

sequenceDiagram

participant U as User
participant F as Frontend (Next.js)
participant A as Auth Service
participant B as Backend API (FastAPI)
participant W as Worker / Data Fetchers
participant C as Cache (Redis)
participant D as Database (Postgres)
participant AI as AI Service (LLM API)

U->>F: Login / Signup

F->>A: Authenticate user

A-->>F: Session/JWT

U->>F: Fill interview prep form

F->>B: POST /api/prep (form data)

B->>D: Create session (status=queued)

B-->>F: Return session_id (queued)

B->>W: Queue job for processing

W->>C: Check cache for company/interviewer data

alt Cache hit

C-->>W: Return cached data

else Cache miss

W->>External: Fetch company data (Clearbit, scraper, NewsAPI)

W->>External: Fetch interviewer data (GitHub, LinkedIn if provided)

W->>C: Store fetched data in cache

W->>D: Store fetched data in DB

end

W->>AI: Send structured data & prompt

AI-->>W: Return prep plan

W->>D: Update session result_json, status=done

F->>B: GET /api/session/{id}

B->>D: Fetch session result

B-->>F: Return final prep plan

F-->>U: Display prep plan (company overview, topics, day-by-day plan)