Google Cloud

BNB Marathon 2025: Developers

Driving developer empowerment to build their own thing and be able to vocalize, discuss and demo the feasibility with Google Cloud.

What is in store!

Keynote

Hands-on Instructor-led

Build & Blog

Demos & Results

Rewards & Recognition

Build and Blog Assessment Criteria of Your Project

- Cloud Run Usage (+5)
- GCP Database Usage (+2)
- Google’s AI Usage (+5)
- Functional Demo (+5)
- Blog Excellence (+5)
- Impact of use case in a specific industry / technology (+5)

Build Submission

- **Use of Gaia Mentor Tool**
  - Enter your unique project title & description first
  - Artifacts: Enter additional artifacts and save (mandatory at a high level)
  - Progress: Enter tasks (manual or AI generated (and corrected by you) & update dates
  - Team: If required, add a team member (**max** 1)
  - Live Session: Talk to Gaia Mentor and provide an update about your project, ask questions that you have and answer any project related questions that Gaia has for you. Screenshare your demo to Gaia.
  - Final Submission: Blog link, Repo link, Demo link, Deployed App link, Closing Notes

- You will receive link to the app and credentials closer to the event.

Gaia Mentor

Username

Enter your username

Password

Enter your password

Sign In

Sign up

Resources*** IMPORTANT

1. **Codelab** for the workshop
2. **Blog Template**
3. **Reference Architecture**
4. **Generate Architecture Diagram** for your idea
5. **GCP Credits Link for the hands-on:**

- Log in to **the personal GMAIL account** (not your work or institution's email).
- Credits Link:
  - **https://trygcp.dev/claim/bnbm-2025-blr-1**
  - **https://trygcp.dev/claim/build-blog-blr**
- **How to activate credits:** Link for detailed steps

Quick Guide to Activating Your GCP Credits

STEP 1: REDEEM YOUR CREDITS

Open the Provided URL

Use the unique credits link from your event invitation or session materials.

Sign In & Access

Sign in with your Google account, then click the **"ACCESS YOUR CREDITS"** button.

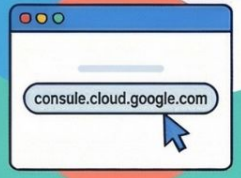
Credit Validity: 180 Days

CREDITS ARE VALID FOR 180 DAYS OR until the balance is used, whichever comes first.

Accept the Terms

Verify your account details on the application page and click **"ACCEPT AND CONTINUE"**.

STEP 2: SET UP YOUR PROJECT



Go to the GCP Console

Navigate to **console.cloud.google.com to** begin setting up your workspace.

Create a New Project

Click "Create or select a project" from the Welcome screen, then select "New Project".

Link to Billing

Name your project and select the "trial billing account" to use your new credits.

TROUBLESHOOTING CHECKLIST

- [ ] **Check Your Credit Balance**
  Go to the "Billing" menu, then select 'Credits' to see your remaining value.

- [ ] **Link Project to Billing Account**
  Under "Billing', go to 'Account management" to ensure your project is linked.

- [ ] **'Credits Fully Redeemed' Error?**
  This means the link was already used. Notify the event lead or by a new Google account.

Additional Resources

- Past Build a blog marathon blogs: A list of blogs created through this event.
- Past Project Saadhna recap blog: A recap blog of a previous version of this event. Here are projects that came out of that event.

Reference Architecture Context:

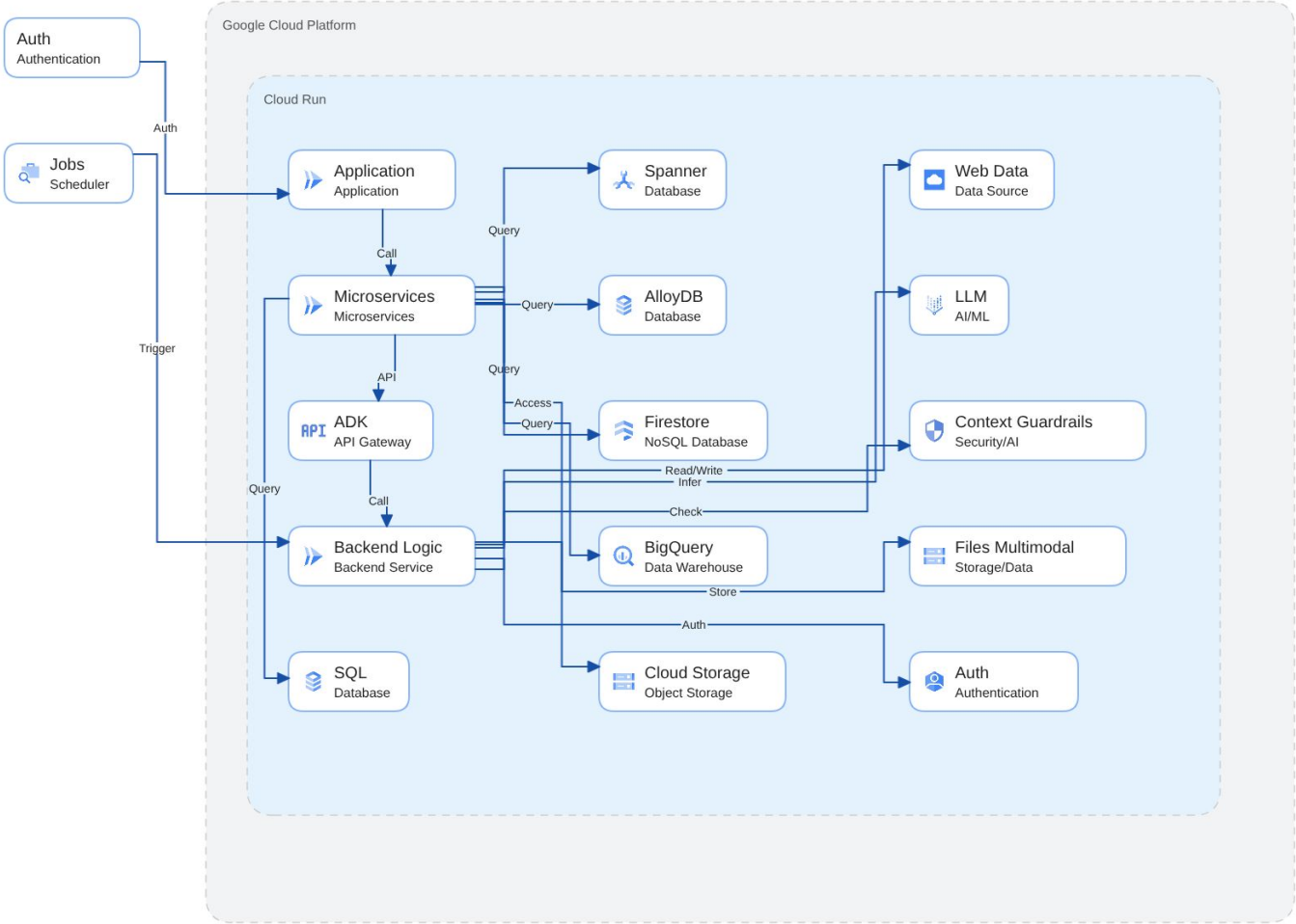
Core Architecture Summary: AI-Powered Application on Cloud Run with Hybrid Data Storage

This architecture features a scalable, serverless, AI-centric application deployed on Google Cloud Run.

1. Application Layer:
    - Application: Handles core business logic and user interactions.
    - Authentication (Auth): Manages secure user access to services.
2. Core Integration & Orchestration (MCP Toolbox & ADK):
    - MCP Toolbox: Middleware/data abstraction layer, providing a unified interface to data stores.
    - ADK (Agent Development Kit): AI agent framework for orchestrating complex tasks, including NLP and data interactions.
3. Data & Storage Layer (Hybrid Approach): Uses polyglot persistence across multiple storage services:
    - MongoDB Atlas / MongoDB: NoSQL document storage (potentially for vector search).
    - Spanner: Globally distributed, strongly consistent relational DB for critical transactional data.
    - SQL (Generic): Other relational databases.
    - BigQuery (BQ): Serverless data warehouse for analytics and ML integration.
    - Cloud Storage: For unstructured data (files, multimedia, batch processing data).
4. AI & Context Layer:
    - LLM (Large Language Model): Core AI (likely Gemini) for NLU/NLG.
    - Context Guardrails: Essential for safe and relevant LLM operation.
    - Web Data / Files Multimodal: Information sources for the LLM, supporting RAG with structured and various file types.
5. Processing & Operations:
    - Jobs: Background, batch, or asynchronous tasks.
6. Development & AI Platform:
    - Gemini (Implicit): The core LLM.
    - Firebase Studio: Mobile/web app development tools.
    - Gemini Code Assist: AI for code generation and development acceleration.

Overall Flow: The Application communicates via the MCP Toolbox and ADK to diverse data stores. The system leverages the LLM (Gemini) for AI capabilities, processing multimodal data within Guardrails. All components are primarily orchestrated within a scalable Cloud Run environment.

Reference arch



Agenda

https://rsvp.withgoogle.com/events/bnbm-accelerate-ai-with-cloud-run-blr#:~:text=wait%20for%20confirmations.-,Agenda,-DAY%201%3A%20Nov