

Flutter Driver App - API Integration Guide (Production)

Target Audience: Mobile Engineering Team

Base URL (Production): `https://driversklub-backend.onrender.com/`

Base URL (Development): `http://localhost:5000`

Auth Header: `Authorization: Bearer <ACCESS_TOKEN>`

Version: 3.1.0

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1. Authentication

1.1 Send OTP

Endpoint: `POST /auth/send-otp`

Auth Required: No

Request Body:

```
{  
  "phone": "9876543210"  
}
```

Response (200):

```
{  
  "success": true,  
  "message": "OTP sent successfully"  
}
```

Dev Mode: When `NODE_ENV !== 'production'`, OTP is printed to server console:

```
=====  
[DEV OTP] Phone: +919876543210  
[DEV OTP] Code : 123456  
=====
```

1.2 Verify OTP

Endpoint: POST /auth/verify-otp

Auth Required: No

Request Body:

```
{  
  "phone": "9876543210",  
  "otp": "123456"  
}
```

Dev Bypass (Development Only):

```
{  
  "phone": "9876543210",  
  "otp": "000000",  
  "verifiedKey": "pass"  
}
```

Response (200):

```
{  
  "success": true,  
  "statusCode": 200,  
  "data": {  
    "accessToken": "eyJhbGciOiJIUzI1NiIs...","  
    "refreshToken": "8f8e23...",  
    "user": {  
      "id": "uuid-user-id",  
      "phone": "9876543210",  
      "role": "DRIVER"  
    }  
  }  
}
```

Token Expiry:

- **Access Token:** 15 minutes
- **Refresh Token:** 7 days

Action:

1. Check if `user.role === 'DRIVER'`. If not, show "Unauthorized App" error.
2. Store `accessToken` securely (Keychain/Keystore).
3. Store `refreshToken` for silent token renewal.

1.3 Refresh Token

Endpoint: POST /auth/refresh

Auth Required: No

Request Body:

```
{  
  "refreshToken": "8f8e23..."  
}
```

Response (200):

```
{  
  "success": true,  
  "data": {  
    "accessToken": "eyJ..."  
  }  
}
```

Implementation: Call this automatically when you receive `401 Unauthorized` on any protected endpoint.

2. Daily Attendance

2.1 Check In (Start Shift)

Endpoint: `POST /attendance/check-in`

Auth Required: Yes

Role: DRIVER

Request Body:

```
{  
  "driverId": "uuid-driver-id-from-profile",  
  "lat": 28.4595,  
  "lng": 77.0266,  
  "odometer": 10500,  
  "selfieUrl": "https://s3.amazonaws.com/bucket/selfie.jpg"  
}
```

Important: Upload selfie to S3/Cloudinary first, then send the URL.

Response (201):

```
{  
  "success": true,  
  "data": {  
    "id": "uuid",  
    "status": "PENDING_APPROVAL",  
    "checkInTime": "2025-12-25T08:00:00Z"  
  }  
}
```

2.2 Check Out (End Shift)

Endpoint: POST /attendance/check-out

Auth Required: Yes

Role: DRIVER

Request Body:

```
{  
  "driverId": "uuid-driver-id",  
  "odometer": 10650  
}
```

Response (200):

```
{  
    "success": true,  
    "message": "Check-out successful",  
    "data": {  
        "checkOutTime": "2025-12-25T18:00:00Z",  
        "totalKm": 150  
    }  
}
```

2.3 Start Break (Start Break in Shift)

Endpoint: POST /attendance/start-break

Auth Required: Yes

Role: DRIVER

Request Body:

```
{  
    "driverId": "uuid-driver-id"  
}
```

Response (200):

```
{  
    "success": true,  
    "statusCode": 200,  
    "message": "Break started successfully",  
    "data": {  
        "id": "1d0c84d0-a593-4079-8ed3-2ce274ad378d",  
        "driverId": "b16dd8ec-a030-44a9-9175-ebd77013dbd0",  
        "checkInTime": "2025-12-25T10:06:20.674Z",  
        "checkOutTime": null,  
        "status": "APPROVED",  
        "approvedBy": null,  
        "adminRemarks": null,  
        "checkInLat": 19.076,  
        "checkInLng": 72.8777,  
        "breakDuration": 120  
    }  
}
```

```

        "selfieUrl": "https://cdn.example.com/selfies/driver_98765.jpg",
        "odometerStart": 45230,
        "odometerEnd": null,
        "breakStartTime": "2025-12-25T10:07:31.911Z",
        "breakEndTime": null,
        "createdAt": "2025-12-25T10:06:20.674Z",
        "updatedAt": "2025-12-25T10:07:31.920Z"
    }
}

```

2.4 End Break (End Break in shift)

Endpoint: POST /attendance/end-break

Auth Required: Yes

Role: DRIVER

Request Body:

```
{
  "driverId": "uuid-driver-id",
}
```

Response (200):

```
{
  "success": true,
  "statusCode": 200,
  "message": "Break ended successfully",
  "data": {
    "id": "1d0c84d0-a593-4079-8ed3-2ce274ad378d",
    "driverId": "b16dd8ec-a030-44a9-9175-ebd77013dbd0",
    "checkInTime": "2025-12-25T10:06:20.674Z",
    "checkOutTime": null,
    "status": "APPROVED",
    "approvedBy": null,
    "adminRemarks": null,
    "checkInLat": 19.076,
    "checkInLng": 72.8777,
    "selfieUrl": "https://cdn.example.com/selfies/driver_98765.jpg",
    "odometerStart": 45230,
    "odometerEnd": null,
    "breakStartTime": "2025-12-25T10:07:31.911Z",
    "breakEndTime": "2025-12-25T10:08:14.312Z",
    "createdAt": "2025-12-25T10:06:20.674Z",
    "updatedAt": "2025-12-25T10:08:14.316Z"
  }
}
```

2.5 Get Attendance History

Endpoint: GET /attendance/history?driverId={uuid}

Auth Required: Yes

Response (200):

```
{  
  "success": true,  
  "data": [  
    {  
      "id": "uuid",  
      "checkInTime": "2025-12-25T08:00:00Z",  
      "checkOutTime": "2025-12-25T18:00:00Z",  
      "status": "APPROVED",  
      "odometerStart": 10500,  
      "odometerEnd": 10650  
    }  
  ]  
}
```

3. Trip Management

3.1 Get My Assigned Trips

Endpoint: GET /trips?status=DRIVER_ASSIGNED

Auth Required: Yes

Role: DRIVER

Response (200):

```
{  
  "success": true,  
  "data": [  
    {  
      "id": "uuid-trip-id",  
      "tripType": "AIRPORT",  
      "originCity": "Delhi",  
      "pickupLocation": "T3 Terminal, Gate 4",  
      "pickupLat": 28.5562,  
      "pickupLng": 77.1000,  
      "dropLocation": "Cyber Hub, Gurgaon",  
      "pickupTime": "2025-12-25T10:00:00Z",  
      "status": "DRIVER_ASSIGNED",  
      "price": 1200,  
      "distanceKm": 45  
    }  
  ]  
}
```

3.2 Get Trip Details

Endpoint: GET /trips/:id

Auth Required: Yes

Response (200):

```
{  
  "success": true,  
  "data": {  
    "id": "uuid",  
    "tripType": "AIRPORT",  
    "pickupLocation": "T3 Terminal, Gate 4",  
    "pickupLat": 28.5562,  
    "pickupLng": 77.1000,  
    "dropLocation": "Cyber Hub",  
    "pickupTime": "2025-12-25T10:00:00Z",  
    "status": "DRIVER_ASSIGNED",  
    "price": 1200,  
    "customerPhone": "9999999999"  
  }  
}
```

3.3 🚖 Trip Lifecycle State Machine

Perform these actions **strictly in order**. Send GPS coordinates with every status change.

Step A: Start Trip (En-route to Pickup)

Endpoint: POST /trips/:id/start

Auth Required: Yes

Request Body:

```
{  
  "lat": 28.5500,  
  "lng": 77.0900  
}
```

⚠️ STRICT CONSTRAINT:

- Can ONLY start within **2.5 hours** of pickupTime
- Error if too early: 400 "Cannot start trip more than 2.5 hours before pickup"

Response (200):

```
{  
  "success": true,  
  "message": "Trip started successfully"  
}
```

Side Effects:

- Status: DRIVER_ASSIGNED → STARTED
 - MMT Webhook triggered (if MMT trip)
-

Step B: Arrived (At Pickup Location)

Endpoint: POST /trips/:id/arrived

Auth Required: Yes

Request Body:

```
{  
  "lat": 28.5562,  
  "lng": 77.1000  
}
```

⚠️ STRICT CONSTRAINTS:

1. **Geofence:** Must be within **500m** of pickupLat / pickupLng
2. **Time:** Must be within **30 minutes** of pickupTime

Errors:

- 400 "Driver not within 500m geofence" - Too far from pickup
- 400 "Cannot arrive more than 30 minutes before pickup" - Too early

Response (200):

```
{  
  "success": true,  
  "message": "Arrival confirmed"  
}
```

Side Effects:

- Status: STARTED → ARRIVED
 - SMS sent to customer: "Driver Arrived"
-

Step C: Passenger Onboard (Ride Begins)

Endpoint: POST /trips/:id/onboard

Auth Required: Yes

Request Body:

```
{  
  "otp": "1234"  
}
```

Note: OTP field is optional. Backend validates if provided.

Response (200):

```
{  
  "success": true,  
  "message": "Passenger onboarded"  
}
```

Side Effects:

- Status: ARRIVED → ONBOARD

Step D: Complete (Dropoff)

Endpoint: POST /trips/:id/complete

Auth Required: Yes

Request Body:

```
{  
  "distance": 45.5,  
  "fare": 1200  
}
```

Response (200):

```
{  
  "success": true,  
  "message": "Trip completed successfully"  
}
```

Side Effects:

- Status: ONBOARD → COMPLETED
- Driver becomes available for next assignment

Alternative: No Show

Endpoint: POST /trips/:id/noshow

Auth Required: Yes

Request Body:

```
{  
  "reason": "Customer not reachable"  
}
```

⚠️ STRICT CONSTRAINT:

- Can ONLY mark no-show **AFTER 30 minutes** past pickupTime
- Error if too early: 400 "Cannot mark no-show before 30 minutes past pickup time"

Response (200):

```
{  
  "success": true,  
  "message": "Trip marked as no-show"  
}
```

Side Effects:

- Status: → NO_SHOW

3.4 Update Live Location

Endpoint: POST /trips/:id/location **Auth Required:** Yes

Request Body:

```
{  
  "lat": 28.5500,  
  "lng": 77.0900  
}
```

Response (200):

```
{  
  "success": true,  
  "message": "Location updated successfully"  
}
```

Implementation Note: Call this endpoint every 30-60 seconds while the trip is in progress (STARTED , ARRIVED , ONBOARD) to update the driver's live location.

3.5 Get Live Tracking

Endpoint: GET /trips/:id/tracking

Auth Required: Yes

Response (200):

```
{  
  "success": true,  
  "data": {  
    "currentLat": 28.5500,  
    "currentLng": 77.0900,  
    "lastUpdated": "2025-12-25T09:45:00Z"  
  }  
}
```

4. Driver Profile

4.1 Get My Profile

Endpoint: GET /drivers/me

Auth Required: Yes

Role: DRIVER

Response (200):

```
{  
    "success": true,  
    "data": {  
        "id": "uuid",  
        "firstName": "Raj",  
        "lastName": "Kumar",  
        "mobile": "9876543210",  
        "licenseNumber": "DL-12345-67890",  
        "kycStatus": "APPROVED",  
        "status": "ACTIVE",  
        "fleet": {  
            "id": "uuid",  
            "name": "Delhi Cabs Pvt Ltd"  
        }  
    }  
}
```

5. Error Handling

5.1 HTTP Status Codes

Code	Error	Meaning	Action
400	VALIDATION_ERROR	Invalid request body	Check request format
400	TOO_EARLY_START	Cannot start > 2.5h before pickup	Wait until allowed time
400	TOO_EARLY_ARRIVE	Cannot arrive > 30min before pickup	Wait until allowed time
400	GEOFENCE_VIOLATION	Not within 500m of pickup	Move closer to pickup location
400	TOO_EARLY_NOSHOW	Cannot mark no-show < 30min after pickup	Wait until allowed time
401	UNAUTHORIZED	Token Invalid/Expired	Call /auth/refresh or re-login
403	FORBIDDEN	Insufficient permissions	Contact admin
404	NOT_FOUND	Trip/Resource not found	Refresh trip list
422	UNPROCESSABLE_ENTITY	Business logic violation	Check trip status
500	INTERNAL_SERVER_ERROR	Backend crash	Retry after few seconds

5.2 Error Response Format

```
{  
  "success": false,  
  "statusCode": 400,  
  "errorCode": "TOO_EARLY_START",  
  "message": "Cannot start trip more than 2.5 hours before pickup",  
  "timestamp": "2025-12-25T09:00:00Z"  
}
```

6. Implementation Notes

6.1 Background Location Tracking

- The backend expects GPS coordinates during status changes
- Implement background location service to track driver position
- Send location updates during trip lifecycle transitions

6.2 Offline Handling

- The API requires online connectivity
- Queue requests locally (SQLite) when offline
- Sync when connection is restored
- Show clear offline indicator to driver

6.3 UI Feedback

- Always show loading indicators during API calls
- API latency can vary (200ms - 2s)
- Implement retry logic for failed requests (max 3 retries)
- Show clear error messages from API responses

6.4 Token Management

```
// Pseudo-code for token refresh  
Future<void> refreshTokenIfNeeded() async {  
  if (isTokenExpired(accessToken)) {  
    final newToken = await api.refreshToken(refreshToken);  
    await secureStorage.write('accessToken', newToken);  
  }  
}  
  
// Intercept 401 responses  
if (response.statusCode == 401) {  
  await refreshTokenIfNeeded();  
  // Retry original request  
}
```

6.5 Geofencing Implementation

```

// Check if driver is within 500m of pickup
double distance = Geolocator.distanceBetween(
    driverLat, driverLng,
    pickupLat, pickupLng
);

if (distance > 500) {
    showError("You must be within 500m of pickup location");
    return;
}

```

6.6 Time Constraint Checks

```

// Check if within 2.5h window for start
DateTime now = DateTime.now();
DateTime pickupTime = DateTime.parse(trip.pickupTime);
Duration diff = pickupTime.difference(now);

if (diff.inHours > 2.5) {
    showError("Cannot start trip more than 2.5 hours before pickup");
    return;
}

```

6.7 State Management

- Use Provider/Riverpod/Bloc for state management
- Cache trip list locally
- Implement pull-to-refresh for trip list
- Auto-refresh every 30 seconds when on trip list screen

6.8 Push Notifications

- Implement FCM for trip assignments
- Handle notification when app is in background/killed
- Deep link to specific trip when notification tapped

Checklist for Production

- Implement token refresh logic
- Add offline queue mechanism
- Implement background location tracking
- Add geofencing validation before API calls
- Add time constraint validation before API calls
- Implement retry logic for failed requests
- Add comprehensive error handling
- Implement push notifications (FCM)
- Add analytics/crash reporting (Firebase)
- Test all edge cases (offline, poor network, etc.)

5. Payment & Wallet

5.1 Get Balance & Rental Status

Endpoint: GET /payment/balance

Auth Required: Yes

Role: DRIVER

Response (200):

```
{  
    "depositBalance": 5000,  
    "paymentModel": "RENTAL",  
    "hasActiveRental": true,  
    "rental": {  
        "planName": "Weekly Plan",  
        "startDate": "2025-12-23T00:00:00.000Z",  
        "expiryDate": "2025-12-30T00:00:00.000Z",  
        "daysRemaining": 3,  
        "isExpired": false  
    }  
}
```

UI Display:

- Show deposit balance prominently at top of wallet screen
- Display rental validity like a SIM card validity (days remaining)
- Show warning when rental expires in < 2 days

5.2 Get Transaction History

Endpoint: GET /payment/transactions?page=1&limit=20

Auth Required: Yes

Role: DRIVER

Query Parameters:

- `page` (number, default: 1)
- `limit` (number, default: 20)
- `type` (optional): DEPOSIT, RENTAL, INCENTIVE, PENALTY, PAYOUT
- `status` (optional): PENDING, SUCCESS, FAILED

Response (200):

```
{  
    "transactions": [  
        {  
            "id": "uuid",  
            "type": "DEPOSIT",  
            "amount": 5000,  
            "status": "SUCCESS",  
            "date": "2025-12-23T00:00:00.000Z"  
        }  
    ]  
}
```

```

        "paymentMethod": "PG_UPN",
        "description": "Security deposit - ₹5000",
        "createdAt": "2025-12-23T10:00:00.000Z"
    },
],
"pagination": {
    "page": 1,
    "limit": 20,
    "total": 45,
    "totalPages": 3
}
}

```

UI Implementation:

- Implement infinite scroll or pagination
- Show transaction type with icons (deposit, rental, incentive, penalty)
- Color code: Green (credit), Red (debit)

5.3 Get Incentives

Endpoint: GET /payment/incentives

Auth Required: Yes

Role: DRIVER

Response (200):

```

{
  "incentives": [
    {
      "id": "uuid",
      "amount": 500,
      "reason": "Completed 50 trips",
      "category": "MILESTONE",
      "isPaid": false,
      "createdAt": "2025-12-25T00:00:00.000Z"
    }
  ],
  "summary": {
    "totalIncentives": 10,
    "paidIncentives": 7,
    "unpaidIncentives": 3,
    "totalAmount": 5000,
    "paidAmount": 3500,
    "unpaidAmount": 1500
  }
}

```

UI Display:

- Show total unpaid incentives prominently
- List all incentives with paid/unpaid status

- Show payout date for paid incentives
-

5.4 Get Penalties

Endpoint: GET /payment/penalties

Auth Required: Yes

Role: DRIVER

Response (200):

```
{  
  "penalties": [  
    {  
      "id": "uuid",  
      "type": "MONETARY",  
      "amount": 200,  
      "reason": "Late for pickup",  
      "isPaid": true,  
      "isWaived": false,  
      "deductedFromDeposit": true,  
      "depositDeductionAmount": 200,  
      "createdAt": "2025-12-24T00:00:00.000Z"  
    }  
  ]  
}
```

Penalty Types:

- MONETARY - Financial penalty (auto-deducted from deposit)
- WARNING - Verbal/written warning
- SUSPENSION - Temporary suspension
- BLACKLIST - Permanent ban

UI Display:

- Show penalties with clear reason
 - Indicate if waived (show in green)
 - Show deposit deduction for monetary penalties
-

5.5 Initiate Deposit Payment

Endpoint: POST /payment/deposit

Auth Required: Yes

Role: DRIVER

Request Body:

```
{  
  "amount": 5000  
}
```

Response (200):

```
{  
    "transactionId": "uuid",  
    "paymentUrl": "https://testpay.easebuzz.in/pay/...",  
    "txnId": "TXN_1735123456_ABC123"  
}
```

Implementation:

- Open `paymentUrl` in WebView or external browser
- Handle success/failure callbacks
- Refresh balance after payment

5.6 Initiate Rental Payment

Endpoint: POST /payment/rental

Auth Required: Yes

Role: DRIVER

Request Body:

```
{  
    "rentalPlanId": "uuid"  
}
```

Response (200):

```
{  
    "transactionId": "uuid",  
    "paymentUrl": "https://testpay.easebuzz.in/pay/...",  
    "txnId": "TXN_1735123456_XYZ789"  
}
```

Implementation:

- Show available rental plans first
- Open payment URL in WebView
- Activate rental after successful payment

5.7 Get Daily Collections (Payout Model Only)

Endpoint: GET /payment/collections

Auth Required: Yes

Role: DRIVER

Query Parameters:

- `startDate` (optional): ISO date
- `endDate` (optional): ISO date

Response (200):

```
{  
  "collections": [  
    {  
      "id": "uuid",  
      "date": "2025-12-29T00:00:00.000Z",  
      "qrCollectionAmount": 3000,  
      "cashCollectionAmount": 2000,  
      "totalCollection": 5000,  
      "revShareAmount": 3500,  
      "netPayout": 3800,  
      "isPaid": false  
    }  
  ],  
  "summary": {  
    "totalDays": 30,  
    "totalCollections": 150000,  
    "totalPayout": 108000,  
    "paidAmount": 75000,  
    "unpaidAmount": 33000  
  }  
}
```

Note: Only visible for drivers on PAYOUT model
