**Service Design**

**Service**: Insert carbondioxide readings

**Version**: 1.0

**Requirements**:

* Insert carbondioxide reading with the user input payload

**Design**:

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| **Programming Objects** | |
| **Type** | **Name** |
| Controller | com.allianz.carbondioxidetracker.controller.CarbonDioxideDataController |
| Service | com.allianz.carbondioxidetracker.service.impls.SensorServiceImpl |
| Entity | com.allianz.carbondioxidetracker.repository.entity.Reading com.allianz.carbondioxidetracker.repository.entity.Sensor |
| Request | com.allianz.carbondioxidetracker.controller.ReadingInputCommand |
| Response | com.allianz.carbondioxidetracker.common.ReadingInputResult |

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| **ReST Endpoint** | |
| **Attribute** | **Value** |
| URL | <server>/v1/co2 |
| HTTP Method | POST |
| Response Format(s) | JSON |
| HTTP Response Codes | * SUCCESS * NOT\_SUCCESS |
| Request body | JSON:  {  "sensorId":"TK01",  "carbonValue":305  } |
| Response body | JSON:  {  "data": {  "readingId": 36,  "sensorId": "TK01",  "date": "2021-01-24T19:27:39.474+00:00",  "readingValue": 305.0  },  "error": **null**,  "message": "SUCCESS"  } |

**Service**: Get carbondioxide readings

**Version**: 1.0

**Requirements**:

* Get carbondioxide reading from Specific City or District.

**Design**:

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| **Programming Objects** | |
| **Type** | **Name** |
| Controller | com.allianz.carbondioxidetracker.controller.CarbonDioxideDataController |
| Service Bean | com.allianz.carbondioxidetracker.service.impls.SensorServiceImpl |
| Entity | com.allianz.carbondioxidetracker.repository.entity.Reading com.allianz.carbondioxidetracker.repository.entity.Sensor |
| Request | com.allianz.carbondioxidetracker.controller.ReadingGetRequest |
| Response | com.allianz.carbondioxidetracker.common.SensorGetResponse |

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| **ReST Endpoint** | |
| **Attribute** | **Value** |
| URL | <server>/v1/co2/readings?city={cityName}&district={districtName}  <server>/v1/co2/readings?city={cityName}  <server>/v1/co2/readings?district={districtName}  <server>/v1/co2/readings |
| HTTP Method | GET |
| Response Format(s) | JSON |
| HTTP Response Codes | * SUCCESS * NOT\_SUCCESS |
| Request body | nil |
| Response body | JSON:  {  "data": [  {  "sensorId": "TK01",  "city": "Thiruvananthapuram",  "district": "Kazhakkoottam",  "sensorReadings": [  {  "id": 1,  "readingValue": 300.0,  "time": "2021-01-24T11:48:39.073+00:00"  }  ]  }  ],  "error": **null**,  "message": "SUCCESS"  } |