**COSMOS DB CONTAINER STRUCTURE**

**1. users Container**

**Partition key:** /role  
This helps separate read/write load across students and coaches.

**Example Coach Document**

json

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{

"id": "user\_123",

"name": "Gautam Gambhir",

"email": "gautam@coach.com",

"role": "coach",

"profilePictureUrl": "https://cdn/.../gautam.jpg",

"bio": "Ex-India player, Level 3 Coach",

"specialties": ["batting", "strategy"],

"joinedAt": "2025-06-01T10:00:00Z"

}

**Example Student Document**

json

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{

"id": "user\_456",

"name": "Rohit Sharma",

"email": "rohit@student.com",

"role": "student",

"profilePictureUrl": "https://cdn/.../rohit.jpg",

"assignedCoachId": "user\_123",

"progress": {

"batting": "Intermediate",

"fielding": "Beginner"

},

"joinedAt": "2025-06-02T15:00:00Z"

}

**2. videos Container**

**Partition key:** /assignedStudentId  
This ensures that each student’s video queries are fast and isolated.

**Example Video Document (Uploaded by Coach to a Student)**

json

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{

"id": "video\_789",

"title": "Cover Drive Drill",

"description": "Focus on head position and front foot movement",

"videoUrl": "https://becomebetter.blob.core.windows.net/videos/coverdrive.mp4",

"uploadedBy": "user\_123", // coach ID

"assignedStudentId": "user\_456", // student ID

"visibleTo": ["user\_456"], // list of users who can view

"isPrivate": true,

"uploadedAt": "2025-06-10T14:23:00Z",

"annotations": [

{

"timestamp": "00:08",

"comment": "Keep elbow higher"

},

{

"timestamp": "00:21",

"comment": "Great follow through"

}

]

}

**Example Public Drill Video (for all students)**

json

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{

"id": "video\_999",

"title": "General Fitness Warmup",

"videoUrl": "https://becomebetter.blob.core.windows.net/videos/warmup.mp4",

"uploadedBy": "user\_123",

"assignedStudentId": null,

"visibleTo": ["public"], // special keyword to show to all

"isPrivate": false,

"uploadedAt": "2025-06-11T10:00:00Z"

}

**Access Logic in Frontend (React Native, etc.)**

**For Student**

sql

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SELECT \* FROM videos v

WHERE ARRAY\_CONTAINS(v.visibleTo, 'user\_456') OR ARRAY\_CONTAINS(v.visibleTo, 'public')

**For Coach**

sql

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SELECT \* FROM videos v

WHERE v.uploadedBy = 'user\_123'

**Final Container Summary**

| **Container** | **Purpose** | **Key Fields** | **Partition Key** |
| --- | --- | --- | --- |
| users | Store both student & coach | role, assignedCoachId, profilePictureUrl, etc. | /role |
| videos | All video uploads | uploadedBy, assignedStudentId, visibleTo, annotations | /assignedStudentId |

**Benefits of This Structure**

* 🔒 **Secure video access** (student sees only their videos).
* ⚡ **Fast queries** using partition keys.
* 🔧 **Flexible for growth** — supports group assignments, public videos, etc.
* 👨‍🏫 **Coach control** — easily track what each student received.

| **Container Name** | **Purpose** | **Partition Key** | **Key Fields** | **Access Strategy** |
| --- | --- | --- | --- | --- |
| users | Stores all user profiles (students & coaches) | /role | - id: user ID (UUID)- name- email- role: "coach" or "student"- profilePictureUrl- assignedCoachId (for students)- bio, specialties (for coaches)- joinedAt | - Filter by role for user type- Query student-coach relationships using assignedCoachId |
| videos | Stores all uploaded videos and annotations | /assignedStudentId | - id: video ID (UUID)- title, description- videoUrl- uploadedBy: coach ID- assignedStudentId: student ID- visibleTo: list of user IDs- isPrivate: true/false- uploadedAt- annotations: timestamped comments | - Students see videos where visibleTo includes their ID- Coaches see videos by uploadedBy |
| assignments | Maps video assignments from coaches to students | /studentId | - id: assignment ID- coachId, studentId, videoId- assignedAt- notes | - Used to show history or dashboard of assigned content |
| feedback | Store review comments from coaches on student videos | /studentId | - id: feedback ID- videoId, coachId, studentId- submittedAt- comments: with timestamps- ratings | - Display past feedback per video or per student profile |

**User Container Example**

**Coach**

{

"id": "user\_001",

"name": "Gautam Gambhir",

"email": "gautam@coach.com",

"role": "coach",

"profilePictureUrl": "https://cdn.example.com/images/gautam.jpg",

"bio": "Former international player. Level 3 certified coach.",

"specialties": ["batting", "leadership"],

"joinedAt": "2025-06-01T10:00:00Z"

}

**Student**

{

"id": "user\_002",

"name": "Rohit Sharma",

"email": "rohit@student.com",

"role": "student",

"profilePictureUrl": "https://cdn.example.com/images/rohit.jpg",

"assignedCoachId": "user\_001",

"progress": {

"batting": "Intermediate",

"fielding": "Beginner"

},

"joinedAt": "2025-06-02T15:00:00Z"

}

**Video container example**

{

"id": "video\_101",

"title": "Front Foot Defense Drill",

"description": "Focus on technique and balance",

"videoUrl": "https://becomebetter.blob.core.windows.net/videos/frontfoot.mp4",

"uploadedBy": "user\_001",

"assignedStudentId": "user\_002",

"visibleTo": ["user\_002"],

"isPrivate": true,

"uploadedAt": "2025-06-05T12:45:00Z",

"annotations": [

{

"timestamp": "00:10",

"comment": "Keep bat closer to pad"

},

{

"timestamp": "00:25",

"comment": "Nice balance"

}

]

}

**Example: Public video accessible to all**

{

"id": "video\_102",

"title": "Warm-Up Routine",

"description": "Standard warm-up before net session",

"videoUrl": "https://becomebetter.blob.core.windows.net/videos/warmup.mp4",

"uploadedBy": "user\_001",

"assignedStudentId": null,

"visibleTo": ["public"],

"isPrivate": false,

"uploadedAt": "2025-06-06T08:00:00Z",

"annotations": []

}

**assignments Container Optional**

**Coach assigning a video to a student**

{

"id": "assign\_301",

"coachId": "user\_001",

"studentId": "user\_002",

"videoId": "video\_101",

"assignedAt": "2025-06-05T13:00:00Z",

"notes": "Practice this before next session"

}

**Feedback container**

{

"id": "feedback\_501",

"coachId": "user\_001",

"studentId": "user\_002",

"videoId": "video\_101",

"submittedAt": "2025-06-06T09:30:00Z",

"comments": [

{

"timestamp": "00:10",

"coachNote": "Too much gap between bat and pad",

"rating": 2

},

{

"timestamp": "00:25",

"coachNote": "Very good improvement here",

"rating": 4

}

**Video Container**

**Student Upload video**

{

"id": "video\_student\_001",

"title": "Batting Drill - Raw",

"description": "Working on balance and front foot placement",

"videoUrl": "https://becomebetter.blob.core.windows.net/videos/video\_student\_001.mp4",

"uploadedBy": "user\_456", // Student ID

"assignedCoachId": "user\_123", // Coach assigned to student

"type": "original", // Student upload

"linkedVideoId": null, // No parent

"visibleTo": ["user\_123"], // Only coach can see

"isPrivate": true,

"uploadedAt": "2025-06-12T10:00:00Z",

"durationSeconds": 5,

"tags": ["batting", "drill", "practice"],

"annotations": [], // Student has no annotations

"feedbackStatus": "pending", // Waiting for coach review

"\_partitionKey": "user\_456"

}

**Coach uploads annotated video**

{

"id": "video\_annotated\_001",

"title": "Batting Drill - Reviewed",

"description": "Coach feedback with audio and visual annotations",

"videoUrl": "https://becomebetter.blob.core.windows.net/videos/video\_annotated\_001.mp4",

"audioUrl": "https://becomebetter.blob.core.windows.net/audio/audio\_annotated\_001.mp3",

"uploadedBy": "user\_123", // Coach ID

"assignedStudentId": "user\_456", // Reviewed student

"type": "annotated", // Annotated review

"linkedVideoId": "video\_student\_001", // Links back to student upload

"visibleTo": ["user\_456"], // Only student can see this

"isPrivate": true,

"uploadedAt": "2025-06-12T14:00:00Z",

"durationSeconds": 5,

"tags": ["batting", "review", "audio"],

"annotations": [

{

"timestamp": "00:01",

"comment": "Front foot needs more commitment"

},

{

"timestamp": "00:03",

"comment": "Nice balance, keep it consistent"

}

],

"drawings": [

{

"timestamp": "00:01",

"shape": "arrow",

"coordinates": [150, 280, 200, 290],

"color": "#FF0000"

}

],

"feedbackStatus": "reviewed", // Review complete

"\_partitionKey": "user\_456"

}