**Discover JSON format for Server/cloud/desktop**

**1. Generate Visual Discoveries**

Visual Discoveries are generated by sending a JSON post request. The visual Discovery **Generate request** is a blocking call ,i.e. the get request to fetch all the visual discoveries should be sent only once the generate request sends a successful status.

The request format and the relative URL to which the JSON post requests are sent are as below,

**1.1 Request Format**

**Relative URL format** : /service/vd

{

**"op"**: "generate",

**"workspaceId"**: "a16e3e77-4aea-42f2-8b02-d30655db52",

**"datasetId"**: "2",

**"forceGenerate"**: false

}

**workspaceId** denotes the ID of the workspace that holds the current dataset. This parameter is applicable only for desktop and not for cloud/server.

**datasetId** it’s applicable for desktop/server/cloud and denotes the id of the dataset.

**forceGenerate** this is a Boolean value applicable for desktop. This parameter will be set to **true**  if a force generation of Visual Discoveries is required.

**1.2 Response Format**

{

**"status":** status\_code

}

The Visual Discoveries Generate request returns a set of integer values as a status code.

The different status codes and their description is as below,

**Status Codes**

**0**   : This is the **initial state of Visual Discoveries** and it denotes that the Visual Discoveries are currently being generated. If multiple requests for the same dataset are sent when the dataset is being provisioned, all other requests will send a response with status 0.

**5** : This status code indicates that there are **no valid dimensions or** **measures** in the provisioned dataset for visual discoveries generation.

**6**  : This status code indicates that the Visual Discoveries Generation request has resulted in **no visual Discoveries**.

**7 :** This status code indicates that the **Visual Discoveries have been successfully generated.**

**9 :** This status code indicates a **failure/error while generating Visual Discoveries.**

**11** : The visual Discovery service limits the number of consecutive requests, this status code indicates that the **server is currently busy with multiple Visual Discoveries** **generation requests**.

**12** : This status code indicates that the **Dataset is invalid**.

**2. Get Visual Discoveries**

This request is used to retrieve the Visual Discoveries.

The request format and the relative URL to which the JSON post requests are sent are as below,

**2.1 Request Format**

**Relative URL format** : /service/vd

{

**"op"**: "get",

**"workspaceId"**: "a16e3e77-4aea-42f2-8b02-d0d30655db52",

**"datasetId"**: "2",

**"startIndex"**: 0,

**"count"**: 5,

**"filters**": ["id\_10","id\_11"]

}

**startIndex** : It is a non-negative integer value specifying the index of the first visual Discovery to be retrieved. If **startIndex** is negative, it is set to 0. If startIndex is greater than the number of visual Discoveries it will return no visual Discoveries.

**count :** It is a non-negative integer that denotes the count of number of visual discoveries to be returned to the client. If count is negative it is set to 0.

**filters :** It’s an optional parameter to filter the visual discoveries. It’s a JSON array which contains a list of **object Ids** in Desktop and **Technical Column name** in Server/Cloud, the visual discoveries will be filtered according to the filters present in the array.

**2.2 Response Format**

The response format is as below,

{

"**result**": {

"**recommendations**": [

{

"**recommendation**": {

"**combination**": [

{

"**name**": "Country",

“**entityId**”:”Country\_DIM”,

"**qualification**": "Dimension",

"**objId**": "id\_10",

"**semanticType**": "geo",

"**distinctCount**": 13

},

{

"**name**": "Sales revenue",

“**entityId**”:”Sales revenue\_msr”,

"**qualification**": "Measure",

"**objId**": "id\_28",

" **semanticType** ": "NONE",

"**distinctCount**": n.a

}

]

}

},

{

"**recommendation**": {

"**combination**": [

{

"**name**": "Month",

“**entityId**”:” Store name\_DIM”,

"**qualification**": "Dimension",

"**objId**": "id\_10",

"**semanticType**": "time",

"**distinctCount**": 13

},

{

"**name**": "Quantity sold",

“**entityId**”:” Quantity sold\_MSR”,

"**qualification**": "Measure",

"**objId**": "id\_29",

" **semanticType**": "NONE",

"**distinctCount**": n.a

}

]

}

}

]

},

**"totalCount":** 4,

**"status":** STATUS\_CODE

}

**name :**  This will contain the display name of the column.

**objId** : This denotes the **technical column name** in case of server/cloud and the **unique objId** for the desktop setup.

**entityId :** This contains the entity Id of the column for the dimension/ measure and is applicable for server/cloud.

**qualification** : This indicates whether the particular column is a dimension or a measure.

**semanticType :** This indicates the semantic type of the particular column, the valid values are **time,geo,NONE.**  If the column is not enriched , the default value will be **NONE.**

**distinctCount :** This indicates the distinct count for the values in the particular column, this is applicable only for the dimensions and not for the measures in the dataset.

**totalCount**: This parameter contains the total number of visual discoveries that are a part of the response.

**Note** : This parameter will always contain the total number of visual discoveries, even in the case when the filter is applied, this parameter will still indicate the total number of visual discoveries.

**status**

**Different status codes**

**8 :** This indicates that visual discoveries are getting generated.

**12 :** This indicates the user has insufficient privileges to view data. Applicable for Server/cloud

**13** : This status code indicates that the Dataset is invalid.

**7 :** This status code indicates that the **Visual Discoveries have been successfully returned.**

**3. Generate DYK**

DYK Insights are generated by sending a JSON post request. The DYK Generate request is a blocking call, i.e. the get request to fetch all the DYK insights should be sent only once the generate request sends a successful status.

The request format and the relative URL to which the JSON post requests are sent are as below,

**3.1 Request Format**

**Relative URL format** : /service/dyk

{

**"op"**: "generate",

**"workspaceId"**: "a16e3e77-4aea-42f2-8b02-d30655db52",

**"datasetId"**: "2",

**"forceGenerate"**: false

}

**workspaceId** denotes the ID of the workspace that holds the current dataset. This parameter is applicable only for desktop and not for cloud/server.

**datasetId** it’s applicable for desktop/server/cloud and denotes the id of the dataset.

**forceGenerate** this is a Boolean value applicable for desktop. This parameter will be set to **true**  if a force generation of DYK is required.

**3.2 Response Format**

{

**"status":** status\_code

}

The Visual Discoveries Generate request returns a set of integer values as a status code.

The different status codes and their description is as below,

**Status Codes**

**1 :** This status code indicates that the **DYK insights have been successfully generated.**

**2**   : This indicates that the dataset has **no** **DYK insights**.

**3**   : This is the **initial state of DYK insights** and it denotes that the DYK insights are currently being generated. If multiple requests for the same dataset are sent when the dataset is being provisioned, all other requests will send a response with status **0**.

**4** : The DYK service limits the number of consecutive requests, this status code indicates that the **server is currently busy with multiple DYK** **generation requests**.

**4. Get DYK insights**

This request is used to retrieve the DYK insights.

The request format and the relative URL to which the JSON post requests are sent are as below,

**4.1 Request Format**

**Relative URL format** : /service/dyk

{

**"op"**: "get",

**"workspaceId"**: "a16e3e77-4aea-42f2-8b02-d0d30655db52",

**"datasetId"**: "2",

**"startIndex"**: 0,

**"count"**: 5,

**"filters**": ["id\_10","id\_11"]

}

**startIndex** : It is a non-negative integer value specifying the index of the first DYK insight to be retrieved. If **startIndex** is negative, it is set to 0. If startIndex is greater than the number of dyk insights it will return no insights.

**count :** It is a non-negative integer that denotes the count of number of insights to be returned to the client. If count is negative it is set to 0.

**filters :** It’s an optional parameter to filter the insights.It’s a JSON array which contains a list of object Ids in Desktop and Technical Column name in Server/Cloud, the insights will be filtered according to the filters present in the array.

**4.2 Response Format**

The response format is as below,

{

"**result**": {

"**insights**": [

{

"**insight**": {

"**combination**": [

{

"**enityId**": "SHIRTS",

"**objId**": "id\_12",

"**name**": "State",

"**qualification**": "dimension",

"**value**": "Texas ",

"**semanticType**": "NONE",

"**distinctCount**": 8

},

{

"**enityId**": "MONTH",

"**objId**": "id\_29",

"**name**": "Month",

"**qualification**": "measure",

"**value**": "9197",

"**semanticType**": “NONE”,

"**distinctCount**": 50

}

],

"**outlierType**": "HIGH",

"**score**": 152.92540391887246,

}

},

{

"**insight**": {

"**combination**": [

{

"**enityId**": "STATE",

"**objId**": "id\_12",

"**name**": "State",

"**qualification**": "dimension",

"**value**": "Texas ",

"**semanticType**": "geo",

"**distinctCount**": 8

},

{

"**enityId**": "YEAR",

"**objId**": "id\_28",

"**name**": "Year",

"**qualification**": "measure",

"**value**": "2756735",

"**semanticType**": “NONE”,

"**distinctCount**": 47

}

],

"**outlierType**": "HIGH",

"**score**": 153.06519338639538,

}

}

]

},

"**totalCount**": 4,

"**status**": 1

}

**name :**  This will contain the display name of the column.

**objId** : This denotes the technical column name in case of server/cloud and the unique objId for the desktop setup.

**entityId :** This contains the entity Id of the column for the dimension/ measure and is applicable for server/cloud.

**qualification** : This indicates whether the particular column is a dimension or a measure.

**semanticType :** This indicates the semantic type of the particular column, the valid values are **time, geo,**NONE**.**  If the column is not enriched, the default value will be **NONE.**

**distinctCount :** This indicates the distinct count for the values in the particular column; this is applicable only for the dimensions and not for the measures in the dataset.

**totalCount**: This parameter contains the total number of DYK insights that are a part of the response.

**value :** This parameter contains the dimension/measure values for a particular column.

**score** : This parameter contains the score of the particular insight. By default the response will contain the insights in the descending order of the score.

**outlierType** : This parameter indicates whether the particular insight is high or a low outlier. Possible values are **high/low**.

**Note**: This parameter will always contain the total number of DYK insights, even in the case when the filter is applied, this parameter will still indicate the total number of insights.

**status**

**Different status codes**

**1 :** This status code indicates that the **DYK insights have been successfully generated.**

**5. Error Handling**

In case of an error/exception in server processing, a status of **-1** will be sent along with the appropriate error code.

The response format is as below,

{

"**status**" : -1,

"**error**" : ERROR\_CODE

}

The possible error codes are as below,

**DISCOVER\_DYKGEN\_ERROR001** : Error while generating insights

**DISCOVER\_GETDYK\_ERROR001** : Error while fetching insights

**DISCOVER\_VD\_ARTIFACTS\_GENERATION\_FAILED\_ERROR001** : Error while generating visual discoveries

**DISCOVER\_VD\_ARTIFACTS\_GENERATION\_FAILED\_ERROR002** : Error while provisioning visual discoveries

**DISCOVER\_VD\_GETARTIFACTS\_INSUFFICIENT\_PRIVILEGE\_ERROR** : Insufficient privileges to fetch visual discoveries

**DISCOVER\_VD\_GETARTIFACTS\_ERROR001** : Error while fetching visual discoveries

**DISCOVER\_REQUEST\_DISPATCHER\_ERROR** : Invalid request