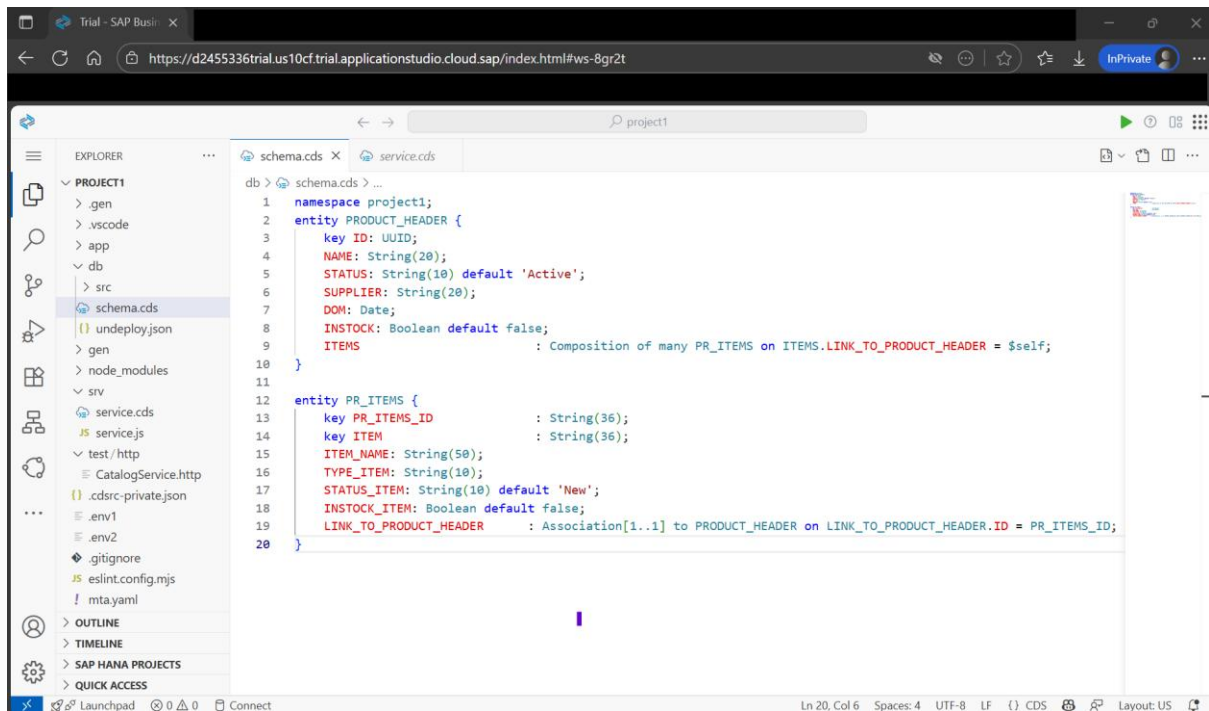


## SAP CAP function and action implementation – A project made by Shobhit Srivastava

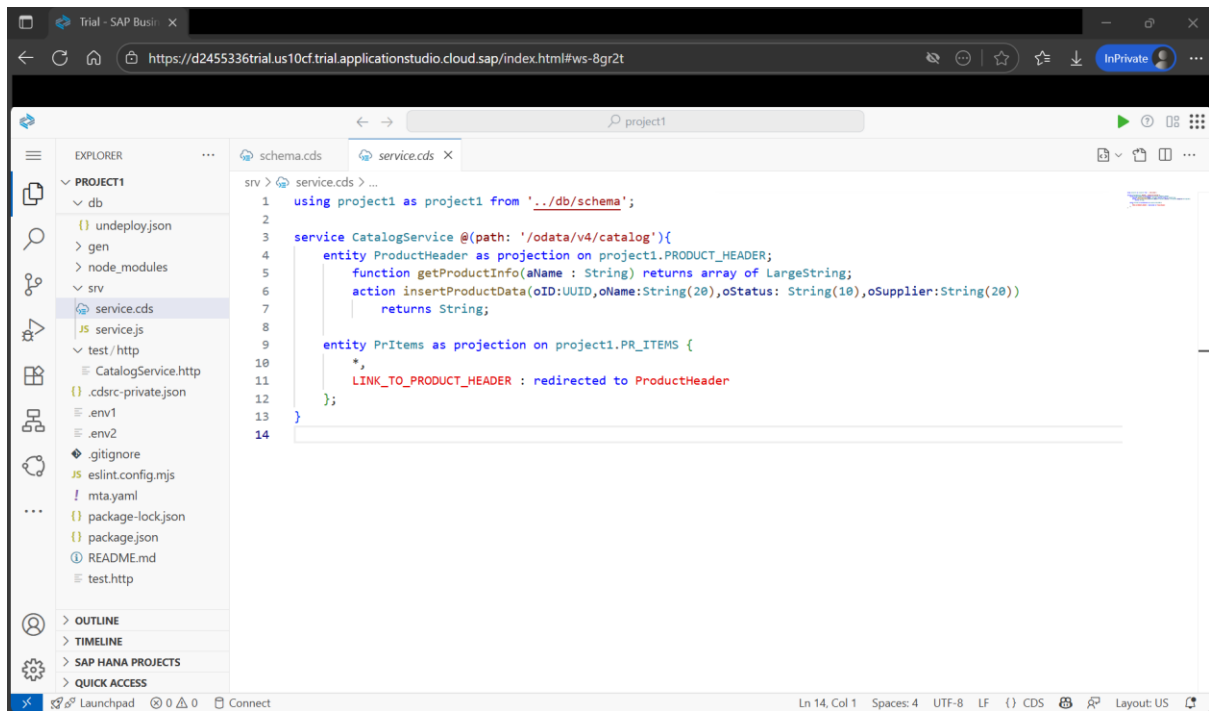
### Prerequisites:

- Understanding SAP CAP model
- Understanding SAP BAS and knowledge on SAP UI5

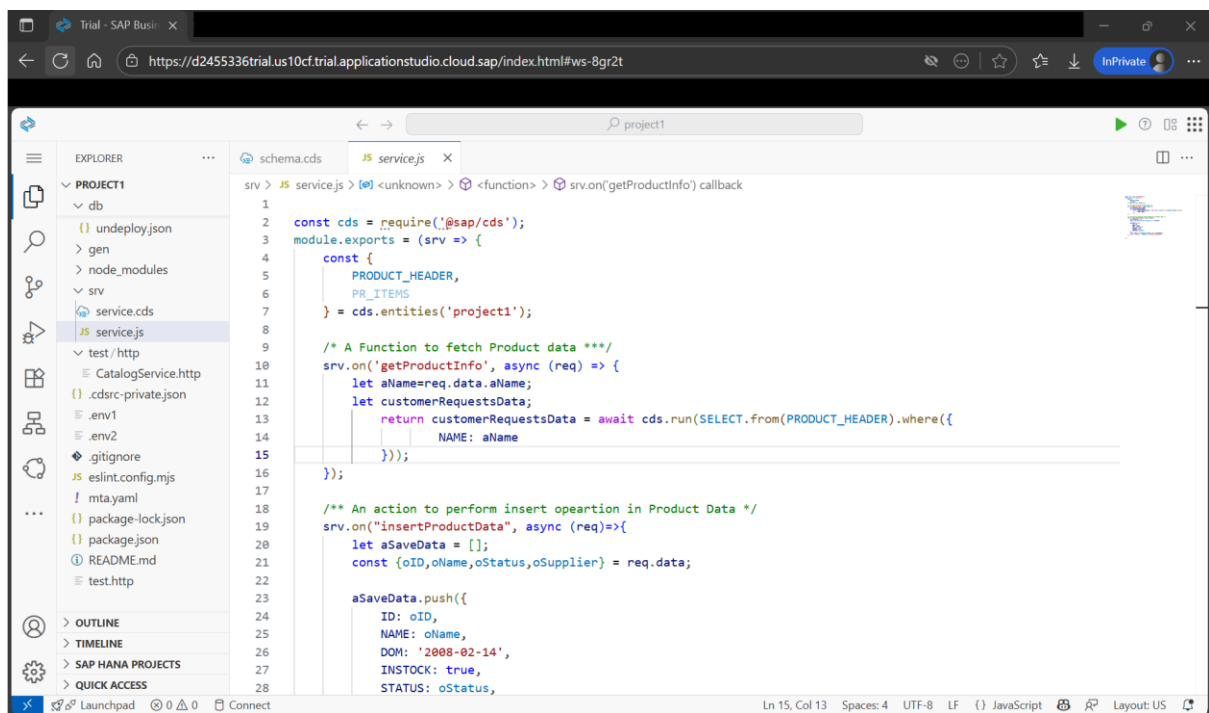
This is use case to design a data model using SAP CAP. The SAP HANA Cloud database is integrated instead of sqlite. This example is made to understand data modelling, function and action implementation on srv level.

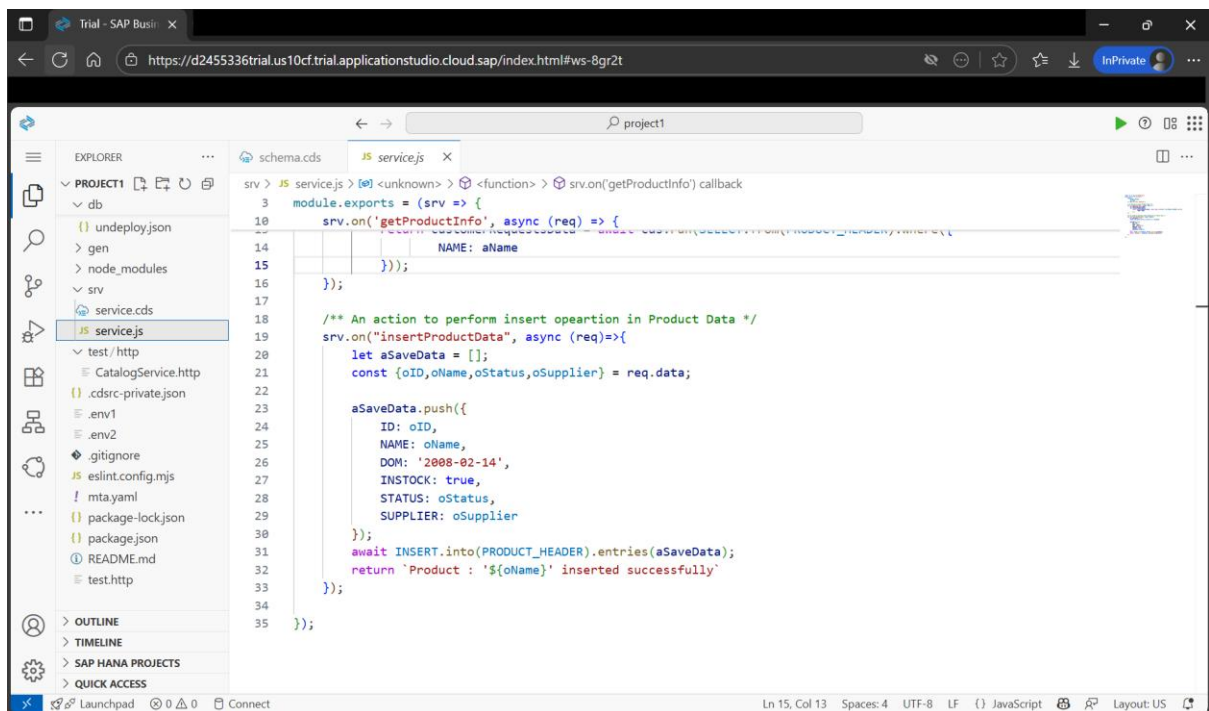


### SRV:

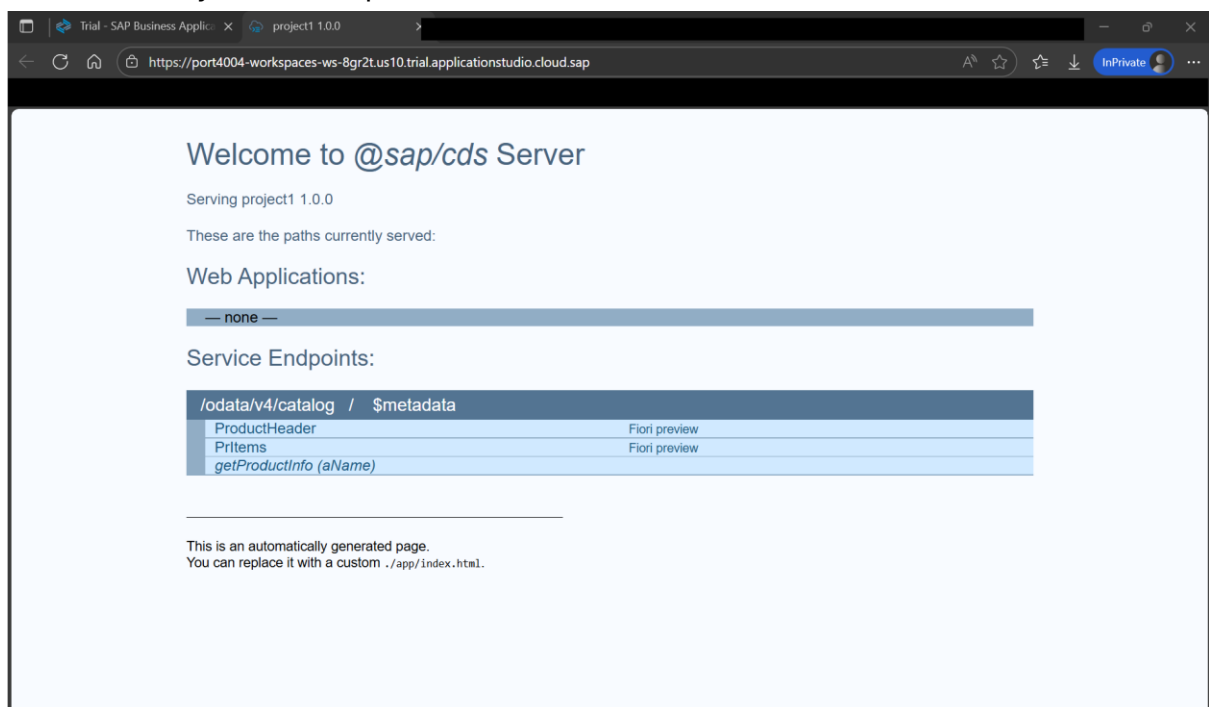


Function and action definition in srv folder using node js logic.





## cds watch --hybrid development



Pretty-print ☒

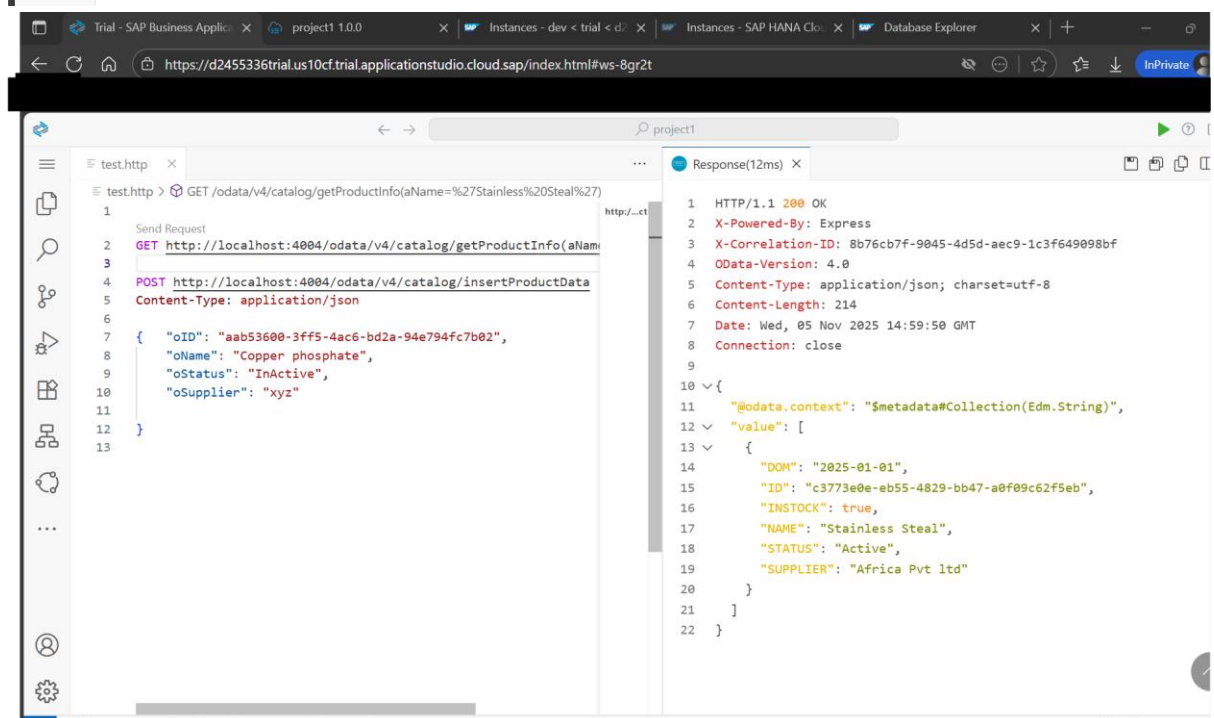
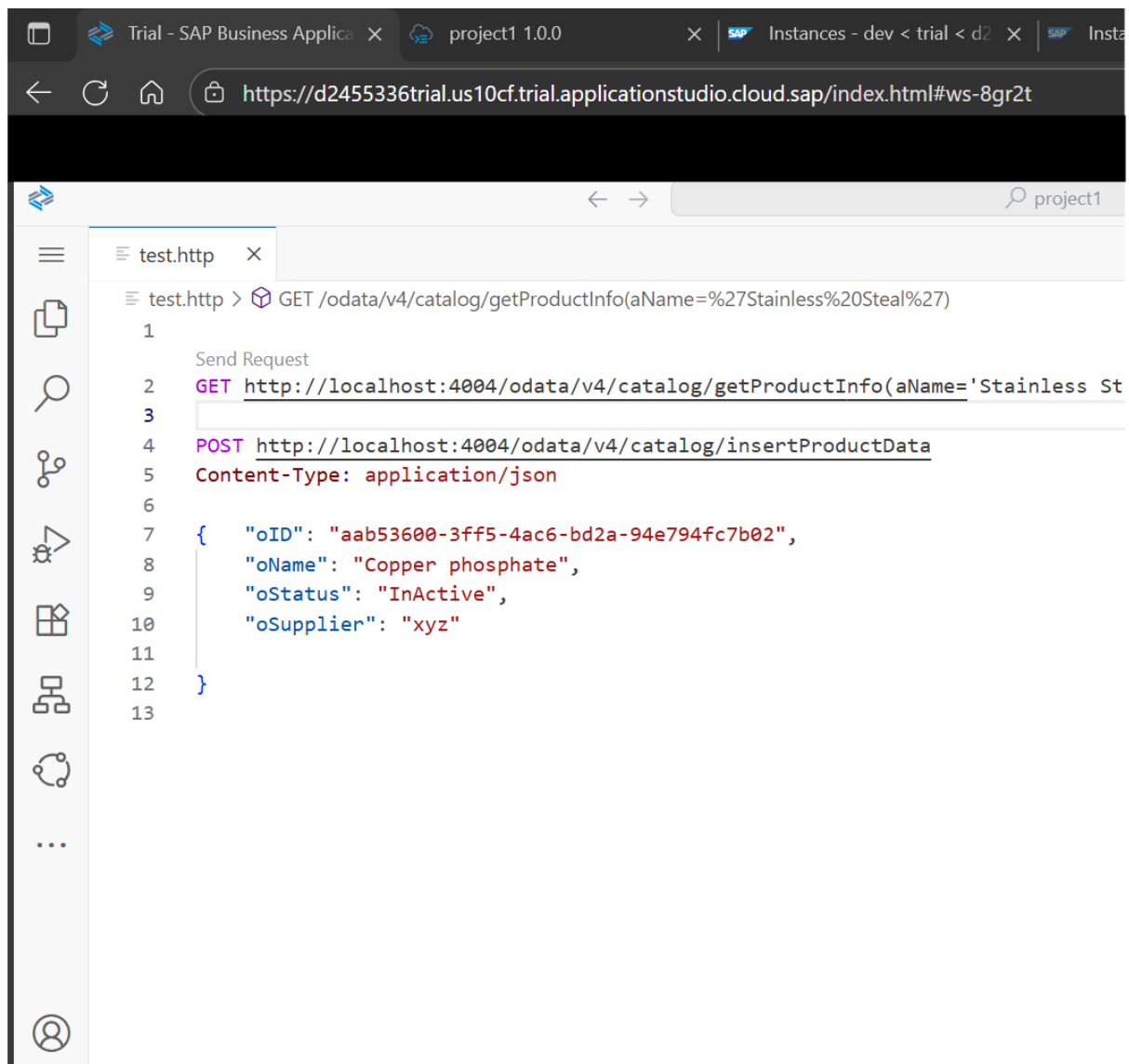
```
{
  "@odata.context": "$metadata#ProductHeader",
  "value": [
    {
      "DOM": "2008-02-14",
      "ID": "14953600-3ff5-4ad6-bd2a-94e794fc7b02",
      "INSTOCK": true,
      "NAME": "Copper Nitrate",
      "STATUS": "InActive",
      "SUPPLIER": "xyz"
    },
    {
      "DOM": "2008-02-14",
      "ID": "14953689-3ff5-4ad6-bd2a-94e794fc7b02",
      "INSTOCK": false,
      "NAME": "NAME-14953689",
      "STATUS": "S-14953689",
      "SUPPLIER": "SUPPLIER-14953689"
    },
    {
      "DOM": "2008-02-14",
      "ID": "24953600-3ff5-4ad6-bd2a-94e794fc7b02",
      "INSTOCK": true,
      "NAME": "Copper Sulphate",
      "STATUS": "InActive",
      "SUPPLIER": "xyz"
    },
    {
      "DOM": "2008-02-14",
      "ID": "aa953600-3ff5-4ad6-bd2a-94e794fc7b02",
      "INSTOCK": true,
      "NAME": "Ammonia",
      "STATUS": "InActive",
      "SUPPLIER": "xyz"
    },
    {
      "DOM": "2008-02-14",
      "ID": "aab53600-3ff5-4ac6-bd2a-94e794fc7b02",
      "INSTOCK": true,
      "NAME": "Copper phosphate",
      "STATUS": "InActive",
      "SUPPLIER": "xyz"
    },
    {
      "DOM": "2008-02-14",
      "ID": "aab53600-3ff5-4ad6-bd2a-94e794fc7b02",
      "INSTOCK": true,
      "NAME": "Ferric Suplhate",
      "STATUS": "InActive",
      "SUPPLIER": "xyz"
    },
    {
      "DOM": "2025-01-01",
      "ID": "c3773e0e-eb55-4829-bb47-a0f09c62f5eb",
      "INSTOCK": true,
      "NAME": "Stainless Steal",
      "STATUS": "Active",
      "SUPPLIER": "Africa Pvt ltd"
    }
  ]
}
```

Pretty-print ☒

```
{
  "@odata.context": "$metadata#PrItems",
  "value": [
    {
      "INSTOCK_ITEM": false,
      "ITEM": "PrItems-7102429",
      "ITEM_NAME": "ITEM_NAME-Copper",
      "PR_ITEMS_ID": "14953689-3ff5-4ad6-bd2a-94e794fc7b02",
      "STATUS_ITEM": "EM-7102429",
      "TYPE_ITEM": "EM-7102429"
    },
    {
      "INSTOCK_ITEM": true,
      "ITEM": "PrItems-7102430",
      "ITEM_NAME": "ITEM_NAME-7102430",
      "PR_ITEMS_ID": "14953689-3ff5-4ad6-bd2a-94e794fc7b02",
      "STATUS_ITEM": "EM-7102430",
      "TYPE_ITEM": "EM-7102430"
    },
    {
      "INSTOCK_ITEM": false,
      "ITEM": "8cbcfdf0-428d-4a2e-9ef3-9c27c2b042ec",
      "ITEM_NAME": "Iron",
      "PR_ITEMS_ID": "c3773e0e-eb55-4829-bb47-a0f09c62f5eb",
      "STATUS_ITEM": "New",
      "TYPE_ITEM": "Grade A"
    },
    {
      "INSTOCK_ITEM": true,
      "ITEM": "a03fad4c-8435-4566-adcb-c2f4251a5eeb",
      "ITEM_NAME": "Carbon",
      "PR_ITEMS_ID": "c3773e0e-eb55-4829-bb47-a0f09c62f5eb",
      "STATUS_ITEM": "Old",
      "TYPE_ITEM": "Grade C"
    }
  ]
}
```

Using http to get output response.

Function http call-



See in HANA Cloud table:

The screenshot shows the SAP HANA Database Explorer interface. On the left, a sidebar lists various database objects like Column Views, Cubes, Functions, Graph Workspaces, Indexes, JSON Collections, Libraries, Procedures, Public Synonyms, Remote Subscriptions, and Job Scheduler. The main area displays a table named 'PROJECT1\_PRODUCT\_HEADER' with the following data:

ID	NAME	DOM	INSTOCK	STATUS	SUPPLIER
c3773e0e-eb55-4829-bb47-a0f09c62f5eb	Stainless Steel	2025-01-01	true	Active	Africa Pvt Ltd

The POST call :

The screenshot displays the SAP Cloud SDK IDE interface. The top pane shows a REST client test named 'test.http' with the following content:

```
1
2 # GET http://localhost:4004/odata/v4/catalog/getProductInfo(aName='Stainless Steel')
3
4
5 Send Request
6 POST http://localhost:4004/odata/v4/catalog/insertProductData
7 Content-Type: application/json
8 {
9   "oID": "ddb53600-3ff5-4ac6-bd2a-94e794fc7b02",
10  "oName": "Argon",
11  "oStatus": "Active",
12  "oSupplier": "US Ltd."
13 }
14
```

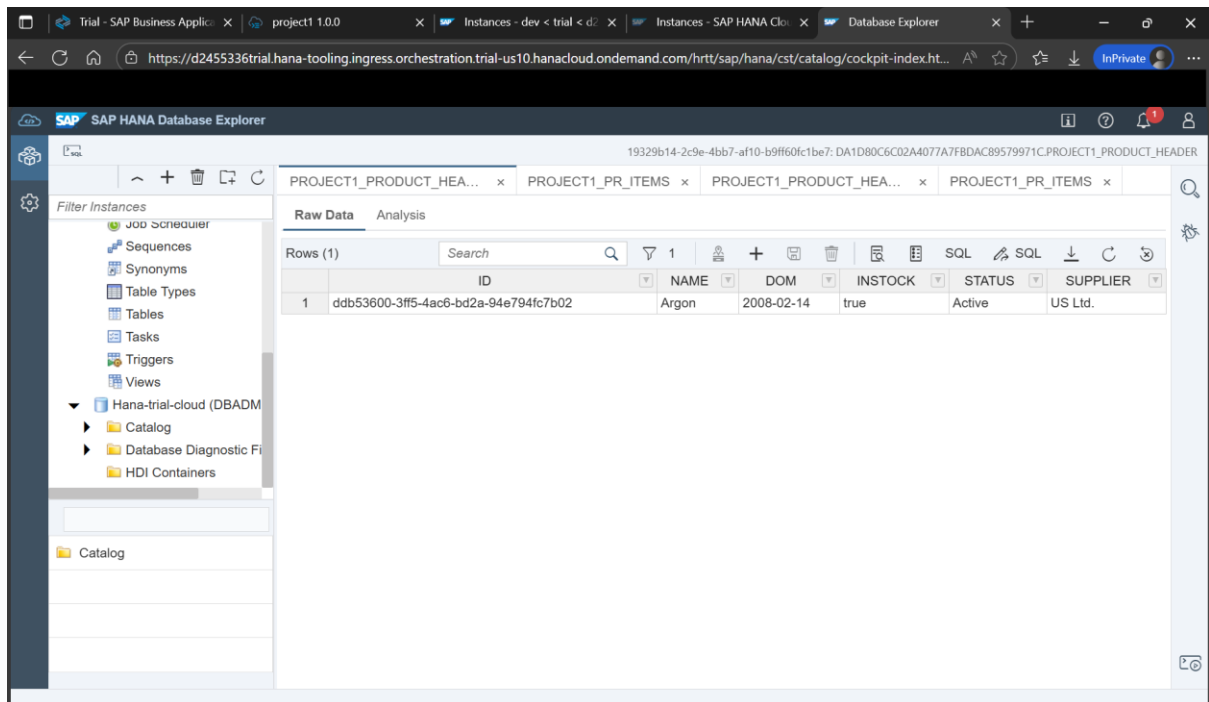
The bottom pane shows the response of the POST request, titled 'Response(215ms)'. The response is as follows:

```
1 HTTP/1.1 200 OK
2 X-Powered-By: Express
3 X-Correlation-ID: 836bfe31-b9a3-4ea4-8ae3-251495efd26b
4 OData-Version: 4.0
5 Content-Type: application/json; charset=utf-8
6 Content-Length: 91
7 Date: Wed, 05 Nov 2025 15:03:28 GMT
8 Connection: close
9
10 {
11   "@odata.context": "$metadata#Edm.String",
12   "value": "Product : 'Argon' inserted successfully"
13 }
```

The status bar at the bottom indicates the test was executed via 'Launchpad' and shows a duration of 215ms and a size of 292 B.

See data in HANA Cloud:





Also CRUD is can performed directly on entity set.

```
test > http -v CatalogService.http > ProductHeader_POST
1 @server=http://localhost:4004
2 @username=alice
3 @password=1234
4
5
6 ### ProductHeader
7 # @name ProductHeader_GET
8
9 Send Request
10 GET {(server)}/odata/v4/catalog/ProductHeader
11 Authorization: Basic {(username)}: {(password)}
12
13
14 ### ProductHeader
15 # @name ProductHeader_POST
16
17 Send Request
18 POST {(server)}/odata/v4/catalog/ProductHeader
19 Content-Type: application/json
20 Authorization: Basic {(username)}: {(password)}
21
22 {
23   "ID": "14953689-3ff5-4ad6-bd2a-94e794fc7b02",
24   "NAME": "NAME-14953689",
25   "STATUS": "S-14953689",
26   "SUPPLIER": "SUPPLIER-14953689",
27   "DOM": "2008-02-14",
28   "INSTOCK": false,
29   "ITEMS": [
30     {
31       "PR_ITEMS_ID": "PrItems-7102429",
32       "ITEM": "PrItems-7102429",
33       "TYPE_ITEM": "EH-7102429",
34       "STATUS_ITEM": "EH-7102429",
35       "ITEM_NAME": "ITEM_NAME-7102429",
36       "INSTOCK_ITEM": false
37     }
38   ]
39 }
```

```
test > http -v CatalogService.http > ProductHeader_POST
14 POST {(server)}/odata/v4/catalog/ProductHeader
15 {
16   "ITEM_NAME": "ITEM_NAME-7102429",
17   "INSTOCK_ITEM": false
18 },
19 {
20   "PR_ITEMS_ID": "PrItems-7102430",
21   "ITEM": "PrItems-7102430",
22   "ITEM_NAME": "ITEM_NAME-7102430",
23   "TYPE_ITEM": "EH-7102430",
24   "STATUS_ITEM": "EH-7102430",
25   "INSTOCK_ITEM": true
26 }
27
28
29 ### ProductHeader
30 # @name ProductHeader_PATCH
31
32 Send Request
33 PATCH {(server)}/odata/v4/catalog/ProductHeader/14953689-3ff5-4ad6-bd2a-94e794fc7b02
34 Content-Type: application/json
35 Authorization: Basic {(username)}: {(password)}
36
37 {
38   "ID": "14953689-3ff5-4ad6-bd2a-94e794fc7b02",
39   "NAME": "NAME-14953689",
40   "STATUS": "S-14953689",
41   "SUPPLIER": "SUPPLIER-14953689",
42   "DOM": "2008-02-14",
43   "INSTOCK": false,
44   "ITEMS": [
45     {
46       "PR_ITEMS_ID": "PrItems-7102429",
47       "ITEM": "PrItems-7102429",
48       "ITEM_NAME": "ITEM_NAME-Copper",
49       "TYPE_ITEM": "EH-7102429",
50       "STATUS_ITEM": "EH-7102429"
51     }
52   ]
53 }
```

```
test > http -v CatalogService.http > ProductHeader_PATCH
48 PATCH {(server)}/odata/v4/catalog/ProductHeader/14953689-3ff5-4ad6-bd2a-94e794fc7b02
49 {
50   "ITEM_NAME": "ITEM_NAME-Copper",
51   "TYPE_ITEM": "EH-7102429",
52   "STATUS_ITEM": "EH-7102429",
53   "INSTOCK_ITEM": false
54 },
55 {
56   "PR_ITEMS_ID": "PrItems-7102430",
57   "ITEM": "PrItems-7102430",
58   "ITEM_NAME": "ITEM_NAME-7102430",
59   "TYPE_ITEM": "EH-7102430",
60   "STATUS_ITEM": "EH-7102430",
61   "INSTOCK_ITEM": true
62 }
63
64
65 ### ProductHeader_DELETE
66 # @name ProductHeader_DELETE
67
68 Send Request
69 DELETE {(server)}/odata/v4/catalog/ProductHeader/aab53600-3ff5-4ac6-bd2a-94e794fc7b02
70 Content-Type: application/json
71 Authorization: Basic {(username)}: {(password)}
72
73
74 ### PrItems
75 # @name PrItems_GET
76
77 Send Request
78 GET {(server)}/odata/v4/catalog/PrItems
79 Authorization: Basic {(username)}: {(password)}
80
81
82 ### PrItems
83 # @name PrItems_POST
84
85 Send Request
86 POST {(server)}/odata/v4/catalog/PrItems
```

```
test > http > CatalogService.http > ...
94  ## @name PrItems_POST
95  Send Request
96  POST {{server}}/odata/v4/catalog/PrItems
97  Content-Type: application/json
98  Authorization: Basic {{username}}:{{password}}
99
100  {
101    "PR_ITEMS_ID": "PrItems-7102429",
102    "ITEM": "PrItems-7102429",
103    "ITEM_NAME": "ITEM_NAME-7102429",
104    "TYPE_ITEM": "EM-7102429",
105    "STATUS_ITEM": "EM-7102429",
106    "INSTOCK_ITEM": false
107  }
108
109  ### PrItems
110  ## @name PrItems_PATCH
111  Send Request
112  PATCH {{server}}/odata/v4/catalog/PrItems(PR_ITEMS_ID='PrItems-7102429', ITEM='PrItems-7102429')
113  Content-Type: application/json
114  Authorization: Basic {{username}}:{{password}}
115
116  {
117    "PR_ITEMS_ID": "PrItems-7102429",
118    "ITEM": "PrItems-7102429",
119    "ITEM_NAME": "ITEM_NAME-7102429",
120    "TYPE_ITEM": "EM-7102429",
121    "STATUS_ITEM": "EM-7102429",
122    "INSTOCK_ITEM": false
123  }
124
125  ### PrItems
126  ## @name PrItems_DELETE
127  Send Request
128  DELETE {{server}}/odata/v4/catalog/PrItems(PR_ITEMS_ID='PrItems-7102429', ITEM='PrItems-7102429')
```

```
test > http > CatalogService.http > ...
101  "ITEM": "PrItems-7102429",
102  "ITEM_NAME": "ITEM_NAME-7102429",
103  "TYPE_ITEM": "EM-7102429",
104  "STATUS_ITEM": "EM-7102429",
105  "INSTOCK_ITEM": false
106  }
107
108  ### PrItems
109  ## @name PrItems_PATCH
110  Send Request
111  PATCH {{server}}/odata/v4/catalog/PrItems(PR_ITEMS_ID='PrItems-7102429', ITEM='PrItems-7102429')
112  Content-Type: application/json
113  Authorization: Basic {{username}}:{{password}}
114
115  {
116    "PR_ITEMS_ID": "PrItems-7102429",
117    "ITEM": "PrItems-7102429",
118    "ITEM_NAME": "ITEM_NAME-7102429",
119    "TYPE_ITEM": "EM-7102429",
120    "STATUS_ITEM": "EM-7102429",
121    "INSTOCK_ITEM": false
122  }
123
124  ### PrItems
125  ## @name PrItems_DELETE
126  Send Request
127  DELETE {{server}}/odata/v4/catalog/PrItems(PR_ITEMS_ID='PrItems-7102429', ITEM='PrItems-7102429')
128  Content-Type: application/json
129  Authorization: Basic {{username}}:{{password}}
130
```

-----X-----