The interface can request this data to obtain information such as data packet attribute definitions.

Output the attribute list of all elements:

* field\_name: field name, such as "id" , "name"
* alias:field\_name alia ,for minimize storage
* data\_type: field data type uint32 , int64 , string , list, etc.
* type : type, id, data , api , position, control, etc.
* describe : text description, explanation
* range : range, the maximum and minimum range of values
* must\_contain: whether it must be implemented
* min\_ver: The minimum supported version required

Basic setting of V1.0 field information:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name  (English, only used in human readable scenarios) | alias  code | intro | must | Scope  String does not contain newlines |
| id | id | Object ID, the server can modify the id of the object connected to it, so that the id is unique in the server, which is convenient for interaction | \* | Up to 512 bytes |
| name | nm | Object name | \* | Up to 512 bytes |
| describe | desc | Object description, text introduction |  | Up to 1024 bytes |
| type | tp | Object type, "computer","camera".. |  | Up to 64 bytes |
| interact\_expired\_date | ied | The expiration time that the object can interact with |  | Such as: 2021-11-18 19:11:11.111 |
| visible\_expired\_date | ved | The expiration time when the object is visible |  |  |
| class\_name | cn | Object category name, customizable |  | Up to 512 bytes |
| meta\_api\_id | mid | Meta universe unified object id (up to 512 bytes, registered using group collaboration documents) |  |  |
| meta\_api\_class\_name | mcn | Meta universe unified object classification name ( maximum length of 512 bytes, [registered](https://docs.qq.com/sheet/DS21mUEtNYUhEVENU) with [group collaboration document](https://docs.qq.com/sheet/DS21mUEtNYUhEVENU) ) | \* | Up to 512 bytes |
| meta\_api\_class\_id | mci | Meta universe unified object type id (maximum 512 bytes, the same as above, register through collaboration documents, [apply for unified object type id identifier](https://docs.qq.com/sheet/DS21mUEtNYUhEVENU) ), same type id , interface and interaction method are consistent | \* | Up to 512 bytes |
| info\_url | iu | Introduction link \* (human readable) |  | Up to 1024 bytes |
| info\_json\_url | iju | Related information, json format, url resource  info\_url can support + "&datatype=json&do=getinfo" to achieve the same function |  |  |
| api\_info | ai | Brief description of API interface ( web page, human readable, required) |  |  |
| api\_url | au | API interface \* ( URL form, optional) |  |  |
| api\_url2 | au2 | Alternate API interface |  |  |
| meta\_api\_sch\_url | msu | Supported meta universe API standard definition prototype |  | As below json |
| meta\_api\_info\_url | miu | Links to supported metauniverse API information (human readable) |  | As in [this document](https://translate.google.com/translate?hl=zh-CN&prev=_t&sl=zh-CN&tl=en&u=https://thoughts.aliyun.com/share/61954da2c1a410001add844d%23title%3DAPI_basic_information_primitive_description(schema)_V1.0#title=API_basic_information_primitive_description(schema)_V1.0) |
| meta\_api\_ver | mv | Supported meta universe protocol version, default 1.0 | \* | 1.00~999.99 |
| meta\_api\_ver\_min | mvmin | The lowest supported version of the Meta universe protocol |  |  |
| support\_connector | sc | Supported input types, such as keyboard, mouse, etc. |  | Up to 64 bytes |
| is\_permanent | isper | Whether it exists permanently, without force majeure |  | true,false |
| is\_in\_real\_world | isirw | Does it really exist in real space (entity) |  | true,false |
| is\_AI | isai | Is it artificial intelligence |  | true,false |
| status | stat | Object state, IDLE - Idle, interactive; normal - normal; BUSY busy; extreme\_busy busy; wait\_n\_s - Wait n seconds before the access (not more than 1200 seconds); error - failure; |  |  |
| failure\_report\_api | fra | Fault reporting interface, it is recommended to report every 5 minutes |  | msg : date :  from\_id :  API : |
| trusted\_connector | tc | Nearby trusted access points, including id , api and other interface information |  |  |
| connector\_count | cc | Number of connected objects |  |  |
| info\_expire | ie | Current information expiration time |  | Such as: 2021-11-18 19:11:11.111 |
| transmit\_rate\_per\_interface\_bps | trpi | The recommended transmission rate of a single interface bps |  | 0~1,000,000,000,000 |
| transmit\_state\_pressure | tsp | Current transmission pressure |  | high,extreme high,low,none |
| transmit\_state\_pressure\_percent | tspp | Transmission pressure percentage |  | 0.0~100.0 |
| transmit\_rate\_remaining\_bandwidth\_bps | trrbb | Remaining transmission bandwidth |  | 0~1,000,000,000,000 |
| can\_relay | cr | Can transfer information |  | true,false |
| network\_access | na | Accessible network types , |  | internet etc. |
| network\_access\_internet | nai | Internet access |  | none,ipv4,ipv6 |
| network\_info | ni | Internet Information |  | ipv4 's ip address, ipv6 etc. |
| debug\_info | di | Debugging information, information visible to developers |  | Up to 1024 bytes |
| debug\_state | ds | Debug status |  | 0-0xFFFF |
| manufactor | mnf | Manufacturer / creator |  | Up to 128 bytes |
| create\_date | cd | Creation time |  | Such as: 2021-11-18 19:11:11.111 |
| can\_delete | cdel | Can it be deleted |  | true,false |
| can\_interact | ci | Can interact |  | true,false |
| text\_stream | ts | Text interactive flow |  |  |
| icon\_url | iu | Icon information can be obtained from info\_json\_url get |  |  |
| avatar\_hd | ah | HD texture information (flat) |  |  |
| 3D\_model\_type | 3dt | 3D model type |  |  |
| 3D\_model\_url | 3mu | 3D model link |  | Up to 1024 bytes |
| 3D\_texture\_url | 3tu | 3D texture |  |  |
| 3D\_model\_size | 3ms | 3D model size, X,Y,Z in cm |  | Such as: 10,10,10  The maximum 100000 Mi |
| position | pos | Object position X, Y, Z in cm |  |  |
| 3D\_spin | 3s | Rotation angle |  |  |
| 3D\_zoom | 3z | scaling ratio |  |  |
| video\_output\_stream | vos | Video streaming |  |  |
| video\_texture\_zoom | vtz | Video stream scaling |  |  |
| 3D\_model\_controler\_stream | 3mcs | 3D model control flow |  |  |
| audio\_output\_stream | aos | Audio stream |  |  |
| click\_url | cu | Jump to the link after clicking the object |  |  |
| interact\_msg | im | Interactive information, json format, click to pop up related information and selected results |  |  |
| motion\_trajectory\_stream | mts | The motion trajectory stream, url , takes the current coordinates as the origin, and moves according to a certain time and position |  |  |
| video\_input\_stream | vis | Video input, the object can see the video stream, and the push address |  |  |
| audio\_input\_stream | ais | Audio input, audio stream available to the object, push address |  |  |
| permanent\_object\_url | pou | Permanent, the only object currently, url |  |  |
| unique\_id | ui | Unique id , current status and service |  |  |
| create\_api\_url | cau | Object creation API , by unique\_id re-create |  |  |
| pay\_api\_url | pau | Payment interface |  |  |
| interact\_api\_url | iau | Interactive interface |  |  |
| meta\_api\_sch\_extend\_url\_list | mseul | Supported yuan universe API standard definition of a prototype \_ expand \_ collection ( url list) |  |  |
| meta\_api\_sch\_custum\_url\_list | macul | Supported yuan universe API standard definition of a prototype \_ Custom \_ collection ( url list) |  |  |
| support\_api\_stream\_type | spst | Supported API interface data stream type, binary (required) , json (recommended) , xml, etc. |  | binary,json,xml |
| api\_interface\_data | aid | List, supported API connection types and access methods, such as:  [{"type":"internet","interface":"192.168.1.1:8000","method":"socket","data\_type":"binary"}] | Suggested implementation |  |
| mata\_api\_public\_key | mapk | Meta universe public key |  |  |
| get\_meta\_api\_info | gmai | If the requester receives this field, it needs to submit its own information through the instruction set 0x00 and 0x04 instructions | Must achieve | json |
| scenes\_id | si | the scenes id of current metauniverse |  | string |
| time\_stamp\_ms | tsm | current time stamp , unit ms |  | uint64 |
| earth\_coordinates\_lat | eclat | coordinats on earth: latitude ,(North positive,South negtive) |  | float |
| earth\_coordinates\_lng | eclng | coordinats on earth: lontitude(East positve,West negtive) |  | float |
| registered\_time\_stamp\_ms | rtsm | registered time stamp in server, ms |  | uint64 |

Suggested implementation: After adding &datatype=json&do=getinfo to the above url interface , the API schema of the json structure can be obtained . The values ​​of the above fields are also in string form. Reference API server open source code:

[https://gitee.com/hayoou/metaverse\_api\_server\_go](https://translate.google.com/translate?hl=zh-CN&prev=_t&sl=zh-CN&tl=en&u=https://gitee.com/hayoou/metaverse_api_server_go)

API prototype description json data structure example:

{  
 "meta\_api\_ver": "1.0",  
 "fields": [{  
 "field\_name": "id", "alias":"id",  
 "data\_type": "string",  
 "type": "id",  
 "describe": "metaverse unique id",  
 "range": {  
 "len\_min": 1,  
 "len\_max": 512  
 },  
 "must\_contain": true,  
 "min\_ver": 1.0  
 },  
 {  
 "field\_name": "name", "alias":"nm",  
 "data\_type": "string",  
 "type": "data",  
 "describe": "name of object",  
 "range": {  
 "len\_min": 1,  
 "len\_max": 512  
 },  
 "must\_contain": true,  
 "min\_ver": 1.0  
 }, ...  
 ]  
}

more docs:

[Metaverse interface standard](https://thoughts.aliyun.com/share/61988d0bbdc2c4001aea00b9#title=Metaverse_interface_standard)

[Metaverse General Protocal](https://thoughts.aliyun.com/share/61988bca4cbd0a001a03bc67#title=Metaverse_General_Protocal)