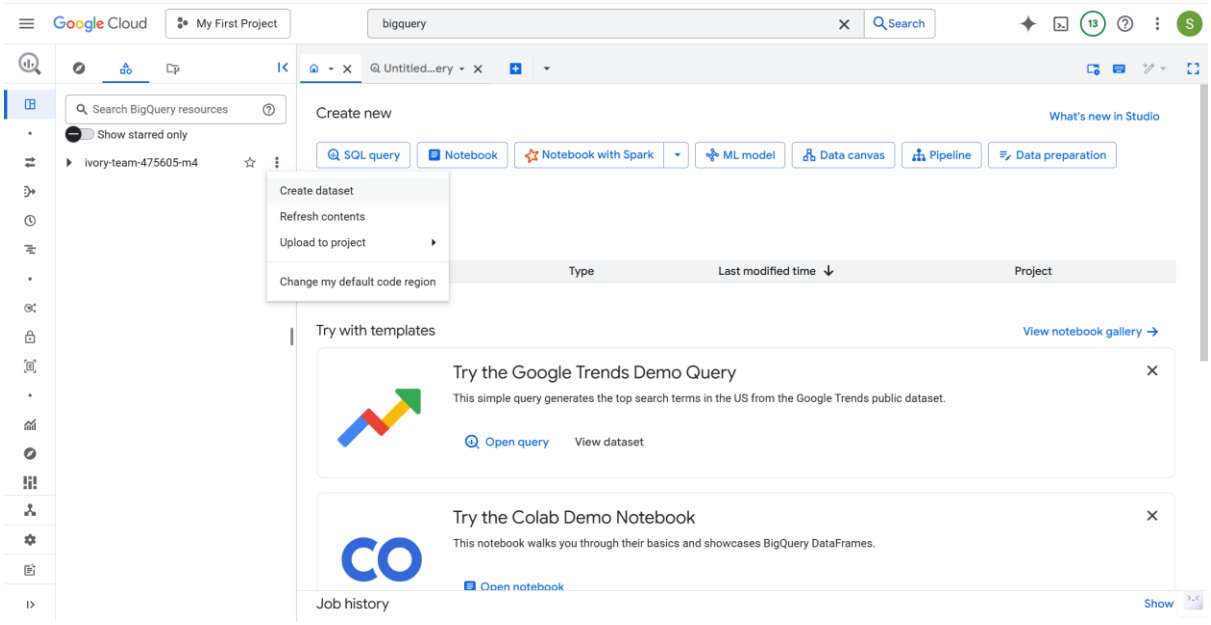
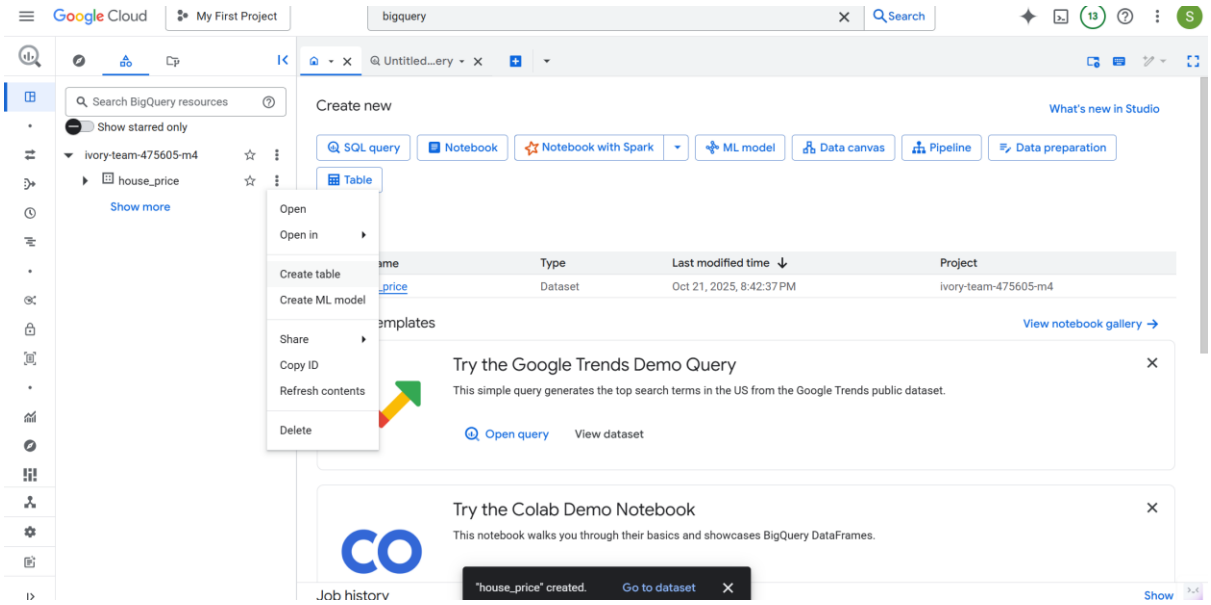
Tools Used: Vertex AI Studio (LLM Tuning), Gemini (1.5/2.x), Cloud Storage/BigQuery for labeled data, Vertex AI Endpoints, Cloud Shell for quick tests.

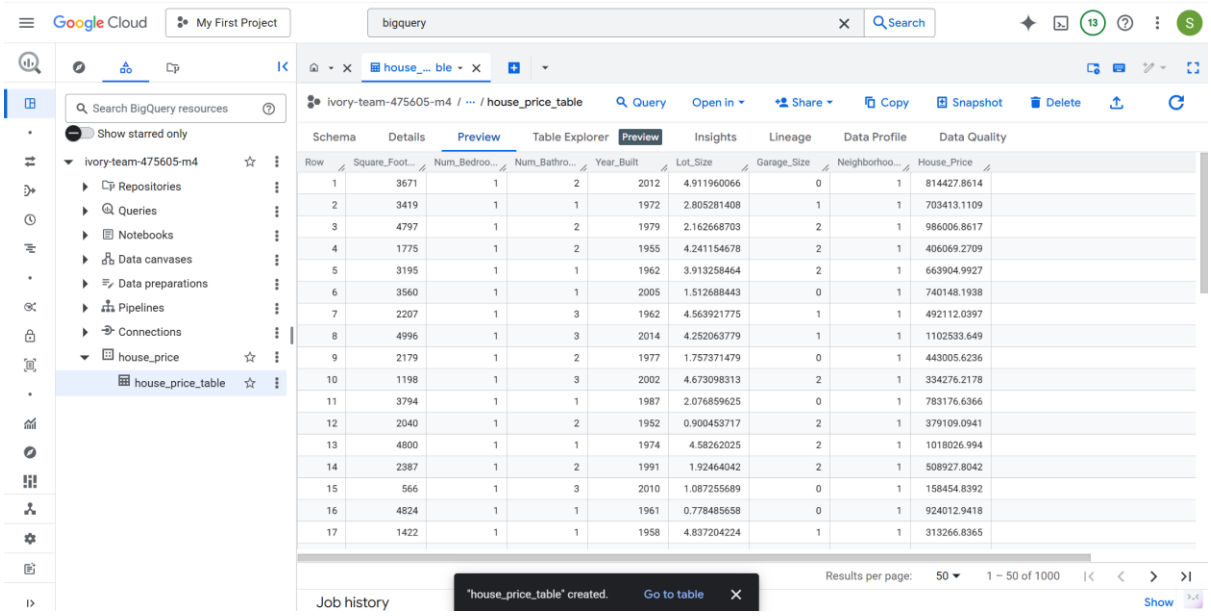
- **Workflow:**
    i. **Prepare labeled dataset** (features → Low/Medium/High).
    ii. **Import to Vertex AI Studio → Tuning** and choose **Classification**.
    iii. **Fine Tuning**: Vertex handles data split, optimization, checkpoints, and metrics (Accuracy/Loss).
    iv. **Evaluate** in Studio; pick the best checkpoint.
    v. **Deploy** tuned model to a **Vertex AI endpoint**.
    vi. **Infer** via prompt/API to classify new households in real time.

1. Creating a dataset first in BIGQUERY

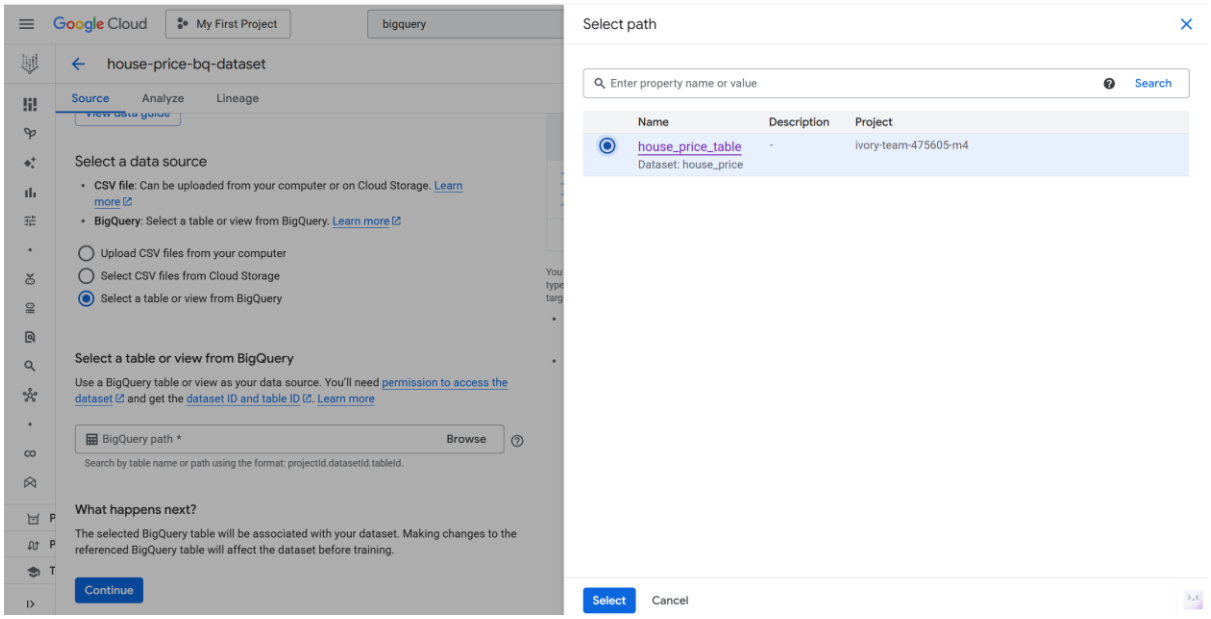


2. Creating a table

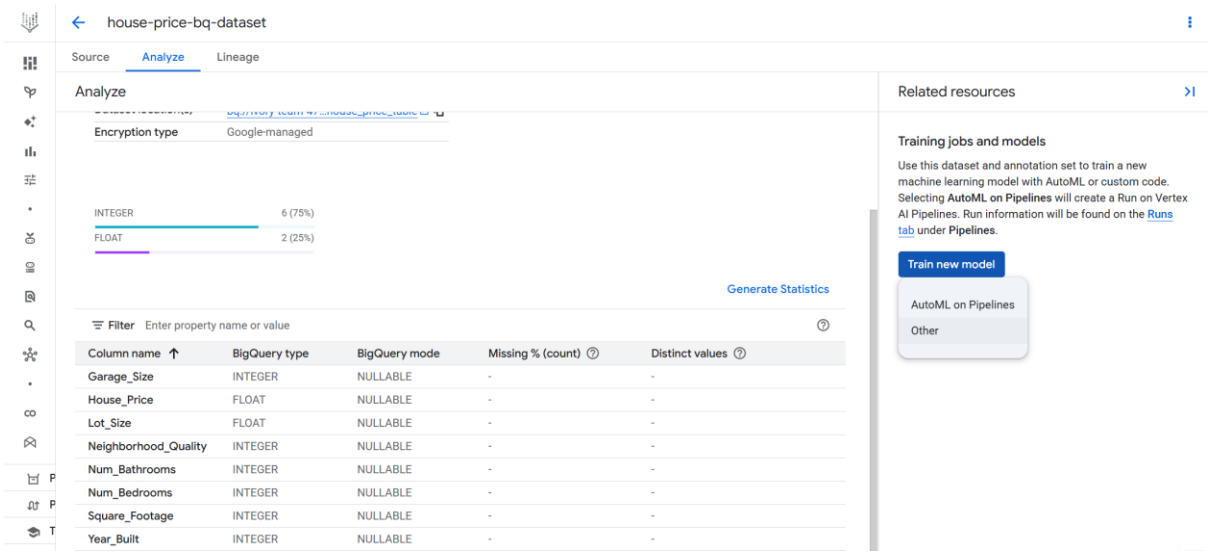




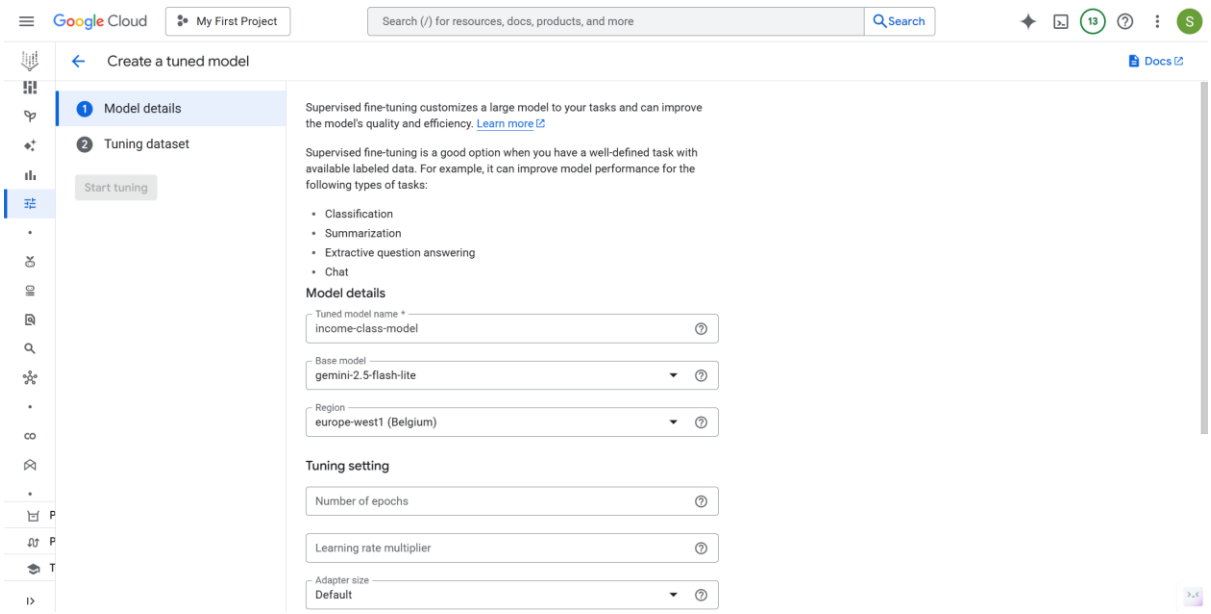
3. selecting the above created dataset to start tuning the model



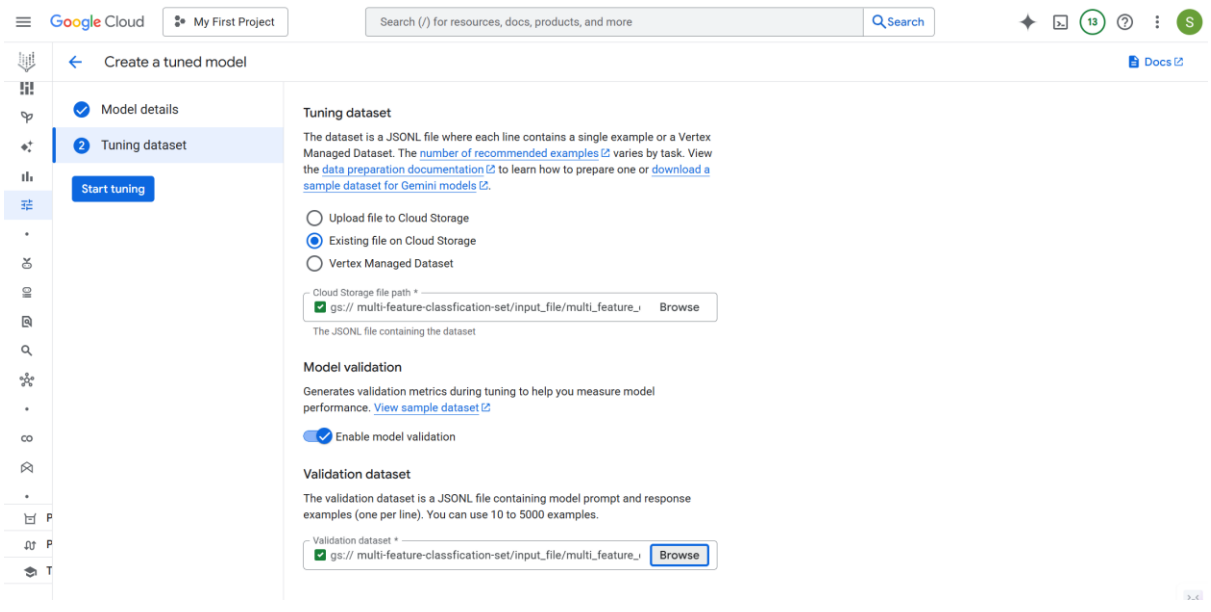
4. Tuning our model rather than training the model



5. Tuning our model

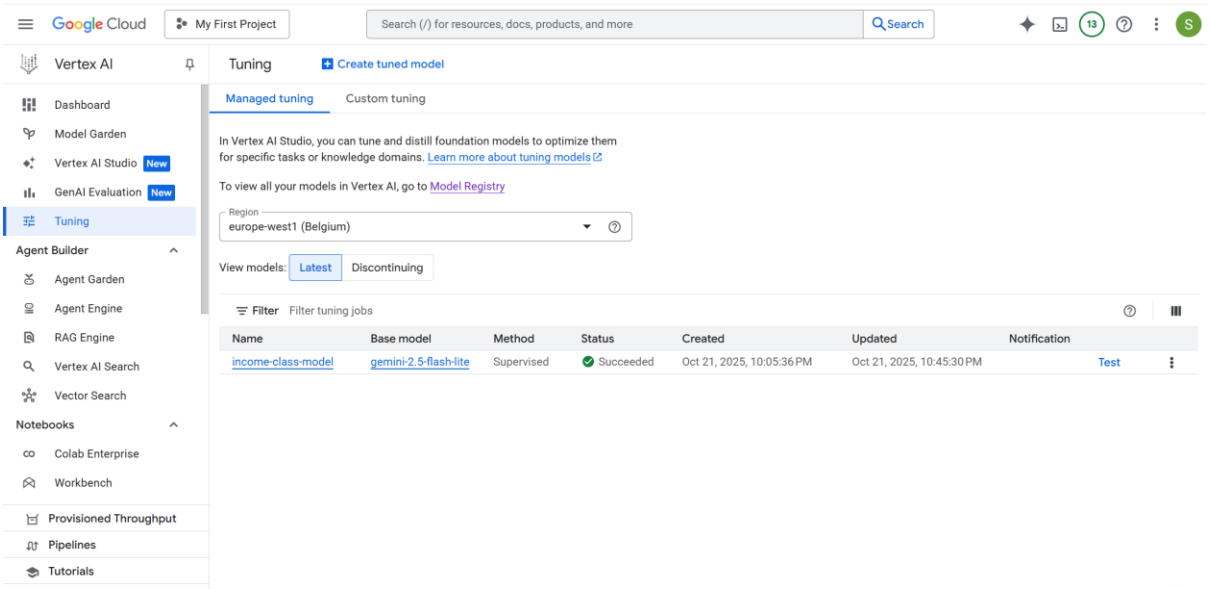


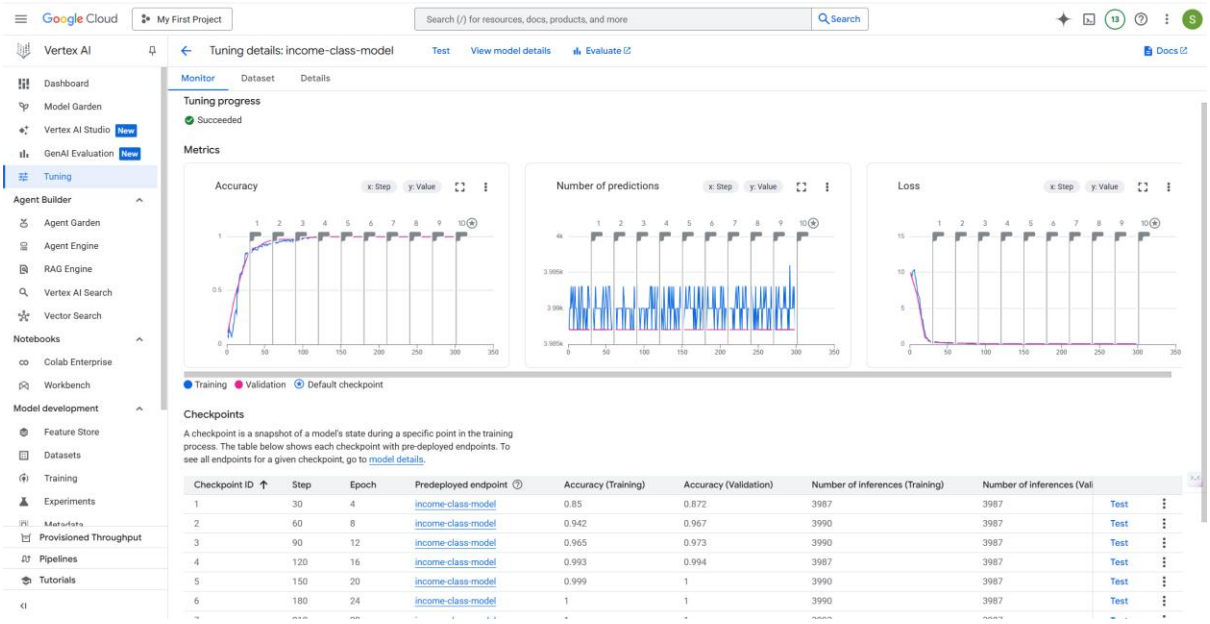
6. Adding the files in JSONL format
    1. Training file – has 1000+ records
    2. Validation file – 10 records or so



Tuning done successfully

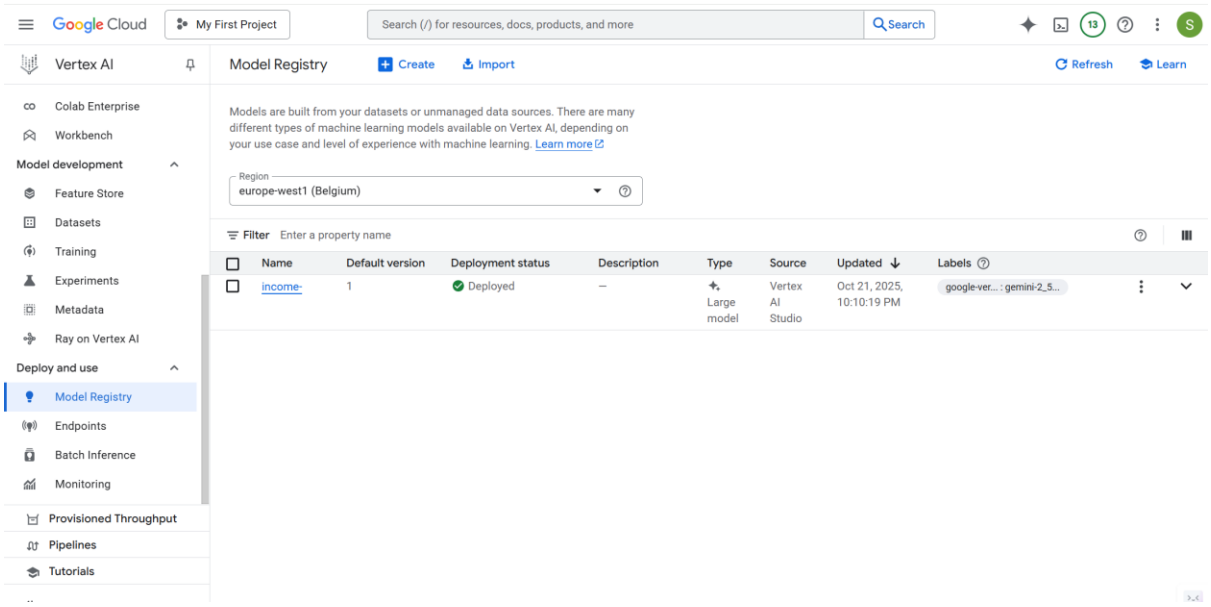
7. So now we got income class model on top of base model gemini 2.5

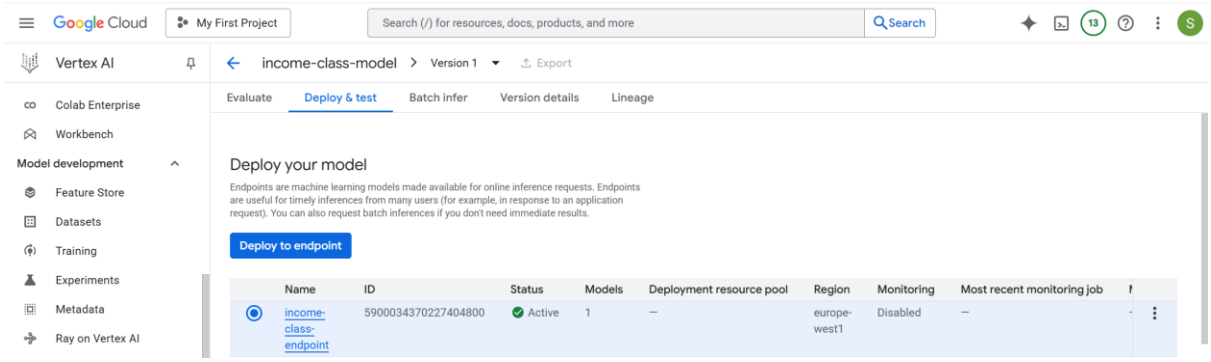




8. Adding it in model registry

9. And deploying it using endpoint





10. Testing the model using “OPEN IN PROMPT DESIGN” option

11. Test prompt using our INCOME-CLASS-ENDPOINT MODEL

Age 56

Income 29330

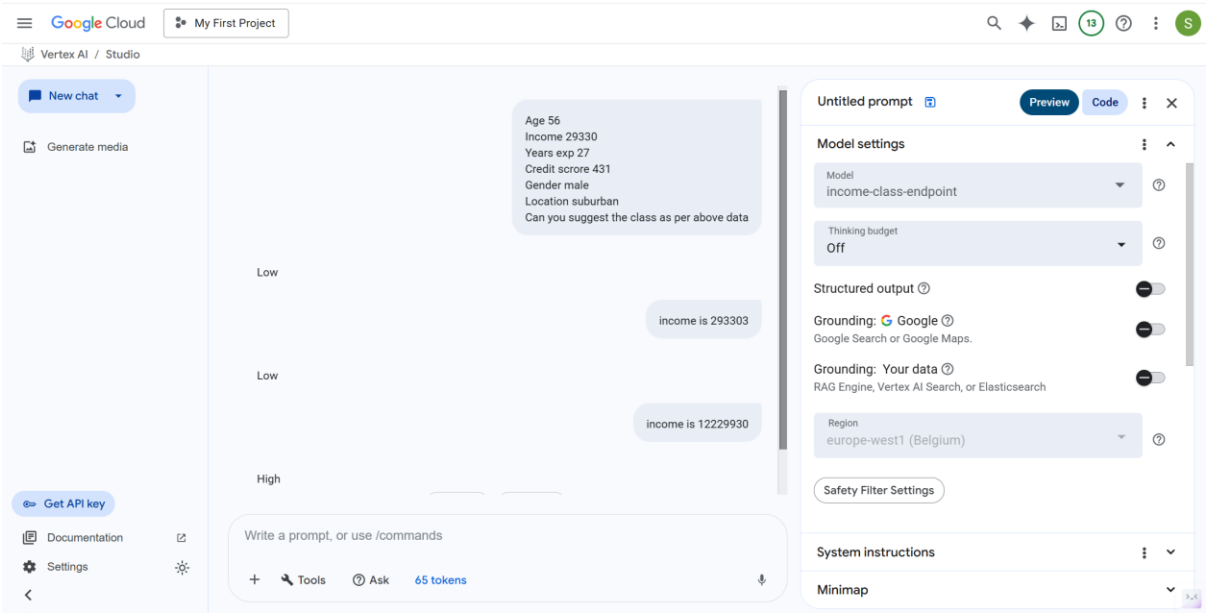
Years exp 27

Credit scrore 431

Gender male

Location suburban

Can you suggest the class as per above data



Answer: Low – Correct answer

Endpoint ID for reference purposes.