

QShelter Mortgage Flow - Complete API Documentation

Version: 1.0
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Environment: AWS Staging

Executive Summary

This document describes the complete end-to-end mortgage application flow for the QShelter platform. It follows the journey of **Chidi Nnamdi**, a 40-year-old first-time homebuyer purchasing a ₦85,000,000 3-bedroom flat at **Lekki Gardens Estate** in Lagos, Nigeria.

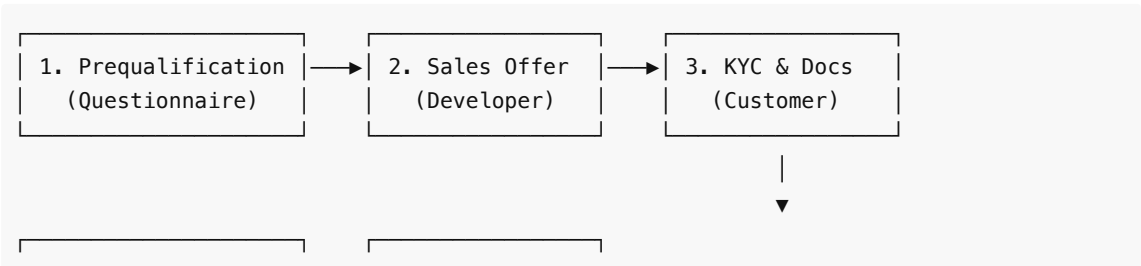
Key Actors

| Actor | Role | Organization | Email |
|----------------|-----------------------------|---------------|--|
| Adaeze Okonkwo | Mortgage Operations Officer | QShelter | adaeze@mailsac.com |
| Chidi Nnamdi | Customer (Buyer) | — | chidi@mailsac.com |
| Emeka Okafor | Developer Rep | Lekki Gardens | emeka@mailsac.com |
| Nkechi Adebayo | Loan Officer | Access Bank | nkechi@mailsac.com |

Property Details

| Field | Value |
|-------------|-------------------------------|
| Property | Lekki Gardens Estate, Phase 3 |
| Unit | 14B (Block B, Floor 14) |
| Type | 3-Bedroom Flat |
| Size | 150 sqm |
| Price | ₦85,000,000 |
| Downpayment | 10% (₦8,500,000) |
| Mortgage | 90% (₦76,500,000) |

Application Phases





Service Endpoints

| Service | Base URL |
|------------------|---|
| User Service | https://[user-api-id].execute-api.us-east-1.amazonaws.com |
| Property Service | https://[property-api-id].execute-api.us-east-1.amazonaws.com |
| Mortgage Service | https://[mortgage-api-id].execute-api.us-east-1.amazonaws.com |

Phase 1: System Bootstrap

Step 1.1: Bootstrap Tenant

Creates the tenant, default roles, and admin user.

Endpoint: POST /admin/bootstrap-tenant

Service: User Service

Authentication: Bootstrap Secret Header

Request Headers

```
x-bootstrap-secret: {{bootstrapSecret}}
Content-Type: application/json
```

Request Body

```
{
  "tenant": {
    "name": "QShelter Real Estate",
    "subdomain": "qshelter"
  },
  "admin": {
    "email": "adaeze@mailsac.com",
    "password": "SecureAdmin123!",
    "firstName": "Adaeze",
    "lastName": "Okonkwo"
  }
}
```

Response (201 Created)

```
{
  "tenant": {
    "id": "cm...",
    "name": "QShelter Real Estate",
```

```
    "subdomain": "qshelter",
    "isNew": true
  },
  "admin": {
    "id": "cm...",
    "email": "adaeze@mailsac.com",
    "isNew": true
  },
  "roles": [
    { "id": "...", "name": "admin", "isNew": true, "permissionsCount": 1 },
    { "id": "...", "name": "user", "isNew": true, "permissionsCount": 6 },
    { "id": "...", "name": "DEVELOPER", "isNew": true, "permissionsCount": 6 },
    { "id": "...", "name": "LENDER", "isNew": true, "permissionsCount": 6 }
  ],
  "syncTriggered": true
}
```

Step 1.2: Admin Login

Endpoint: POST /auth/login

Service: User Service

Authentication: None

Request Body

```
{
  "email": "adaeze@mailsac.com",
  "password": "SecureAdmin123!"
}
```

Response (200 OK)

```
{
  "success": true,
  "data": {
    "accessToken": "eyJhbGciOiJIUzI1NiIs... ",
    "refreshToken": "...",
    "user": {
      "id": "cm...",
      "email": "adaeze@mailsac.com",
      "firstName": "Adaeze",
      "lastName": "Okonkwo"
    }
  }
}
```

Phase 2: Customer Registration

Step 2.1: Customer Signup

Chidi creates his account on the platform.

Endpoint: POST /auth/signup

Service: User Service

Authentication: None

Request Body

```
{
  "email": "chidi@mailsac.com",
  "password": "CustomerPass123!",
  "firstName": "Chidi",
  "lastName": "Nnamdi",
  "tenantId": "{{tenantId}}"
}
```

Response (201 Created)

```
{
  "success": true,
  "data": {
    "accessToken": "eyJhbGciOiJIUzI1NiIs...\"",
    "user": {
      "id": "cm...",
      "email": "chidi@mailsac.com",
      "firstName": "Chidi",
      "lastName": "Nnamdi"
    }
  }
}
```

Phase 2.5: Partner Setup

Step 2.5.1: Create Developer Organization (Lekki Gardens)

Endpoint: POST /organizations

Service: User Service

Authentication: Bearer Token (Admin)

Request Headers

```
Authorization: Bearer {{adminAccessToken}}
Content-Type: application/json
x-idempotency-key: create-lekki-gardens
```

Request Body

```
{
  "name": "Lekki Gardens Development Company",
  "type": "DEVELOPER",
  "email": "lekkigardens@mailsac.com",
  "phone": "+234-1-453-0000",
  "address": "Lekki-Epe Expressway, Lekki, Lagos",
  "city": "Lekki",
  "state": "Lagos",
  "country": "Nigeria",
  "cacNumber": "RC-123456",
  "description": "Premium property developer in Lagos"
}
```

Response (201 Created)

```
{
  "success": true,
  "data": {
    "id": "cm...",
    "name": "Lekki Gardens Development Company",
    "type": "DEVELOPER",
    "status": "ACTIVE"
  }
}
```

Step 2.5.2: Create Developer User (Emeka)

Endpoint: POST /auth/signup

Service: User Service

Request Body

```
{
  "email": "emeka@mailsac.com",
  "password": "DeveloperPass123!",
  "firstName": "Emeka",
  "lastName": "Okafor",
  "tenantId": "{{tenantId}}"
}
```

Step 2.5.3: Add Emeka to Lekki Gardens

Endpoint: POST /organizations/{{lekkigardensOrgId}}/members

Service: User Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "userId": "{{emekaId}}",
  "role": "OFFICER",
  "title": "Sales Manager",
  "department": "Sales",
  "canApprove": true
}
```

Step 2.5.4: Create Bank Organization (Access Bank)

Endpoint: POST /organizations

Service: User Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "name": "Access Bank PLC",
  "type": "BANK",
  "email": "mortgages@mailsac.com",
  "phone": "+234-1-280-2800",
  "address": "999c Danmole Street, Victoria Island, Lagos",
  "bankCode": "044",
  "swiftCode": "ABNGNGLA",
  "description": "Leading Nigerian commercial bank"
}
```

Step 2.5.5: Create Lender User (Nkechi)

Endpoint: POST /auth/signup

Service: User Service

Request Body

```
{
  "email": "nkechi@mailsac.com",
  "password": "LenderPass123!",
  "firstName": "Nkechi",
  "lastName": "Adebayo",
  "tenantId": "{{tenantId}}"
}
```

Step 2.5.6: Add Nkechi to Access Bank

Endpoint: POST /organizations/{{accessBankOrgId}}/members

Service: User Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "userId": "{{nkechiId}}",
  "role": "MANAGER",
  "title": "Mortgage Loan Officer",
  "department": "Retail Banking",
  "canApprove": true,
  "approvalLimit": 500000000
}
```

Phase 3: Property Setup

Step 3.1: Create Property

Endpoint: POST /property/properties

Service: Property Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "title": "Lekki Gardens Estate",
  "description": "Premium residential estate in Lekki Phase 1",
  "category": "SALE",
  "propertyType": "APARTMENT",
  "country": "Nigeria",
  "currency": "NGN",
  "city": "Lagos",
  "district": "Lekki"
}
```

Response (201 Created)

```
{
  "success": true,
  "data": {
    "id": "cm...",
    "title": "Lekki Gardens Estate",
    "status": "DRAFT"
  }
}
```

Step 3.2: Create Property Variant

Endpoint: POST /property/properties/{{propertyId}}/variants

Service: Property Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "name": "3-Bedroom Flat",
  "nBedrooms": 3,
  "nBathrooms": 3,
  "nParkingSpots": 1,
  "area": 150,
  "price": 85000000,
  "totalUnits": 20,
  "availableUnits": 15
}
```

Step 3.3: Create Property Unit

Endpoint: POST /property/properties/{{propertyId}}/variants/{{variantId}}/units

Service: Property Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "unitNumber": "14B",
  "floorNumber": 14,
  "blockName": "Block B"
}
```

Step 3.4: Publish Property

Endpoint: PATCH /property/properties/{{propertyId}}/publish

Service: Property Service

Authentication: Bearer Token (Admin)

Response (200 OK)

```
{
  "success": true,
  "data": {
    "id": "cm...",
    "status": "PUBLISHED"
  }
}
```

Phase 4: Payment Configuration

Step 4.1: Create Downpayment Plan

Endpoint: POST /payment-plans

Service: Mortgage Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "name": "10% One-Off Downpayment",
  "description": "Single payment for 10% downpayment",
  "frequency": "ONE_TIME",
  "numberOfInstallments": 1,
  "interestRate": 0,
  "gracePeriodDays": 0
}
```

Step 4.2: Create Prequalification Questionnaire Plan

Endpoint: POST /questionnaire-plans

Service: Mortgage Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "name": "Mortgage Prequalification",
  "description": "Collects applicant age and income to validate mortgage eligibility",
  "isActive": true,
  "passingScore": 100,
  "scoringStrategy": "MIN_ALL",
  "autoDecisionEnabled": false,
  "estimatedMinutes": 5,
  "category": "PREQUALIFICATION",
  "questions": [
    {
      "questionKey": "applicant_age",
      "questionText": "What is your current age?",
      "questionType": "NUMBER",
      "order": 1,
      "isRequired": true,
      "validationRules": { "min": 18, "max": 59 },
      "scoringRules": [
        { "operator": "LESS_THAN_OR_EQUAL", "value": 55, "score": 100 },
        { "operator": "GREATER_THAN", "value": 55, "score": 0 }
      ],
      "scoreWeight": 1,
      "category": "ELIGIBILITY"
    },
    {
      "questionKey": "monthly_income",
```

```
    "questionText": "What is your monthly gross income?",
    "questionType": "CURRENCY",
    "order": 4,
    "isRequired": true,
    "scoringRules": [
      { "operator": "GREATER_THAN_OR_EQUAL", "value": 500000, "score": 100 },
      { "operator": "LESS_THAN", "value": 500000, "score": 0 }
    ],
    "scoreWeight": 1,
    "category": "AFFORDABILITY"
  }
}
}
```

Step 4.3: Create Sales Offer Documentation Plan

Endpoint: POST /documentation-plans

Service: Mortgage Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "name": "Sales Offer Documentation",
  "description": "Developer uploads sales offer letter",
  "isActive": true,
  "documentDefinitions": [
    {
      "documentType": "SALES_OFFER_LETTER",
      "documentName": "Sales Offer Letter",
      "uploadedBy": "DEVELOPER",
      "order": 1,
      "isRequired": true,
      "description": "Sales offer letter prepared by the property developer",
      "maxSizeBytes": 10485760,
      "allowedMimeTypes": ["application/pdf"]
    }
  ],
  "approvalStages": [
    {
      "name": "Developer Document Verification",
      "order": 1,
      "reviewParty": "DEVELOPER",
      "autoTransition": true,
      "waitForAllDocuments": true,
      "onRejection": "CASCADE_BACK"
    }
  ]
}
```

Step 4.4: Create KYC Documentation Plan

Endpoint: POST /documentation-plans

Service: Mortgage Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "name": "Mortgage KYC Documentation",
  "description": "Standard KYC documentation workflow",
  "isActive": true,
  "documentDefinitions": [
    {
      "documentType": "ID_CARD",
      "documentName": "Valid ID Card",
      "uploadedBy": "CUSTOMER",
      "order": 1,
      "isRequired": true
    },
    {
      "documentType": "BANK_STATEMENT",
      "documentName": "Bank Statements",
      "uploadedBy": "CUSTOMER",
      "order": 2,
      "isRequired": true
    },
    {
      "documentType": "EMPLOYMENT_LETTER",
      "documentName": "Employment Letter",
      "uploadedBy": "CUSTOMER",
      "order": 3,
      "isRequired": true
    },
    {
      "documentType": "PREAPPROVAL_LETTER",
      "documentName": "Preapproval Letter",
      "uploadedBy": "LENDER",
      "order": 4,
      "isRequired": true
    }
  ],
  "approvalStages": [
    {
      "name": "QShelter Staff Review",
      "order": 1,
      "reviewParty": "INTERNAL",
      "slaHours": 24
    },
    {
      "name": "Bank Review",
```

```
    "order": 2,
    "reviewParty": "BANK",
    "slaHours": 48
  }
]
```

Step 4.5: Create Mortgage Offer Documentation Plan

Endpoint: POST /documentation-plans

Service: Mortgage Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "name": "Mortgage Offer Documentation",
  "description": "Bank (lender) uploads mortgage offer letter",
  "isActive": true,
  "documentDefinitions": [
    {
      "documentType": "MORTGAGE_OFFER_LETTER",
      "documentName": "Mortgage Offer Letter",
      "uploadedBy": "LENDER",
      "order": 1,
      "isRequired": true
    }
  ],
  "approvalStages": [
    {
      "name": "Bank Document Upload",
      "order": 1,
      "reviewParty": "BANK",
      "autoTransition": true
    }
  ]
}
```

Step 4.6: Create Payment Method (5 Phases)

Endpoint: POST /payment-methods

Service: Mortgage Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "name": "10/90 Lekki Mortgage",
  "description": "Prequalification → Sales Offer → KYC → Downpayment → Mortgage Offer",
  "order": 1,
  "reviewParty": "BANK",
  "autoTransition": true
}
```

```

"requiresManualApproval": true,
"phases": [
  {
    "name": "Prequalification",
    "phaseCategory": "QUESTIONNAIRE",
    "phaseType": "PRE_APPROVAL",
    "order": 1,
    "questionnairePlanId": "{{prequalificationPlanId}}"
  },
  {
    "name": "Sales Offer",
    "phaseCategory": "DOCUMENTATION",
    "phaseType": "VERIFICATION",
    "order": 2,
    "documentationPlanId": "{{salesOfferDocPlanId}}"
  },
  {
    "name": "Preapproval Documentation",
    "phaseCategory": "DOCUMENTATION",
    "phaseType": "KYC",
    "order": 3,
    "documentationPlanId": "{{kycDocPlanId}}"
  },
  {
    "name": "10% Downpayment",
    "phaseCategory": "PAYMENT",
    "phaseType": "DOWNPAYMENT",
    "order": 4,
    "percentOfPrice": 10,
    "paymentPlanId": "{{downpaymentPlanId}}"
  },
  {
    "name": "Mortgage Offer",
    "phaseCategory": "DOCUMENTATION",
    "phaseType": "VERIFICATION",
    "order": 5,
    "documentationPlanId": "{{mortgageOfferDocPlanId}}"
  }
]
}

```

Step 4.7: Link Payment Method to Property

Endpoint: POST /payment-methods/{{paymentMethodId}}/properties

Service: Mortgage Service

Authentication: Bearer Token (Admin)

Request Body

```

{
  "propertyId": "{{propertyId}}",

```

```
"isDefault": true
}
```

Phase 5: Customer Application

Step 5.1: Chidi Creates Application

Endpoint: POST /applications

Service: Mortgage Service

Authentication: Bearer Token (Customer - Chidi)

Request Body

```
{
  "propertyUnitId": "{{unitId}}",
  "paymentMethodId": "{{paymentMethodId}}",
  "title": "Purchase Agreement – Lekki Gardens Unit 14B",
  "applicationType": "MORTGAGE",
  "totalAmount": 85000000,
  "monthlyIncome": 2500000,
  "monthlyExpenses": 800000,
  "applicantAge": 40
}
```

Response (201 Created)

```
{
  "success": true,
  "data": {
    "id": "cm...",
    "title": "Purchase Agreement – Lekki Gardens Unit 14B",
    "status": "PENDING",
    "totalAmount": 85000000,
    "phases": [
      {
        "id": "...",
        "name": "Prequalification",
        "order": 1,
        "status": "IN_PROGRESS"
      },
      { "id": "...", "name": "Sales Offer", "order": 2, "status": "PENDING" },
      {
        "id": "...",
        "name": "Preapproval Documentation",
        "order": 3,
        "status": "PENDING"
      },
      {
        "id": "...",
        "name": "10% Downpayment",

```

```
    "order": 4,
    "status": "PENDING",
    "totalAmount": 8500000
  },
  { "id": "...", "name": "Mortgage Offer", "order": 5, "status": "PENDING" }
]
}
}
```

Phase 6: Prequalification Questionnaire

Step 6.1: Chidi Submits Questionnaire Answers

Endpoint: POST

/applications/{applicationId}/phases/{prequalificationPhaseId}/questionnaire/submit

Service: Mortgage Service

Authentication: Bearer Token (Customer - Chidi)

Request Body

```
{
  "answers": [
    { "fieldName": "applicant_age", "value": "40" },
    { "fieldName": "mortgage_type", "value": "SINGLE" },
    { "fieldName": "employment_status", "value": "EMPLOYED" },
    { "fieldName": "monthly_income", "value": "2500000" },
    { "fieldName": "monthly_expenses", "value": "800000" },
    { "fieldName": "desired_term_years", "value": "20" }
  ]
}
```

Response (200 OK)

```
{
  "success": true,
  "data": {
    "phaseId": "...",
    "status": "AWAITING_APPROVAL",
    "score": 100,
    "passingScore": 100,
    "passed": true
  }
}
```

Step 6.2: Admin Approves Prequalification

Endpoint: POST

/applications/{applicationId}/phases/{prequalificationPhaseId}/questionnaire/review

Service: Mortgage Service

Authentication: Bearer Token (Admin)

Request Body

```
{
  "decision": "APPROVE",
  "notes": "Chidi meets all eligibility criteria. Approved for mortgage."
}
```

Response (200 OK)

```
{
  "success": true,
  "data": {
    "phaseId": "...",
    "status": "COMPLETED"
  }
}
```

Phase 7: Sales Offer

Step 7.1: Developer Uploads Sales Offer Letter

Endpoint: POST /applications/{{applicationId}}/phases/{{salesOfferPhaseId}}/documents

Service: Mortgage Service

Authentication: Bearer Token (Developer - Emeka)

Request Body

```
{
  "documentType": "SALES_OFFER_LETTER",
  "url": "https://s3.amazonaws.com/qshelter/developer/sales-offer-chidi.pdf",
  "fileName": "sales-offer-letter.pdf"
}
```

Response (201 Created)

```
{
  "success": true,
  "data": {
    "id": "...",
    "documentType": "SALES_OFFER_LETTER",
    "status": "UPLOADED"
  }
}
```

Note: Phase auto-completes when developer uploads the required document.

Phase 8: KYC Documentation (Two-Stage Review)

Important: KYC documents go through a **two-stage approval workflow**:

1. **Stage 1 (Internal):** Adaeze (QShelter Mortgage Operations Officer) reviews documents first
2. **Stage 2 (Bank):** Nkechi (Access Bank Loan Officer) reviews documents after internal approval

The phase only completes when both stages have approved all documents.

Step 8.1: Chidi Uploads KYC Documents

Customer uploads three documents:

Endpoint: POST /applications/{{applicationId}}/phases/{{kycPhaseId}}/documents

Service: Mortgage Service

Authentication: Bearer Token (Customer - Chidi)

Document 1: ID Card

```
{
  "documentType": "ID_CARD",
  "url": "https://s3.amazonaws.com/qshelter/chidi/id.pdf",
  "fileName": "id.pdf"
}
```

Document 2: Bank Statements

```
{
  "documentType": "BANK_STATEMENT",
  "url": "https://s3.amazonaws.com/qshelter/chidi/bank.pdf",
  "fileName": "bank.pdf"
}
```

Document 3: Employment Letter

```
{
  "documentType": "EMPLOYMENT_LETTER",
  "url": "https://s3.amazonaws.com/qshelter/chidi/employment.pdf",
  "fileName": "employment.pdf"
}
```

Step 8.2: Stage 1 - Adaeze (Internal) Reviews Documents

QShelter Mortgage Operations Officer performs internal verification.

Endpoint: POST /applications/{{applicationId}}/documents/{{documentId}}/review

Service: Mortgage Service

Authentication: Bearer Token (Adaeze - Mortgage Operations Officer)

Request Body (for each document)

```
{
  "status": "APPROVED",
  "note": "Internal review: Document verified by QShelter Mortgage Operations",
  "reviewParty": "INTERNAL"
}
```

Step 8.3: Stage 2 - Nkechi (Bank) Reviews Documents

After internal approval, Access Bank Loan Officer performs bank-level verification.

Endpoint: POST /applications/{{applicationId}}/documents/{{documentId}}/review

Service: Mortgage Service

Authentication: Bearer Token (Nkechi - Access Bank Loan Officer)

Request Body (for each document)

```
{
  "status": "APPROVED",
  "note": "Bank review: Document approved by Access Bank lending team",
  "reviewParty": "BANK"
}
```

Step 8.4: Nkechi Uploads Preapproval Letter

Endpoint: POST /applications/{{applicationId}}/phases/{{kycPhaseId}}/documents

Service: Mortgage Service

Authentication: Bearer Token (Lender - Nkechi)

Request Body

```
{
  "documentType": "PREAPPROVAL_LETTER",
  "url": "https://s3.amazonaws.com/qshelter/lender/preapproval-chidi.pdf",
  "fileName": "preapproval-letter.pdf"
}
```

Note: Phase completes when all documents are uploaded AND approved by both stages (Internal + Bank).

Phase 9: Downpayment

Step 9.1: Generate Downpayment Installment

Endpoint: POST

/applications/{{applicationId}}/phases/{{downpaymentPhaseId}}/installments

Service: Mortgage Service

Authentication: Bearer Token (Customer - Chidi)

Request Body

```
{
  "startDate": "2026-01-25T00:00:00.000Z"
}
```

Response (200 OK)

```
{
  "success": true,
  "data": {
    "installments": [
      {
        "id": "...",
        "amount": 8500000,
        "dueDate": "2026-01-25T00:00:00.000Z",
        "status": "PENDING"
      }
    ]
  }
}
```

Step 9.2: Chidi Makes Payment

Endpoint: POST /applications/{{applicationId}}/payments

Service: Mortgage Service

Authentication: Bearer Token (Customer - Chidi)

Request Body

```
{
  "phaseId": "{{downpaymentPhaseId}}",
  "installmentId": "{{downpaymentInstallmentId}}",
  "amount": 8500000,
  "paymentMethod": "BANK_TRANSFER",
  "externalReference": "TRF-CHIDI-DOWNPAYMENT-001"
}
```

Response (201 Created)

```
{
  "success": true,
  "data": {
    "id": "...",
    "reference": "PAY-...",
    "amount": 8500000,
    "status": "PENDING"
  }
}
```

Step 9.3: Process Payment Confirmation

Endpoint: POST /applications/payments/process

Service: Mortgage Service

Authentication: Bearer Token (Customer)

Request Body

```
{
  "reference": "{{paymentReference}}",
  "status": "COMPLETED",
  "gatewayTransactionId": "GW-TRX-123456"
}
```

Note: Phase completes when payment is confirmed.

Phase 10: Mortgage Offer

Step 10.1: Lender Uploads Mortgage Offer Letter

Endpoint: POST

/applications/{{applicationId}}/phases/{{mortgageOfferPhaseId}}/documents

Service: Mortgage Service

Authentication: Bearer Token (Lender - Nkechi)

Request Body

```
{
  "documentType": "MORTGAGE_OFFER_LETTER",
  "url": "https://s3.amazonaws.com/qshelter/lender/mortgage-offer-chidi.pdf",
  "fileName": "mortgage-offer-letter.pdf"
}
```

Note: Application completes when all phases are done.

Step 10.2: Verify Application Completion

Endpoint: GET /applications/{{applicationId}}

Service: Mortgage Service

Authentication: Bearer Token (Customer - Chidi)

Response (200 OK)

```
{
  "success": true,
  "data": {
    "id": "...",
    "title": "Purchase Agreement - Lekki Gardens Unit 14B",
    "status": "COMPLETED",
    "totalAmount": 85000000,
  }
}
```

```
    "phases": [
      { "name": "Prequalification", "status": "COMPLETED" },
      { "name": "Sales Offer", "status": "COMPLETED" },
      { "name": "Preapproval Documentation", "status": "COMPLETED" },
      { "name": "10% Downpayment", "status": "COMPLETED" },
      { "name": "Mortgage Offer", "status": "COMPLETED" }
    ]
  }
}
```

Authorization & Access Control

Authentication

All authenticated endpoints require:

```
Authorization: Bearer {{accessToken}}
```

Role-Based Permissions

| Role | Permissions |
|-----------|---|
| admin | Full access to all resources |
| user | View properties, manage own applications |
| DEVELOPER | Upload sales offer letters for properties they manage |
| LENDER | Upload preapproval and mortgage offer letters |

Multi-Tenancy

- All data is isolated by `tenantId`
- Users from one tenant cannot access another tenant's data
- Cross-tenant access returns `403 Forbidden` or `404 Not Found`

Ownership Verification

- Customers can only view/modify their own applications
- Attempting to access another customer's application returns `403 Forbidden`

Error Responses

Standard Error Format

```
{
  "success": false,
  "error": {
    "code": "ERROR_CODE",
    "message": "Human-readable error message"
  }
}
```

```
}  
}
```

Common Error Codes

| Status | Code | Description |
|--------|------------------|--------------------------|
| 400 | VALIDATION_ERROR | Invalid request body |
| 401 | UNAUTHORIZED | Missing or invalid token |
| 403 | FORBIDDEN | Insufficient permissions |
| 404 | NOT_FOUND | Resource not found |
| 409 | CONFLICT | Duplicate resource |
| 500 | INTERNAL_ERROR | Server error |

Running the Test

```
# Navigate to test directory  
cd tests/aws  
  
# Run full E2E test  
./scripts/run-full-e2e-staging.sh  
  
# Or run specific patterns  
npm run test:full-mortgage -- --testNamePattern="Phase 1"
```

Appendix: Complete Flow Diagram



- SETUP (Admin – Adaeze)
- Bootstrap tenant & roles
 - Create organizations (Lekki Gardens, Access Bank)
 - Add members (Emeka, Nkechi)
 - Create property (Lekki Gardens Estate, Unit 14B)
 - Create questionnaire & documentation plans
 - Create & link payment method (10/90 Mortgage)
- CUSTOMER JOURNEY (Chidi)
- 1 PREQUALIFICATION
 - Customer: Submit questionnaire (age, income, employment)
 - Admin: Review & approve

- |— 2 SALES OFFER
 - |— Developer (Emeka): Upload sales offer letter
- |— 3 KYC DOCUMENTATION
 - |— Customer: Upload ID, bank statements, employment letter
 - |— Admin: Review & approve documents
 - |— Lender (Nkechi): Upload preapproval letter
- |— 4 DOWNPAYMENT
 - |— Customer: Generate installment (₦8.5M)
 - |— Customer: Pay & confirm
- |— 5 MORTGAGE OFFER
 - |— Lender (Nkechi): Upload mortgage offer letter
- ✓ APPLICATION COMPLETED

Document generated from E2E test: `tests/aws/full-mortgage-flow/full-mortgage-flow.test.ts`