### **Documentation**

### **Dataset APIs**

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : A-2

Description : Conventional households by sex of the head, percent of female headed households, population by type of

household and mean household size (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =A-2

```
// Sample json format for table A-2

[{
    "location": "AYEYAWADY",
    "level": "division",
    "conventional_households": {
        "female-headed_households_percentage": 19.3,
        "female-headed": 287025,
        "male-headed": 1201958,
        "number": 1488983
        },
    "population_in": {
        "institutions": 131235,
        "conventional_households": 6053594
},
    "mean_household_size": 4.1
/// more dataset
}]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : A-4

Description : Population by urban/rural, sex and single years of age (Region)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc. t

- able\_name =A-4

```
// Sample json format for table A-4
  "location" : "AYEYAWADY",
  "age" : {
            "under_1" : {
                      "total_population" : {
                                 "both_sex": 105446,
                                 "male": 52951,
                                 "female" : 52495
                     },
"urban" : {
                                 "both_sex" : 11772,
                                 "male" : 5918,
                                 "female": 5854
                     },
"rural" : {
                                 "both_sex": 93674,
                                 "male": 47033.
                                 "female": 46641
}// more age_group
}]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : A-5

Description : Population by urban/rural, sex and 5-year age groups (Region, District)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =A-5

```
// Sample json format for table A-5
 "location": "AYEYAWADY",
          "level": "division",
                     "0_4" : {
                                "total_population" : {
                                           "female": 284502,
                                           "male": 289630,
                                           "both_sex" : 574132
                               },
"urban" : {
                                           "female" : 30728,
                                           "male" : 31592,
                                           "both_sex" : 62320
                                ,,
"rural" : {
                                           "female": 253774,
                                           "male" : 258038,
                                           "both_sex" : 511812
                     }// more age group
          }, // more location
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : A-7

Description : Conventional households by size of the household (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =A-7

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : **B-1** 

Description : Population in conventional households by relationship to the head of household and sex (Region, District)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =B-1

```
// Sample json format for table B-1
 location" : "AYEYAWADY",
 "level": "division",
           "relationship": \{
                      "both_sexes" : {
                                 "total": 6053594,
                                 "head": 1488983,
                                 "spouse": 1111909,
                                 "son_or_daughter": 2495745,
                                 "son_or_daughter-in-law": 169927,
                                 "grandchild\_or\_great-grandchild": 335755,\\
                                 "parent_parent-in-law": 83371,
                                 "sibling" : 92438,
                                 "grandparent" : 4114,
"other_relative" : 185389,
                                 "adopted_child": 12461,
                                 "non-relative": 73502
                                }//more type (male, female)
          } / /more location
}]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : C-1

Description : Former conventional household members living abroad by country of residence, District of reporting household

and sex (Region, District)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =C-1

```
// Sample json format for table C-1
"location": "AYEYAWADY",
"level": "division",
"country_of_residence": {
                      "both_sexes" : {
                               "total": 59488,
                               "Thailand": 29382,
                                "Malaysia": 16704,
                               "Singapore": 8021,
                                "China": 1287,
                                "Japan" : 235,
                                 "Korea" : 671,
                                "India" : 557,
                                "USA": 527,
                               "Other": 2104
                               }//male, female
 }// more location
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : C-2

Description : Former conventional household members living abroad by country of residence, sex and duration of residence

abroad Region)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =C-2

```
// Sample json format for table C-2
[{
    "AYEYAWADY": "both_sexes",
           "duration" : {
                     "total" : {
                                "total" : 59488,
                                 "percentage_total" : 100,
                                 "Thailand": 29382,
                                 "Malaysia" : 16704,
                                 "Singapore": 8021,
                                 "China": 1287,
                                 "Japan" : 235,
                                "Korea" : 671,
                                "India" : 557,
                                "USA": 527,
                                 "Other": 2104
                     }//duration:less_than_15_months, 15_months_to_4_years etc.
} // more type (male, female)
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : D-2

Description : Former conventional household members living abroad by country of residence, sex and duration of residence

abroad Region)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =D-2

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : D-3

Description : Population in conventional households 5 years and over by sex, school/college attendance and age (Region,

District)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =D-3

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : **D-4** 

Description : Population in conventional households 5 - 29 years, by sex, school/college attendance (Region, District,

Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =D-4

```
// Sample ison format for table D-4
 "location": "AYEYAWADY",
"level": "division",
 "both_sex":{
           "never_attended": 197922,
          "attended reviously": 1440227,
           "currently_attending" : 1032391,
           "total": 2670540
"male" : {
           "never_attended": 97171,
          "attended_previously" : 699453,
"currently_attending" : 512240,
           "total" : 1308864
          },
"female" : {
           "never_attended": 100751,
           "attended_previously": 740774,
           "currently_attending": 520151,
          "total": 1361676
}// more dataset
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : D-5a

Description : Population 5 years and over (including institutions) by highest level of education completed, sex and special age

group - urban and rural (Region)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =D-5a

```
// Sample json format for table D-5a

[{
    "AYEYAWADY": "both_sexes",
    "age": {
        "total": 126696,
        "none": 97469,
        "primary_school_grade_1-5": 29172,
        "middle_school_grade_6-9": 0,
        "high_school_grade_10-11": 0,
        "diploma": 0,
        "university_or_college": 0,
        "post-graduate_and_above": 0,
        "vocational_training": 0,
        "other": 55
      }
    }// more age group
}// more dataset
]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : D-5b

Description : Population 5 years and over (including institutions) by highest level of education completed, sex and special age

group - urban (Region)

Parameters - region name = ayeyawady, yangon, mandalay, etc.,

- table\_name =D-5b

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : D-5

Description : Population 5 years and over (including institutions) by highest level of education completed, sex and special age

group - rural (Region)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =D-5c

```
// Sample json format for table D-5c
"AYEYAWADY": "both_sexes",
"age" : {
            "5":{
                    "total": 113284,
                    "none": 86450,
                     "primary_school_grade_1-5": 26789,
                     "middle_school_grade_6-9": 0,
                    "high_school_grade_10-11": 0,
                    "diploma" : 0,
                    "university_or_college": 0,
                    "post-graduate_and_above": 0,
                     "vocational_training" : 0,
                    "other" : 45
                    } // more age group
 }// more sex type (male, female)
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : **D-6a** 

Description : Population 25 years and over by highest level of education completed and sex (both households and institutions)

(Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =D-6a

```
// Sample json format for table D-6a
 "location": "AYEYAWADY",
 "level": "division",
 "sex" : {
           "male" : {
                     "total": 1542623,
                     "none": 159486,
                     "primary_school_grade_1-5": 792699,
                     "middle_school_grade_6-9" : 322011,
                     "high_school_grade_10-11": 136035,
                     "diploma" : 2225,
                     "university_or_college": 64116,
                     "post-graduate_and_above": 1575,
                     "vocational_training" : 1851,
                    "other": 62625
                    }// more sex type (male, female)
}// more location
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : D-6k

Description : Population 25 years and over by highest level of education completed and sex (both households and institutions)

(Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =D-6a

```
// Sample json format for table D-6b
[ {
    "location" : "AYEYAWADY",
 "level": "division",
 "sex" : {
           "male" : {
                      "total": 1542623,
                     "none": 159486,
                     "primary_school_grade_1-5" : 792699,
                     "middle_school_grade_6-9": 322011,
                     "high_school_grade_10-11": 136035,
                     "diploma" : 2225,
                     "university_or_college": 64116,
                     "post-graduate_and_above" : 1575,
                      "vocational_training" : 1851,
                     "other": 62625
                     }// more sex type (male, female)
}// more location
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : E-1a

Description : Population 10 years and over by usual activity status, labour force participation rate, unemployment rate and

employment to population ratio by sex and age group (Region)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name = E-1a

```
// Sample json format for table E-1a

[{
    "AYEYAWADY": "both_sexes",
    "age": {
        "total": 631009,
        "employed": 66726,
        "unemployed": 10001,
        "economically_inactive": 554282,
        "labour_force_participation_rate_percentage": 12.2,
        "unemployment_rate_percentage": 13,
        "employment_to_population_ratio_percentage": 10.6
        }// more age group
} // more sex type (male, female)
]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : I-1

Description : Conventional households by type of housing unit (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name = I-1

```
// Sample json format for table I-1

[{
    "location": "AYEYAWADY",
    "level": "division",
    "total": 1488983,
    "apartment_or_condominium": 9161,
    "bungalow_or_brick_house": 27821,
    "semi-pacca_house": 36991,
    "wooden_house": 636185,
    "bamboo": 685521,
    "hut_2-3_years": 46161,
    "hut_1_year": 32097,
    "other": 15046
} //more dataset
]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : I-3

Description : Conventional households by type of toilet (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name = I-3

```
// Sample json format for table I-3

[{
    "location" : "AYEYAWADY",
    "level" : "division",
    "total" : 1488983,
    "flush" : 9046,
    "water_seal_improved pit_latrine" : 1105726,
    "safe_sanitatio_percentage" : 74.9,
    "pit_traditional_pit_latrine" : 78504,
    "bucket_surface_latrine" : 87702,
    "other" : 16856,
    "none" : 191149
}// more dataset
]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : I-4a

Description : Conventional households by main construction material for the roof (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name = I-4a

```
// Sample json format for table

[ {
    "location" : "AYEYAWADY",
    "level" : "division",
    "total" : 1488983,
    "dhani_or_theke_or_in_leaf" : 857628,
    "bamboo" : 1867,
    "wood" : 1090,
    "corrugated_sheet" : 620067,
    "tile_or_brick_or_concrete" : 3777,
    "other" : 4554
    } // more dataset
    ]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : I-4b

Description : Conventional households by main construction material for the external walls (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =

```
// Sample json format for table I-4b

[{
    "location" : "AYEYAWADY",
    "level" : "division",
    "total" : 1488983,
    "dhani_or_theke_or_in_leaf" : 616162,
    "bamboo" : 499737,
    "earth" : 518,
    "wood" : 282487,
    "corrugated_sheet" : 6146,
    "tile_or_brick_or_concrete" : 63226,
    "other" : 20707
}// more dataset
]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : I-4c

Description : Conventional households by main construction material for the floors (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name =

```
// Sample json format for table I-4c

[ {
    "location" : "AYEYAWADY",
    "level" : "division",
    "total" : 1488983,
    "bamboo" : 428852,
    "earth" : 7608,
    "wood" : 977239,
    "tile_or_brick_or_concrete" : 58186,
    "other" : 17098
    }// more dataset
    ]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : J-2

Description : Conventional households by source of water for drinking use (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name = J-2

```
// Sample json format for table

[ {
    "location" : "AYEYAWADY",
    "level" : "division",
    "total" : 1488983,
    "tap_water_or_piped" : 7380,
    "tube_well_borehole" : 519271,
    "protected_well_or_Spring" : 195935,
    "unprotected_well_or_spring" : 48263,
    "pool_or_pond_or_lake" : 406026,
    "river_or_stream_or_canal" : 253136,
    "waterfall_or_rain_water" : 15162,
    "bottled_water_or_water_purifier" : 26427,
    "tanker_or_truck" : 5276,
    "other" : 12107
} // more dataset
]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : J-3

Description : Conventional households by source of water for non-drinking use (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name = J-3

```
// Sample json format for table J-3

[ {
    "location" : "AYEYAWADY",
    "level" : "division",
    "total_conventional_households" : 1488983,
    "tap_water_or_piped" : 11842,
    "tube_well_borehole" : 598272,
    "protected_well_or_spring" : 168373,
    "unprotected_well_or_spring" : 64590,
    "pool_or_pond_or_lake" : 166249,
    "river_or_stream_or_canal" : 465177,
    "waterfall_or_rain_water" : 3363,
    "bottled_water_or_water_purifier" : 537,
    "tanker_or_truck" : 1251,
    "other" : 9329
} // more dataset
]
```

API Link : www.example.com?reg={region\_name} & tb={table\_name}

Table No : J-4

Description : Conventional households by main type of cooking fuel (Region, District, Township)

Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

- table\_name = J-4

```
// Sample json format for table J-4

[{
    "location" : "AYEYAWADY",
    "level" : "division",
    "total" : 1488983,
    "electricity" : 53136,
    "lpg" : 1340,
    "kerosene" : 6590,
    "biogass" : 1341,
    "firewood" : 1315791,
    "charcoal" : 64189,
    "coal" : 1851,
    "straw_or_grass" : 605,
    "other" : 44140
}// more dataset
]
```

API Link : www.example.com?reg=myanmar & tb=dashboard

Table No : dashboard

Description : Over all data of all 15 region base on various summary and age group

"Tanintharyi" : 177400

}// more age group 06\_10, 11\_17, context, etc.,

Parameters - region\_name = myanmar - table\_name = dashboard

```
// Sample json format for table J-4

"age": "00_05",
    "dashboard": {
        "source": "Census_2014",
        "Ayeyawady": 696337,
        "Bago": 513068,
        "Chin": 79059,
        "Kachin": 170283,
        "Kayah": 39585,
        "Kayin": 211975,
        "Magway": 390018,
        "Mandalay": 586590,
        "Mon": 230673,
        "NPT": 123131,
        "Rakhine": 222025,
        "Rangon": 623070,
        "Sagaing": 562556,
        "Shan": 713664,
```

}, // data set of percentage\_of\_population, percentage\_living\_with etc.,

# **Regional map API**

#### **Regional map**

API Link: www.example.com/api/boundary?reg={region\_name}

Description : Polygon boundary API to draw require map on web and android platform

Example : www.example.com/api/boundary?reg= ayeyawady
Parameters - region\_name = ayeyawady, yangon, mandalay, etc.,

### Myanmar map

API Link : www.example.com/api/boundary/myanmar

Description : Polygon boundary API to draw require map on web and android platform

Example : www.example.com/api/boundary/myanmar

Parameters - myanmar

# **Sample Project**

Project Link : <a href="https://github.com/htetphyo/dvh">https://github.com/htetphyo/dvh</a> pure quickstart

## API usage with PHP (pure)

#### Requirement

Resource : https://github.com/rmccue/Requests

### API sample for regional boundary data (map)

#### **API URL**

```
$url_base = www.example.com/api/boundary?reg=RegionName
```

### **Calling API with REQUEST**

```
$returndata = Requests::get($url_base, array('Accept' => 'application/json'));
```

### **Decoding Json**

```
$arr_data = json_decode( $returndata->body , true);
```

#### **Retrieve Data from Array**

```
$data['points'] = $arr_data[RegionName];
```

#### Sample code for boundary

```
// Sample code for boundary

$uri_data = RequestRegionName; eg. Ayeyawady

// Get Boundary for each region

$url_base = "http://api.datavisualizationhackathon.org/api/dataset?reg=".$uri_data;

$returndata = Requests::get($url_base, array('Accept' => 'application/json'));

$arr_data = json_decode($returndata->body, true);

$points = $arr_data[$uri_data];
```

### Sample code for data retrieving

```
// Sample code for data retrieving

$reg = RequestRegionName;
$tb = RequestTableName;

$district = array();
```

#### **API URL**

## **Calling API with Curl**

```
$dataset_data = Requests::get($ayeay_url_base, array('Accept' => 'application/json') );
```

### **Decoding Json**

```
$region_data = json_decode( $dataset_data ->body , true);
```

## Conventional households for each district

```
// Sample code for each district

if(count($region_data )>0){
    foreach ($region_data as $value) {
        if($value['level'] == "district"){
            $district[] = $value;
        }
    }
    }
}
$data['district'] = $district;
```

## **API usage with Codeigniter (PHP MVC framewoark)**

Project Link : <a href="https://github.com/htetphyo/dvh\_ci\_quickstart">https://github.com/htetphyo/dvh\_ci\_quickstart</a>

Requirement

Codeigniter :https://codeigniter.com

Codeigniter CURL :https://github.com/philsturgeon/codeigniter-curl

## API sample for regional boundary data (map)

### **API URL**

```
\del{thm:model} $\dataset\_url\_base = \del{thm:model} $\dataset\_reg = $\it{reg} \& tb = $\it{tb} "; $\dataset\_url\_base = \dataset.
```

### **Calling API with Curl**

```
$dataset_data = $this->curl->simple_get( $dataset_url_base );
```

### **Decoding Json**

```
$region_data = json_decode( $dataset_data, true);
```

### **Retrieving Data from Array**

```
$data['points'] = $arr_data[RegionName];
```

## Sample code for boundary

## Sample code for data retrieving

```
// Sample code for data retrieving

$reg = RequestRegionName;
$tb = RequestTableName;

$district = array();
```

### **API URL**

```
$dataset\_url\_base = "http://api.datavisualizationhackathon.org/api/dataset?reg = \$reg \& tb = \$tb";
```

## **Calling API with Curl**

```
$dataset_data = $this->curl->simple_get( $dataset_url_base );
```

### **Decoding Json**

```
$region_data = json_decode( $dataset_data, true);
```

### Conventional households for each district

```
// Sample code for each district

if(count($region_data )>0){
   foreach ($region_data as $value) {
     if($value['level'] == "district"){
        $district[] = $value;
     }
   }
}
$data['district'] = $district;
```

# Index

No	Region	Dataset Parameter	Map Boundary Parameter
1	Ayeyawady	ayeyawady	ayeyawady
2	Bago	bago	bago
3	Chin	chin	chin
4	Kachin	kachin	kachin
5	Kayah	kayah	kayah
6	Kayin	kayin	kayin
7	Magway	magway	magway
8	Mandalay	mandalay	mandalay
9	Mon	mon	mon
10	Naypyitaw	naypyitaw	naypyitaw
11	Rakhine	rakhine	rakhine
12	Sagaing	sagaing	sagaing
13	Shan	shan	shan
14	Tanintharyi	tanintharyi	tanintharyi
15	Yangon	yangon	yangon
16	All region (Myanmar)	myanmar	myanmar

# **Example Usage**

http://api.datavisualizationhackathon.org/api/boundary?reg= ayeyawady

http://api.datavisualizationhackathon.org/api/boundary/myanmar

http://api.datavisualization hackathon.org/api/dataset?reg=myanmar&tb=dashboard

http://api.datavisualization hackathon.org/api/dataset?reg=ayeyawady&tb=A-7