

Technology Stack - TuneTrails

Date	Team ID	Project Name	Marks
17 April 2025	SWTID1744376795	TuneTrails	4

Technical Architecture Diagram

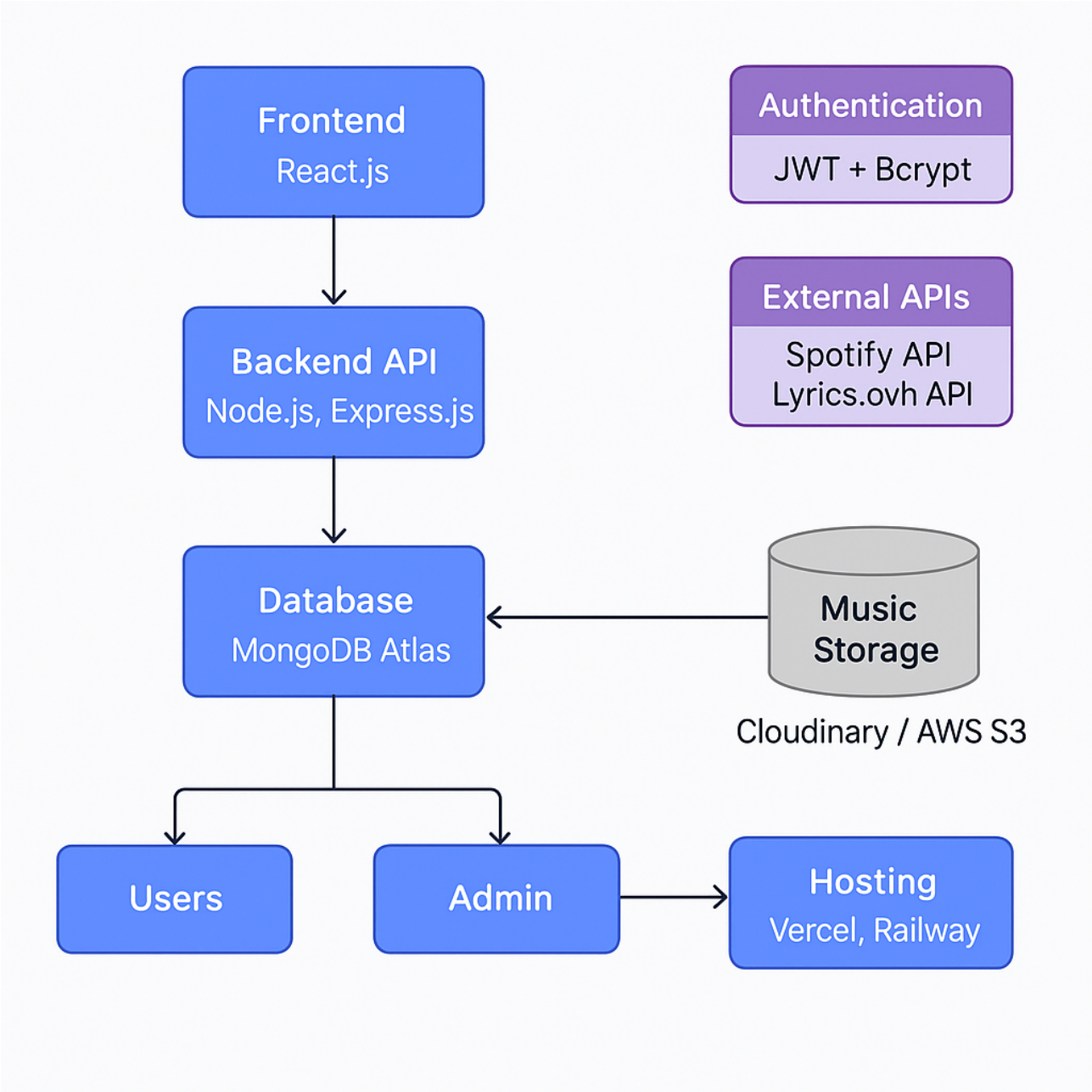


Table 1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Web UI for users/admin	HTML, SCSS, JavaScript, React.js

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2	Application Logic - 1	User registration/login	Node.js, Express.js, JWT, bcrypt
3	Application Logic - 2	Music browsing/streaming	Node.js, Express.js
4	Database	Store users, tracks, playlists	MongoDB
5	Cloud Database	Cloud-hosted DB	MongoDB Atlas
6	File Storage	Store songs/artworks	AWS S3 / Cloudinary
7	External APIs	Lyrics, metadata fetch	Spotify API, Lyrics.ovh

Table 2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Full-stack MERN with Axios	React.js, Node.js, MongoDB
2	Security	JWT, Bcrypt, role-based access	JWT, bcrypt
3	Scalable Architecture	Modular client-server model	RESTful API
4	Availability	Cloud hosted	Vercel / Railway
5	Performance	Optimized streaming & queries	Indexed MongoDB, lazy load