Each P4 switch (P4-SW-1 to P4-SW-4 and P4-Agg-SW-1 to P4-Agg-SW-2) needs a configuration file to define its behavior in terms of match-action tables, forwarding rules, and monitoring capabilities. Here’s an example of a JSON configuration file for one of the edge P4 switches (*P4-SW-1.json*). This JSON file specifies:

* A ***forwarding\_table*** to route packets based on destination IP.
* A ***monitoring\_table*** to track flow statistics and detect anomalies.

**JSON Configuration Code for P4 Switches**

|  |
| --- |
| **{**  **"pipeline": {**  **"ingress": {**  **"tables": [**  **{**  **"name": "forwarding\_table",**  **"matches": [**  **{"field": "hdr.ipv4.dstAddr", "type": "exact"}**  **],**  **"actions": [**  **{"name": "set\_output\_port", "params": ["port"]}**  **]**  **},**  **{**  **"name": "monitoring\_table",**  **"matches": [**  **{"field": "hdr.ipv4.protocol", "type": "exact"}**  **],**  **"actions": [**  **{"name": "update\_flow\_stats", "params": []}**  **]**  **}**  **]**  **}**  **},**  **"actions": [**  **{**  **"name": "set\_output\_port",**  **"params": ["port"]**  **},**  **{**  **"name": "update\_flow\_stats",**  **"params": []**  **}**  **]**  **}** |