id": "/redfish/v1/Chassis/1"
  }],
  "@odata.type": "#Chassis.1.0.0.ChassisCollection",
  "@odata.id": "/redfish/v1/Chassis",
  "Name": "Chassis Collection",
  "Members@odata.count": "1",
  "@odata.context": "/redfish/v1/$metadata#Chassis"
}
{
  "SerialNumber": "FCH2005V1EN",
  "Links": {
    "PoweredBy": ["/redfish/v1/Chassis/1/Power"],
    "CooledBy": ["/redfish/v1/Chassis/1/Thermal"],
    "ComputerSystems": ["/redfish/v1/Systems/FCH2005V1EN"],
    "ManagedBy": ["/redfish/v1/Managers/CIMC"]
  },
  "@odata.id": "/redfish/v1/Chassis/1",
  "Status": {
    "State": "Enabled",
    "Health": "Warning"
  },
  "AssetTag": "Unknown",
  "Thermal": {
    "@odata.id": "/redfish/v1/Chassis/1/Thermal"
  },
  "@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity",
  "Power": {
    "@odata.id": "/redfish/v1/Chassis/1/Power"
  },
  "LogServices": {
    "@odata.id": "/redfish/v1/Chassis/1/LogServices"
  },
  "@odata.type": "#Chassis.1.0.0.Chassis",
  "ChassisType": "Rack",
  "Actions": {
    "#Chassis.Reset": {
      "Target": "/redfish/v1/Chassis/1/Actions/Chassis.Reset",
      "ResetType@Redfish.AllowableValues": ["On", "ForceOff"]
    }
  },
  "IndicatorLED": "Off",
  "Model": "UCS C240 M4S",
  "Id": "1"
}

```

### Retrieving Chassis Power Details

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Chassis/1/Power -k -u
admin:Admin123
{
  "Voltages": [{
    "@odata.id": "/redfish/v1/Chassis/1/Power#/Voltages/PSU1_VOUT",
    "Status": {
      "State": "Enabled",
      "Health": "OK"
    },
    "Name": "PSU1_VOUT",
  }
}

```

```

    "UpperThresholdNonCritical": "N/A",
    "MemberID": 1,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "14.000",
    "UpperThresholdCritical": "N/A",
    "LowerThresholdNonCritical": "N/A",
    "ReadingVolts": "11.800",
    "UpperThresholdFatal": "N/A"
  }, {
    "@odata.id": "/redfish/v1/Chassis/1/Power#/Voltages/PSU2_VOUT",
    "Status": {
      "State": "Enabled",
      "Health": "OK"
    },
    "Name": "PSU2_VOUT",
    "UpperThresholdNonCritical": "N/A",
    "MemberID": 2,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "14.000",
    "UpperThresholdCritical": "N/A",
    "LowerThresholdNonCritical": "N/A",
    "ReadingVolts": "0.000",
    "UpperThresholdFatal": "N/A"
  }, .
  .
  {
    "@odata.id": "/redfish/v1/Chassis/1/Power#/Voltages/PVPP_GH",
    "Status": {
      "State": "Enabled",
      "Health": "OK"
    },
    "Name": "PVPP_GH",
    "UpperThresholdNonCritical": "N/A",
    "MemberID": 33,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "2.797",
    "UpperThresholdCritical": "N/A",
    "LowerThresholdNonCritical": "2.431",
    "ReadingVolts": "2.620",
    "UpperThresholdFatal": "N/A"
  } ],
  "@odata.id": "/redfish/v1/Chassis/1/Power",
  "@odata.type": "#Cisco_Power",
  "PowerSupplies": [ {
    "SerialNumber": "DCH2012T0SR",
    "FirmwareVersion": "10031006",
    "@odata.id": "/redfish/v1/Chassis/1/Power#/PowerSupplies/PSU1",
    "LineInputVoltage": "230",
    "Name": "PSU1",
    "MemberID": 1,
    "PartNumber": "341-0631-01",
    "PowerSupplyType": "AC",
    "Model": "DPST-1200DB A",
    "LastPowerOutputWatts": "144"
  }, {
    "SerialNumber": "DCH2012T0F9",
    "FirmwareVersion": "1006",
    "@odata.id": "/redfish/v1/Chassis/1/Power#/PowerSupplies/PSU2",
    "LineInputVoltage": "0",
    "Name": "PSU2",
    "MemberID": 2,
    "PartNumber": "341-0631-01",
    "PowerSupplyType": "AC",

```

```

        "Model": "DPST-1200DB A",
        "LastPowerOutputWatts": "0"
    }],
    "@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity/Power"
}

```

## Retrieving Chassis Thermal Details

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Chassis/1/Thermal -k -u admin:Admin123
```

```

{
  "Fans": [ {
    "UpperThresholdFatal": "N/A",
    "Status": {
      "State": "Enabled",
      "Health": "OK"
    },
    "FanName": "FAN1_SPEED",
    "LowerThresholdFatal": "N/A",
    "PhysicalContext": "Backplane",
    "MemberID": 1,
    "LowerThresholdNonCritical": "1600",
    "LowerThresholdCritical": "1200",
    "ReadingRPM": "5500",
    "UpperThresholdCritical": "N/A",
    "UpperThresholdNonCritical": "N/A",
    "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Fans/1"
  }, {
    "UpperThresholdFatal": "N/A",
    "Status": {
      "State": "Enabled",
      "Health": "OK"
    },
    "FanName": "FAN2_SPEED",
    "LowerThresholdFatal": "N/A",
    "PhysicalContext": "Backplane",
    "MemberID": 2,
    "LowerThresholdNonCritical": "1600",
    "LowerThresholdCritical": "1200",
    "ReadingRPM": "5500",
    "UpperThresholdCritical": "N/A",
    "UpperThresholdNonCritical": "N/A",
    "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Fans/2"
  },
  .
  .
  .
  {
    "ReadingCelsius": "37.0",
    "Status": {
      "State": "Enabled",
      "Health": "OK"
    },
    "Name": "RISER1_OUTLETTMP",
    "UpperThresholdNonCritical": "N/A",
    "MemberID": 18,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "70.0",
    "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Temperatures/RISER1_OUTLET
    TMP",

```

```

    "LowerThresholdNonCritical": "N/A",
    "UpperThresholdCritical": "60.0",
    "UpperThresholdFatal": "N/A"
  }, {
    "ReadingCelsius": "33.0",
    "Status": {
      "State": "Enabled",
      "Health": "OK"
    },
    "Name": "RISER2_OUTLETTMP",
    "UpperThresholdNonCritical": "N/A",
    "MemberID": 19,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "70.0",
    "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Temperatures/RISER2_OUTLET
    TMP",
    "LowerThresholdNonCritical": "N/A",
    "UpperThresholdCritical": "60.0",
    "UpperThresholdFatal": "N/A"
  } ],
  "@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity/Therma
  l"
}

```

## Retrieving Chassis Log Services Details

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Chassis/1/LogServices -k -u
admin:Admin123
```

```

{
  "Members": [ {
    "@odata.id": "/redfish/v1/Chassis/1/LogServices/SEL"
  } ],
  "@odata.type": "#LogService.1.0.0.LogServiceCollection",
  "@odata.id": "/redfish/v1/Chassis/1/LogServices",
  "Name": "Log Service Collection",
  "@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity/LogSer
  vices"
}

```

## Retrieving Chassis SEL Details

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Chassis/1/LogServices/SEL -k -u
admin:Admin123
```

```

{
  "@odata.id": "/redfish/v1/Chassis/1/LogServices/SEL",
  "Entries": {
    "@odata.id": "/redfish/v1/Chassis/1/LogServices/SEL/Entries"
  },
  "Name": "SEL Log Service",
  "ServiceEnabled": true,
  "MaxNumberOfRecords": 3008,
  "DateTime": "Tue Aug 23 23:06:50 2016\n",
  "@odata.type": "#LogService.1.0.0",
  "OverWritePolicy": "NeverOverWrites",
  "Id": "SEL",
  "@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity/LogSer

```

```
vices/Members/$entity",
  "Actions":{
    "#LogService.ClearLog":{
      "Target":"/redfish/v1/Chassis/1/LogServices/SEL/Actions/LogService.ClearLog"
    }
  },
  "Description"
}
```

## Retrieving Chassis SEL Entries Details

Request:

```
curl -GET
https://10.10.10.10/redfish/v1/Chassis/1/LogServices/SEL/Entries -k
-u admin:Admin123
{
  "Members":[{
    "@odata.id":"/redfish/v1/Managers/1/LogService/SEL/Entries/1250",
    "Id":"1250",
    "EntryType":"SEL",
    "Severity":"Normal",
    "Message":"Node Manager: Operational Capabilities, Policy
Interface:Available Monitoring:Available Power Limiting:Available ",
    "Created":"2016-08-23 22:43:54 "
  }],{
    "@odata.id":"/redfish/v1/Managers/1/LogService/SEL/Entries/1249",
    "Id":"1249",
    "EntryType":"SEL",
    "Severity":"Informational",
    "Message":"LED_HLTH_STATUS: Platform sensor, FAST BLINK event
was deasserted",
    "Created":"2016-08-23 22:43:26 "
  }],{
    "@odata.id":"/redfish/v1/Managers/1/LogService/SEL/Entries/1248",
    "Id":"1248",
    "EntryType":"SEL",
    "Severity":"Informational",
    "Message":"LED_HLTH_STATUS: Platform sensor, ON event was
asserted",
    "Created":"2016-08-23 22:43:26 "
  }],{
    "@odata.id":"/redfish/v1/Managers/1/LogService/SEL/Entries/1247",
    "Id":"1247",
    "EntryType":"SEL",
    "Severity":"Informational",
    "Message":"LED_FAN_STATUS: Platform sensor, AMBER was
deasserted",
    "Created":"2016-08-23 22:43:26 "
  }],{
    "@odata.id":"/redfish/v1/Managers/1/LogService/SEL/Entries/1246",
    "Id":"1246",
    "EntryType":"SEL",
    "Severity":"Informational",
    "Message":"LED_FAN_STATUS: Platform sensor, FAST BLINK event was
deasserted",
    "Created":"2016-08-23 22:43:26 "
  }
}
.
.
.
```

```

    {
"@odata.id":"/redfish/v1/Managers/1/LogService/SEL/Entries/1202",
  "Id":"1202",
  "EntryType":"SEL",
  "Severity":"Normal",
  "Message":"Node Manager: Operational Capabilities, Policy
Interface:Available Monitoring:Available Power Limiting:Available ",
  "Created":"2016-08-23 02:07:29 "
    },{
"@odata.id":"/redfish/v1/Managers/1/LogService/SEL/Entries/1201",
  "Id":"1201",
  "EntryType":"SEL",
  "Severity":"Informational",
  "Message":"LED_HLTH_STATUS: Platform sensor, FAST BLINK event
was deasserted",
  "Created":"2016-08-23 02:07:04 "
    }],
  "@odata.count":"1250",
"@odata.id":"/redfish/v1/Chassis/1/LogServices/SEL/Entries",
  "@odata.type":"#LogEntry.1.0.0.LogEntryCollection",
  "@odata.context":"/redfish/v1/$metadata#Chassis/Members/$entity/LogSer
vices/Members/$entity/Entries"
}

```

### Retrieving Details of a Specific SEL Entry

Request:

```

curl -GET
https://10.10.10.10/redfish/v1/Chassis/1/LogServices/SEL/Entries/120
1 -k -u admin:Admin123

```

```

{
"@odata.id":"/redfish/v1/Chassis/1/LogServices/SEL/Entries/1201",
  "EntryType":"SEL",
  "Message":"LED_PSU_STATUS: Platform sensor, GREEN was asserted",
"@odata.context":"/redfish/v1/$metadata#Chassis/Members/$entity/LogSer
vices/Members/$entity/Entries/Members/$entity",
  "@odata.type":"#LogEntry.1.0.0",
  "Severity":"Informational",
  "Id":"1201",
  "Created":"2016-04-08 05:21:44 "
}

```

### Retrieving Manager Details

Request:

```

curl -GET https://10.10.10.10/redfish/v1/Managers -k -u admin:Admin123

```

```

{
  "Members":[{"Members":[]
"@odata.id":"/redfish/v1/Managers/CIMC"
  }],
  "@odata.type":"#Manager.1.0.0.ManagerCollection",
  "@odata.id":"/redfish/v1/Managers",
  "Name":"Manager Collection",
  "@odata.context":"/redfish/v1/$metadata#Managers"
}

```

## Retrieving Cisco IMC Information

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Managers/CIMC -k -u
admin:Admin123
{
  "Id": "CIMC",
  "Links": {
    "ManagerForChassis": ["/redfish/v1/Chassis/1"],
    "ManagerForServers": ["/redfish/v1/Systems/FCH2005V1EN"]
  },
  "ManagerType": "CIMC",
  "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity",
  "Description": "",
  "SerialInterfaces": {
    "@odata.id": "/redfish/v1/Managers/CIMC/SerialInterfaces"
  },
  "ManagerNetworkProtocol": {
    "@odata.id": "/redfish/v1/Managers/CIMC/ManagerNetworkProtocol"
  },
  "UUID": "B7F88A22-772A-468F-94EC-45E5B6405C03",
  "LogServices": {
    "@odata.id": "/redfish/v1/Managers/CIMC/LogServices"
  },
  "FirmwareVersion": "3.0 (0.270)",
  "Name": "Manager",
  "Model": "UCSC-C240-M4S",
  "CommandShell": {
    "MaxConcurrentSessions": 4,
    "ConnectTypesSupported": ["SSH", "Telnet", "IPMI", "XML API"],
    "ServiceEnabled": true
  },
  "DateTime": "Tue Aug 23 23:20:10 2016\n",
  "@odata.type": "#Manager.1.0.0.Manager",
  "GraphicalConsole": {
    "MaxConcurrentSessions": 4,
    "ConnectTypesSupported": ["KVMIP", "WebUI"],
    "ServiceEnabled": true
  },
  "@odata.id": "/redfish/v1/Managers/CIMC",
  "SerialConsole": {
    "MaxConcurrentSessions": 4,
    "ConnectTypesSupported": ["SSH", "Telnet", "IPMI", "XML API"],
    "ServiceEnabled": true
  },
  "Actions": {
    "#Manager.Reset": {
      "Target": "/redfish/v1/Managers/CIMC/Actions/Manager.Reset",
      "ResetType@Redfish.AllowableValues": ["On", "ForceOff"]
    }
  },
  "EthernetInterfaces": {
    "@odata.id": "/redfish/v1/Managers/CIMC/EthernetInterfaces"
  }
}
```

## Retrieving Serial Interface Details

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Managers/CIMC/SerialInterfaces -
```



```
k -u admin:Admin123
{
  "Members": [{
    "@odata.id": "/redfish/v1/Managers/CIMC/SerialInterfaces/TTY0"
  }],
  "@odata.type": "#SerialInterface.1.0.0.SerialInterfaceCollection",
  "@odata.id": "/redfish/v1/Managers/CIMC/SerialInterfaces",
  "Description": "Collection of Serial Interfaces for this System",
  "Name": "Serial Interface Collection",
  "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/SerialInterfaces"
}
```

Request:

```
curl -GET
https://10.10.10.10/redfish/v1/Managers/CIMC/SerialInterfaces/TTY0 -
k -u admin:Admin123
{
  "@odata.id": "/redfish/v1/Managers/CIMC/SerialInterfaces/TTY0",
  "SignalType": "Rs232",
  "@odata.type": "#SerialInterface.1.0.0",
  "Id": "TTY0",
  "InterfaceEnabled": false,
  "Name": "Manager Serial Interface 1",
  "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/SerialInterfaces/Members/$entity",
  "PinOut": "Cisco",
  "BitRate": "115200",
  "DataBits": "8",
  "FlowControl": "None",
  "StopBits": "1",
  "ConnectorType": "RJ45",
  "Parity": "None",
  "Description": "Management for Serial Interface"
}
```

## Retrieving Network Protocol Details

Request:

```
curl -GET
https://10.10.10.10/redfish/v1/Managers/CIMC/ManagerNetworkProtocol
-k -u admin:Admin123
{
  "@odata.id": "/redfish/v1/Managers/CIMC/ManagerNetworkProtocol",
  "KVMIP": {
    "ProtocolEnabled": true,
    "Port": 2068
  },
  "SNMP": {
    "ProtocolEnabled": false,
    "Port": 161
  },
  "Id": "ManagerNetworkProtocol",
  "@odata.type": "#ManagerNetworkProtocol.1.0.0",
  "Name": "Manager Network Protocol",
  "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/ManagerNetworkProtocol",
  "https": {
    "ProtocolEnabled": true,

```

```

        "Port":443
    },
    "HostName":"C240-FCH2005V1EN",
    "Telnet":{
        "ProtocolEnabled":true,
        "Port":23
    },
    "SSH":{
        "ProtocolEnabled":true,
        "Port":22
    },
    "IPMI":{
        "ProtocolEnabled":false
    },
    "https":{
        "ProtocolEnabled":true,
        "Port":80
    },
    "VirtualMedia":{
        "ProtocolEnabled":true
    },
    "Description":"Manager Network Service"
}
}

```

### Retrieving Ethernet Interfaces Details

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Managers/CIMC/EthernetInterfaces -k -u admin:Admin123
```

```

{
  "Members":[{
    "@odata.id":"/redfish/v1/Managers/CIMC/EthernetInterfaces/NICs"
  }],
  "@odata.type":"#EthernetInterface.1.0.0.EthernetInterface",
  "@odata.id":"/redfish/v1/Managers/CIMC/EthernetInterfaces",
  "Description":"Collection of Ethernet Interfaces for this Manager",
  "Name":"Ethernet Intefaces Collection",
  "@odata.context":"/redfish/v1/$metadata#Managers/Members/$entity/EthernetInterfaces"
}

```

### Retrieving Message Registry Information

Request:

```
curl -GET https://10.10.10.10/redfish/v1/MessageRegistry -u admin:password --insecure
```

Response:

```

{
  "RegistryVersion":"1.0.0",
  "OwningEntity":"Cisco Systems Inc.",
  "Name":"Message Registry",
  "@odata.context":"/redfish/v1/$metadata#MessageRegistry",
  "@odata.id":"/redfish/v1/MessageRegistry",
  "@odata.type":"#MessageRegistry.1.0.0.MessageRegistry",
}

```

```

"Language":"en",
"RegistryPrefix":"","
"Messages":{
  "F0381":{
    "Oem":{
      "MessageId":12
    },
    "Message": "",
    "NumberOfArgs":0,
    "Severity":"minor",
    "Resolution":"Check power supply status",
    "Description":"Power Supply temperature is upper non critical"
  },
  "F0395":{
    "Oem":{
      "MessageId":25
    },
    "Message": "",
    "NumberOfArgs":0,
    "Severity":"minor",
    "Resolution":"Check the air intake to the server",
    "Description":"Fan speed for fan-x is lower non critical"
  },
  "F0176":{
    "Oem":{
      "MessageId":10
    },
    "Message": "",
    "NumberOfArgs":0,
    "Severity":"major",
    "Resolution":"Check Cooling",
    "Description":"Processor Thermal threshold has crossed
upper critical threshold"
  },
  .
  .
  .
  .
    "Message": "",
    "NumberOfArgs":0,
    "Severity":"major",
    "Resolution":"Check the air intake to the server",
    "Description":"Fan speed for fan-x is lower critical"
  },
  "F0424":{
    "Oem":{
      "MessageId":20
    },
    "Message": "",
    "NumberOfArgs":0,
    "Severity":"major",
    "Resolution":"Replace Battery",
    "Description":"Battery voltage level is lower critical"
  }
},
"Id":"Message Registry",
"Description":"This registry defines the Fault messages for Redfish"
}

```

## Enabling an Event Service

Request:

```
curl -XPATCH https://10.10.10.10/redfish/v1/EventService -d
'{"ServiceEnabled":true}' -u admin:password -insecure
```

Response:

```
{
  "Status":{
    "State":"Disabled",
    "Health":"OK"
  },
  "DeliveryRetryIntervalInSeconds":30,
  "EventTypesForSubscription":["Alert"],
  "Id":"EventService",
  "DeliveryRetryAttempts":3,
  "ServiceEnabled":true,
  "Name":"Event Service",
  "Description":"Event Service represents the properties for the service"
}
```

### Configuring Event Subscribers

Request:

```
curl -XPOST https://10.10.10.10/redfish/v1/EventService
/Subscriptions -d '{"Protocol":"Redfish","Destination":"10.104.255.59"
,"Context":"ffff","EventTypes":["Alert"]
,"HttpHeaders":["Authorization:BasicYWRtaW46cGFzc3dvcmQ=
,"X-MyHeader:123"]}' -u admin:password -insecure
```

Response:

```
{
  "subscriberKey":"351357385644ea45d8544885d7655a8d"
}
```

### Retrieving a List of Subscribers

Request:

```
curl -GET https://10.10.10.10/redfish/v1/EventService
/Subscriptions -u admin:password -k
```

Response:

```
{
  "Members":[{
    "@odata.id":"/redfish/v1/EventService/Subscriptions
/771756785144ea475854488556157a85"
  },{
    "@odata.id":"/redfish/v1/EventService/Subscriptions
/881856885144ea489854488596158a49"
  }],
  "Description":"List of Event subscriptions",
  "@odata.type":"#EventService.1.0.0.EventDestinationCollection",
  "@odata.id":"/redfish/v1/EventService/Subscriptions",
}
```

```

    "Members@odata.count":2,
    "Name":"Event Subscriptions Collection",
    "@odata.context":"/redfish/v1/$metadata#EventService/Subscriptions"
  }

```

### Retrieving Information about an Event Subscriber with Subscription Key

Request:

```

curl -GET https://10.10.10.10/redfish/v1/EventService
/Subscriptions/771756785144ea475854488556157a85 -u admin:password -k

```

Response:

```

{
  "@odata.id":"/redfish/v1/EventService/Subscriptions/771756785144ea475854488556157a85",
  "Protocol":"Redfish",
  "Name":"EventSubscription 771756785144ea475854488556157a85",
  "Context":"abcsd",
  "Description":"Event Subscription Details",
  "@odata.type":"#EventDestination.1.0.0.EventDestination",
  "Destination":"10.104.255.16",
  "@odata.context":"/redfish/v1/$metadata#EventService/Subscriptions/Members/$entity",
  "Id":"771756785144ea475854488556157a85",
  "EventTypes":["Alert"]
}

```

### Updating Event Subscribers

Request:

```

curl -XPATCH https://10.10.10.10/redfish/v1
/EventService/Subscriptions
/351357385644ea45d8544885d7655a8d -d
'{"Context":"Cisco"}' -u admin:password --insecure

```

Response:

```

{
  "Description":"Event Subscription Details",
  "Context":"Cisco",
  "Id":"351357385644ea45d8544885d7655a8d",
  "Destination":"10.104.255.59",
  "Protocol":"Redfish",
  "Name":"EventSubscription 351357385644ea45d8544885d7655a8d",
  "EventTypes":["Alert"]
}

```

### Deleting an Event Subscription

Request:

```

curl -XDELETE https://10.10.10.10/redfish/v1/EventService

```

```
/Subscriptions/351357385644ea45d8544885d7655a8d -u  
admin:password --insecure
```

Response:

**Note:** curl with verbose option enabled receives an http response '200 OK' for the above query.

### Testing if an Event Receiver is Ready

Request:

```
curl -XPOST https://10.10.10.10/redfish/v1/EventService/Actions  
/EventService.SubmitTestEvent -d '{"Protocol": "redfish",  
"Destination": "10.10.10.10", "EventType": ["Alert"], "Context": "mike-alert"}' -u  
admin:Admin123
```

Response:

```
{"EventType": "Alert", "MessageId": "F000",  
"Message": "Test event from Cisco IMC Redfish Engine",  
"Context": "mike-alert"  
}
```

### Retrieving OEM Specific Actions

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Managers/CIMC --insecure -u  
admin:password
```

Response:

```
{  
  "DateTimeLocalOffset": "UTC+0530",  
  "Id": "CIMC",  
  "Links": {  
    "ManagerForChassis": ["/redfish/v1/Chassis/1"],  
    "ManagerForServers": ["/redfish/v1/Systems/FCH2005V1E4"]  
  },  
  "ManagerType": "CIMC",  
  "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity",  
  "@odata.id": "/redfish/v1/Managers/CIMC",  
  "VirtualMedia": {  
    "@odata.id": "/redfish/v1/Managers/CIMC/VirtualMedia"  
  },  
  "Description": "",  
  "LogServices": {  
    "@odata.id": "/redfish/v1/Managers/CIMC/LogServices"  
  },  
  "SerialInterfaces": {  
    "@odata.id": "/redfish/v1/Managers/CIMC/SerialInterfaces"  
  },  
  "FirmwareVersion": "3.0(1S8)",  
  "UUID": "E320FC46-31AC-4D93-BA64-C7FE5A139628",  
}
```

```

"Status":{
  "State":"Enabled",
  "Health":"OK"
  .
  .
  .
  .
},
"Name":"Cisco Integrated Management Controller",
"Actions":{
  "#Oem.ImportBmcConfig":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Passphrase@Redfish.AllowableValues":["Passphrase"],
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.ImportBmcConfig",
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  },
  "#Oem.BmcFwUpdate":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.BmcFwUpdate",
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  },
  "#Manager.Reset":{
    "Target":"/redfish/v1/Managers/CIMC/Actions/Manager.Reset",
    "ResetType@Redfish.AllowableValues":["ForceRestart"]
  },
  "#Oem.BiosFwUpdate":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.BiosFwUpdate",
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  },
  "#Oem.ExportBmcConfig":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Passphrase@Redfish.AllowableValues":["Passphrase"],
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.ExportBmcConfig",
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  },
  "#Oem.BmcTechSupportExport":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.BmcTechSupportExport",
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  }
}

```

## Retrieving Task Service

Request:

```
curl -GET https://10.10.10.10/redfish/v1/TaskService -u admin:password -k
```

Response:

```
{
  "Tasks":{
    "@odata.id":"/redfish/v1/TaskService/Tasks"
  },
  "@odata.id":"/redfish/v1/TaskService",
  "LifeCycleEventOnTaskStateChange":false,
  "Name":"Tasks Service",
  "ServiceEnabled":true,
  "@odata.type":"#TaskService.1.0.0",
  "CompletedTaskOverWritePolicy":"Oldest",
  "@odata.context":"/redfish/v1/$metadata#TaskService",
  "Id":"TaskService",
  "Status":{
    "State":"Enabled",
    "Health":"OK"
  },
  "Description":"Tasks Service"
}
```

### Retrieving Tasks

Request:

```
curl -GET https://10.10.10.10/redfish/v1/TaskService/
Tasks -u admin:password -k
```

Response:

```
{
  "Members":[{
    "@odata.id":"/redfish/v1/TaskService/Tasks/BmcFwUpdate"
  },{
    "@odata.id":"/redfish/v1/TaskService/Tasks/BiosFwUpdate"
  },{
    "@odata.id":"/redfish/v1/TaskService/Tasks/BmcTechSupportExport"
  },{
    "@odata.id":"/redfish/v1/TaskService/Tasks/ImportBmcConfig"
  },{
    "@odata.id":"/redfish/v1/TaskService/Tasks/ExportBmcConfig"
  }],
  "Description":"Tasks",
  "@odata.type":"#TaskCollection.1.0.0.TaskCollection",
  "@odata.id":"/redfish/v1/TaskService/Tasks",
  "Members@odata.count":5,
  "Name":"Tasks",
  "@odata.context":"/redfish/v1/$metadata#TaskService/Tasks"
}
```

### Updating BIOS Firmware

Request:



```
curl -XPOST https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem.BiosFwUpdate -d '{"RemoteHostname":"10.10.10.10", "RemotePath":"krigovin/FW/C220M4-BIOS-3-0-0-6.cap", "Protocol":"TFTP"}' --insecure -u admin:password
```

Response:

**Note:** curl with verbose option enabled receives an http response '202 Accepted' for the above query.

### Retrieving BIOS Firmware Update Status

Request:

```
curl -GET https://10.10.10.10/redfish/v1/TaskService/Tasks/BiosFwUpdate --insecure -u admin:password
```

Response:

```
{
  "@odata.id": "/redfish/v1/TaskService/Tasks/BiosFwUpdate",
  "Name": "Task BiosFwUpdate",
  "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
  "TaskStatus": "OK",
  "@odata.type": "#Task.1.0.0",
  "Id": "BiosFwUpdate",
  "TaskState": "Running",
  "Oem": {
    "FWVersion": "C240M4.3.0.0.8.0925161827",
    "UpdateStatus": "Image Download (5 %), OK"
  },
  "Description": "BIOS firmware version"
}
```

### Updating Cisco IMC Firmware

Request:

```
curl -XPOST https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem.BmcFwUpdate -d '{"RemoteHostname":"10.10.10.10", "RemotePath":"mike/FW/upd-pkg-c220-m4-cimc.full.3.0.0.275.bin", "Protocol":"TFTP"}' --insecure -u admin:password
```

Response:

**Note:** curl with verbose option enabled receives an http response '202 Accepted' for the above query.

### Retrieving Cisco IMC Firmware Update Status

Request:

```
curl -GET https://10.10.10.10/redfish/v1/TaskService/Tasks/BmcFwUpdate --insecure -u admin:password
```

Response:

```
{
  "@odata.id": "/redfish/v1/TaskService/Tasks/BmcFwUpdate",
  "Name": "Task BmcFwUpdate",
  "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
  "TaskStatus": "OK",
  "@odata.type": "#Task.1.0.0",
  "Id": "BmcFwUpdate",
  "TaskState": "Running",
  "Oem": {
    "FWVersion": "3.0 (0.369)",
    "UpdateStatus": "Downloading (5%)"
  },
  "Description": "Cisco IMC backup firmware version"
}
```

### Triggering Cisco IMC Technical Support

Request:

```
curl -POST https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem.BmcTechSupportExport -d '{"RemoteHostname":"10.10.10.10",
"RemotePath":"/home/mike/dan/techSupport.tar.gz",
"Protocol":"SCP","RemoteUsername":"mike",
"RemotePassword":"1234game"}' --insecure -u admin:password
```

Response:

**Note:** curl with verbose option enabled receives an http response '202 Accepted' for the above query.

### Retrieving Cisco IMC Technical Support Status

Request:

```
curl -GET https://10.10.10.10/redfish/v1/TaskService/Tasks/BmcTechSupportExport --insecure -u admin:password
```

Response:

```
{
  "@odata.id": "/redfish/v1/TaskService/Tasks/BmcTechSupportExport",
  "Name": "Task BmcTechSupportExport",
  "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
  "TaskStatus": "OK",
  "@odata.type": "#Task.1.0.0",
  "Id": "BmcTechSupportExport",
  "TaskState": "Running",
  "Oem": {
    "RemoteHostName": "10.10.10.10",
    "RemotePath": "/home/mike/dan/techSupport.tar.gz",
    "ExportStatus": "Collecting Data (0%)"
  }
}
```

```

    "Protocol":"scp",
    "RemoteUsername":"mike"
  },
  "Description":"BMC Technical Support Export"
}

```

## Exporting Cisco IMC Configuration

Request:

```

curl -POST https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem.ExportBmcConfig -d '{"RemoteHostname":"10.10.10.10",
"RemotePath":"/home/mike/dan/cimc_export.xml", "Passphrase":"testtest",
"Protocol":"scp", "RemoteUsername":"mike",
"RemotePassword":"1234game"}' --insecure -u admin:password

```

Response:

**Note:** curl with verbose option enabled receives an http response '202 Accepted' for the above query.

## Exporting Cisco IMC Configuration Status

Request:

```

curl -GET https://10.10.10.10/redfish/v1/TaskService/Tasks/ExportBmcConfig --insecure -u admin:password

```

Response:

```

{
  "@odata.id":"/redfish/v1/TaskService/Tasks/ExportBmcConfig",
  "Name":"Task ExportBmcConfig",
  "@odata.context":"/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
  "TaskStatus":"OK",
  "@odata.type":"#Task.1.0.0",
  "Id":"ExportBmcConfig",
  "TaskState":"Completed",
  "Oem":{
    "ExportStatus":"Completed"
  },
  "Description":"Export BMC Configuration"
}

```

## Importing Cisco IMC Configuration

Request:

```

curl -POST https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem.ImportBmcConfig -d '{"RemoteHostname":"10.10.10.10",
"RemotePath":"/home/mike/tom/cimc_export.xml",
"Passphrase":"testtest", "Protocol":"scp",
"RemoteUsername":"mike",
"RemotePassword":"1234game"}' --insecure -u
admin:password

```

Response:

**Note:** curl with verbose option enabled receives an http response '202 Accepted' for the above query.

### Importing Cisco IMC Configuration Status

Request:

```
curl -GET https://10.10.10.10/redfish/v1/TaskService/Tasks/ImportBmcConfig --insecure -u admin:password
```

Response:

```
{
  "@odata.id": "/redfish/v1/TaskService/Tasks/ImportBmcConfig",
  "Name": "Task ImportBmcConfig",
  "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
  "TaskStatus": "OK",
  "@odata.type": "#Task.1.0.0",
  "Id": "ImportBmcConfig",
  "TaskState": "Running",
  "Oem": {
    "ImportStatus": "Applying configuration"
  },
  "Description": "Import BMC Configuration"
}
```

### Setting an Asset Tag Value

Request:

```
curl -XPATCH https://10.10.10.10/redfish/v1/Systems/FCH2005V1E4 -d '{"AssetTag": "Cisc0123"}' --insecure -u admin:password
```

Response:

```
{
  "SerialNumber": "FCH2005V1E4",
  "Boot": {
    "BootSourceOverrideEnabled": "Disabled",
    "BootSourceOverrideTarget": "None"
  },
  "Id": "FCH2005V1E4",
  "AssetTag": "Cisc0123",
  "PowerState": "On",
  "SystemType": "Physical",
  "ProcessorSummary": {
    "Model": "Intel(R) Xeon(R) CPU E5-2640 v3 @ 2.60GHz",
    "Count": 2
  },
  "HostName": "C240-FCH2005V1E4",
  "MemorySummary": {
    "TotalSystemMemoryGiB": 128,
    "State": {
      "HealthRollup": "OK",
      "Health": "OK"
    }
  }
}
```

```

    },
    "Description": "",
    "UUID": "E320FC46-31AC-4D93-BA64-C7FE5A139628",
    "Status": {
      "State": "Enabled",
      "Health": "Warning"
    },
  },
  "Name": "UCS C240 M4S",
  "Manufacturer": "Cisco Systems",
  "IndicatorLED": "Off",
  "Model": "UCS C240 M4S",
  "BiosVersion": "C240M4.2.0.9b.0.012520161828"
}

```

### Setting an Indicator LED Value to 'Lit'

Request:

```
curl -XPATCH https://10.10.10.10/redfish/v1/Systems/FCH2005V1E4 -d '{"IndicatorLED":"Lit"}' --insecure -u admin:password
```

Response:

```

{
  "SerialNumber": "FCH2005V1E4",
  "Boot": {
    "BootSourceOverrideEnabled": "Disabled",
    "BootSourceOverrideTarget": "None"
  },
  "Id": "FCH2005V1E4",
  "AssetTag": "Cisco123",
  "PowerState": "On",
  "SystemType": "Physical",
  "ProcessorSummary": {
    "Model": "Intel(R) Xeon(R) CPU E5-2640 v3 @ 2.60GHz",
    "Count": 2
  },
  "HostName": "C240-FCH2005V1E4",
  "MemorySummary": {
    "TotalSystemMemoryGiB": 128,
    "State": {
      "HealthRollup": "OK",
      "Health": "OK"
    }
  },
  "Description": "",
  "UUID": "E320FC46-31AC-4D93-BA64-C7FE5A139628",
  "Status": {
    "State": "Enabled",
    "Health": "Warning"
  },
  "Name": "UCS C240 M4S",
  "Manufacturer": "Cisco Systems",
  "IndicatorLED": "Lit",
  "Model": "UCS C240 M4S",
  "BiosVersion": "C240M4.2.0.9b.0.012520161828"
}

```

## Viewing Session Service

Request:

```
curl -GET https://10.10.10.10/redfish/v1/SessionService -k -u
admin:Admin123
{
  "@odata.type": "#SessionService.1.0.0",
  "@odata.id": "/redfish/v1/SessionService",
  "Sessions": {
    "@odata.id": "/redfish/v1/SessionService/Sessions"
  },
  "Name": "Session Service",
  "@odata.context": "/redfish/v1/$metadata#SessionService"
}
```

## Sessions

Request:

```
curl -GET https://10.10.10.10/redfish/v1/SessionService/Sessions -k -u
admin:Admin123
{
  "Members": [],
  "@odata.type": "#SessionCollection.1.0.0.SessionCollection",
  "@odata.id": "/redfish/v1/SessionService/Sessions",
  "Name": "Session Collection",
  "Members@odata.count": 0,
  "@odata.context": "/redfish/v1/$metadata#SessionService/Sessions"
}
```

## Viewing Server ID

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Systems -k -u admin:Admin123
{
  "Members": [{
    "@odata.id": "/redfish/v1/Systems/FCH2005V1EN"
  }],
  "@odata.type": "#Cisco_ComputerSystemCollection",
  "@odata.id": "/redfish/v1/Systems",
  "Name": "Computer System Collection",
  "@odata.context": "/redfish/v1/$metadata#Systems"
}
```

## Viewing Specific System information

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN -k -u
admin:Admin123
{
  "SerialNumber": "FCH2005V1EN",
  "Boot": {
    "BootSourceOverrideEnabled": "Disabled",
    "BootSourceOverrideTarget": "None"
  },
  "Id": "FCH2005V1EN",
}
```

```

"AssetTag":"Unknown",
"PowerState":"On",
"SystemType":"Physical",
"ProcessorSummary":{
  "Model":"Intel(R) Xeon(R) CPU E5-2640 v3 @ 2.60GHz",
  "Count":2
},
"HostName":"C240-FCH2005V1EN",
"MemorySummary":{
  "TotalSystemMemoryGiB":128,
  "State":{
    "Health":"OK"
  }
},
"Processors":{
  "@odata.id":"/redfish/v1/Systems/FCH2005V1EN/Processors"
},
"Description":"",
"SimpleStorage":{
  "@odata.id":"/redfish/v1/Systems/FCH2005V1EN/SimpleStorage"
},
"UUID":"B7F88A22-772A-468F-94EC-45E5B6405C03",
"Status":{
  "State":"Enabled",
  "Health":"Warning"
},
"Links":{
  "CooledBy":["/redfish/v1/Chassis/1/Thermal"],
  "Chassis":["/redfish/v1/Chassis/1"],
  "PoweredBy":["/redfish/v1/Chassis/1/Power"],
  "ManagedBy":["/redfish/v1/Managers/CIMC"]
},
"Name":"UCS C240 M4S",
"BiosVersion":"C240M4.2.0.9b.0.012520161828",
"LogServices":{
  "@odata.id":"/redfish/v1/Systems/FCH2005V1EN/LogServices"
},
"Actions":{
  "#System.Reset":{
    "Target":"/redfish/v1/Systems/FCH2005V1EN/Actions/System.Reset",
    "ResetType@Redfish.AllowableValues":["On","ForceOff","GracefulShutdown",
    "ForceRestart","Nmi"]
  }
},
"@odata.type":"#Cisco_ComputerSystem",
"@odata.context":"/redfish/v1/$metadata#Systems/Members/$entity",
"@odata.id":"/redfish/v1/Systems/FCH2005V1EN",
"IndicatorLED":"Off",
"Model":"UCS C240 M4S",
"EthernetInterfaces":{
  "@odata.id":"/redfish/v1/Systems/FCH2005V1EN/EthernetInterfaces"
}
}
}

```

## Viewing Processor Information

Request:

```

curl -GET https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/Processors -
k -u admin:Admin123
{

```

```

"Members": [{
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Processors/CPU1"
}, {
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Processors/CPU2"
}],
"@odata.type": "#Cisco_ComputerProcessorCollection",
"@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Processors",
"Name": "Processors Collection",
"@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Processors"
}

```

**curl -GET**

```

https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/Processors/CPU1 -
k -u admin:Admin123
{
  "Description": "Intel(R) Xeon(R) CPU E5-2640 v3 @ 2.60GHz/90W 8C/20MB
Cache/DDR4 1866MHz",
  "ProcessorArchitecture": "x86",
  "Status": {
    "State": "Enabled"
  },
  "ProcessorType": "CPU",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Processors/Members/$entity",
  "TotalThreads": "16",
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Processors/CPU1",
  "TotalCores": "8",
  "@odata.type": "#Cisco_ComputerProcessor",
  "Id": "1",
  "Manufacturer": "Intel(R) Corporation",
  "MaxSpeedMHz": "4000",
  "Model": "Intel(R) Xeon(R) CPU E5-2640 v3 @ 2.60GHz",
  "Socket": "CPU1"
}

```

**curl -GET**

```

https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/Processors/CPU2 -
k -u admin:Admin123
{
  "Description": "Intel(R) Xeon(R) CPU E5-2640 v3 @ 2.60GHz/90W 8C/20MB
Cache/DDR4 1866MHz",
  "ProcessorArchitecture": "x86",
  "Status": {
    "State": "Enabled"
  },
  "ProcessorType": "CPU",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Processors/Members/$entity",
  "TotalThreads": "16",
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Processors/CPU2",
  "TotalCores": "8",
  "@odata.type": "#Cisco_ComputerProcessor",
  "Id": "2",
  "Manufacturer": "Intel(R) Corporation",
  "MaxSpeedMHz": "4000",
  "Model": "Intel(R) Xeon(R) CPU E5-2640 v3 @ 2.60GHz",
  "Socket": "CPU2"
}

```



## Viewing Storage Information

Request:

```
curl -GET
https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/SimpleStorage -k
-u admin:Admin123
{
  "Members": [{
    "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/SimpleStorage/SLOTHBA"
  }],
  "@odata.type": "#Cisco_ComputerStorageCollection",
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/SimpleStorage",
  "Name": "Simple Storage Collection",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Simple
Storage"
}
```

```
curl -GET
https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/SimpleStorage/SLO
T-HBA -k -u admin:Admin123
{
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/SimpleStorage/SLOTHBA",
  "Id": "SLOT-HBA",
  "@odata.type": "#Cisco_ComputerStorage",
  "Devices": [{
    "Status": {
      "State": "Enabled",
      "Health": "Good"
    },
    "Name": "PD-1",
    "Manufacturer": "HITACHI"
  }, {
    "Status": {
      "State": "Enabled",
      "Health": "Good"
    },
    "Name": "PD-2",
    "Manufacturer": "HITACHI"
  }, {
    "Name": "PD-3",
    "Status": {
      "State": "Absent"
    }
  }, {
    "Name": "PD-4",
    "Status": {
      "State": "Absent"
    }
  }, {
    "Name": "PD-5",
    "Status": {
      "State": "Absent"
    }
  }, {
    "Name": "PD-6",
    "Status": {
      "State": "Absent"
    }
  }, {
    "Name": "PD-7",
    "Status": {
      "State": "Absent"
    }
  }
}
```

```

    }
  }, {
    "Name": "PD-8",
    "Status": {
      "State": "Absent"
    }
  }
],
"Status": {
  "State": "Optimal",
  "Health": "Ok"
},
"Name": "Cisco 12G SAS Modular Raid Controller",
"@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/SimpleStorage/Members/$entity"
}

```

### Viewing User Accounts

Request:

```
curl -GET https://10.10.10.10/redfish/v1/AccountService -k -u admin:Admin123
```

```

{
  "Accounts": {
    "@odata.id": "/redfish/v1/AccountService/Accounts"
  },
  "Id": "AccountService",
  "Name": "Account Service",
  "@odata.context": "/redfish/v1/$metadata#AccountService",
  "@odata.type": "#AccountService.1.0.0",
  "Roles": {
    "@odata.id": "/redfish/v1/AccountService/Roles"
  },
  "ServiceEnabled": true,
  "@odata.id": "/redfish/v1/AccountService",
  "Description": "Account Service"
}

```

### Viewing User Accounts

Request:

```
curl -GET https://10.10.10.10/redfish/v1/AccountService/Accounts -k -u admin:Admin123
```

```

{
  "Members": [ {
    "@odata.id": "/redfish/v1/AccountService/Accounts/1"
  }, {
    "@odata.id": "/redfish/v1/AccountService/Accounts/2"
  }, {
    "@odata.id": "/redfish/v1/AccountService/Accounts/3"
  } ],
  "@odata.type": "#ManagerAccountCollection.1.0.0.ManagerAccountCollection",
  "@odata.id": "/redfish/v1/AccountService/Accounts",
  "Name": "Account Collection",
  "@odata.context": "/redfish/v1/$metadata#AccountService/Accounts"
}

```

```
curl -GET https://10.10.10.10/redfish/v1/AccountService/Accounts/1 -k -u
admin:Admin123
```

```
{
  "@odata.id":"/redfish/v1/AccountService/Accounts/1",
  "Links":{
    "Role":["/redfish/v1/AccountService/Roles/admin"]
  },
  "Name":"User Account",
"@odata.context":"/redfish/v1/$metadata#AccountService/Accounts/Member
s/$entity",
  "@odata.type":"#ManagerAccount.1.0.0",
  "RoleId":"admin",
  "Description":"User Account",
  "Id":"1",
  "Enabled":true,
  "Locked":false,
  "UserName":"admin"
}
```

```
curl -GET https://10.10.10.10/redfish/v1/AccountService/Accounts/2 -k -u
admin:Admin123
```

```
{
  "@odata.id":"/redfish/v1/AccountService/Accounts/2",
  "Links":{
    "Role":["/redfish/v1/AccountService/Roles/user"]
  },
  "Name":"User Account",
"@odata.context":"/redfish/v1/$metadata#AccountService/Accounts/Member
s/$entity",
  "@odata.type":"#ManagerAccount.1.0.0",
  "RoleId":"user",
  "Description":"User Account",
  "Id":"2",
  "Enabled":true,
  "Locked":false,
  "UserName":"username"
}
```

## Roles

Request:

```
curl -GET https://10.10.10.10/redfish/v1/AccountService/Roles -k -u
admin:Admin123
```

```
{
  "Members":[{"@odata.id":"/redfish/v1/AccountService/Roles/admin"},{
"@odata.id":"/redfish/v1/AccountService/Roles/user"},{
"@odata.id":"/redfish/v1/AccountService/Roles/read-only"}],
"@odata.type":"#RoleCollection.1.0.0.RoleCollection",
"@odata.id":"/redfish/v1/AccountService/Roles",
"Name":"Roles Collection",
"@odata.context":"/redfish/v1/$metadata#AccountService/Roles"
}
```

```
curl -GET https://10.10.10.10/redfish/v1/AccountService/Roles/admin -k -u
admin:Admin123
```

```
{
  "IsPredefined":true,
  "@odata.id":"/redfish/v1/AccountService/Roles/admin",
  "AssignedPrivileges":["Login","ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents"],
  "Name":"User Role",
  "@odata.context":"/redfish/v1/$metadata#AccountService/Roles/Members/$entity",
  "@odata.type":"#Role.1.0.0",
  "OEMPrivileges":["OemClearLog","OemPowerControl"],
  "Id":"admin",
  "Description":"Admin User Role"
}
```

```
curl -GET https://10.10.10.10/redfish/v1/AccountService/Roles/user -k -u
admin:Admin123
```

```
{
  "IsPredefined":true,
  "@odata.id":"/redfish/v1/AccountService/Roles/user",
  "AssignedPrivileges":["Login","ConfigureSelf","ConfigureComponents"],
  "Name":"User Role",
  "@odata.context":"/redfish/v1/$metadata#AccountService/Roles/Members/$entity",
  "@odata.type":"#Role.1.0.0",
  "OEMPrivileges":[],
  "Id":"user",
  "Description":"User Role"
}
```

```
curl -GET https://10.10.10.10/redfish/v1/AccountService/Roles/read-only -k -u admin:Admin123
```

```
{
  "IsPredefined":true,
  "@odata.id":"/redfish/v1/AccountService/Roles/read-only",
  "AssignedPrivileges":["Login"],
  "Name":"User Role",
  "@odata.context":"/redfish/v1/$metadata#AccountService/Roles/Members/$entity",
  "@odata.type":"#Role.1.0.0",
  "OEMPrivileges":[],
  "Id":"read-only",
  "Description":"ReadOnly User Role"
}
```

## Logservices

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Chassis/1/LogServices/SEL/Entries\?$top=2 -k -u admin:Admin123
```

```
{
  "Members":[{"@odata.id":"/redfish/v1/Managers/1/LogService/SEL/Entries/1250",
    "Id":"1250",
    "EntryType":"SEL",
    "Severity":"Normal",
    "Message":"Node Manager: Operational Capabilities, Policy Interface:Available Monitoring:Available Power Limiting:Available "},
```

```

    "Created": "2016-08-23 22:43:54 "
  }, {
"@odata.id": "/redfish/v1/Managers/1/LogService/SEL/Entries/1249",
  "Id": "1249",
  "EntryType": "SEL",
  "Severity": "Informational",
  "Message": "LED_HLTH_STATUS: Platform sensor, FAST BLINK event
was deasserted",
  "Created": "2016-08-23 22:43:26 "
  }],
  "@odata.count": "1250",
"@odata.id": "/redfish/v1/Chassis/1/LogServices/SEL/Entries",
  "@odata.type": "#LogEntry.1.0.0.LogEntryCollection",
"@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity/LogSer
vices/Members/$entity/Entries"
}

```

```

curl -GET https://10.10.10.10/redfish/v1/Managers/CIMC/LogServices
/SEL/Entries/?\&$skip=2&\&$top=2 -u admin:admin123 --insecure

```

```

{
  "Members": [ {
    "EntryCode": "State Asserted",
"@odata.id": "/redfish/v1/Managers/CIMC/LogServices/SEL/Entries/279",
    "EntryType": "SEL",
    "Message": "PSU1 PSU1_AC_OK: Power Supply sensor for PSU1, State Asserted",
    "Description": "Log Entry 279",
    "Name": "Log Entry 279",
    "Severity": "Normal",
    "Id": "279",
    "Created": "2016-12-09 04:11:24 "
  }, {
    "EntryCode": "State Asserted",
"@odata.id": "/redfish/v1/Managers/CIMC/LogServices/SEL/Entries/278",
    "EntryType": "SEL",
    "Message": "PSU1 PSU1_PWRGD: Power Supply sensor for PSU1, State Asserted",
    "Description": "Log Entry 278",
    "Name": "Log Entry 278",
    "Severity": "Normal",
    "Id": "278",
    "Created": "2016-12-09 04:11:24 "
  } ],
  "@odata.count": "281",
"@odata.id": "/redfish/v1/Managers/CIMC/LogServices/SEL/Entries",
  "@odata.type": "#LogEntry.1.0.0.LogEntryCollection",
  "Members@odata.count": 2,
"@odata.context": "/redfish/v1/$metadata#Managers
/Members/$entity/LogServices/Members/$entity/Entries"
}

```

## Thermal

Request:

```

curl -GET
https://10.10.10.10/redfish/v1/Chassis/1/Thermal#/Temperatures/MLOM_
TMP -k -u admin:Admin123
{
  "Fans": [
    {
      "UpperThresholdFatal": "N/A",
      "Status": {

```

```

        "State": "Enabled",
        "Health": "OK"
    },
    "FanName": "FAN1_SPEED",
    "LowerThresholdFatal": "N/A",
    "PhysicalContext": "Backplane",
    "MemberID": 1,
    "LowerThresholdNonCritical": "1600",
    "LowerThresholdCritical": "1200",
    "ReadingRPM": "5500",
    "UpperThresholdCritical": "N/A",
    "UpperThresholdNonCritical": "N/A",
    "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Fans/1"
},
{
    "UpperThresholdFatal": "N/A",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "FanName": "FAN2_SPEED",
    "LowerThresholdFatal": "N/A",
    "PhysicalContext": "Backplane",
    "MemberID": 2,
    "LowerThresholdNonCritical": "1600",
    "LowerThresholdCritical": "1200",
    "ReadingRPM": "5500",
    "UpperThresholdCritical": "N/A",
    "UpperThresholdNonCritical": "N/A",
    "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Fans/2"
},
{
    "UpperThresholdFatal": "N/A",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "FanName": "FAN3_SPEED",
    "LowerThresholdFatal": "N/A",
    "PhysicalContext": "Backplane",
    "MemberID": 3,
    "LowerThresholdNonCritical": "1600",
    "LowerThresholdCritical": "1200",
    "ReadingRPM": "5500",
    "UpperThresholdCritical": "N/A",
    "UpperThresholdNonCritical": "N/A",
    "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Fans/3"
},
{
    "UpperThresholdFatal": "N/A",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "FanName": "FAN4_SPEED",
    "LowerThresholdFatal": "N/A",
    "PhysicalContext": "Backplane",
    "MemberID": 4,
    "LowerThresholdNonCritical": "1600",
    "LowerThresholdCritical": "1200",
    "ReadingRPM": "5700",
    "UpperThresholdCritical": "N/A",
    "UpperThresholdNonCritical": "N/A",
    "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Fans/4"
}

```

```

    },
    {
      "UpperThresholdFatal": "N/A",
      "Status": {
        "State": "Enabled",
        "Health": "OK"
      },
      "FanName": "FAN5_SPEED",
      "LowerThresholdFatal": "N/A",
      "PhysicalContext": "Backplane",
      "MemberID": 5,
      "LowerThresholdNonCritical": "1600",
      "LowerThresholdCritical": "1200",
      "ReadingRPM": "5500",
      "UpperThresholdCritical": "N/A",
      "UpperThresholdNonCritical": "N/A",
      "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Fans/5"
    },
    {
      "UpperThresholdFatal": "N/A",
      "Status": {
        "State": "Enabled",
        "Health": "OK"
      },
      "FanName": "FAN6_SPEED",
      "LowerThresholdFatal": "N/A",
      "PhysicalContext": "Backplane",
      "MemberID": 6,
      "LowerThresholdNonCritical": "1600",
      "LowerThresholdCritical": "1200",
      "ReadingRPM": "5500",
      "UpperThresholdCritical": "N/A",
      "UpperThresholdNonCritical": "N/A",
      "@odata.id": "/redfish/v1/Chassis/1/Thermal#/Fans/6"
    }
  ],
  "@odata.id": "/redfish/v1/Chassis/1/Thermal",
  "@odata.type": "#Cisco_Thermal",
  "Temperatures": [
    {
      "ReadingCelsius": "43.0",
      "Status": {
        "State": "Enabled",
        "Health": "OK"
      },
      "Name": "MLOM_TMP",
      "UpperThresholdNonCritical": "N/A",
      "MemberID": 1,
      "LowerThresholdFatal": "N/A",
      "LowerThresholdCritical": "90.0",
      "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/MLOM_TMP",
      "LowerThresholdNonCritical": "N/A",
      "UpperThresholdCritical": "85.0",
      "UpperThresholdFatal": "N/A"
    },
    {
      "ReadingCelsius": "26.0",
      "Status": {
        "State": "Enabled",
        "Health": "OK"
      },
      "Name": "FP_TEMP_SENSOR",
      "UpperThresholdNonCritical": "N/A",

```

```

        "MemberID": 2,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "45.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/FP_TEMP_SENSOR",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "40.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "31.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "DDR4_P1_A1_TEMP",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 3,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "85.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/DDR4_P1_A1_TEMP",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "65.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "31.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "DDR4_P1_B1_TEMP",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 4,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "85.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/DDR4_P1_B1_TEMP",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "65.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "32.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "DDR4_P1_C1_TEMP",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 5,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "85.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/DDR4_P1_C1_TEMP",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "65.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "31.0",
        "Status": {
            "State": "Enabled",

```



```

        "Health": "OK"
    },
    "Name": "DDR4_P1_D1_TEMP",
    "UpperThresholdNonCritical": "N/A",
    "MemberID": 6,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "85.0",
    "@odata.id":
    "/redfish/v1/Chassis/1/Thermal#/Temperatures/DDR4_P1_D1_TEMP",
    "LowerThresholdNonCritical": "N/A",
    "UpperThresholdCritical": "65.0",
    "UpperThresholdFatal": "N/A"
},
{
    "ReadingCelsius": "30.0",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Name": "DDR4_P2_E1_TEMP",
    "UpperThresholdNonCritical": "N/A",
    "MemberID": 7,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "85.0",
    "@odata.id":
    "/redfish/v1/Chassis/1/Thermal#/Temperatures/DDR4_P2_E1_TEMP",
    "LowerThresholdNonCritical": "N/A",
    "UpperThresholdCritical": "65.0",
    "UpperThresholdFatal": "N/A"
},
{
    "ReadingCelsius": "29.0",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Name": "DDR4_P2_F1_TEMP",
    "UpperThresholdNonCritical": "N/A",
    "MemberID": 8,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "85.0",
    "@odata.id":
    "/redfish/v1/Chassis/1/Thermal#/Temperatures/DDR4_P2_F1_TEMP",
    "LowerThresholdNonCritical": "N/A",
    "UpperThresholdCritical": "65.0",
    "UpperThresholdFatal": "N/A"
},
{
    "ReadingCelsius": "33.0",
    "Status": {
        "State": "Enabled",
        "Health": "OK"
    },
    "Name": "DDR4_P2_G1_TEMP",
    "UpperThresholdNonCritical": "N/A",
    "MemberID": 9,
    "LowerThresholdFatal": "N/A",
    "LowerThresholdCritical": "85.0",
    "@odata.id":
    "/redfish/v1/Chassis/1/Thermal#/Temperatures/DDR4_P2_G1_TEMP",
    "LowerThresholdNonCritical": "N/A",
    "UpperThresholdCritical": "65.0",
    "UpperThresholdFatal": "N/A"
},

```

```

{
  "ReadingCelsius": "29.0",
  "Status": {
    "State": "Enabled",
    "Health": "OK"
  },
  "Name": "DDR4_P2_H1_TEMP",
  "UpperThresholdNonCritical": "N/A",
  "MemberID": 10,
  "LowerThresholdFatal": "N/A",
  "LowerThresholdCritical": "85.0",
  "@odata.id":
  "/redfish/v1/Chassis/1/Thermal#/Temperatures/DDR4_P2_H1_TEMP",
  "LowerThresholdNonCritical": "N/A",
  "UpperThresholdCritical": "65.0",
  "UpperThresholdFatal": "N/A"
},
{
  "ReadingCelsius": "48.5",
  "Status": {
    "State": "Enabled",
    "Health": "OK"
  },
  "Name": "P1_TEMP_SENS",
  "UpperThresholdNonCritical": "N/A",
  "MemberID": 11,
  "LowerThresholdFatal": "N/A",
  "LowerThresholdCritical": "82.0",
  "@odata.id":
  "/redfish/v1/Chassis/1/Thermal#/Temperatures/P1_TEMP_SENS",
  "LowerThresholdNonCritical": "N/A",
  "UpperThresholdCritical": "77.0",
  "UpperThresholdFatal": "N/A"
},
{
  "ReadingCelsius": "45.5",
  "Status": {
    "State": "Enabled",
    "Health": "OK"
  },
  "Name": "P2_TEMP_SENS",
  "UpperThresholdNonCritical": "N/A",
  "MemberID": 12,
  "LowerThresholdFatal": "N/A",
  "LowerThresholdCritical": "82.0",
  "@odata.id":
  "/redfish/v1/Chassis/1/Thermal#/Temperatures/P2_TEMP_SENS",
  "LowerThresholdNonCritical": "N/A",
  "UpperThresholdCritical": "77.0",
  "UpperThresholdFatal": "N/A"
},
{
  "ReadingCelsius": "32.0",
  "Status": {
    "State": "Enabled",
    "Health": "OK"
  },
  "Name": "PSU1_TEMP",
  "UpperThresholdNonCritical": "N/A",
  "MemberID": 13,
  "LowerThresholdFatal": "N/A",
  "LowerThresholdCritical": "65.0",
  "@odata.id":
  "/redfish/v1/Chassis/1/Thermal#/Temperatures/PSU1_TEMP",

```

```

        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "60.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "32.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "PSU2_TEMP",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 14,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "65.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/PSU2_TEMP",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "60.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "36.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "PCH_TEMP_SENS",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 15,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "85.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/PCH_TEMP_SENS",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "80.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "34.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "RISER2_INLET_TMP",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 16,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "70.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/RISER2_INLET_TMP",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "60.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "33.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "RISER1_INLET_TMP",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 17,

```

```

        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "70.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/RISER1_INLET_TMP",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "60.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "37.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "RISER1_OUTLETTMP",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 18,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "70.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/RISER1_OUTLETTMP",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "60.0",
        "UpperThresholdFatal": "N/A"
    },
    {
        "ReadingCelsius": "33.0",
        "Status": {
            "State": "Enabled",
            "Health": "OK"
        },
        "Name": "RISER2_OUTLETTMP",
        "UpperThresholdNonCritical": "N/A",
        "MemberID": 19,
        "LowerThresholdFatal": "N/A",
        "LowerThresholdCritical": "70.0",
        "@odata.id":
"/redfish/v1/Chassis/1/Thermal#/Temperatures/RISER2_OUTLETTMP",
        "LowerThresholdNonCritical": "N/A",
        "UpperThresholdCritical": "60.0",
        "UpperThresholdFatal": "N/A"
    }
    ],
    "@odata.context":
"/redfish/v1/$metadata#Chassis/Members/$entity/Thermal"
}

```

## Establishing a Session

Request:

```

curl -XPOST https://10.10.10.10/redfish/v1/SessionService/Sessions --header 'Content-Type:
application/json; charset=utf-8' -d{"Username": "admin", "Password": "password123"}'
-insecure -v
> POST /redfish/v1/SessionService/Sessions https/1.1
> User-Agent: curl/7.19.7 (i386-redhat-linux-gnu) libcurl/7.19.7
NSS/3.14.0.0 zlib/1.2.3 libidn/1.18 libssh2/1.4.2
> Host: 10.10.10.10
> Accept: */*
> Content-Type: application/json; charset=utf-8
> Content-Length: 46
>

```

```

< https/1.1 200 OK
< Server: Monkey
< Date: Wed, 24 Aug 2016 06:12:36 GMT
< Transfer-Encoding: Chunked
< X-Auth-Token: a81a53a75544d448d7544775d355840d
< Status: 201
< Content-Type: application/json
< Content-Length:143
<
{
  "@odata.id":"/redfish/v1/SessionService/Sessions/117",
  "Description":"Session of user: admin",
  "Name":"User Session #117",
  "Id":117
}

```

### Accessing the Session Details

Request:

```

curl -GET https://10.10.10.10/redfish/v1/SessionService/Sessions --header 'Authorization:
OAuth
a81a53a75544d448d7544775d355840d' -insecure
{
  "Members":[{
    "@odata.id":"/redfish/v1/SessionService/Sessions/117"
  },{
    "@odata.id":"/redfish/v1/SessionService/Sessions/116"
  },{
    "@odata.id":"/redfish/v1/SessionService/Sessions/115"
  },{
    "@odata.id":"/redfish/v1/SessionService/Sessions/114"
  }],
  "@odata.type":"#SessionCollection.1.0.0.SessionCollection",
  "@odata.id":"/redfish/v1/SessionService/Sessions",
  "Name":"Session Collection",
  "Members@odata.count":4,
  "@odata.context":"/redfish/v1/$metadata#SessionService/Sessions"
}

```

### Accessing Details of a Particular Session

Request:

```

curl -GET https://10.10.10.10/redfish/v1/SessionService/Sessions/117 --header 'Authorization:
OAuth
a81a53a75544d448d7544775d355840d' --insecure
{
  "Id":117,
  "Name":"User Session #117",
  "@odata.context":"/redfish/v1/$metadata#SessionService/Sessions/Member
s/$entity",
  "Oem":{
    "SessionType":"redfish",
    "RemoteIP":"10.10.10.10"
  },
  "@odata.type":"#Session.1.0.0",
  "UserName":"admin",
  "@odata.id":"/redfish/v1/SessionService/Sessions/117",
  "Description":"redfish session for user admin"
}

```

```
}

```

### Adding User

Request:

```
curl -XPOST https://10.10.10.10/redfish/v1/AccountService/Accounts/5 -d
'{"UserName":"test5","Password":"Password123","RoleId":"admin","Enabled":"true"}' -u
admin:Admin123 --insecure -v
```

### Deleting User

Request:

```
curl -XDELETE https://10.10.10.10/redfish/v1/AccountService/Accounts/5 -u admin:Admin123
--
insecure -v
```

### Modifying User

Request:

```
curl -XPATCH https://10.10.10.10/redfish/v1/AccountService/Accounts/5 -d
'{"UserName":"test5","Password":"Password123","RoleId":"admin","Enabled":"false"}' -u
admin:Admin123 --insecure -v
{
  "Locked":false,
  "RoleId":"admin",
  "Id":"5",
  "Description":"User Account",
  "Enabled":false,
  "Name":"User Account",
  "UserName":"test5"
}
```

### Clearing an SEL Log

Request:

```
curl -GET https://10.10.10.10/redfish/v1/Chassis/1
/LogServices/SEL/Actions/LogService.ClearLog -d '{}' -
u admin:Admin123 --insecure -v
```

## Examples of Server Tasks for 3.1(3)

This chapter includes the following sections:

- [Examples of Updates from Previous Releases, on page 47](#)
- [Examples of New Additions in 3.1\(3\) Release, on page 55](#)

## Examples of Updates from Previous Releases

This section includes the following updates to responses from previous releases:

- [Viewing Specific System Information, on page 47](#)
- [Retrieving Chassis, on page 49](#)
- [Retrieving Chassis Power Details, on page 50](#)
- [Retrieving Cisco IMC Information, on page 51](#)
- [Retrieving Details of a Specific SEL Entry, on page 53](#)
- [Retrieving Service Root without Authentication, on page 53](#)
- [Viewing User Accounts, on page 54](#)

## Viewing Specific System Information

Response:

```
{
  "SerialNumber": "FCH1845V1X6",
  "Id": "FCH1845V1X6",
  "IndicatorLED": "Off",
  "PowerState": "On",
  "ProcessorSummary": {
    "Model": "Intel(R) Xeon(R) CPU E5-2695 v3 @ 2.30GHz",
    "Count": 2
  },
  "NetworkInterfaces": {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/NetworkInterfaces"
  },
  "Storage": {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage"
  },
  "BIOS": {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/BIOS"
  },
  "UUID": "C68B1C5B-C012-4C08-BACC-A45BFE15CC8F",
  "Name": "UCS C220 M4L",
  "@odata.type": "#Cisco_ComputerSystem",
  "Manufacturer": "Cisco Systems",
  "Actions": {
    "#ComputerSystem.Reset": {
      "target": "/redfish/v1/Systems/FCH1845V1X6/Actions/ComputerSystem.Reset",
      "ResetType@Redfish.AllowableValues": ["On", "ForceOff", "GracefulShutdown",
"ForceRestart", "Nmi", "PowerCycle"]
    }
  },
  "EthernetInterfaces": {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/EthernetInterfaces"
  },
  "Boot": {
    "BootSourceOverrideTarget": "None",
    "BootSourceOverrideTarget@Redfish.AllowableValues": ["None", "Pxe", "Floppy", "Cd", "Hdd", "BiosSetup",
"Diags"],
    "BootSourceOverrideEnabled@Redfish.AllowableValues": ["Once", "Continuous", "Disabled"],
    "BootSourceOverrideEnabled": "Disabled"
  },
}
```

```

"@odata.id":"/redfish/v1/Systems/FCH1845V1X6",
"AssetTag":"Unknown",
"PCIeFunctions":[{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/PCIeFunctions/L"},{
},{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/PCIeFunctions/MLOM"},{
},{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/PCIeFunctions/HBA"}],
"SystemType":"Physical",
"BiosVersion":"C220M4.4.0.1b.0.0629181250",
"HostName":"svbu-qa-blr-dn1-103-bmc",
"MemorySummary":{"TotalSystemMemoryGiB":64,
"State":{"HealthRollup":"OK",
"Health":"OK"}
},
},
"Processors":{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/Processors"},
},
"PCIeFunctions@odata.count":3,
"Description":"",
"SimpleStorage":{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/SimpleStorage"},
},
"PCIeDevices":[{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/PCIeDevices/L"},{
},{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/PCIeDevices/MLOM"},{
},{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/PCIeDevices/HBA"}],
"Status":{"State":"Enabled",
"Health":"Ok"},
},
"Links":{"CooledBy":["/redfish/v1/Chassis/1/Thermal"],
"Chassis":["/redfish/v1/Chassis/1"],
"PoweredBy":["/redfish/v1/Chassis/1/Power"],
"ManagedBy":["/redfish/v1/Managers/CIMC"]
},
},
"SecureBoot":{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/SecureBoot"},
},
"LogServices":{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/LogServices"},
},
"Model":"UCS C220 M4L",
"TrustedModules":{"InterfaceType":"TPM1_2",
"InterfaceTypeSelection":"BiosSetting",
"FirmwareVersion":"1.2",
"Status":{"State":"Enabled",
"Health":"OK"}
}
},
"@odata.context":"/redfish/v1/$metadata#Systems/Members/$entity",
"Memory":{"@odata.id":"/redfish/v1/Systems/FCH1845V1X6/Memory"},
},

```



```
"PCIeDevices@odata.count":3
```

## Retrieving Chassis

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1 | json_reformat
```

Response:

```
{
  "SerialNumber": "FCH2005V1EN",
  "NetworkAdapter": {
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter"
  },
  "@odata.id": "/redfish/v1/Chassis/1",
  "WeightKg": 24,
  "AssetTag": "TEST REDFISH123",
  "PowerState": "On",
  "@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity",
  "ChassisType": "Rack",
  "DepthMm": 766,
  "Description": "It represents the properties for physical components for any system.
  This one object is intended to represent racks, rackmount servers, blades, standalone,
  modular
  systems, enclosures, and all other containers. The non-cpu/device centric parts of the
  schema are all
  accessed either directly or indirectly through this resource",
  "Thermal": {
    "@odata.id": "/redfish/v1/Chassis/1/Thermal"
  },
  "Links": {
    "Drives": [
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-1",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-2",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-3",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-4",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-5",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-6",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-7",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-8",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/FlexFlash-0/Drives/SLOT-1",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/FlexFlash-0/Drives/SLOT-2"
    ],
    "CooledBy": [
      "/redfish/v1/Chassis/1/Thermal"
    ],
    "ComputerSystems": [
      "/redfish/v1/Systems/FCH2005V1EN"
    ],
    "PCIeDevices": [
      "/redfish/v1/Systems/FCH2005V1EN/PCIeDevice/L",
      "/redfish/v1/Systems/FCH2005V1EN/PCIeDevice/MLOM",
      "/redfish/v1/Systems/FCH2005V1EN/PCIeDevice/HBA"
    ],
    "Storage": [
      "/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA",
      "/redfish/v1/Systems/FCH2005V1EN/Storage/FlexFlash-0"
    ],
    "PoweredBy": [
      "/redfish/v1/Chassis/1/Power"
    ]
  }
}
```

```

    ],
    "ManagedBy": [
      "/redfish/v1/Managers/CIMC"
    ]
  },
  "Status": {
    "State": "Enabled",
    "Health": "OK"
  },
  "LogServices": {
    "@odata.id": "/redfish/v1/Chassis/1/LogServices"
  },
  "Name": "Computer System Chassis",
  "HeightMm": 87,
  "Power": {
    "@odata.id": "/redfish/v1/Chassis/1/Power"
  },
  "WidthMm": 482,
  "@odata.type": "#Chassis.1.0.0.Chassis",
  "Actions": {
    "#Chassis.Reset": {
      "Target": "/redfish/v1/Chassis/1/Actions/Chassis.Reset",
      "ResetType@Redfish.AllowableValues": [
        "On",
        "ForceOff"
      ]
    }
  },
  "Manufacturer": "Cisco Systems Inc.",
  "IndicatorLED": "Off",
  "Model": "UCS C240 M4S",
  "Id": "1"
}

```

### Retrieving Chassis Power Details

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/Power | json_reformat
```

Response:

```

<SNIP>
"PowerControl":{
  "PhysicalContext":"PowerSupply",
  "PowerConsumedWatts":"184",
  "PowerMetric":{
    "IntervalInMin":0.0833,
    "MinConsumedWatts":"182",
    "AverageConsumedWatts":"187",
    "MaxConsumedWatts":"197"
  }
},
"PowerSupplies": [
  {
    "SerialNumber": "DCH2012T0SR",
    "FirmwareVersion": "10031006",
    "@odata.id": "/redfish/v1/Chassis/1/Power#/PowerSupplies/PSU1",
    "Status": {
      "state": "Enabled"
    }
  },

```

```

"LineInputVoltage": "230",
"Name": "PSU1",
"InputRanges": [
  {
    "InputType": "AC",
    "OutputWattage": 800,
    "MaximumFrequencyHz": 63,
    "MaximumVoltage": 140,
    "MinimumVoltage": 90,
    "MinimumFrequencyHz": 47
  },
  {
    "MinimumVoltage": 180,
    "MaximumFrequencyHz": 63,
    "MaximumVoltage": 264,
    "OutputWattage": 1200,
    "InputType": "AC",
    "MinimumFrequencyHz": 47
  }
],
"Manufacturer": "Cisco Systems Inc",
"MemberID": 1,
"LastPowerOutputWatts": "168",
"SparePartNumber": "341-0631-01",
"PartNumber": "341-0631-01",
"PowerSupplyType": "AC",
"Model": "DPST-1200DB A",
"LineInputVoltageType": "AC"
}

```

## Retrieving Cisco IMC Information

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC
```

Response:

```

{
  "DateTimeLocalOffset": "UTC+0000",
  "Id": "CIMC",
  "Links": {
    "ManagerForChassis": ["/redfish/v1/Chassis/1"],
    "ManagerForServers": ["/redfish/v1/Systems/WZP21080FBD"],
    "ManagerInChassis": ["/redfish/v1/Chassis/1"]
  },
  "ManagerType": "CIMC",
  "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity",
  "@odata.id": "/redfish/v1/Managers/CIMC",
  "VirtualMedia": {
    "@odata.id": "/redfish/v1/Managers/CIMC/VirtualMedia"
  },
  "Description": "",
  "LogServices": {
    "@odata.id": "/redfish/v1/Managers/CIMC/LogServices"
  },
  "SerialInterfaces": {
    "@odata.id": "/redfish/v1/Managers/CIMC/SerialInterfaces"
  },
  "FirmwareVersion": "3.1(2.257)",
  "UUID": "5C67BE5B-DA03-4067-A9DD-1DC9128A8E18",

```

```

"Status":{
  "State":"Enabled",
  "Health":"OK"
},
"ManagerNetworkProtocol":{
  "@odata.id":"/redfish/v1/Managers/CIMC/ManagerNetworkProtocol"
},
"Name":"Cisco Integrated Management Controller",
"Actions":{
  "#Oem.ImportBmcConfig":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Passphrase@Redfish.AllowableValues":["Passphrase"],
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.ImportBmcConfig",
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  },
  "#Oem.BmcFwUpdate":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.BmcFwUpdate",
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  },
  "#Manager.Reset":{
    "Target":"/redfish/v1/Managers/CIMC/Actions/Manager.Reset",
    "ResetType@Redfish.AllowableValues":["ForceRestart"]
  },
  "#Oem.BiosFwUpdate":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.BiosFwUpdate",
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  },
  "#Oem.ExportBmcConfig":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Passphrase@Redfish.AllowableValues":["Passphrase"],
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.ExportBmcConfig",
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  },
  "#Oem.BmcTechSupportExport":{
    "Protocol@Redfish.AllowableValues":["TFTP","SCP","SFTP","FTP","HTTP"],
    "Target":"/redfish/v1/Managers/CIMC/Actions/Oem.BmcTechSupportExport",
    "RemoteUsername@Redfish.AllowableValues":["Remote Server Username"],
    "RemotePath@Redfish.AllowableValues":["Valid Remote Share Path"],
    "RemoteHostname@Redfish.AllowableValues":["Valid Hostname/IP Address"],
    "RemotePassword@Redfish.AllowableValues":["Remote Server Password"]
  }
},
"ServiceEntryPointUUID":"5C67BE5B-DA03-4067-A9DD-1DC9128A8E18",
"DateTime":"Sat Jan 20 18:26:34 2018",
"@odata.type":"#Manager.1.0.0.Manager",
"GraphicalConsole":{
  "MaxConcurrentSessions":4,
  "ConnectTypesSupported":["KVMIP","WebUI"],
  "ServiceEnabled":false
},

```

```

"CommandShell":{
  "MaxConcurrentSessions":4,
  "ConnectTypesSupported":["SSH","IPMI","XML API"],
  "ServiceEnabled":true
},
"SerialConsole":{
  "MaxConcurrentSessions":4,
  "ConnectTypesSupported":["SSH","IPMI","XML API"],
  "ServiceEnabled":true
},
"Model":"UCSC-C220-M5SX",
"EthernetInterfaces":{
  "@odata.id":"/redfish/v1/Managers/CIMC/EthernetInterfaces"
}
}

```

### Retrieving Details of a Specific SEL Entry

Request:

```
curl -k -u admin:xxxx https://10.10.10.10/redfish/v1/Managers/CIMC/LogServices/SEL/Entries/1
```

Response:

```

{
  "EntryCode":"State Asserted",
  "EventTimestamp":"2018-07-17 23:38:32 ",
  "Id":"1",
  "EntryType":"SEL",
  "Name":"Log Entry 1",

"@odata.context":"/redfish/v1/$metadata#Managers/Members/$entity/LogServices/Members/$entity/Entries/Members/$entity",

  "EventType":"StatusChange",
  "@odata.type":"#LogEntry.1.0.0",
  "EventId":"1",
  "Message":"FRU_RAM_SEL_FULLNESS: Event Log sensor for FRU_RAM, Log Area Reset/Cleared was asserted",
  "Description":"Log Entry 1",
  "Severity":"Normal",
  "@odata.id":"/redfish/v1/Managers/CIMC/LogServices/SEL/Entries/1",
  "Created":"2018-07-17 23:38:32 "
}

```

### Retrieving Service Root without Authentication

Response:

```

{
  "Chassis":{
    "@odata.id":"/redfish/v1/Chassis"
  },
  "@odata.id":"/redfish/v1/",
  "JSONSchemas":{
    "@odata.id":"/redfish/v1/JSONSchemas"
  },
  "RedfishVersion":"1.2.0",
  "EventService":{
    "@odata.id":"/redfish/v1/EventService"
  }
}

```

```

    },
    "Systems":{
      "@odata.id":"/redfish/v1/Systems"
    },
    "UpdateService":{
      "@odata.id":"/redfish/v1/UpdateService"
    },
    "Links":{
      "Sessions":{
        "@odata.id":"/redfish/v1/SessionService/Sessions"
      }
    },
    "Name":"Cisco RESTful Root Service",
    "Description":"Root Service",
    "TaskService":{
      "@odata.id":"/redfish/v1/TaskService"
    },
    "MessageRegistry":{
      "@odata.id":"/redfish/v1/MessageRegistry"
    },
    "@odata.type":"#ServiceRoot.1.2.0.ServiceRoot",
    "SessionService":{
      "@odata.id":"/redfish/v1/SessionService"
    },
    "@odata.context":"/redfish/v1/$metadata#ServiceRoot",
    "Managers":{
      "@odata.id":"/redfish/v1/Managers"
    },
    "AccountService":{
      "@odata.id":"/redfish/v1/AccountService"
    },
    "Id":"RootService"
  }
}

```

## Viewing User Accounts

Response:

```

{
  "Accounts":{
    "@odata.id":"/redfish/v1/AccountService/Accounts"
  },
  "AccountLockoutThreshold":0,
  "Id":"AccountService",
  "AccountLockoutDuration":0,
  "MaxPasswordLength":20,
  "MinPasswordLength":8,
  "AccountLockoutCounterResetAfter":0,
  "Description":"Account Service",
  "PrivilegeMap":{
    "@odata.id":"/redfish/v1/AccountService/PrivilegeMap"
  },
  "Name":"Account Service",
  "Roles":{
    "@odata.id":"/redfish/v1/AccountService/Roles"
  },
  "@odata.type":"#AccountService.1.0.0",
  "ServiceEnabled":true,
  "AuthFailureLoggingThreshold":0,
  "@odata.id":"/redfish/v1/AccountService",
  "@odata.context":"/redfish/v1/$metadata#AccountService"
}

```

### Examples of New Additions in 3.1(3) Release

This section includes the following examples on how to use the REST API to perform common server tasks for 3.1(3) release:

- [Retrieving Cisco IMC Managers Ethernet Interfaces and NICS, on page 56](#)
- [Retrieving Cisco IMC Log Entries, on page 57](#)
- [Retrieving BIOS Tokens, on page 58](#)
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- [Retrieving Storage Collection, on page 62](#)
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## Retrieving Cisco IMC Managers Ethernet Interfaces and NICS

Request:

```
curl -k -u admin:xxxx https://10.10.10.10/redfish/v1/Managers/CIMC/EthernetInterfaces/NICs
```

Response:

```
{
  "FQDN": "svbu-qa-blr-dn1-103-bmc",
  "IPv6DefaultGateway": ":::",
  "Id": "NICs",
  "NameServers": ["171.70.168.183", "171.68.226.120"],
  "AutoNeg": true,
  "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/EthernetInterfaces/Members/$entity",
  "SpeedMbps": "10",
  "HostName": "svbu-qa-blr-dn1-103-bmc",
  "IPv6Addresses": {
    "Address": ":::",
    "PrefixLength": "64",
    "AddressOrigin": "Static"
  },
  "FullDuplex": true,
  "IPv4Addresses": {
    "Gateway": "10.225.78.1",
    "Address": "10.225.78.210",
    "SubnetMask": "255.255.255.0",
    "AddressOrigin": "Static"
  },
  "VLAN": {
    "VLANId": 1,
    "VLANEnable": false
  },
  "InterfaceEnabled": true,
  "MACAddress": "A0:EC:F9:CD:BB:28",
  "Name": "Manager Ethernet Interface",
  "Links": {
    "Chassis": ["/redfish/v1/Chassis/1"]
  },
  "@odata.id": "/redfish/v1/Managers/CIMC/EthernetInterfaces/NICs",
  "@odata.type": "#EthernetInterface.1.0.0",
  "MaxIPv6StaticAddresses": 1,
  "MTUSize": 1500,
  "Description": "Manager Network Interface",
  "PermanentMACAddress": "A0:EC:F9:CD:BB:28",
  "IPv6StaticAddresses": {
    "PrefixLength": "64",
    "Address": ":::"
  }
}
```



```
}
}
```

## Retrieving Cisco IMC Log Entries

Request:

```
curl -k -u admin:xxxx https://10.10.10.10/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries
```

Response:

```
{
  "Members": [
    {
      "EventTimestamp": "2019 May 3 11:29:45 UTC",
      "Id": 1,
      "EntryType": "CIMC",
      "Name": "Log Entry 1",
      "EventType": "Alert",
      "EventId": 1,
      "Message": " pam_ldap_manager(redfish:auth): Start ----->\n",
      "Description": "Log Entry 1",
      "Severity": "Informational",
      "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries/1",
      "Created": "2019 May 3 11:29:45 UTC"
    },
    {
      "EventTimestamp": "2019 May 3 11:29:41 UTC",
      "Id": 2,
      "EntryType": "CIMC",
      "Name": "Log Entry 2",
      "EventType": "Alert",
      "EventId": 2,
      "Message": " CIMC log cleared by User:admin from Interface:webgui\n",
      "Description": "Log Entry 2",
      "Severity": "Notice",
      "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries/2",
      "Created": "2019 May 3 11:29:41 UTC"
    },
    {
      "EventTimestamp": "2019 May 3 11:29:41 UTC",
      "Id": 3,
      "EntryType": "CIMC",
      "Name": "Log Entry 3",
      "EventType": "Alert",
      "EventId": 3,
      "Message": " obj/../../src/LogAgent.cc:956:CIMC log clear\n",
      "Description": "Log Entry 3",
      "Severity": "Notice",
      "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries/3",
      "Created": "2019 May 3 11:29:41 UTC"
    }
  ],
  "@odata.count": 3,
  "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries",
  "@odata.type": "#LogEntry.1.0.0.LogEntryCollection",
  "Members@odata.count": 3,
  "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/LogServices/Members/$entity/Entries"
}
```

Request:

```
curl -k -u admin:xxxx https://10.10.10.10/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries/1
```

## Response:

```
{
  "EventTimestamp":"2019 May  3 11:29:45 UTC",
  "Id":"1",
  "EntryType":"CIMC",
  "Name":"Log Entry 1",

  "@odata.context":"/redfish/v1/$metadata#Managers/Members/$entity/LogServices/Members/$entity/
  Entries/Members/$entity",
  "EventType":"Alert",
  "@odata.type":"#LogEntry.1.0.0",
  "EventId":"1",
  "Message":" pam_ldap_manager(redfish:auth): Start ----->\n",
  "Description":"Log Entry 1",
  "Severity":"Informational",
  "@odata.id":"/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries/1",
  "Created":"2019 May  3 11:29:45 UTC"
}
```

## Retrieving BIOS Tokens

## Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/BIOS
```

## Response:

```
{
  "Id":"BiosToken",
  "Name":"BiosToken",
  "@odata.context":"/redfish/v1/$metadata#Systems/Members/$entity/BIOS",
  "@odata.type":"#Cisco_BiosToken",
  "@odata.id":"/redfish/v1/Systems/FCH1845V1X6/BIOS",
  "Attributes":{
    "IntelVT":"Enabled",
    "PcieSlotRiser1LinkSpeed":"GEN3",
    "AllLomPortControl":"Enabled",
    "NUMAOptimize":"Enabled",
    "PchUsb30Mode":"Disabled",
    "cdnEnable":"Disabled",
    "EnhancedIntelSpeedStep":"Enabled",
    "LegacyUSBSupport":"Enabled",
    "PcieSlotMLOMLinkSpeed":"GEN3",
    "QPILinkFrequency":"Auto",
    "UsbPortRear":"Enabled",
    "IntelHyperThread":"Enabled",
    "SrIov":"Enabled",
    "PCIROMCLP":"Disabled",
    "SelectMemoryRAS":"Maximum Performance",
    "CoherencySupport":"Disabled",
    "PcieOptionROMs":"Enabled",
    "RedirectionAfterPOST":"Always Enable",
    "TPMAdminCtrl":"Enabled",
    "UsbEmul6064":"Enabled",
    "FlowCtrl":"None",
    "PuttyFunctionKeyPad":"ESCN",
    "PwrPerfTuning":"OS",
    "PatrolScrub":"Enabled",
    "BootPerformanceMode":"Max Performance",
    "CPUPowerManagement":"Performance",
    "PcieSlot1OptionROM":"Enabled",

```

```

    "CpuPerformanceProfile":"Enterprise",
    "PsdCoordType":"HW ALL",
    "ProcessorC3Report":"Disabled",
    "OSBootWatchdogTimerTimeout":"10 mins",
    "PcieSlotRiser2LinkSpeed":"GEN3",
    "PcieSlotN2OptionROM":"Enabled",
    "HardwarePrefetch":"Enabled",
    "OSBootWatchdogTimerPolicy":"Power Down",
    "AllUsbDevices":"Enabled",
    "FRB-2":"Enabled",
    "UsbPortInt":"Enabled",
    "comSpcrEnable":"Disabled",
    "PcieSlotHBALinkSpeed":"GEN3",
    "WorkLdConfig":"Balanced",
    "ConsoleRedir":"COM 0",
    "RankInterLeave":"Auto",
    "POPSupport":"Disabled",
    "UsbXhciSupport":"Enabled",
    "SataModeSelect":"AHCI",
    "UsbPortKVM":"Enabled",
    "ProcessorC1E":"Enabled",
    "UsbPortFront":"Enabled",
    "AdjacentCacheLinePrefetch":"Enabled",
    "TerminalType":"VT100",
    "BaudRate":"115200",
    "MemoryMappedIOAbove4GB":"Enabled",
    "CpuEngPerfBias":"Balanced Performance",
    "PassThroughDMA":"Disabled",
    "LomOpromControlPort0":"Enabled",
    "UsbPortVMedia":"Enabled",
    "QpiSnoopMode":"Auto",
    "HWPMEnable":"Disabled",
    "DcuIpPrefetch":"Enabled",
    "PcieSlotMLOMOptionROM":"Enabled",
    "InterruptRemap":"Enabled",
    "DemandScrub":"Enabled",
    "DirectCacheAccess":"Auto",
    "CmciEnable":"Enabled",
    "AutonomousCstateEnable":"Disabled",
    "ChannelInterLeave":"Auto",
    "IntelTurboBoostTech":"Enabled",
    "PcieSlotN1OptionROM":"Enabled",
    "IntelVTD":"Enabled",
    "ATS":"Enabled",
    "ExecuteDisable":"Enabled",
    "DcuStreamerPrefetch":"Enabled",
    "PCIeSSDHotPlugSupport":"Disabled",
    "PcieSlot2OptionROM":"Enabled",
    "LomOpromControlPort1":"Enabled",
    "CoreMultiProcessing":"All",
    "VgaPriority":"Onboard",
    "PackageCstateLimit":"C0/C1",
    "LocalX2Apic":"XAPIC",
    "PcieSlotFrontSlot6LinkSpeed":"Auto",
    "Altitude":"300 M",
    "PcieSlotFrontSlot5LinkSpeed":"Auto",
    "PcieSlotHBAOptionROM":"Enabled",
    "OSBootWatchdogTimer":"Disabled",
    "ProcessorC6Report":"Enabled"
  },
  "Actions":{
    "#Bios.ResetBios":{
      "target":"/redfish/v1/Systems/FCH1845V1X6/BIOS/Actions/Bios.ResetBios"
    }
  }
}

```

```

    },
    "Description": "BIOS Configuration Current Settings"
  }
}

```

## Configuring BIOS Tokens

Request:

```

curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/BIOS
-d '
{"TPMAdminCtrl": "Disabled", "SelectMemoryRAS": "Mirroring"}'

```

Response:

```

{
  "Id": "BiosToken",
  "Status": {
    "State": "Enabled",
    "Health": "OK"
  },
  "Attributes": {
    "TPMAdminCtrl": "Disabled",
    "POPSupport": "Disabled",
    "OSBootWatchdogTimerPolicy": "Power Down",
    "OSBootWatchdogTimerTimeout": "15 mins",
    "FRB-2": "Enabled",
    "OSBootWatchdogTimer": "Enabled",
    "IntelVT": "Enabled",
    "AllLomPortControl": "Enabled",
    "NUMAOptimize": "Enabled",
    "PchUsb30Mode": "Disabled",
    "cdnEnable": "Disabled",
    "CmciEnable": "Disabled",
    "LegacyUSBSupport": "Enabled",
    "PcieSlotHBAOptionROM": "Enabled",
    "PcieSlot5OptionROM": "Disabled",
    "QPILinkFrequency": "Auto",
    "UsbPortRear": "Enabled",
    "IntelHyperThread": "Disabled",
    "SrIov": "Enabled",
    "PCIROMCLP": "Disabled",
    "SelectMemoryRAS": "Mirroring",
    "DirectCacheAccess": "Enabled",
    "PcieOptionROMs": "Enabled",
    "RedirectionAfterPOST": "Always Enable",
    "UsbEmul6064": "Enabled",
    "FlowCtrl": "None",
    "PcieSlotN1OptionROM": "Disabled",
    "PwrPerfTuning": "OS",
    "PatrolScrub": "Enabled",
    "BootPerformanceMode": "Max Performance",
    "CPUPowerManagement": "Energy Efficient",
    "PcieSlot1OptionROM": "Disabled",
    "CpuPerformanceProfile": "Enterprise",
    "PsdCoordType": "HW ALL",
    "ProcessorC3Report": "Disabled",
    "comSpcerEnable": "Disabled",
    "WorkLdConfig": "Balanced",
    "PcieSlot2OptionROM": "Disabled",
    "UsbXhciSupport": "Enabled",
    "UsbPortVMedia": "Enabled",

```

```

    "PcieSlotN2OptionROM":"Disabled",
    "ATS":"Enabled",
    "UsbPortKVM":"Enabled",
    "AllUsbDevices":"Enabled",
    "UsbPortFront":"Enabled",
    "UsbPortInt":"Enabled",
    "TerminalType":"VT100",
    "PcieSlotHBAlinkSpeed":"GEN3",
    "SataModeSelect":"AHCI",
    "PcieSlot4OptionROM":"Disabled",
    "PcieSlotSSDSlot2LinkSpeed":"GEN3",
    "IntelTurboBoostTech":"Enabled",
    "RankInterLeave":"Auto",
    "OpiSnoopMode":"Home Snoop",
    "PuttyFunctionKeyPad":"ESCN",
    "ProcessorClE":"Enabled",
    "ProcessorC6Report":"Enabled",
    "AdjacentCacheLinePrefetch":"Enabled",
    "PcieSlotRiser1Slot3LinkSpeed":"Auto",
    "BaudRate":"115200",
    "MemoryMappedIOAbove4GB":"Enabled",
    "CpuEngPerfBias":"Performance",
    "PassthroughDMA":"Disabled",
    "LomOpromControlPort0":"Enabled",
    "PcieSlot6OptionROM":"Disabled",
    "DcuIpPrefetch":"Enabled",
    "HWPMEEnable":"Disabled",
    "DemandScrub":"Enabled",
    "PcieSlotMLOMOptionROM":"Enabled",
    "InterruptRemap":"Enabled",
    "HardwarePrefetch":"Enabled",
    "PcieSlotRiser2Slot4LinkSpeed":"GEN3",
    "LocalX2Apic":"XAPIC",
    "ChannelInterLeave":"Auto",
    "ConsoleRedir":"COM 0",
    "PcieSlotFLOMLinkSpeed":"GEN3",
    "CoherencySupport":"Disabled",
    "IntelVTD":"Disabled",
    "DcuStreamerPrefetch":"Enabled",
    "ExecuteDisable":"Enabled",
    "LomOpromControlPort1":"Enabled",
    "PCIeSSDHotPlugSupport":"Disabled",
    "PackageCstateLimit":"C6 Retention",
    "CoreMultiProcessing":"All",
    "PcieSlotRiser1Slot1LinkSpeed":"GEN3",
    "VgaPriority":"Onboard",
    "Altitude":"300 M",
    "AutonomousCstateEnable":"Disabled",
    "PcieSlotSSDSlot1LinkSpeed":"GEN3",
    "EnhancedIntelSpeedStep":"Enabled",
    "PcieSlotRiser2Slot6LinkSpeed":"GEN3",
    "PcieSlot3OptionROM":"Disabled",
    "PcieSlotRiser1Slot2LinkSpeed":"GEN3",
    "PcieSlotRiser2Slot5LinkSpeed":"GEN3"
  }
},
  "Name":"BiosToken",
  "Description":"BIOS Configuration Current Settings"
}

```

## Resetting BIOS Action

Request:

```
curl -XPOST -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/BIOS/Actions/Bios.ResetBios -d '{}'
```

## Retrieving Storage Collection

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/Storage
```

Response:

```
{
  "Members": [{
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA"
  }, {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/FlexFlash-0"
  }],
  "Description": "Collection of storage resource instances for this system",
  "@odata.type": "#Cisco_StorageCollection",
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Storage",
  "Members@odata.count": 2,
  "Name": "Storage Collection",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Storage"
}
```

## Retrieving Individual Storage Controller

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA
```

Response:

```
{
  "Drives": [{
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-1"
  }, {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-2"
  }, {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-3"
  }, {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-4"
  }],
  "Links": {
    "Enclosures": ["/redfish/v1/Chassis/1"]
  },
  "@odata.type": "#Cisco_Storage",
  "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA",
  "Volumes": {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Volumes"
  },
  "StorageControllers": {
    "SerialNumber": "SV43929084",
    "SupportedDeviceProtocols": "SATA, SAS, NVMe",
    "SupportedControllerProtocols": "PCIe",
    "Status": {
      "State": "Enabled",
    }
  }
}
```

```

        "Health": "OK",
        "HealthRollup": "OK"
    },
    "Name": "Cisco 12G SAS Modular Raid Controller",
    "MemberId": "RAID",
    "Manufacturer": "LSI Logic",
    "Model": "Cisco 12G SAS Modular Raid Controller",
    "FirmwareVersion": "4.620.00-7309"
  },
  "Actions": {
    "#Storage.SetEncryptionKey": {
      "SecurityKey@Redfish.AllowableValues": ["Security Key"],
      "target": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Actions/Storage.SetEncryptionKey",
      "SecurityKeyId@Redfish.AllowableValues": ["Security Key Identifier"]
    }
  },
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Storage/Members/$entity"
}

```

### Retrieving Individual Drives

Request:

```

curl -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-1

```

Response:

```

{
  "SerialNumber": "Z1W2Q2J20000W502J4QN",
  "Id": "PD-1",
  "IndicatorLED": "Off",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Storage/Members/$entity/Drives/Members/$entity",
  "CapableSpeedGbs": "6.0",
  "Location": "SLOT-1",
  "StatusIndicator": "OK",
  "MediaType": "HDD",
  "Actions": {
    "#Drive.SecureErase": {
      "target": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-1/Actions/Drive.SecureErase"
    }
  },
  "@odata.type": "#Cisco_Drives",
  "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-1",
  "Links": {
    "Volumes": [ {
      "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Volumes/VD-0"
    } ],
    "Volumes@odata.count": 1,
    "Chassis": "/redfish/v1/Chassis"
  },
  "BlockSizeBytes": 512,
  "Status": {
    "State": "Enabled",
    "Health": "OK"
  }
}

```

```

    },
    "Protocol":"SAS",
    "Name":"PD-1",
    "EncryptionStatus":"Unencrypted",
    "Revision":"0003",
    "EncryptionAbility":"None",
    "CapacityBytes":1000204140544,
    "HotspareType":"None",
    "Manufacturer":"SEAGATE",
    "PredictedMediaLifeLeftPercent":"0",
    "Model":"ST1000NM0023",
    "FailurePredicted":"false"
  }
}

```

### Performing SecureErase on Drives

Request:

```

curl -XPOST -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Drives/PD-8/Actions/Drive.SecureErase
-d'{}'

```

Response:

```

{
  "error":{
    "message":"Specified physical drive is not FDE capable",
    "code":"InternalError"
  }
}

```

### Retrieving Volumes

Request:

```

curl -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Volumes

```

Response:

```

{
  "Members":[{
    "@odata.id":"/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Volumes/VD-0"
  }],
  "Description":"Collection of Storage resource instances",
  "@odata.type":"#Cisco_VolumesCollection",
  "@odata.id":"/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Volumes",
  "Members@odata.count":1,
  "Name":"Volumes Collection",

  "@odata.context":"/redfish/v1/$metadata#Systems/Members/$entity/Storage/Members/$entity/Volumes"
}

```

### Retrieving Individual Volumes

Request:



```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Volumes/VD-0
```

Response:

```
{
  "Encrypted": "false",
  "Status": {
    "State": "Enabled",
    "Health": "OK"
  },
  "Operations": {
    "PercentageComplete": "0",
    "OperationName": "No operation in progress"
  },
  "Name": "",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Storage/Members/$entity/Volumes/Members/$entity",
  "Actions": {
    "#Volume.Initialize": {
      "target": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Volumes/VD-0/Actions/Volume.Initialize"
    }
  },
  "@odata.type": "#Cisco_Volumes",
  "CapacityBytes": 998999326720,
  "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Volumes/VD-0",
  "Links": {
    "Drives": [
      {
        "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-1"
      },
      {
        "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Storage/SLOT-HBA/Drives/PD-2"
      }
    ],
    "Drives@odata.count": 2
  },
  "Id": "0",
  "VolumeType": "Mirrored",
  "BlockSizeBytes": 65536
}
```

### Performing Initialize Action on Volumes

Request:

```
curl -XPOST -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Volumes/VD-0/Actions/Volume.Initialize -d {}'
```

### Performing SetEncryptionKey Action on Storage Controller

Request:

```
curl -XPOST -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/Storage/SLOT-HBA/Actions/Storage.SetEncryptionKey -d '{"SecurityKeyId": "abcd", "SecurityKey": "12345"}'
```

## Retrieving FlexFlash Storage Information

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/Storage/FlexFlash-0
```

Response:

```
{
  "Drives": [{
    "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Storage/FlexFlash-0/Drives/SLOT-1"
  }, {
    "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Storage/FlexFlash-0/Drives/SLOT-2"
  }],
  "Links": {
    "Enclosures": ["/redfish/v1/Chassis/1"]
  },
  "@odata.type": "#Cisco_Storage",
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/Storage/FlexFlash-0",
  "Volumes": [],
  "StorageControllers": {
    "SupportedControllerProtocols": "USB",
    "MemberId": "FlexFlash",
    "Status": {
      "State": "Disabled",
      "Health": "OK",
      "HealthRollup": "OK"
    }
  },
  "Name": "Cisco FlexFlash",
  "FirmwareVersion": "1.3.2 build 169",
  "Model": "Cisco FlexFlash",
  "Manufacturer": "Cypress"
},
"Actions": {
  "#Storage.SetEncryptionKey": {
    "SecurityKey@Redfish.AllowableValues": ["Security Key"],
    "SecurityKeyId@Redfish.AllowableValues": ["Security Key Identifier"]
  }
},
"@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Storage/Members/$entity"
}
```

## Getting DHCP and NTP in ManagerNetworkProtocol

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/ManagerNetworkProtocol
```

Response:

```
{
  "FQDN": "svbu-qa-blr-dn1-103-bmc",
  "SNMP": {
    "ProtocolEnabled": false,
    "Port": 161
  }
}
```

```

    },
    "Id": "ManagerNetworkProtocol",
    "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/ManagerNetworkProtocol",

    "HostName": "svbu-qa-blr-dn1-103-bmc",
    "VirtualMedia": {
      "ProtocolEnabled": true,
      "Port": 2068
    },
    "Description": "Manager Network Service",
    "KVMIP": {
      "ProtocolEnabled": true,
      "Port": 2068
    },
    "HTTP": {
      "ProtocolEnabled": true,
      "Port": 80
    },
    "DHCP": {
      "ProtocolEnabled": false,
      "Port": "null"
    },
    "HTTPS": {
      "ProtocolEnabled": true,
      "Port": 443
    },
    "SSH": {
      "ProtocolEnabled": true,
      "Port": 22
    },
    "@odata.type": "#ManagerNetworkProtocol.1.0.0",
    "IPMI": {
      "ProtocolEnabled": true,
      "Port": 623
    },
    "Name": "Manager Network Protocol",
    "@odata.id": "/redfish/v1/Managers/CIMC/ManagerNetworkProtocol",
    "NTP": {
      "ProtocolEnabled": false,
      "Port": 123,
      "NTPServers": [ " ", " ", " ", " ", " " ]
    }
  }
}

```

## Retrieving Memory Collection

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH1845V1X6/Memory
```

Response:

```

{
  "Members": [ {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_A1"
  }, {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_A2"
  }, {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_B1"
  }, {
    "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_B2"
  }
]
}

```

```

    }, {
      "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_C1"
    }, {
      "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_C2"
    }, {
      "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_D1"
    }, {
      "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_D2"
    }
  ],
  "Description": "Collection of Memory resource instances for this system",
  "@odata.type": "#Cisco_ComputerMemoryCollection",
  "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory",
  "Members@odata.count": 8,
  "Name": "Memory Collection",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Memory"
}

```

### Retrieving Individual DIMM

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_A1
```

Response:

```

{
  "SerialNumber": "01E7998C",
  "MemoryDeviceType": "DDR4",
  "Id": "1",
  "Links": {
    "Chassis": ["/redfish/v1/Chassis/1"]
  },
  "MemoryMedia": "DRAM",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Memory/Members/$entity",
  "PartNumber": "M393A1G40DB0-CPB",
  "CapacityMiB": "8192",
  "MemoryLocation": {
    "Channel": "0",
    "Slot": "0",
    "Socket": "0"
  },
  "MemoryType": "DRAM",
  "DeviceLocator": "DIMM_A1",
  "Name": "DIMM_A1",
  "@odata.type": "#Cisco_ComputerMemory",
  "DataWidthBits": "64",
  "Manufacturer": "0xCE00",
  "OperatingSpeedMhz": "2133",
  "Status": "Operable",
  "@odata.id": "/redfish/v1/Systems/FCH1845V1X6/Memory/DIMM_A1"
}

```

### Retrieving Network Adapter Collection

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/NetworkAdapter
```

Response:

```
{
  "Members": [{
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM"
  }],
  "Description": "Collection of NetworkAdapter resource instances for this system",
  "@odata.type": "#Cisco_NetworkAdapterCollection",
  "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter",
  "Members@odata.count": 1,
  "Name": "NetworkAdapter Collection",
  "@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity/NetworkAdapter"
}
```

### Retrieving Network Adapter

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/NetworkAdapter/MLOM
```

Response:

```
{
  "SerialNumber": "FCH18457F1M",
  "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM",
  "NetworkPorts": {
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts"
  },
  "Name": "Adapter Card MLOM",
  "@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity/NetworkAdapter/Members/$entity",
  "NetworkDeviceFunctions": {
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions"
  },
  "Controllers": {
    "ControllerCapabilities": {
      "NetworkDeviceFunctionCount": 4,
      "NetworkPortCount": 2
    },
    "FirmwarePackageVersion": "4.3(1a)",
    "Links": {
      "NetworkPorts": [{
        "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts/Port-0"
      }, {
        "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts/Port-1"
      }
    ],
    "NetworkDeviceFunctions@odata.count": 4,
    "NetworkDeviceFunctions": [{
      "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/eth0"
    }, {
      "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/eth1"
    }, {
      "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/fc0"
    }, {
      "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/fc1"
    }
  ]
}
```

```

        "NetworkPorts@odata.count":2
    }
},
"@odata.type":"#Cisco_NetworkAdapter",
"Actions":{
    "#NetworkAdapter.ResetSettingsToDefault":{
"target":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/Actions/NetworkAdapter.ResetSettingsToDefault"
    }
},
"Manufacturer":"Cisco Systems Inc",
"PartNumber":"73-15890-03",
"Model":"UCS VIC 1227",
"Id":"UCSC-MLOM-CSC-02"
}
}

```

### Performing Reset Settings to Default Action on Network Adapter

Request:

```

curl -XPOST -k -u admin:password
https://10.10.10.10/redfish/v1/Chassis/1/NetworkAdapter/MLOM/Actions/
NetworkAdapter.ResetSettingsToDefault -d {}

```

### Retrieving Network Device Function Collection

Request:

```

curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/NetworkAdapter/
MLOM/NetworkDeviceFunctions

```

Response:

```

{
  "Members":[{
    "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/eth0"
  },{
    "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/eth1"
  },{
    "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/fc0"
  },{
    "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/fc1"
  }],
  "Description":"Collection of NetworkDeviceFunction resource instances for this system",
  "@odata.type":"#Cisco_NetworkDeviceFunctionCollection",
  "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions",
  "Members@odata.count":4,
  "Name":"NetworkDeviceFunction Collection",

"@odata.context":"/redfish/v1/$metadata#Chassis/Members/$entity/NetworkAdapter/Members/$entity/NetworkDeviceFunctions"
}

```

### Retrieving Network Device Function

Request:

```

curl -k -u admin:password
https://10.10.10.10/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/eth0

```

Response:

```
{
  "Ethernet":{
    "MTUSize":"1500",
    "MACAddress":"00:78:88:F0:94:C6"
  },
  "Id":"eth0",
  "Name":"eth0",
"@odata.context":"/redfish/v1/$metadata#Chassis/Members/$entity/NetworkAdapter/Members/$entity/NetworkDeviceFunctions/Members/$entity",
"@odata.type":"#Cisco_NetworkDeviceFunction",
  "FibreChannel":{
    "WWNSource":"ConfiguredLocally",
    "WWPN":"",
    "FCoELocalVLANId":"NONE",
    "BootTarget":{
      "BootPriority":"",
      "LUNID":"",
      "WWPN":""
    },
    "WWNN":""
  },
"@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkDeviceFunctions/eth0",
  "iSCSIBoot":{
    "IPAddressType":"",
    "SecondaryTargetName":"",
    "InitiatorDefaultGateway":"",
    "InitiatorIPAddress":"",
    "SecondaryLUN":"",
    "PrimaryTargetIPAddress":"",
    "PrimaryLUN":"",
    "SecondaryDNS":"",
    "AuthenticationMethod":"None",
    "InitiatorName":"",
    "PrimaryTargetName":"",
    "IPMaskDNSViaDHCP":true,
    "InitiatorNetmask":"",
    "PrimaryTargetTCPPort":"",
    "TargetInfoViaDHCP":false,
    "SecondaryTargetTCPPort":"",
    "SecondaryTargetIPAddress":"",
    "PrimaryDNS":""
  }
}
```

## Retrieving Network Ports Collection

Request:

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts
```

Response:

```
{
  "Members":[{
    "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts/Port-0"
  }],{
```

```

        "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts/Port-1"
      }],
      "Description":"Collection of NetworkPort resource instances for this system",
      "@odata.type":"#Cisco_NetworkPortCollection",
      "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts",
      "Members@odata.count":2,
      "Name":"NetworkPort Collection",

"@odata.context":"/redfish/v1/$metadata#Chassis/Members/$entity/NetworkAdapter/Members/$entity/NetworkPorts"
}

```

## Retrieving Network Ports

Request:

```

curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts/Port-0

```

Response:

```

{
  "AssociatedNetworkAddresses":"00:78:88:F0:94:BA",
  "@odata.id":"/redfish/v1/Chassis/1/NetworkAdapter/MLOM/NetworkPorts/Port-0",
  "Name":"Port-0",

"@odata.context":"/redfish/v1/$metadata#Chassis/Members/$entity/NetworkAdapter/Members/$entity/NetworkPorts/Members/$entity",

  "@odata.type":"#Cisco_NetworkPort",
  "LinkStatus":"Down",
  "Id":"0",
  "SupportedLinkCapabilities":{
    "LinkSpeedMbps":"-",
    "LinkNetworkTechnology":"Ethernet"
  },
  "PhysicalPortNumber":"0"
}

```

## Retrieving Update Service

Request:

```

curl -k -u admin:password https://10.10.10.10/redfish/v1/UpdateService

```

Response:

```

{
  "FirmwareInventory":[{
    "@odata.id":"/redfish/v1/UpdateService/FirmwareInventory/slot-L"
  },{
    "@odata.id":"/redfish/v1/UpdateService/FirmwareInventory/slot-MLOM"
  },{
    "@odata.id":"/redfish/v1/UpdateService/FirmwareInventory/slot-HBA"
  },{
    "@odata.id":"/redfish/v1/UpdateService/FirmwareInventory/CIMC"
  },{
    "@odata.id":"/redfish/v1/UpdateService/FirmwareInventory/BIOS"
  },{
    "@odata.id":"/redfish/v1/UpdateService/FirmwareInventory/FlexFlash-0"
  }
]
}

```



```

    }],
    "@odata.type": "#Cisco_UpdateService",
    "@odata.id": "/redfish/v1/UpdateService",
    "@odata.context": "/redfish/v1/$metadata#UpdateService",
    "SoftwareInventory": [{
        "@odata.id": "/redfish/v1/UpdateService/SoftwareInventory/PID-Catalog"
    }],
    "ServiceEnabled": "true"
}

```

### Retrieving Firmware Inventory

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/UpdateService/FirmwareInventory/CIMC
```

Response:

```

{
  "@odata.context": "/redfish/v1/$metadata#UpdateService/FirmwareInventory/Members/$entity",
  "@odata.type": "#Cisco_FirmwareInventory",
  "@odata.id": "/redfish/v1/UpdateService/FirmwareInventory/CIMC",
  "Updateable": "true",
  "Name": "CIMC",
  "Version": "3.1(2.129)"
}

```

### Retrieving Software Inventory

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/UpdateService/SoftwareInventory/PID-Catalog
```

Response:

```

{
  "@odata.type": "#Cisco_SoftwareInventory",
  "@odata.id": "/redfish/v1/UpdateService/SoftwareInventory/PID-Catalog",
  "Updateable": "true",
  "Name": "PID-Catalog",
  "@odata.context": "/redfish/v1/$metadata#UpdateService/SoftwareInventory/Members/$entity"
}

```

### Retrieving Network Interface in System

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/NetworkInterfaces
```

Response:

```
{
```

```

"Members": [{
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/NetworkInterfaces/MLOM"
}],
>Description": "Collection of NetworkInterface resource instances for this system",
"@odata.type": "#Cisco_NetworkInterfaceCollection",
"@odata.id": "/redfish/v1/Systems/FCH2005V1EN/NetworkInterfaces",
"Members@odata.count": 1,
>Name": "NetworkInterface Collection",
"@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/NetworkInterfaces"
}

```

### Retrieving Individual Network Interface

Request:

```

curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/NetworkInterfaces/MLOM

```

Response:

```

{
  "Id": "UCSC-MLOM-CSC-02",
  "Status": {
    "State": "Enabled",
    "Health": "Ok"
  },
  "Links": {
    "NetworkAdapter": ["/redfish/v1/Chassis/1/NetworkAdapter/MLOM"]
  },
  "Name": "Adapter Card MLOM",

"@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/NetworkInterfaces/Members/$entity",

"@odata.type": "#Cisco_NetworkInterface",
"NetworkPorts": {
  "@odata.id": "/redfish/v1/Systems/FCH2005V1EN/NetworkInterfaces/MLOM/NetworkPorts"
},
"@odata.id": "/redfish/v1/Systems/FCH2005V1EN/NetworkInterfaces/MLOM",
"NetworkDeviceFunctions": {

"@odata.id": "/redfish/v1/Systems/FCH2005V1EN/NetworkInterfaces/MLOM/NetworkDeviceFunctions"

},
>Description": "It represents the properties for Adapter Card MLOM"
}

```

### Retrieving Secure Boot

Request:

```

curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/SecureBoot

```

Response:

```

{
  "SecureBootCurrentBoot": "Enabled",
  "Id": "SecureBoot",
  "Name": "SecureBoot",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/SecureBoot",

```

```

"@odata.type": "#Cisco_SecureBoot",
"SecureBootEnable": false,
"@odata.id": "/redfish/v1/Systems/FCH2005V1EN/SecureBoot",
>Description": "UEFI SecureBoot configuration of this system"
}

```

### Configuring Secure Boot

Request:

```

curl -XPATCH -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/FCH2005V1EN/SecureBoot -d '
{"SecureBootEnable": "true"}'

```

Response:

```

{
  "SecureBootCurrentBoot": "Enabled",
  "Id": "SecureBoot",
  "SecureBootEnable": true,
  "Name": "SecureBoot",
  "Description": "UEFI SecureBoot configuration of this system"
}

```

### Configuring Port and Protocol Enabled in Manager Network Protocol

Request:

```

curl -k -u admin:password -XPATCH
https://10.10.10.10/redfish/v1/Managers/CIMC/ManagerNetworkProtocol -d
'{"SSH":{"Port":"300","ProtocolEnabled":"Disabled"},
"SNMP":{"Port":"100","ProtocolEnabled":"Disabled"}}'

```

Response:

```

{
  "FQDN": "C240-FCH2005V1ENN",
  "SNMP": {
    "ProtocolEnabled": false,
    "Port": 100
  },
  "Id": "ManagerNetworkProtocol",
  "NTP": {
    "ProtocolEnabled": true,
    "Port": 123,
    "NTPServers": ["10.225.101.100", "cisco.com"]
  },
  "Name": "Manager Network Protocol",
  "DHCP": {
    "ProtocolEnabled": false,
    "Port": 68
  },
  "HTTPS": {
    "ProtocolEnabled": true,
    "Port": 443
  },
  "HostName": "C240-FCH2005V1ENN",
  "KVMIP": {

```

```

    "ProtocolEnabled":true,
    "Port":2068
  },
  "SSH":{
    "ProtocolEnabled":false,
    "Port":300
  },
  "IPMI":{
    "ProtocolEnabled":false,
    "Port":623
  },
  "HTTP":{
    "ProtocolEnabled":true,
    "Port":80
  },
  "VirtualMedia":{
    "ProtocolEnabled":true,
    "Port":2068
  },
  "Description":"Manager Network Service"
}

```

### Retrieving PCIe Devices

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V116/PCIeDevices/HBA
```

Response:

```

{
  "FirmwareVersion":"0x80000B16-1.808.2",
  "@odata.id":"/redfish/v1/Systems/FCH2005V116/PCIeDevices/L",
  "Status":{
    "State":"Enabled",
    "Health":"Ok"
  },
  "Links":{
    "Chassis":"/redfish/v1/Chassis/1",
    "PCIeFunction":[{"@odata.id":"/redfish/v1/Systems/FCH2005V116/PCIeFunctions/L"}],
    "PCIeFunction@odata.count":1
  },
  "Name":"Intel(R) I350 1 Gbps Network Controller",
  "@odata.context":"/redfish/v1/$metadata#Systems/Members/$entity/PCIeDevices/Members/$entity",
  "@odata.type":"#Cisco_PCIeDevices",
  "Id":"L",
  "Description":"This gives information of PCIeDevices on the system"
}

```

### Retrieving PCIe Functions

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2005V116/PCIeFunctions/L
```

Response:

```
{
  "VendorId": "0x8086",
  "FirmwareVersion": "0x80000B16-1.808.2",
  "Id": "L",
  "Status": {
    "State": "Enabled"
  },
  "Health": "Ok",
  "Links": {
    "StorageControllers@odata.count": 0,
    "Drives@odata.count": 0,
    "EthernetInterfaces@odata.count": 2,
    "PCIeDevice@odata.count": 1,
    "PCIeDevice": [ {
      "@odata.id": "/redfish/v1/Systems/FCH2005V116/PCIeDevices/L"
    } ],
    "EthernetInterfaces": [ {
      "@odata.id": "/redfish/v1/Systems/FCH2005V116/EthernetInterfaces/L.1"
    }, {
      "@odata.id": "/redfish/v1/Systems/FCH2005V116/EthernetInterfaces/L.2"
    } ]
  },
  "Name": "Intel(R) I350 1 Gbps Network Controller",
  "SubsystemVendorId": "0x1137",
  "@odata.type": "#Cisco_PCIeFunctions",
  "SubsystemId": "0x00d6",
  "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/PCIeFunctions/Members/$entity",
  "@odata.id": "/redfish/v1/Systems/FCH2005V116/PCIeFunctions/L",
  "DeviceId": "0x1521",
  "Description": "This gives information of PCIeFunctions on the system"
}
```

## Retrieving Privilege Map

Request:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/AccountService/PrivilegeMap
```

Response:

```
{
  "PrivilegesUsed": ["Login", "ConfigureManager", "ConfigureUsers", "ConfigureSelf", "ConfigureComponents"],
  "Id": "PrivilegeMap",
  "Name": "Privilege Registry",
  "@odata.context": "/redfish/v1/$metadata#AccountService/PrivilegeMap",
  "Mappings": [ {
    "Entity": "Manager",
    "OperationMap": {
      "POST": {

```

```

"Privilege":["ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents"]
  },
  "GET":{
    "Privilege":["Login","ConfigureManager","ConfigureUsers","ConfigureSelf",
"ConfigureComponents","OemClearLog","OemPowerControl","OemAccessVirtualMedia"]
  }
  },{
    "Entity":"Chassis",
    "OperationMap":{
      "PATCH":{

"Privilege":["ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents"]
      },
      "POST":{

"Privilege":["ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents"]
      },
      "GET":{

"Privilege":["Login","ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents",
"OemClearLog","OemPowerControl","OemAccessVirtualMedia"]
      }
    }
  },{
    "Entity":"Systems",
    "OperationMap":{
      "PATCH":{

"Privilege":["ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents"]
      },
      "POST":{

"Privilege":["ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents"]
      },
      "GET":{
        "Privilege":["Login","ConfigureManager","ConfigureUsers","ConfigureSelf",
"ConfigureComponents","OemClearLog","OemPowerControl","OemAccessVirtualMedia"]
      }
    }
  },{
    "Entity":"JSONSchemas",
    "OperationMap":{
      "GET":{
        "Privilege":["Login","ConfigureManager","ConfigureUsers","ConfigureSelf",
"ConfigureComponents","OemClearLog","OemPowerControl","OemAccessVirtualMedia"]
      }
    }
  },{
    "Entity":"EventService",
    "OperationMap":{
      "PATCH":{

"Privilege":["ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents"]
      },
      "POST":{

"Privilege":["ConfigureManager","ConfigureUsers","ConfigureSelf","ConfigureComponents"]
      },
      "GET":{
        "Privilege":["Login","ConfigureManager","ConfigureUsers","ConfigureSelf",
"ConfigureComponents","OemClearLog","OemPowerControl","OemAccessVirtualMedia"]
      }
    }
  }
}

```

```

    }
  }, {
    "Entity": "UpdateService",
    "OperationMap": {
      "GET": {
        "Privilege": ["Login", "ConfigureManager", "ConfigureUsers", "ConfigureSelf",
"ConfigureComponents", "OemClearLog", "OemPowerControl", "OemAccessVirtualMedia"]
      }
    }
  }, {
    "Entity": "SessionService",
    "OperationMap": {
      "DELETE": {
        "Privilege": ["ConfigureManager", "ConfigureUsers", "ConfigureSelf", "ConfigureComponents"]
      },
      "POST": {
        "Privilege": ["ConfigureManager", "ConfigureUsers", "ConfigureSelf", "ConfigureComponents"]
      },
      "GET": {
        "Privilege": ["Login", "ConfigureManager", "ConfigureUsers", "ConfigureSelf",
"ConfigureComponents", "OemClearLog", "OemPowerControl", "OemAccessVirtualMedia"]
      }
    }
  }, {
    "Entity": "TaskService",
    "OperationMap": {
      "GET": {
        "Privilege": ["Login", "ConfigureManager", "ConfigureUsers", "ConfigureSelf",
"ConfigureComponents", "OemClearLog", "OemPowerControl", "OemAccessVirtualMedia"]
      }
    }
  }, {
    "Entity": "AccountService",
    "OperationMap": {
      "GET": {
        "Privilege": ["Login", "ConfigureManager", "ConfigureUsers",
"ConfigureSelf", "ConfigureComponents", "OemClearLog", "OemPowerControl", "OemAccessVirtualMedia"]
      }
    }
  }
}],
"@odata.type": "#PrivilegeRegistry.v1_1_0.json",
"@odata.id": "/redfish/v1/AccountService/PrivilegeMap",
"OEMPrivilegesUsed": ["OemClearLog", "OemPowerControl", "OemAccessVirtualMedia"],
>Description": "This resource represents the operation to privilege mappings"
}

```

