To estimate the **minimum cost** of deploying a Flutter app with push notifications, database, caching, document storage (or cheaper substitutes) on both Google Play + Apple App Store, we need a set of assumptions. I’ll ask key questions first, then build a cost model (in INR) with low / moderate usage scenarios and highlight trade-offs.

## **Questions (to refine cost estimates)**

I need you to clarify a few things so I can give a more accurate number:

|  |  |
| --- | --- |
| **Question** | **Purpose / Impact on Cost** |
| 1. Approx number of users or monthly active users (first year) | Impacts database reads/writes, storage, hosting scale |
| 2. Data volume per user (e.g. documents, images, media) | Affects storage & bandwidth cost |
| 3. Frequency of reads/writes / real-time vs batch | Impacts database / function invocation cost |
| 4. Do you need caching (e.g. in-memory or Redis)? | Introduces extra infrastructure cost |
| 5. Do you want push to all users continuously, or occasional notifications? | Push services cost depends on scale |
| 6. Are you OK with a managed BaaS (Backend as a Service) like Firebase / Supabase / AWS Amplify, or prefer self-host? | BaaS often cheaper to start, but may scale cost |
| 7. Do you intend to monetize via in-app purchases / subscriptions | Store commission cost applies |
| 8. Do you need high availability, redundancy, multi-region? | Adds overhead |

If you can answer those, I can narrow the band. But first, here’s a baseline “minimum viable deployment” scenario cost model.

## **Baseline assumptions (for cost model)**

Let’s assume:

* First year: ~ **10,000 monthly active users**
* Data per user: ~ **10 MB** of documents / media storage
* Database operations: moderate — e.g., CRUD operations, some queries
* Push notifications: occasional broadcasts (not super frequent)
* Using managed / serverless BaaS (Firebase / Firestore / Functions) to reduce Ops burden
* Minimal caching (maybe built-in caching, not large Redis)
* Single region deployment

With these, we can estimate minimal costs.

## **App Store / Play Store fees & commissions**

|  |  |  |
| --- | --- | --- |
| **Platform** | **Fee / Cost** | **Notes** |
| Google Play | One-time $25 registration fee (≈ ₹2,100–₹2,500 depending on exchange) | After that, no annual fee just to host an app |
| Google Play commission | 15% on first $1 million revenue, 30% beyond that | On in-app purchases / paid apps |
| Apple App Store Developer membership | $99/year (≈ ₹8,000–₹10,000 depending on exchange) | Must remain active to keep app published |
| Apple commission | 30% standard, or 15% if in Small Business Program / after year for subscriptions | On in-app purchases / paid apps |

So purely for platforms:

* Google Play registration: \*\*~ ₹2,500 (one time)\*\*
* Apple Developer: \*\*~ ₹8,000–₹10,000 / year\*\*
* Commission on revenue depends on your monetization model

For a minimal app (free or ad-based / external payments), your store commission may be low or zero (if you don’t use in-app billing).

## **Backend / Cloud infrastructure & services costs**

We’ll look at Firebase / Google / other services as example.

### **Firestore / Realtime DB / database**

* Firebase / Firestore has a free tier (small usage)
* Beyond free tier, you pay for reads, writes, deletes, storage and bandwidth
* Example: if you have 10,000 users, each doing 100 reads/day, that’s ~1,000,000 reads/day → 30 million reads/month, etc.
* Storage for 10,000 users × 10 MB = ~100 GB data stored
* Firestore pricing: varies by region; e.g. document reads cost ~$0.06 per 100,000 reads (just illustrative; actual depends on region)

### **Cloud Functions / serverless compute (for business logic, API endpoints)**

* Typically a free quota + pay per invocation / CPU time / memory usage
* For low usage, cost might be negligible (a few dollars)

### **Cloud Storage (for documents, media, backups)**

* For object storage, pay per GB stored + egress (data transferred out)
* For 100 GB, if cost is ~$0.02/GB = ~$2 / month (≈ ₹150) plus bandwidth cost

### **Push Notifications**

* For Android / iOS, Firebase Cloud Messaging (FCM) is free.
* For iOS, APNs (Apple Push Notification Service) is free to use, but you must maintain a server to talk to it
* If you use third-party push services with advanced features (analytics, segmentation), there might be fees.

### **Misc / caching / CDN**

* Use built-in CDN or cache via edge functions or in-memory caching (small Redis or managed cache)
* Additional cost but can be modest for small scale

## **Estimation: low scale (first year) cost in INR**

Let me build a rough ballpark for “minimum viable deployment”:

|  |  |  |
| --- | --- | --- |
| **Item** | **Estimate (monthly or one-time)** | **Notes / assumptions** |
| Google Play registration (one-time) | ~ ₹2,500 | USD25 ≈ ₹2,500 |
| Apple Developer membership (annual) | ~ ₹8,000 | For first year |
| Cloud / backend (Firestore, Functions, Storage) | ~ ₹2,000–₹5,000 | For 10,000 users, moderate usage |
| Push service (using Firebase / APNs) | Zero or negligible | FCM & APNs are free / part of membership |
| Caching / small managed in-memory store | ~ ₹500 | If you use a small cache or edge caching |
| Domain, SSL, basic hosting (if needed) | ~ ₹200–₹500 | For any web dashboard etc |
| Misc / monitoring / backups / logs | ~ ₹500 | Logging, alerts etc |
| Commission / store cut (if app monetizes via in-app) | depends | e.g. 15% of revenue etc |

So in **first year**, your recurring cost might be:

* One-time: ₹2,500 (Play) + domain/SSL etc
* Recurring: ₹8,000 (Apple) + ~₹5,000/mo or ~₹60,000/year backend & infra + minor extras

So **total first year cost** might be in the ballpark of **₹70,000 to ₹120,000** (≈ ₹0.7-1.2 lakh) for a minimal reasonably usable app, before scaling.

If your usage grows (100k users, lots of media, heavy reads/writes), costs scale.

## **Trade-offs / cheaper substitutes & optimizations**

* Use **open source backend + cheap VPS / DigitalOcean / Linode** instead of Firebase for compute/database (e.g. PostgreSQL, Node.js) — lower cost but higher DevOps burden
* Use **supabase**, **Appwrite**, **Hasura** (self-hosted) to reduce managed costs
* Use **cold storage** or cheaper object storage (Backblaze B2, etc) for archival media
* Limit push usage or batch it to reduce costs
* Use caching to reduce database read cost
* Use free tiers aggressively
* Monitor and optimize usage aggressively

## **Summary**

* Platform fees: ~ ₹2,500 (Google Play one-time) + ₹8,000/year (Apple)
* Backend/infrastructure (for modest first usage): ~ ₹2,000–₹5,000/mo
* Push (via FCM / APNs): largely free
* Commission on revenue if using in-app purchases: 15–30%
* With optimizations, a first-year cost of **₹70,000 to ₹120,000** is realistic for a small user base