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*For Westpac Interview*

*API Manual*

Project: Simple Weather Information Service

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| --- | --- | --- | --- |
| Version | Author | Create/Update Date | Comments |
| 0.1 | matthew.yiqing.zhu | 2024 05 01 | Initialization |

1. Introduction:

This document explained how to use web service API.

1. Available APIs

2.1 Weather information query

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| Name: | Weather information query |
| URI: | [Host]:(port)/queryweatherbycities |
| Description | Input cities information to query weather information |
| HTTP/HTTPS: | HTTP only |
| Call Methods | GET |
| Accepted Data Type | JSON |
| Request Example: | [  {  "cityname": "Auckland"  },  {  "cityname": "Wellington"  }  ] |
| Normal return Example: | [  {  "city": "Auckland",  "temp": "-1",  "unit": "C",  "date": "01/05/2024",  "weather": "sunny"  },  {  "city": "Wellington",  "temp": "-4",  "unit": "C",  "date": "01/05/2024",  "weather": "snow"  }  ] |
| Limitation: | Only request which contain 1-3 cities with different name can be accept, otherwise error message will be returned |
| Other: | If cities data did not in database, city name with tips, and other data will be shown as “n/a”  If system level error occurred, error message will be returned  This document do not contain uncontrolled error such as bad request exception |

Business Exception Examples of Weather Information Query:

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| Exception Type: | Query with input any city information |
| Request Example: | [ ] |
| Return Example: | {  "messageType": "TIPS",  "message": "At least one city information needed"  } |

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| Exception Type: | Query with more than 3 citiies information |
| Request Example: | [  {  "cityname": "Auckland"  },  {  "cityname": "Wellington"  },  {  "cityname": "Hamilton"  },  {  "cityname": "Tauranga"  }  ] |
| Return Example: | {  "messageType": "TIPS",  "message": "Sorry, you only can query up tp 3 records in one time"  } |

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| Exception Type: | Query request contain same city’s information |
| Request Example: | [  {  "cityname": "Auckland"  },  {  "cityname": "Auckland"  }  ] |
| Return Example: | {  "messageType": "ERROR",  "message": "Sorry, You need input different cities' information in one query"  } |

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| Exception Type: | Query request contain the city information not in database |
| Request Example: | [  {  "cityname": "Auckland"  },  {  "cityname": "ChristChurch"  }  ] |
| Return Example: | [  {  "city": "Auckland",  "temp": "9",  "unit": "C",  "date": "01/05/2024",  "weather": "sunny"  },  {  "city": "ChristChurch does not has record, please visit '/availabilities' service to get available cities list",  "temp": "n/a",  "unit": "n/a",  "date": "n/a",  "weather": "n/a"  }  ] |

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| Exception Type: | Query request with wrong properties or city name is empty |
| Request Example: | [  {  "cityname": "Auckland"  },  {  "city": "Wellington"  }  ]  Or  [  {  "cityname": ""  },  {  "cityname": "Wellington"  }  ] |
| Return Example: | {  "messageType": "ERROR",  "message": "Sorry, your input format may be wrong, check the format or properties name and/or symbols, the format is following (remove Backslashs(\\) if see them, city list up to 3, each city should have different name,): [ {\"cityname\": \"Auckland\"} , {\"cityname\": \"Wellington\"} ]) "  } |

System Exception Examples of Weather Information Query:

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| Exception Type: | System error occurred in service level |
| Return Example: | {  "messageType": "ERROR",  "message": "Sorry, some exception when we try to call the service, please try late or contact service supplier"  } |

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| Exception Type: | System error occurred in Repository/DAO level |
| Return Example: | {  "messageType": "ERROR",  "message": "Sorry, some exception when get data, please try late or contact service supplier"  } |

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| Exception Type: | System error occurred in any part and unknown |
| Return Example: | {  "messageType": "ERROR",  "message": "Sorry, some exception occurred, please try late or contact service supplier"  } |

2.2 Available cities query

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| Name: | Available cities query |
| URI: | [Host]:(port)/availablecities |
| Description | Getting the cities’ name list whose weather information exist in database |
| HTTP/HTTPS: | HTTP only |
| Call Methods | GET |
| Accepted Data Type | Do not need input |
| Normal return Example: | [  "Hamilton",  "Tauranga",  "Auckland",  "Wellington"  ] |
| Limitation: | N/A |
| Other: | If system level error occurred, error message will be returned  This document do not contain uncontrolled error such as bad request exception |

System Exception Examples of Weather Information Query:

|  |  |
| --- | --- |
| Exception Type: | System error occurred in service level |
| Return Example: | {  "messageType": "ERROR",  "message": "Sorry, some exception when we try to call the service, please try late or contact service supplier"  } |

|  |  |
| --- | --- |
| Exception Type: | System error occurred in Repository/DAO level |
| Return Example: | {  "messageType": "ERROR",  "message": "Sorry, some exception when get data, please try late or contact service supplier"  } |

|  |  |
| --- | --- |
| Exception Type: | System error occurred in any part and unknown |
| Return Example: | {  "messageType": "ERROR",  "message": "Sorry, some exception occurred, please try late or contact service supplier"  } |

2.3 Manual query

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| Name: | Manual query |
| URI: | [Host]:(port)/ |
| Description | Return the simple manual online |
| HTTP/HTTPS: | HTTP only |
| Call Methods | Any method are acceptable |
| Accepted Data Type | Do not need input |
| Normal return Example: | [  "Welcome, currently following services are available",  "1. /queryweatherbycities, support GET Method input city list (up to 3, each city should have different name) and get current weather record",  " Need webservice client support and The input format like following (remove any Backslashs(\\) if see them,:",  " [ {\"cityname\": \"Auckland\"} , {\"cityname\": \"Wellington\"} ] ",  "2. /availablecities, support GET Method, query record of which cities are available"  ] |
| Limitation: | N/A |
| Other: | If system level error occurred, error message will be returned  This document do not contain uncontrolled error such as bad request exception |

1. Result with wrong input

3.1 Wrong format

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| --- | --- |
| Name: | Weather information query with wrong input |
| URI: | [Host]:(port)/queryweatherbycities |
| Description | Input cities information to query weather information |
| HTTP/HTTPS: | HTTP only |
| Call Methods | GET |
| Accepted Data Type | JSON |
| Request Example: | [  {  "cityname": "Auckland"  }  \  {  "cityname": "Wellington"  }  ] |
| Normal return Example: | {  "messageType": "ERROR",  "message": "Sorry, your input format may be wrong, check the format or properties name and/or symbols, the format is following (remove Backslashs(\\) if see them, city list up to 3, each city should have different name,): [ {\"cityname\": \"Auckland\"} , {\"cityname\": \"Wellington\"} ]) "  } |

3.2 Unsupported call method

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| Name: | Calling services but not use GET |
| URI: | [Host]:(port)/queryweatherbycities or [Host]:(port)/availablecities |
| Description | Use post call weather information or available cities query |
| HTTP/HTTPS: | HTTP only |
| Call Methods | Not GET, such as POST |
| Request Example: | Any input |
| Normal return Example: | {  "messageType": "ERROR",  "message": "Sorry, your input format may be wrong, check the format or properties name and/or symbols, the format is following (remove Backslashs(\\) if see them, city list up to 3, each city should have different name,): [ {\"cityname\": \"Auckland\"} , {\"cityname\": \"Wellington\"} ]) "  } |

3.3 Unexisted resource access

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| Name: | Calling not existed services |
| URI: | Such as: [Host]:(port)/123 (or any other uris are not existed) |
| Description | Use post call weather information or available cities query |
| HTTP/HTTPS: | HTTP only |
| Request Example: | Any input |
| Normal return Example: | {  "messageType": "ERROR",  "message": "Sorry, the visited URI path is not found, currently only /, /queryweatherbycities and /availablecities is available, visit / for more information of using."  } |