Background

Access 2 Information (A2I) has a prime goal that matches its very name. Quoted from A2I,

"Our primary goal is to ensure easy, affordable and reliable access to quality public services for all citizens of Bangladesh."

Office Integration and Service Framework (OISF) is thus an important step, undertaken by A2I, aiming to achieve the fundamental goal. The principal target of OISF is to ease and standardize the development and collaboration of existing and future e-services by bringing them under an umbrella of set of rules and regulations. And thus foster swift cohesion among the interacting services.

OISF provides services from itself. It also facilitates other collaborating services to be accessed via a Service Bus. Thereby creating a pool of easily accessible services accelerating the **"access to information"** without creating any hassle. Services under OISF are primarily categorized into 2 classes.

1. Core Services – services developed by OISF
2. Shared Services – services developed by registered 3rd party

The services provided by OISF (both core and shared) are increasing and being adapted to keep pace with the demands over the time. This document contains descriptions of some data stores, data objects, their attributes, a generic way of accessing these data via REST API. Note here that these data stores and data objects are not necessarily be relational databases, tables or columns.

Data store (code name): projapoti

Let's call our data store by code name **projapoti.** It is analogous to the database of a relational database management systems. In a data store there might be numbers of data object store which are analogous to the table of a RDBMS. And thus a data object has a collection of attributes as a table has columns. In this section we are going to describe the data objects and their attributes so as to give a concept about how data in the OISF system are meant to be accessed.

division

Geo-political and administrative divisions of our country. Bangladesh is currently divided into 8 administrative divisions.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)
status	integer	Status (active=1, inactive=0)

district

Geo-political and administrative districts. Divisions are subdivided into districts. Hence a particular district must belong to a division. Bangladesh currently has 64 districts, distributed among 8 divisions.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics (BBS)
status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division

upazila

A district is further divided into even smaller administrative units. These are called the upazila.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)
status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division
district	integer	id of the belonging district

#union

Multiple unions constitute a particular upazila.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)
status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division
district	integer	id of the belonging district
upazila	integer	id of the belonging upazila

citycorporation

City corporations are a bigger municipality for the major cities.

Attribute	Data type	Comment
id	integer	Unique identifier

name	string	Name in English
nameBn	string	Name in Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)
status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division
district	integer	id of the belonging district

citycorporationward

Smaller administrative units under a city corporation are known as the wards.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)
status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division
district	integer	id of the belonging district
citycorporation	integer	id of the belonging city corporation

municipality

A body of local government for single urban or areas excepting the major cities (where there are city corporations). Equal Bangla term can imply **"pouroshova"**.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)
status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division

district	integer	id of the belonging district
upazila	integer	id of the belonging upazila

municipalityward

Smaller units which constitute a municipality.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name of in Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)
status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division
district	integer	id of the belonging district
upazila	integer	id of the belonging upazila
municipality	integer	id of the belonging municipality
districtbbs	string	bbsCode of the belonging district
divisionbbs	string	bbsCode of the belonging division
upazilabbs	string	bbsCode of the belonging upazila
municipalitybbs	string	bbsCode of the belonging municipality

thana

"Thana" litererally means a police station. A thana is somewhat like an upazila in a district. But in larger cities number of thanas commonly outnumber the total number of upazilas.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in Bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)

status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division
district	integer	id of the belonging district

postoffice

Responsible for providing postal and mailing services throughout the country.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in bangla
bbsCode	string	Code assigned by Bangladesh Bureau of Statistics(BBS)
status	integer	Status (active=1, inactive=0)
division	integer	id of the belonging division
district	integer	id of the belonging district
upazila	integer	id of the belonging upazila

office

Top body of an office hierarchy.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	name in English
nameBn	string	name in Bangla
ministry	integer	Ministry unique identifier of office
layer	integer	Layer of office
division	integer	id of division to which the office belongs to
district	integer	id of division to which the office belongs to

upazila	integer	id of division to which the office belongs to
code	string	Code of office
address	string	Address of the office
email	string	Email address of the office
website	string	website url
phone	string	phone number
mobile	string	mobile contact number
fax	string	fax no.
parent	integer	Unique identifier of the parent office
status	integer	Status (active=1, inactive=0)

officefrontdesk

Front desk information of offices which facilitates quick contact and mailing.

Attribute	Data type	Comment
id	integer	Unique identifier
officeId	string	Name in English
officeName	string	Name in Bangla
address	string	address of the office
officeUnitId	integer	
officeUnitName	string	
officeUnitOrganogramId	integer	
designationLabel	string	
officerId	integer	
officerName	string	

officeunit

Smaller units of branches that fall under an office.

Attribute	Data type	Comment
id	integer	Unique identifier for grade
office	integer	office id
ministry	integer	id of the ministry to which the unit belongs
name	string	Name in English
nameBn	string	Name in Bangla
level	integer	level of the office unit
layer	integer	layer of the office unit
phone	string	phone number
email	string	email address
fax	string	fax number
status	integer	Status (active=1, inactive=0)

officeunitorganogram

Official posts or designations of a particular office. Most commonly a function of office unit.

Attribute	Data type	Comment
id	integer	Unique identifier for grade
office	integer	office id
unit	integer	office unit id
superiorUnit	integer	Unique identifier of superior Unit of the organogram
superiorDesignation	string	Designation name of office Unit Organogram
name	string	Name in English
nameBn	string	Name in Bangla
shortName	string	Short name in English
shortNameBn	string	Short name in Bangla
designationLevel	integer	Level of designation
designationSequence	integer	Sequence of designation
description	string	details about the designation

status	integer	Status (active=1, inactive=0)

officeinchargetype

Information concerning the in-charge categories of an office.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in Bangla

officeministry

Ministry information of the offices.

Attribute	Data type	Comment
id	integer	Unique identifier
type	integer	type (ministry=1, division=2)
reference	string	Reference code of
name	string	Name in English
nameShort	string	short name in English
nameBn	string	Name in Bangla
status	integer	Status (active=1, inactive=0)

officeunitcategory

Category, a unit of an office can fall under.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name in English
nameBn	string	Name in Bangla

empoffice

Data that binds employees and offices.

Attribute	Data type	Comment
id	integer	Unique identifier of an employee
employeeRecord	integer	reference record identifier of an employee
idNumber	integer	Identification number of an employee
designation	string	designation of an employee
designationLevel	integer	level of the designation
designationSequence	integer	sequence of the designation
office	integer	id of the office
unit	integer	id of the office unit
organogram	integer	id of the office unit organogram
joiningDate	string	string format of the date of joining of the employee
lastDate	string	string format of the date last attended by the employee of the office

emprecord

Details employee record.

Attribute	Data type	Comment
id	integer	Unique identifier for an employee record
name	string	Employee name in English
nameBn	string	Employee name in Bangla
father	string	Father name of the employee
mother	string	Mother name of the employee
dob	string	date of birth
pob	string	place of birth

nationality	string	nationality of the employee
nid	string	National Id number of employee
religion	string	religion of the employee
joiningDate	string	Joining Date of Employee
currentRank	integer	Current Rank Identifier of employee
currentOffice	integer	Current Office Identification number of employee
status	integer	Status (active=1, inactive=0)

empbatch

Batch information of the employees.

Attribute	Data type	Comment
id	integer	Unique identifier for a union
number	string	Batch Number
year	string	Batch Year

empcadre

Employee cadre information.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name of a cadre in English
nameBn	string	Name of cadre in Bangla

empgrade

Grade information of employee.

Attribute	Data type	Comment
id	integer	Unique identifier

employeeCadre	integer	Unique identifier for employee cadre
employeeRank	integer	Unique identifier of employee rank
name	string	Name of grade in English
nameBn	string	Name of grade in Bangla

emppolicyrole

Employee policy role information.

Attribute	Data type	Comment
id	integer	Unique identifier
name	string	Name of in English
nameBn	string	Name of in Bangla

Generic API

Generalized approach to access from the data store as described. Web api has been implemented in order to access data.

API URI Format: [http | https]://<host>:<port>/<context>/<url>
- **Context**
    /gen
- **URL** *
    /{dataObject}

* curly brace around the name indicates that it's a variable field

Example: http://www.doptor.gov.bd:8090/gen/division

Path parameter (s)

dataOject	Required	YES
	Type	string
	Description	Name of the data object from where the data is to be retrieved.

Query string (reserved)

Following 7 parameters are reserved and have definite meanings to build the query. These 7 parameters are all optional and in case of availability some pre-configured default values are used.

	Required	Optional
xgselect	Type	string
	Description	Names of the fields to select/project separated by +(" " character in the URL).
	Example	*xgselect=id+name+nameBn* It will select id, name and nameBn fields. If this parameter is not specified, a default set of fields will be projected.
	Default	Pre-configured default projections.
**	*Note*	If `xgcount` is passed as a parameter, `xgselect` and its associated parameters will be ignored. Associated parameters to `xgselect` are `xgorder`, `xgoffset` and `xglimit`.

xgorder	Required	Optional
	Type	string
	Description	Name of the field based on which the result data will be ordered or sorted. By if the order direction is not set then the direction of order is ascending i.e. from lower to higher.
	Example	**xgorder=id** It will order the result data based on the id field.
**	Note	If it is not passed or ignored than the associated parameters are also ignored. Associated parameters is `xgdesc`.

xgdesc	Required	Optional
	Type	integer/boolean (1/true)
	Description	Whether the result data be sorted in descending order.
	Example	**xgdesc=1** or **xgdesc=true**

xgoffset	Required	Optional
	Type	integer
	Description	Starting index of the data to be retrieved (starts from 1).
	Example	**xgoffset=20** Retrieve the data starting from the row 20.

xglimit	Required	Optional
	Type	integer
	Description	Total number of data rows to retrieve
	Example	**xglimit=100**
	Default	Pre-configured default limit. (usually - 1000)

xgcount	Required	Optional
	Type	integer/boolean (1/true)
	Description	It will return only the count of the retrieved data rows
	Example	**xgcount=1** or **xgcount=true**

**	Note	If `xgcount` is passed as a parameter, `xgselect` and its associated parameters will be ignored. Associated parameters to `xgselect` are `xgorder`, `xgoffset`, `xgdesc` and `xglimit`.

xglogic	**Required**	Optional
	Type	String (Enum - or/and)
	Description	Whether the binding logic of the provided fields be JOIN (or) / INTERSECTION (and)
	Example	**xglogic=and** or **xglogic=or**
	Default	and

Query string (open)

Other than the reserved query string parameters, any parameter will be treated as a field of the data row. And associated value will be considered as the value to be matched. In case of more than one open field parameters "**xglogic"** parameter value will be used to bind them. If "**xglogic"** parameter is not present, conditions are intersected i.e. "**AND"** logic is used by default.

Example:

/g/division/id=1&name=Dhaka

- Above url will return the data rows matching id and name

/g/division/id=1&name=Dhaka&xglogic=or

- Above url will return the data row matching either id or name (see **xglogic**)