Pricing Service - Design Document

# Functional Requirements

# Non- Functional Requirements

# High Level Architecture

# Workflow/ sequence diagram

# API Details

## Countries

### POST /countries – Create Country

Sample Input:

{

"name": "Russia",

"code": "RUS",

"currency": "Ruble"

}

Sample response:

{

"id": 6,

"name": "Russia",

"code": "RUS",

"currency": "Ruble"

}

### PUT /countries/{id} – Update Country by ID

Sample Input:

{

"name": "Russia",

"code": "RUS",

"currency": "Ruble"

}

Sample response:

{

"id": 6,

"name": "Russia",

"code": "RUS",

"currency": "Ruble"

}

### GET /countries – Get ALL Countries

Sample response:

[

{

"id": 1,

"name": "United Kingdom",

"code": "UK",

"currency": "Euro"

},

{

"id": 2,

"name": "India",

"code": "IN",

"currency": "INR"

},

{

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

}

]

### GET /countries/{id} – Get Country by ID

Sample response:

{

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

}

### DELETE /countries/{id} – Delete Country by id

Sample response:

{

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

}

## customers

### POST /customers – Create customer

Sample input:

{

"name":"John Doe",

"email":"johndoe@gmail.com",

"planType":"premium",

"country\_id":1,

"signUpTimestamp": 1507953846

}

Sample response:

{

"id": 1,

"name": " John Doe",

"email": " johndoe@gmail.com ",

"planType": " premium ",

"price": 5.99,

"country": {

"id": 1,

"name": "United Kingdom",

"code": "UK",

"currency": "Euro"

},

"signUpTimestamp": 1507953846,

"nextBillingTimestamp": 1533063000

}

### PUT /customers/{id} – Update Customer by ID

Sample input:

{

"name":"John Doe",

"email":"johndoe@gmail.com",

"planType":"premium",

"country\_id":1,

"signUpTimestamp": 1507953846

}

Sample response:

{

"id": 1,

"name": " John Doe",

"email": " johndoe@gmail.com ",

"planType": " premium ",

"price": 5.99,

"country": {

"id": 1,

"name": "United Kingdom",

"code": "UK",

"currency": "Euro"

},

"signUpTimestamp": 1507953846,

"nextBillingTimestamp": 1533063000

}

### GET /customers – Get ALL Customers

Sample response:

[

{

"id": 1,

"name": "morethan6mnths",

"email": "morethan6mnths@gmail.com",

"planType": "premium",

"price": 3.99,

"country": {

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

},

"signUpTimestamp": 1507057200,

"nextBillingTimestamp": 1509649200

},

{

"id": 2,

"name": "morethan5yrs",

"email": "morethan5yrs@gmail.com",

"planType": "premium",

"price": 6.99,

"country": {

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

},

"signUpTimestamp": 1310616246,

"nextBillingTimestamp": 1313208246

}

]

### GET /customers/{id} – Get Customer by ID

Sample response:

{

"id": 1,

"name": "morethan6mnths",

"email": "morethan6mnths@gmail.com",

"planType": "premium",

"price": 3.99,

"country": {

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

},

"signUpTimestamp": 1507057200,

"nextBillingTimestamp": 1509649200

}

### DELETE / customers/{id} – Delete Customer by ID

Sample response:

{

"id": 1,

"name": "morethan6mnths",

"email": "morethan6mnths@gmail.com",

"planType": "premium",

"price": 3.99,

"country": {

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

},

"signUpTimestamp": 1507057200,

"nextBillingTimestamp": 1509649200

}

## Service plan info

### PUT /servicePlans – Create or Update a service plan

Sample input:

{

"country\_id" : 3,

"planType": "premium",

"price": 8.99,

"rules":"loyal\_US\_customer"

}

Sample response:

{

"id": 3,

"planType": "premium",

"country": {

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

},

"price": 8.99,

"rules": "loyal\_US\_customer"

}

### GET / servicePlans – Get ALL Service Plans

Sample response:

[{

"id": 3,

"planType": "premium",

"country": {

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

},

"price": 8.99,

"rules": "loyal\_US\_customer"

}]

### GET / servicePlans /{planType}/country/{id} – Get A Service plan for a Plan Type and Country

Sample response:

{

"id": 3,

"planType": "premium",

"country": {

"id": 3,

"name": "United States",

"code": "US",

"currency": "USD"

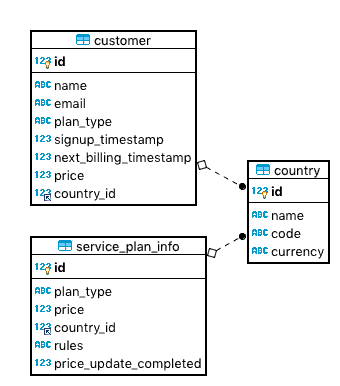
},

"price": 8.99,

"rules": "loyal\_US\_customer"

}

# Database Schema

Pricing service consists of three tables – Country, customer and Service\_plan\_info. 

Country

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Type** | **System\_populated** | **Description** |
| id | integer | Y | Unique identifier |
| name | string | N | Country name (ex – United States) |
| Code | String | N | Country code (ex – US) |
| Currency | String | N | Currency (ex – USD) |

Customer

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Type** | **System\_populated** | **Description** |
| id | integer | Y | Unique identifier |
| name | string | N | Customer name |
| email | String | N | Customer email |
| plan\_type | String | N | Service plan type can have the following values - basic(1S), normal (2S) & premium (4S), where S denotes the number of concurrent streams |
| Signup\_timestamp | long | N | Date at which the user signed up for a subscription. Unit in seconds(epoch timestamp) |
| Next\_billing\_date\_timestamp | long | Y | Populated by the system on creation. Signup\_timestamp + 30 days. Unit in seconds(epoch timestamp) |
| Price | float | Y | Price is populated by the system on creation. Value is retrieved from the service\_plan\_info table for the same plan\_type and country\_id. This value is further updated when the service plan price changes. |
| Country\_id | integer | N | Each customer belongs to one country. Foreign key points to the ID field in country table |

Service\_plan\_info

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Type** | **System\_populated** | **Description** |
| id | integer | Y | Unique identifier |
| plan\_type | string | N | Service plan type can have the following values - basic(1S), normal (2S) & premium (4S), where S denotes the number of concurrent streams |
| price | float | N | Price of the subscription |
| Country\_id | integer | N | Each service plan belongs to one country. One country has 3 service plans. Foreign key points to the ID field in country table |
| rules | string | N | Business Rule names that has to be applied for the service plan. Can have more than one rule name in comma separated format  Ex - loyal\_US\_customer, new\_customer\_rule |
| Price\_update\_completed | boolean | Y | If the service plan price has been updated to all the customers than this fields is set to true(1) otherwise false(0) |