📌 Use Case: Automated Loan Approval Workflow with AI Agents

🎯 Business Goal

Reduce manual underwriting work, speed up loan approvals, and ensure compliance by automating **document processing, eligibility checking, and decision logging** into BigQuery for reporting & auditing.

🧠 Your 3-Agent Setup – Roles & Flow

1. **Document Parser Agent**

   - Extracts and cleans applicant data from uploaded documents.

   - Eliminates manual data entry.

   - Ensures structured, machine-readable JSON for further evaluation.

2. **Rule-Based Decision Agent**

   - Applies pre-defined lending rules (credit score thresholds, income-to-loan ratio, age eligibility, etc.).

   - Produces a clear **decision (Approve / Reject / Escalate)** along with a reason.

   - Guarantees **policy compliance** and removes bias.

3. **BigQuery Data Updation Agent**

   - Records **application + decision + reasons** into BigQuery.

   - Enables **dashboards, analytics, and audit trails**.

   - Serves as a **single source of truth** for loan processing.

🔄 End-to-End Workflow

1. Applicant submits loan application (scanned docs or PDF).

2. **Doc Parser Agent** extracts structured data.

3. **Rule-Based Agent** evaluates eligibility using lending criteria.

4. **BigQuery Agent** stores the decision & applicant data for:

   ○ Compliance audits.

   ○ BI dashboards (approval rates, risk trends).

   ○ Downstream integrations (notification system, CRM, etc.).

📊 Business Impact

- **Time savings**: Loan approvals reduced from days → minutes.

- **Cost efficiency**: Less manual processing by underwriters.

- **Scalability**: Can handle thousands of applications in parallel.

- **Transparency**: Every decision + rule logged in BigQuery for regulators.

- **Customer experience**: Faster loan decision → higher satisfaction.

💡 Example Scenarios

- **Retail Loan Applications**: Salary slips, bank statements parsed automatically.

- **SME Business Loans**: Financial statements verified, rules applied on debt ratio.

- **Credit Card Applications**: KYC + eligibility check + instant decision logging.