

Doc understanding & Matching

Test case gen

Test code writing

Test execution

(a) API Specification

```
ClimateObject:
  type: object
  description: Manipulate climate
  settings on the truck.
  required:
  - type
  properties:
    acMode:
      type: string
      enum: ["STANDARD",
"ECONOMY"]
    autoFanLevel:
      type: string
      enum: ["LOW", "NORMAL",
"HIGH"]
    isAuxiliaryHeaterActivated:
      type: boolean
```

(b) Matching Results

```
"ClimateObject": [{
  "api_property": "acMode",
  "api_property_mappings": {
    "can_signal":
"APIACModeRqst",
    "vv_state":
"apiacmode_rqst"
  },
  "api_value_mappings": [{
    "api_value": "ECONOMY",
    "can_value": "LOW",
    "vv_state_value": "1"},
    {
    "api_value": "STANDARD",
    "can_value": "HIGH",
    "vv_state_value": "2"},
  ],
}]
```

(c) Test Cases

API response

```
"ClimateAPIObject":
{
  "type": "Climate",
  "acMode":
"ECONOMY"
}
```

Virtual vehicle

```
"ClimateVVObject":
{
  "apiacmode_rqst":
"1"
}
```

Jinja

(d) Test Code

```
import pytest
import json
import time

def test_put_climate(spapi_setup_teardown,
api_client, vv):
    response = api_client.put(
        url="/api/climate",
        data=json.dumps({"type": "Climate",
"acMode": "ECONOMY"}))

    # Check for correct status code==e
    assert response.status_code == 200

    # Assert VV attributes to verify correct behavior
    assert vv.climate_control.apiacmode_rqst == 1
```

Test rig