

AgroLink Firebase Database Structure

ER Diagram Overview

Based on your **AgroLink** app documentation, the **ER diagram** for your Firebase database is structured as follows. Below is an outline of the entities (collections) and their relationships.

1. Entities (Collections)

Users (Collection: users)

- user_id (Auto-ID)
- username
- email
- password
- mobile_number
- user_role (Farmer/Seller)
- profile_image
- location
- description
- contact_number

Relationships:

- Farmers can **save products**.
 - Sellers can **list multiple products**.
 - Both users can **engage in chat**.
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Products (Collection: products)

- product_id (Auto-ID)
- seller_id (Reference to users)
- product_name

- small_description
- detailed_description
- price
- category (Seeds/Fertilizers)
- subcategory (Paddy, Maize, Organic, etc.)
- stock_available
- images (Array of URLs)
- timestamp

Relationships:

- Each product belongs to **one seller**.
 - Products can be **saved by multiple farmers**.
 - Products can be **categorized**.
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Saved Products (Collection: saved_products)

- save_id (Auto-ID)
- farmer_id (Reference to users)
- product_id (Reference to products)
- timestamp

Relationships:

- Many-to-Many between **Farmers and Products**.
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Chat System (Collection: chats)

- chat_id (Auto-ID)
- participants (Array of user IDs)
- last_message
- last_message_timestamp

Messages (Subcollection: chats/{chat_id}/messages)

- message_id (Auto-ID)
- sender_id (Reference to users)
- receiver_id (Reference to users)
- message_text
- timestamp

Relationships:

- One-to-Many between **Chat and Messages**.
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Categories (Collection: categories)

- category_id (Auto-ID)
- category_name

Subcategories (Collection: subcategories)

- subcategory_id (Auto-ID)
- category_id (Reference to categories)
- subcategory_name

Relationships:

- One-to-Many between **Categories and Subcategories**.
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User Profiles (Collection: profiles)

- profile_id (Same as user_id in users)
- user_id (Reference to users)
- location
- contact_number
- description
- profile_image

Relationships:

- One-to-One with **Users**.

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