

ToO DB Web APIs

**Prepared by Han Xuhui on behalf of the SUSS development team
at CSC**

Why Providing The ToO DB Web APIs

1. The ToO DB is complex (59 tables in the database).
2. The access of ToO DB is restricted (security reason).
3. The Web APIs can be easily to built into website and code.
4. The data structure of Web APIs is clearly described in the document.

The information provided by ToO DB Web APIs

1. ToO proposal and voting result
2. The ToO target and ToO-MM tiling
3. ToO request of SVOM and status
4. SVOM workplan and execution status

To be added

1. ToO proposal and voting result
2. the ToO-MM tilings for the ground telescope
3. Follow-up request of the ground telescope and status
4. Data status and download link

TOO DB Web APIs online document

The screenshot displays the Apifox web interface. The main area shows a team named 'SVOM' with a 'Team Owner' role. Under the 'Projects' tab, several projects are listed, including 'SVOM-UMPS', 'SVOM-Backend', 'SVOM-GP&ToO', 'SVOM-BA', 'SVOM-VXPP', 'SVOM-Alert', and 'SVOM-BA&TOO&GP-EN'. The 'SVOM-BA&TOO&GP-EN' project is highlighted with a red border. The right sidebar shows a tree view of APIs under the 'ToO' folder, including 'Query Workplan (2)', 'Query Excution Feedback (2)', 'Proposal List (1)', and 'Submitted Tiling (1)'. The 'Submitted Tiling (1)' API is highlighted with a purple bar.

Apifox online document (need to be invited)

Example of TOO DB Web APIs

Run APIs online

The screenshot displays a REST client interface with the following details:

- Request:** A POST request to `https://www.svom-gwacn.cn/alertCenter/tilingApi/getRecvdTilings`. The request body is a JSON object:

```
{  "flag": 0,  "start": 0,  "length": 5,  "orderNames": [],  "orderTypes": []}
```
- Response:** A successful response (200) with a response time of 784 ms. The response body is a JSON array of two objects:

```
[  {    "tilingFileId": 11,    "fileName": "1683871488.4919744_in_29.json",    "filePath": "/data/svom_data/tiling/svom",    "triggerName": "S190924h",    "picAddr": null,    "tilingId": 11,    "status": 0,    "recvTime": "2023-05-12T07:25:24.392",    "insertTime": "2023-05-12T15:25:24.464963+08:00"  },  {    "tilingFileId": 10,    "fileName": "1683871488.4919744_in_4.json",    "filePath": "/data/svom_data/tiling/svom",    "triggerName": "23test00",    "picAddr": null,    "tilingId": 10,
```
- Validation:** A validation error is shown on the right: "Response data d specification". The error details are:
 - 1. \$.data.list[0].pic: null
 - 2. \$.data.list[1].pic: null
 - 3. \$.data.list[2].pic: null
 - 4. \$.data.list[3].pic: null
 - 5. \$.data.list[4].pic: null

Example of TOO DB Web APIs

Using API in the code

```
> function convertObjToQuery(obj) :string {...}

const query :{...} = {
  'triggerId': null,
  'triggerName': null,
  'telescopeName': null
};

const data :{...} = {
  "flag": 0,
  "start": 0,
  "length": 10,
  "orderNames": [],
  "orderTypes": []
};

const url :string = 'https://www.svom-gwacn.cn/alertCenter/tilingApi/getRecvdTilings' + '?' + convertObjToQuery(query);

let requestOptions :{...} = {
  method: 'POST',
  headers: {
    'Content-Type': 'application/json'
  },
  body: JSON.stringify(data),
  redirect: 'follow'
}

fetch(url, requestOptions)
  .then(response :Response => {
    response.json().then(result => {
      if (result.errCode === 0) {
        console.log('Result:');
        console.log(result.data.list);
      } else {
        console.log('Error with return: ' + result.msg);
      }
    })
  })
  .catch(error => console.log('Error', error));
```

Result

Result:

Array (8)

```
0 ▶ {tilingFileId: 11, fileName: "1683871488.4919744_in_29.json", filePath: "/data/svom_data/tiling/svom", triggerName: "S190924h", picAddr: null, ...}
1 ▶ {tilingFileId: 10, fileName: "1683871488.4919744_in_4.json", filePath: "/data/svom_data/tiling/svom", triggerName: "23test00", picAddr: null, ...}
2 ▶ {tilingFileId: 9, fileName: "1683871488.4919744_in_4.json", filePath: "/data/svom_data/tiling/svom", triggerName: "23test00", picAddr: null, ...}
3 ▶ {tilingFileId: 8, fileName: "1683871488.4919744_in_4.json", filePath: "/data/svom_data/tiling/svom", triggerName: "23test00", picAddr: null, ...}
4 ▶ {tilingFileId: 7, fileName: "1683700760.1423793_x.json", filePath: "/data/svom_data/tiling/svom", triggerName: "23test00", picAddr: null, ...}
5 ▶ {tilingFileId: 6, fileName: "1683700760.1423793_in_2021.json", filePath: "/data/svom_data/tiling/svom", triggerName: "S200114f", picAddr: null, ...}
6 ▶ {tilingFileId: 5, fileName: "1680252982.6082575_in_8.json", filePath: "/data/svom_data/tiling/svom", triggerName: "S200114f", picAddr: null, ...}
7 ▶ {tilingFileId: 4, fileName: "1680174750.3315089_in_2.json", filePath: "/data/svom_data/tiling/svom", triggerName: "S200114f", picAddr: null, ...}
```

“Array”原型

Example of TOO DB Web APIs

Using API in the code

```
import requests

query = {
    'triggerId': None,
    'triggerName': None,
    'telescopeName': None
}

data = {
    "flag": 0,
    "start": 0,
    "length": 10,
    "orderNames": [],
    "orderTypes": []
}

url = 'https://www.svom-gwacn.cn/alertCenter/tilingApi/getRecvdTilings'
response = requests.post(url, params=query, json=data, timeout=5)

if response.status_code == requests.codes.ok:
    response_json = response.json()
    if response_json.get('errCode') == 0:
        data_list = response_json.get('data').get('list')
        print(f'Result: \n{data_list}')
    else:
        print(f'Failed with return: {response_json.get("msg")}')
else:
    print(f'Failed with {response.status_code}')
```

Result

```
Result:
[{'tilingFileId': 11, 'fileName': '1683871488.4919744_in_29.json', 'filePath': '/data/svom_data/tiling/svom', 'triggerName': 'S190924h', 'picAddr': None, 'tilingId': 11, 'status': 0, 'recvTime': '2023-05-12T07:25:24.392', 'insertTime': '2023-05-12T15:25:24.464963+08:00'}, {'tilingFileId': 10, 'fileName': '1683871488.4919744_in_4.json', 'filePath': '/data/svom_data/tiling/svom', 'triggerName': '23test00', 'picAddr': None, 'tilingId': 10, 'status': 0, 'recvTime': '2023-05-12T06:17:48.166', 'insertTime': '2023-05-12T14:17:48.227717+08:00'}, {'tilingFileId': 9, 'fileName': '1683871488.4919744_in_4.json', 'filePath': '/data/svom_data/tiling/svom', 'triggerName': '23test00', 'picAddr': None, 'tilingId': 9, 'status': 0, 'recvTime': '2023-05-12T06:04:59.618', 'insertTime': '2023-05-12T14:04:59.677761+08:00'}, {'tilingFileId': 8, 'fileName': '1683871488.4919744_in_4.json', 'filePath': '/data/svom_data/tiling/svom', 'triggerName': '23test00', 'picAddr': None, 'tilingId': 8, 'status': 0, 'recvTime': '2023-05-12T06:04:12.691', 'insertTime': '2023-05-12T14:04:12.749022+08:00'}, {'tilingFileId': 7, 'fileName': '1683700760.1423793_x.json', 'filePath': '/data/svom_data/tiling/svom', 'triggerName': '23test00', 'picAddr': None, 'tilingId': 7, 'status': 0, 'recvTime': '2023-05-12T05:54:25.690', 'insertTime': '2023-05-12T13:54:25.74873+08:00'}, {'tilingFileId': 6, 'fileName': '1683700760.1423793_in_2021.json', 'filePath': '/data/svom_data/tiling/svom', 'triggerName': 'S200114f', 'picAddr': None, 'tilingId': 6, 'status': 0, 'recvTime': '2023-05-12T01:21:20.132', 'insertTime': '2023-05-12T09:21:20.196592+08:00'}, {'tilingFileId': 5, 'fileName': '1680252982.6082575_in_8.json', 'filePath': '/data/svom_data/tiling/svom', 'triggerName': 'S200114f', 'picAddr': None, 'tilingId': 5, 'status': 0, 'recvTime': '2023-03-31T09:31:10.103', 'insertTime': '2023-03-31T17:31:10.139444+08:00'}, {'tilingFileId': 4, 'fileName': '1680174750.3315089_in_2.json', 'filePath': '/data/svom_data/tiling/svom', 'triggerName': 'S200114f', 'picAddr': None, 'tilingId': 4, 'status': 0, 'recvTime': '2023-03-30T11:13:04.491', 'insertTime': '2023-03-30T19:13:04.538715+08:00'}]
```

What information needed by CSC BA Tools

- BA shift in FSC

Thank you