**Test Plan**

# 1 Schedule

## 1.1 Test1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Content** | **Responsible Person** | **Start Date** | **End Date** | **Duration** |
| Test six-year interface to pollution averages by province in China | Xu Wenjie | 2023/4/20 | 2023/4/21 | 2 |

## 1.2 Test2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Content** | **Responsible Person** | **Start Date** | **End Date** | **Duration** |
| Test the interface to obtain the average value of pollutants for each province according to the year and the city pollution data according to the name of the province | Xu Wenjie | 2023/4/25 | 2023/4/26 | 2 |

## 1.3 Test3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Content** | **Responsible Person** | **Start Date** | **End Date** | **Duration** |
| Test interface to obtain provincial pollutant averages for the last six years and to obtain urban pollutant averages for the target year | Xu Wenjie | 2023/4/28 | 2023/4/29 | 2 |

## 1.4 Test4

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Content** | **Responsible Person** | **Start Date** | **End Date** | **Duration** |
| Test to obtain pollutant data for the top ten provinces in the country for the last six years and interface to obtain the national average of pollutants for the last six years | Xu Wenjie | 2023/5/4 | 2023/5/5 | 2 |

## 1.5 Test5

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Content** | **Responsible Person** | **Start Date** | **End Date** | **Duration** |
| Test the interface to obtain the pollutant data and average pollutant data of the top ten cities in a province for the last six years | Xu Wenjie | 2023/5/15 | 2023/5/16 | 2 |

# 2 Design Notes

## 2.1 Test1

Interface：getAllProvincePollutions

Responsible Person：Xu Wenjie

### 2.1.1 Control

Testing with Spring Integration Junit.

### 2.1.2 Input

None

### 2.1.3 Output

Six-year average of each pollutant for all provinces.

## 2.2 Test 2

Interface：getInfoByYear、getCityInfoByProvince

Responsible Person：Xu Wenjie

### 2.2.1 Control

Testing with Spring Integration Junit.

### 2.2.2 Input

getInfoByYear：Year

getCityInfoByProvince：Year，Province

### 2.2.3 Output

getInfoByYear：Obtain the average value of pollutants for each province by year.

getCityInfoByProvince：Get pollution data for cities by year and province name.

## 2.3 Test 3

Interface：getSomeAvgCount、getSomeCityAvgCount

Responsible Person：Xu Wenjie

### 2.3.1 Control

Testing with Spring Integration Junit.

### 2.3.2 Input

getSomeAvgCount：None

getSomeCityAvgCount：City

### 2.3.3 Output

getSomeAvgCount：Average pollutants by province in the last six years.

getSomeCityAvgCount：Target year urban pollutant average.

## 2.4 Test 4

Interface：getTenProvinceAsc、getSixAverage

Responsible Person：Xu Wenjie

### 2.4.1 Control

Testing with Spring Integration Junit.

### 2.4.2 Input

getTenProvinceAsc：None

getSixAverage：None

### 2.4.3 Output

getTenProvinceAsc：Pollutant data for the top 10 AQI provinces for each of the six years.

getSixAverage：Six-year annual national average for each pollutant.

## 2.5 Test 5

Interface：getTenCityAsc、getSixAverageByProvince

Responsible Person：Xu Wenjie

### 2.5.1 Control

Testing with Spring Integration Junit.

### 2.5.2 Input

getTenCityAsc：None

getSixAverageByProvince：None

### 2.5.3 Output

getTenCityAsc：AQI pollutant data for the top 10 cities in a province for each of the six years.

getSixAverageByProvince：Average pollutant data for a province for each of the six years.