

Report Schema Definition

Report Table Schema

```
reportid varchar(40) NOT NULL PRIMARY KEY,  
title text NOT NULL,  
description text NOT NULL,  
authorizedroles jsonb NOT NULL,  
status varchar(8) NOT NULL CHECK (status IN ('live', 'draft', 'retired'))  
DEFAULT 'draft',  
type varchar(8) NOT NULL CHECK (type in ('public', 'private', 'protected'))  
DEFAULT 'private',  
reportaccessurl text NOT NULL UNIQUE,  
createdon timestamptz NOT NULL DEFAULT now(),  
updatedon timestamptz NOT NULL DEFAULT now(),  
createdby varchar(50) NOT NULL,  
reportconfig jsonb NOT NULL,  
templateurl text,  
slug varchar(10) NOT NULL,  
reportgenerateddate timestamptz NOT NULL DEFAULT now(),  
reportduration jsonb NOT NULL DEFAULT jsonb_build_object('startDate',  
now()::timestampz, 'endDate', now()::timestampz),  
tags jsonb NOT NULL,  
updatefrequency text NOT NULL  
reportType varchar(8) NOT NULL DEFAULT 'report'  
accessPath jsonb  
visibilityFlags jsonb
```

Interfaces

Root Object Interface

```
interface ReportConfig {  
    reportid: string;  
    title: string;  
    description: string;  
    authorizedroles: string[];  
    status: string;  
    type: string;  
    reportaccessurl: string;  
    createdon: Date;  
    updatedon: Date;  
    createdby: string;  
    reportconfig: Reportconfig;  
    templateurl: string;
```

```
    slug: string;
    reportgenerateddate: Date;
    reportduration: Reportduration;
    tags: string[];
    updatefrequency: string;
    parameters: string[];
    report_type: string;
    accesspath: object;
    visibilityflags?: object;
}
```

Report Config Interface

```
interface Reportconfig {
    label: string;
    title: string;
    description: string;
    table?: Table[];
    charts?: Chart[];
    dataSource: DataSources[];
    downloadUrl: string;
    filters: Filter[];
    dataset: IDataset
}
```

Chart Config Interface

```
interface Chart {
    id: string;
    bigNumbers?: BigNumber[];
    dataSource: DataSource;
    colors?: Color[];
    options?: Options;
    datasets: Dataset[];
    chartType: string;
    labelsExpr: string;
    filters?: Filter[];
    mapData?: Map
}
```

Note: - For complete configuration, please refer to

<https://www.chartjs.org/docs/latest/>

Table Config Interface

```
interface Table {
    id: string;
    name: string;
```

```
    valuesExpr: string;
    columnsExpr: string;
    downloadUrl: string;
    filters?: Filter[]
}
```

Dataset Config Interface

```
interface IDataset {
    type: string;
    examples: string;
    datasetId: string;
    granularity: string;
    dataDictionary: string;
    downloadFormat: DownloadFormat;
    downloadFormats: string[];
    dataAvailableFrom: string;
}
```

Filter Config Interface

```
interface Filter {
    reference: string; // key reference
    controlType: string; // select | multi-select | date
    displayName: string; // placeholder value
}
```

Other Dependent Interfaces

```
interface BigNumber {
    footer: string;
    header: string;
    dataExpr: string;
}

interface Map {
    state: string;
    metrics: string[];
    districts: string[];
    labelExpr: string;
}

interface DataSource {
    ids: string[];
    commonDimension: string;
}

interface Color {
```

```
borderColor: string;
borderWidth: number;
backgroundColor: string;
}

interface Title {
    text: string;
    display: boolean;
    fontSize: number;
}

interface Legend {
    display: boolean;
}

interface Ticks {
    autoSkip: boolean;
}

interface XAx {
    ticks: Ticks;
    scaleLabel: ScaleLabel;
}

interface ScaleLabel {
    display: boolean;
    labelString: string;
}

interface YAx {
    scaleLabel: ScaleLabel;
    ...other properties
}

interface Scales {
    xAxes: XAx[];
    yAxes: YAx[];
}

interface Tooltips {
    mode: string;
    intersect: boolean;
    bodySpacing: number;
    titleSpacing: number;
    ...other properties
}

interface Options {
    title: Title;
    legend: Legend;
    scales: Scales;
```

```

        tooltips: Tooltips;
        responsive: boolean;
        showLastUpdatedOn: boolean;
        ...other properties
    }

    interface Dataset {
        label: string;
        dataExpr: string;
    }

    interface DataSources {
        id: string;
        path: string;
    }

    interface Reportduration {
        enddate: string;
        startdate: string;
    }

    interface DownloadFormat {
        default: string;
        availableFormats: string[];
    }

```

Column wise description

Column	Description
reportid	<ul style="list-style-type: none"> • Report uuid. • If not passed service will auto generate.
title	<ul style="list-style-type: none"> • Title of the Report.
description	<ul style="list-style-type: none"> • Description of the Report
authorizedroles	<ul style="list-style-type: none"> • List of roles authorized role to control the report visibility. • Ex - ["REPORT_ADMIN", "REPORT_VIEWER"]
status	<ul style="list-style-type: none"> • Enum - Live, retired or draft

type	<ul style="list-style-type: none"> Controls who can discover and consume this report. <p>Enum - public, private or protected</p> <ul style="list-style-type: none"> Link - https://project-sunbird.atlassian.net/wiki/spaces/SBDES/pages/3124363265/Access+to+Sunbird+datasets+via+APIs
reportaccessurl	<ul style="list-style-type: none"> Url to access the report
createdon	<ul style="list-style-type: none"> Report creation timestamp
updatedon	<ul style="list-style-type: none"> Report Update timestamp
createdby	<ul style="list-style-type: none"> userId of the report creator
tags	<ul style="list-style-type: none"> arrays of tags associated with the report
updatefrequency	<ul style="list-style-type: none"> how frequently the report is generated - Ex - DAILY, WEEKLY, HOURLY, MONTHLY
reportType	<ul style="list-style-type: none"> Type of Report Enum - report, dataset
accessPath	<ul style="list-style-type: none"> This attribute is applicable for Reports with "protected" or "private" type only. This attribute can be used to restrict the access based on or more of the following criteria. For more details - https://project-sunbird.atlassian.net/wiki/spaces/SBDES/pages/3124363265/Access+to+Sunbird+datasets+via+APIs Example - <pre>{ "organisation": ["ORG_001"], "tenant": "tn", "role": ["REPORT_ADMIN", "ORG_ADMIN"] }</pre>

visibilityFlags	<ul style="list-style-type: none"> Whether to show/hide the report on specific pages/dashboards
reportduration	<ul style="list-style-type: none"> Start Date and End Date for which the data is available in the report.
reportconfig	Meta for charts, tables, map and datasets. Refer to Report Interface
reportgenerate ddate	Report Generation timestamp
slug	slug value.

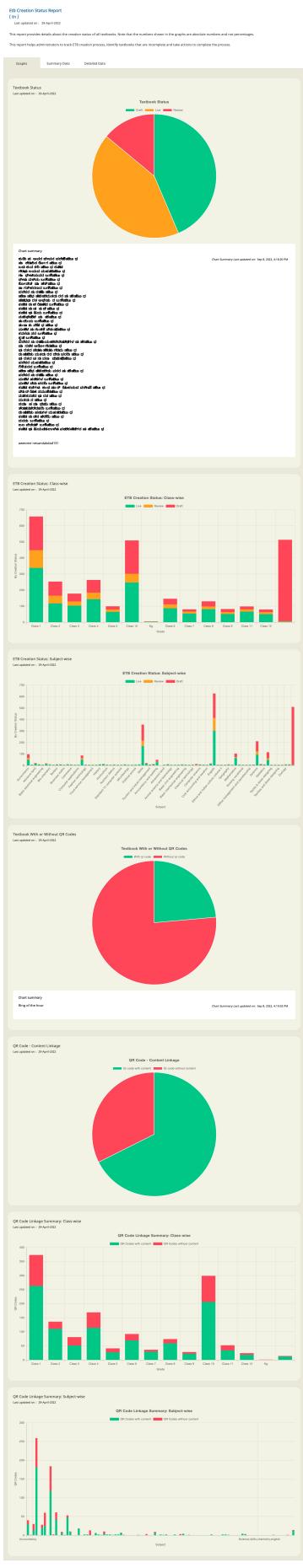
Examples

Examples with Charts, Tables

```
{"reportid": "6e5da553-2bfd-4f81-a07d-e04329dd06b7", "title": "ETB Creation Status Report", "description": "This report provides details about the creation status of all textbooks. Note that the numbers shown in the graphs are absolute numbers and not percentages.<br/><br/>This report helps administrators to track ETB creation process, identify textbooks that are incomplete and take actions to complete the process.", "authorizedroles": ["ORG_ADMIN", "REPORT_VIEWER"], "status": "draft", "type": "public", "reportaccessurl": "\\"https://staging.sunbirded.org\\"/dashBoard/reports/6e5da553-2bfd-4f81-a07d-e04329dd06b7", "createdon": "2020-08-10T11:14:24.852Z", "updatedon": "2020-09-08T00:27:13.000Z", "createdby": "08631a74-4b94-4cf7-a818-831135248a4a", "reportconfig": {"id": "textbook_level_etb_report", "label": "ETB Creation Status Report", "table": [{"id": "ETB_textbook_data", "name": "Summary Data", "valuesExpr": "tableData", "columnsExpr": "keys", "downloadUrl": "/reports/fetch /$slug/ETB_textbook_data.csv"}, {"id": "ETB_dialcode_data", "name": "Detailed Data", "valuesExpr": "tableData", "columnsExpr": "keys", "downloadUrl": "/reports/fetch /$slug/ETB_dialcode_data.csv"}], "title": "ETB Creation Status Report", "charts": [{"id": "etb_textbook_status", "colors": [{"backgroundColor": ["rgb(0, 199, 134)", "rgb(255, 161, 29)", "rgb(255, 69, 88)"]}], "options": {"title": {"text": "Textbook Status", "display": true, "fontSize": 16}, "legend": {"display": true}, "tooltips": {"bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "datasets": [{"label": "Count", "dataExpr": "Count"}], "chartType": "pie", "dataSource": {"ids": ["etb_textbook_status"], "commonDimension": "Status"}, "labelsExpr": "Status"}, {"id": "etb_textbook_status_grade", "colors": [{"borderColor": "rgb(0, 199, 134)", "fillColor": "white"}]}], "title": "ETB Creation Status Report", "charts": [{"id": "etb_textbook_status", "colors": [{"backgroundColor": ["rgb(0, 199, 134)", "rgb(255, 161, 29)", "rgb(255, 69, 88)"]}], "options": {"title": {"text": "Textbook Status", "display": true, "fontSize": 16}, "legend": {"display": true}, "tooltips": {"bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "datasets": [{"label": "Count", "dataExpr": "Count"}], "chartType": "pie", "dataSource": {"ids": ["etb_textbook_status"], "commonDimension": "Status"}, "labelsExpr": "Status"}, {"id": "etb_textbook_status_grade", "colors": [{"borderColor": "rgb(0, 199, 134)", "fillColor": "white"}]}]}]
```

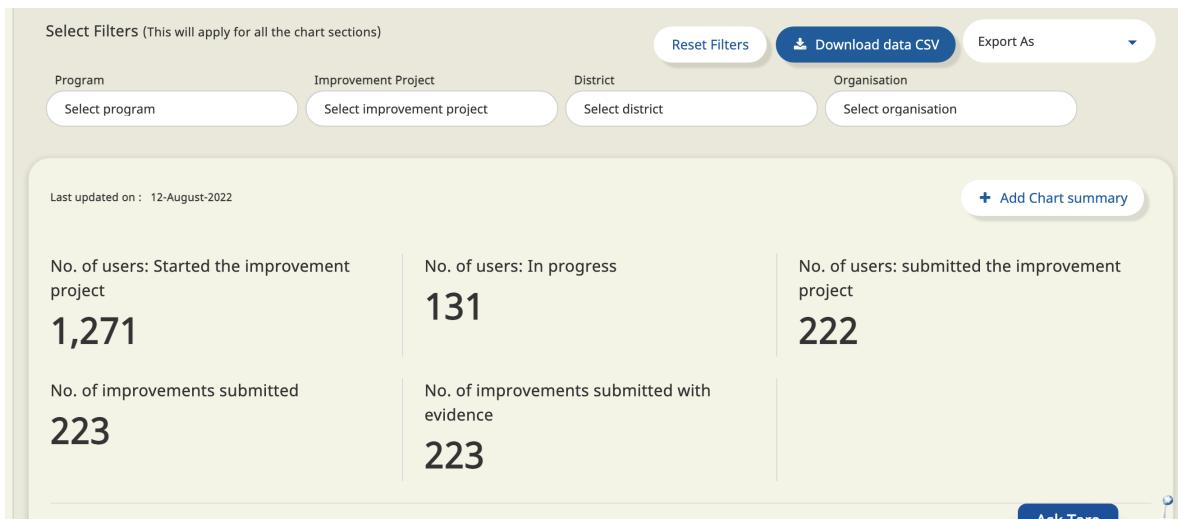
```
134)", "backgroundColor": "rgb(0, 199, 134)"}, {"borderColor": "rgb(255, 161, 29)", "backgroundColor": "rgb(255, 161, 29)"}, {"borderColor": "rgb(255, 69, 88)", "backgroundColor": "rgb(255, 69, 88)"}], "options": {"title": {"text": "ETB Creation Status: Class-wise"}, "display": true, "fontSize": 16}, "scales": {"xAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "Grade"}}], "yAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "By Creation Status"}}]}, "tooltips": {"mode": "x-axis", "intersect": false, "bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "datasets": [{"label": "Live", "dataExpr": "Live"}, {"label": "Review", "dataExpr": "Review"}, {"label": "Draft", "dataExpr": "Draft"}], "chartType": "bar", "dataSource": {"ids": ["etb_textbook_status_grade"], "commonDimension": "Class"}, "labelsExpr": "Class"}, {"id": "etb_textbook_status_subject", "colors": [{"borderColor": "rgb(0, 199, 134)", "backgroundColor": "rgb(0, 199, 134)"}, {"borderColor": "rgb(255, 161, 29)", "backgroundColor": "rgb(255, 161, 29)"}, {"borderColor": "rgb(255, 69, 88)", "backgroundColor": "rgb(255, 69, 88)"}], "options": {"title": {"text": "ETB Creation Status: Subject-wise"}, "display": true, "fontSize": 16}, "scales": {"xAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "Subject"}}], "yAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "By Creation Status"}}]}, "tooltips": {"mode": "x-axis", "intersect": false, "bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "datasets": [{"label": "Live", "dataExpr": "Live"}, {"label": "Review", "dataExpr": "Review"}, {"label": "Draft", "dataExpr": "Draft"}], "chartType": "bar", "dataSource": {"ids": ["etb_textbook_status_subject"], "commonDimension": "Subject"}, "labelsExpr": "Subject"}, {"id": "etb_qr_count", "colors": [{"backgroundColor": "rgb(0, 199, 134)", "borderColor": "rgb(255, 69, 88)"}], "options": {"title": {"text": "Textbook With or Without QR Codes"}, "display": true, "fontSize": 16}, "legend": {"display": true}, "tooltips": {"bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "datasets": [{"label": "Count", "dataExpr": "Count"}], "chartType": "pie", "dataSource": {"ids": ["etb_qr_count"], "commonDimension": "Status"}, "labelsExpr": "Status"}, {"id": "etb_qr_content_status", "colors": [{"backgroundColor": "rgb(0, 199, 134)", "borderColor": "rgb(255, 69, 88)"}], "options": {"title": {"text": "QR Code - Content Linkage"}, "display": true, "fontSize": 16}, "legend": {"display": true}, "tooltips": {"bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "datasets": [{"label": "Count", "dataExpr": "Count"}], "chartType": "pie", "dataSource": {"ids": ["etb_qr_content_status"], "commonDimension": "Status"}, "labelsExpr": "Status"}, {"id": "etb_qr_content_status_grade", "colors": [{"borderColor": "rgb(0, 199, 134)", "backgroundColor": "rgb(0, 199, 134)"}, {"borderColor": "rgb(255, 69, 88)", "backgroundColor": "rgb(255, 69, 88)"}], "options": {"title": {"text": "QR Code Linkage Summary: Class-wise"}, "display": true, "fontSize": 16}, "scales": {"xAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "Grade"}}], "yAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "QR Codes"}}]}, "tooltips": {"mode": "x-axis", "intersect": false, "bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "datasets": [{"label": "QR Codes with content", "dataExpr": "QR Codes with content"}, {"label": "QR Codes without content", "dataExpr": "QR Codes without content"}], "chartType": "bar", "dataSource": {"ids": ["etb_qr_content_status_grade"], "commonDimension": "Status"}, "labelsExpr": "Class"}, {"id": "etb_qr_content_status_subject", "colors": [{"borderColor": "rgb(0, 199, 134)", "backgroundColor": "rgb(0, 199, 134)"}, {"borderColor": "rgb(255, 69, 88)", "backgroundColor": "rgb(255, 69, 88)"}], "options": {"title": {"text": "QR Code Linkage Summary: Subject-wise"}, "display": true, "fontSize": 16}, "scales": {"xAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "Subject"}}], "yAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "QR Codes"}}]}, "tooltips": {"mode": "x-axis", "intersect": false, "bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "datasets": [{"label": "QR Codes with content", "dataExpr": "QR Codes with content"}, {"label": "QR Codes without content", "dataExpr": "QR Codes without content"}], "chartType": "bar", "dataSource": {"ids": ["etb_qr_content_status_subject"], "commonDimension": "Subject"}, "labelsExpr": "Subject"}]
```

```
88),"backgroundColor":"rgb(255, 69, 88)"}],"options": {"title": {"text": "QR Code Linkage Summary: Subject-wise"}, "display": true, "fontSize": 16}, "scales": {"xAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "Subject"}}], "yAxes": [{"stacked": true, "scaleLabel": {"display": true, "labelString": "QR Codes"}]}], " tooltips": {"mode": "x-axis", "intersect": false, "bodySpacing": 5, "titleSpacing": 5}, "responsive": true}, "dataSets": [{"label": "QR Codes with content", "dataExpr": "Total QR codes linked to content"}, {"label": "QR Codes without content", "dataExpr": "Total number of QR codes with no linked content"}], "chartType": "bar", "dataSource": {"ids": ["ETB_textbook_data"], "commonDimension": "Textbook ID"}, "labelsExpr": "Subject"}], "dataSource": [{"id": "ETB_textbook_data", "path": "/reports/fetch/$slug/ETB_textbook_data.json"}, {"id": "ETB_dialcode_data", "path": "/reports/fetch/$slug/ETB_dialcode_data.json"}, {"id": "etb_textbook_status", "path": "/reports/fetch/$slug/etb_textbook_status.json"}, {"id": "etb_textbook_status_grade", "path": "/reports/fetch/$slug/etb_textbook_status_grade.json"}, {"id": "etb_textbook_status_subject", "path": "/reports/fetch/$slug/etb_textbook_status_subject.json"}, {"id": "etb_qr_count", "path": "/reports/fetch/$slug/etb_qr_count.json"}, {"id": "etb_qr_content_status", "path": "/reports/fetch/$slug/etb_qr_content_status.json"}, {"id": "etb_qr_content_status_grade", "path": "/reports/fetch/$slug/etb_qr_content_status_grade.json"}], "description": "This report provides details about the creation status of all textbooks. Note that the numbers shown in the graphs are absolute numbers and not percentages.  
  
This report helps administrators to track ETB creation process, identify textbooks that are incomplete and take actions to complete the process.", "downloadUrl": "/reports/fetch/$slug/ETB_textbook_data.csv"}, "templateUrl": null, "slug": "hawk-eye", "reportgenerateddate": "2020-08-14T09:14:21.000Z", "reportduration": {"enddate": "12-02-2020", "startdate": "12-02-2020"}, "tags": ["1Bn"], "updatefrequency": "WEEKLY", "parameters": [{"$slug"}, {"report_type": "report", "accesspath": null, "visibilityflags": null, "children": [{"status": "live", "reportid": "6e5da553-2bfd-4f81-a07d-e04329dd06b7", "hashed_val": "aHI="}, {"status": "retired", "reportid": "6e5da553-2bfd-4f81-a07d-e04329dd06b7", "hashed_val": "YW4="}, {"status": "live", "reportid": "6e5da553-2bfd-4f81-a07d-e04329dd06b7", "hashed_val": "dG4="}]}, "isParameterized": true}
```



Example of Big Number Chart with Report Level Filters.

```
{"reportid": "ce98185f-d018-4cac-a648-b733e9bb76b4", "title": "Improvement Projects Report Rollup", "description": "Status of Project, No. of users", "authorizedroles": ["REPORT_ADMIN", "ORG_ADMIN", "REPORT_VIEWER"], "status": "draft", "type": "public", "reportaccessurl": "\\"https://staging.sunbirded.org\\"/dashBoard/reports/ce98185f-d018-4cac-a648-b733e9bb76b4", "createdon": "2022-08-09T10:07:13.314Z", "updatedon": "2022-08-09T10:07:13.314Z", "createdby": "fca2925f-1eee-4654-9177-fece3fd6afc9", "reportconfig": {"label": "Improvement Projects Report Rollup", "title": "Improvement Projects Report Rollup", "charts": [{"id": "Big_Number", "bigNumbers": [{"footer": " ", "header": "No. of users: Started the improvement project", "dataExpr": "No of users Started the improvement project"}, {"footer": " ", "header": "No. of users: In progress", "dataExpr": "No of users In Progress the improvement project"}, {"footer": " ", "header": "No. of users: submitted the improvement project", "dataExpr": "No of users Completed the improvement project"}, {"footer": " ", "header": "No. of improvements submitted", "dataExpr": "No of improvements Completed"}, {"footer": " ", "header": "No. of improvements submitted with evidence", "dataExpr": "No of improvements Completed with evidence"}]}, "dataSource": {"ids": ["ml_improvement_project_big_numbers_rollup_alpha"], "commonDimension": "Date"}], "filters": [{"reference": "Program name", "controlType": "multi-select", "displayName": "Program"}, {"reference": "Project name", "controlType": "multi-select", "displayName": "Improvement Project"}, {"reference": "District name", "controlType": "multi-select", "displayName": "District"}, {"reference": "Organisation", "controlType": "multi-select", "displayName": "Organisation"}], "dataSource": [{"id": "ml_improvement_project_big_numbers_rollup_alpha", "path": "/reports/fetch/hawk-eye/ml_improvement_project_big_numbers_rollup_alpha.json"}], "description": "Status of Project, No. of users", "downloadUrl": "/reports/fetch/hawk-eye/ml_improvement_projects_status_by_district_new_api_test.csv", "templateurl": null, "slug": "hawk-eye", "reportgenerateddate": "2022-05-27T00:00:00.000Z", "reportduration": {"enddate": "12-02-2020", "startdate": "12-02-2020"}, "tags": ["1Bn"], "updatefrequency": "one-time", "parameters": [{"$slug": ""}], "report_type": "report", "accesspath": null, "visibilityflags": null, "children": [{"status": "live", "reportid": "ce98185f-d018-4cac-a648-b733e9bb76b4", "hashed_val": "dGFyZW50b3B2dGx0ZA=="}, {"status": "retired", "reportid": "ce98185f-d018-4cac-a648-b733e9bb76b4", "hashed_val": "YXBla3g="}, {"status": "live", "reportid": "ce98185f-d018-4cac-a648-b733e9bb76b4", "hashed_val": "dG4="}], "isParameterized": true}
```



Example of Dataset

```
{"reportid": "2e131bb0-0c01-4d8a-8de2-7343aa830203", "title": "Sunbird Dataset", "description": "The exhaust of the details of the observation form assigned to the users", "authorizedroles": ["REPORT_ADMIN"], "status": "draft", "type": "public", "reportaccessurl": "\"https://staging.sunbird.org\"/dashBoard/reports/2e131bb0-0c01-4d8a-8de2-7343aa830203", "createdon": "2022-06-27T13:20:15.322Z", "updatedon": "2022-06-27T13:20:15.322Z", "createdby": "fca2925f-1eee-4654-9177-fec3fd6afc9", "reportconfig": {"dataset": {"type": "scheduled", "examples": "MTJxd2VycnR5", "datasetId": "summary-channel-exhaust", "granularity": "daily", "dataDictionary": "MTIxMTIxMzEzMzM=", "downloadFormat": {"default": "csv", "availableFormats": ["json"]}, "downloadFormats": ["json"], "dataAvailableFrom": "2022-01-01"}, "description": "The exhaust of the details of the observation form assigned to the users", "templateurl": null, "slug": "sunbird", "reportgenerateddate": "2020-05-24T00:00:00.000Z", "reportduration": {"enddate": "2021-08-16", "startdate": "2021-05-15"}, "tags": ["Consumption"], "updatefrequency": "DAILY", "parameters": [{"$slug": "report_type": "dataset", "accesspath": null, "visibilityflags": null, "children": [{"status": "live", "reportid": "2e131bb0-0c01-4d8a-8de2-7343aa830203", "hashed_val": "dG4="}, {"status": "retired", "reportid": "2e131bb0-0c01-4d8a-8de2-7343aa830203", "hashed_val": "bXo="}], "isParameterized": true}
```

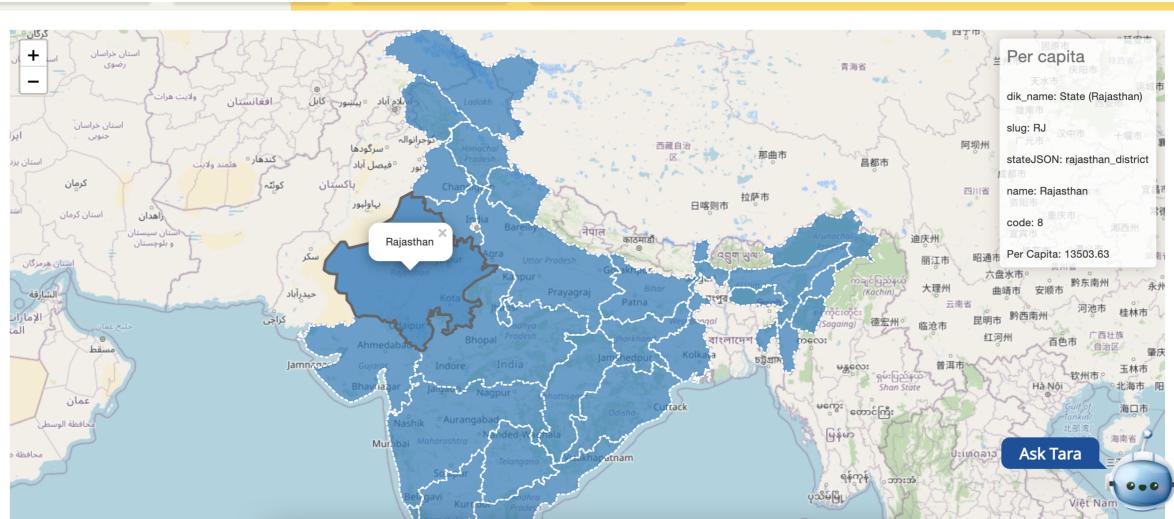
Example of Map Config

```
{"reportid": "41c45300-fdac-4759-9dbe-cdf370b8e87d", "title": "Tamil Nadu Map Data", "description": "tamil nadu state database", "authorizedroles": ["ORG_ADMIN"], "status": "live", "type": "public", "reportaccessurl": "\https://dev.snbirded.org/dashBoard/reports/41c45300-fdac-4759-9dbe-cdf370b8e87d", "createdon": "2021-03-24T11:14:20.687Z", "updatedon": "2021-03-24T11:25:34.000Z", "createdby": "ravinder kumar", "reportconfig": {"label": "Time spent Hours Post aggregation 4", "title": "Time spent Hours Post aggregation 4", "charts": [{"id": "tn_data", "mapData": {"state": "Tamil Nadu", "districts": ["Ariyalur", "Chennai", "Coimbatore", "Cuddalore", "Dharmapuri"]}, "metrics": ["Unique
```

```

Devices on app", "Unique Devices on portal"]]}, "chartType": "map", "dataSource": [{"ids": ["aggregated_district_data"], "commonDimension": "date"}]}, {"dataSource": [{"id": "aggregated_district_data", "path": "/reports/fetch/hawkeye_test/test.json"}], "description": "Time spent Hours Post aggregation 4"}, {"templateurl": null, "slug": "sunbird", "reportgenerateddate": "2020-04-12T00:00:00.000Z", "reportduration": {"enddate": "Thu May 7 2020", "startdate": "Thu May 7 2020"}, "tags": ["Consumption", "Engagement"], "updatefrequency": "DAILY", "parameters": null, "report_type": "report", "accesspath": null, "visibilityflags": null, "isParameterized": false}

```



References

- [Dashlet Design Doc](#)
- [Access To Sunbird Datasets Via API](#)
- [Accessing Sunbird Report Data](#)
- [Report Service Api Documentation](#)