

Centi Client Onboarding System: Comprehensive Developer Implementation Guide

Overview

As a developer with no prior experience in financial compliance, this guide will provide you with all the necessary details to implement the Centi Client Onboarding System. I'll explain each compliance concept, document purpose, and implementation requirement with specific references to the provided documentation.

Required Documents for Reference

Before starting development, familiarize yourself with these key documents:

1. **SOP 002 Client Onboarding Procedure** - The main process document outlining the entire onboarding workflow
2. **Centi Onboarding Checklist_v1.2.docx** - Lists all steps required for compliance verification
3. **902.1e (Identification).docx** - The form for basic client identification
4. **902.4e (Risk Profile).docx** - The form for client risk assessment
5. **902.5e (Customer Profile).docx** - The form for client business profile information
6. **902.9e (Form-A).docx** - Declaration form for beneficial ownership
7. **902.11e(Form-K).docx** - Form for controlling persons of legal entities
8. **Centi Required Client Information v0.1 v4_structureOnly.xlsx** - The master field mapping document
9. **Centi AML Directive v1.4.docx** - The comprehensive AML policy document
10. **Software Requirements for Centi Client Onboarding System.docx** - Your project requirements document

All VQF forms are accessible at:

https://drive.google.com/drive/folders/1WMwNanQq_OYUilRe_uO2n58dwGZ7EAT1?usp=sharing

Compliance Terminology Every Developer Should Understand

Before we dive into implementation, here are key compliance terms you'll encounter:

- **AML (Anti-Money Laundering)**: Regulations to prevent criminals from disguising illegally obtained funds.
- **KYC (Know Your Customer)**: The process of verifying the identity of clients.
- **UBO (Ultimate Beneficial Owner)**: The natural person(s) who ultimately owns or controls a legal entity (owns ≥25% of shares or otherwise controls the entity).
- **PEP (Politically Exposed Person)**: Someone who holds a prominent public position (politician, judge, military officer, etc.).
- **AMLA**: Swiss Anti-Money Laundering Act.
- **VQF**: Self-regulatory organization that provides the forms and compliance framework.
- **Form K**: Declaration form for controlling persons of a company.
- **Form A**: Declaration form for beneficial ownership of assets.

Phase 1 Implementation (Green Requirements)

Step 1: Create the Basic Form Structure

1. **Build a multi-page web application**
 - Reference:
<https://docs.google.com/document/d/1ILf8TYVdglZKkle-igrGBx6nPXsKEWDFDvbum5732LY/edit?tab=t.0#heading=h.mkv519pz5tks>
 - Implement secure data collection that does NOT store data on the server
 - All data should be forwarded to compliance@centi.ch and then deleted
2. **Implement the following screens in sequence:**
 - a. **Screen 1: Client Type Determination**
 - Reference: "Software Requirements" document, Section "1. Initial Client Type Determination"
 - Include radio buttons for:
 1. Swiss non-publicly traded limited liability company (AG/GmbH)
 2. Swiss registered sole proprietorship or private individual
 3. Swiss Verein (Association)
 4. Foreign non-publicly traded limited liability company (AG/GmbH)
 5. Foreign registered sole proprietorship or private individual
 - b. **Screen 2: General Information**
 - Reference: "Software Requirements" document, Section "2. Basic Client Information"
 - Form fields needed:
 1. Company/Entity name (required)
 2. Full address (street, postal code, city, canton)
 3. Contact email and phone
 4. Industry/Sector dropdown (only these industries are allowed per SOP 002 Section 2):
 - Payment Service Provider

- Commercial Acquirer
 - Event Organizer
 - Media House
 - Online Publisher
- 5. If "Other" is selected, show warning that client may not be eligible
- 4. c. **Screen 3A: Entity Details (for AG/GmbH or Association)**
 - Reference: "Software Requirements" document, Section "3. Legal Entity Information"
 - Include fields:
 1. Commercial registry number (UID)
 2. Date of company incorporation
 3. Company purpose
 4. Document upload fields for:
 - Commercial register extract (required, must be <12 months old)
 - Articles of association (required)
- 5. d. **Screen 3B: Sole Proprietorship Details**
 - Reference: "Software Requirements" document, Section "4. Sole Proprietorship Information"
 - Include fields for:
 1. Commercial registry number (if registered)
 2. Date of establishment
 3. Owner details (name, DOB, nationality, address)
 4. Document upload field for commercial register extract (if registered)
- 6. e. **Screen 4: Business Relationship Establishing Persons**
 - Reference: "Software Requirements" document, Section "5. Persons Establishing Business Relationship"
 - Reference: SOP 002, Section 6.2 point 6 - identification requirements
 - Include fields for at least one person (up to 3):
 1. Full name, address, DOB, nationality
 2. Type of authorization
 3. Upload fields for ID document and power of attorney
- 7. f. **Screen 5: Controlling Persons (Form K data)**
 - Reference: "Software Requirements" document, Section "6. Controlling Persons Information"
 - Reference: Form K (902.11e) for exact field requirements
 - 3-part question flow:
 1. "Are there persons holding $\geq 25\%$ of capital/voting rights?" (Yes/No)
 2. If No: "Are there persons controlling the company in other ways?" (Yes/No)
 3. If No to both: Collect managing director information
- 8. **Implement conditional logic**
 - Display field sections based on client type
 - Show/hide questions based on previous answers

- Allow for dynamic addition of multiple persons (establishing persons, controlling persons)

Step 2: Document Upload Functionality

1. **Create secure file upload component**
 - Reference: "Software Requirements" document, Section "Document Upload Requirements"
 - Support formats: PDF, JPG, PNG
 - Max file size: 10MB
 - Required resolution for photos: 300 DPI
2. **Implement document validation**
 - For ID documents: Both sides must be uploaded
 - For commercial register extracts: Must show issue date
 - Add informational help text explaining document requirements
3. **Upload fields needed for:**
 - ID documents (passport, ID card)
 - Commercial register extract
 - Articles of association
 - Power of attorney documentation
 - Additional supporting documents

Step 3: Data Mapping Implementation

1. **Study each form structure in detail a. 902.1e (Identification)**
 - Purpose: Basic identification of the client
 - Key sections:
 - Information on customer (legal entity or natural person)
 - Information on natural persons establishing business relationship
 - Acceptance of business relationship
 - Beneficial owner information
2. **b. 902.11e (Form K)**
 - Purpose: Declaring controlling persons of legal entities
 - Key sections:
 - Information on persons holding $\geq 25\%$ of shares/voting rights
 - Information on persons controlling company in other ways
 - Information on managing directors (if no controlling persons)
3. **c. 902.5e (Customer Profile)**
 - Purpose: Detailing the client's business activities and transaction profile
 - Key sections:
 - Business activity description
 - Financial circumstances
 - Origin of assets
 - Nature and purpose of business relationship

4. d. **902.9e (Form A)**

- Purpose: Declaration of beneficial ownership of assets
- Key sections:
 - Information on the beneficial owner(s) of assets

5. **Implement mapping engine**

- Create a data structure that maps form fields to collected data

Example mapping:

javascript

Kopieren

```
const mapping = {  
  "902.1e": {  
    "companyName": "formData.generalInfo.companyName",  
    "domicile": "formData.generalInfo.address",  
    // more field mappings...  
  },  
  "902.11e": {  
    "controllingPersonName": "formData.controllingPersons[0].name",  
    // more field mappings...  
  }  
}  
// other forms...  
  
};
```

6. **Create PDF generation functionality**

- Use a PDF generation library that can:
 - Take the mapped data
 - Fill it into PDF template versions of the VQF forms
 - Generate completed PDFs

7. **Implement form selection logic**

- Based on client type, determine which forms are needed:
 - All clients need 902.1e (Identification)
 - Legal entities need 902.11e (Form K)
 - All clients need 902.5e (Customer Profile)
 - Based on beneficial ownership answers, determine if Form A is needed

Phase 2 Implementation (Blue Requirements)

Step 4: Complete the User Journey

1. **Implement remaining screens from the data collection flow: a. Screen 6: Beneficial Ownership Information (Form A data)**

- Reference: "Software Requirements" document, Section "7. Beneficial Ownership Information"

- Reference: Form A (902.9e)
- Key question: "Is the client the sole beneficial owner of assets?" (Yes/No)
- If No: Collect details for each beneficial owner
- 2. b. **Screen 7: Business Activity**
 - Reference: "Software Requirements" document, Section "8. Business Profile Information"
 - Reference: Form 902.5e, "Business activity" section
 - Collect information on:
 - Business activities
 - Core business description
 - Main clients/target audience
 - Main countries of business activity
- 3. c. **Screen 8: Financial Information**
 - Reference: "Software Requirements" document, Section "8. Business Profile Information"
 - Reference: Form 902.5e, "Financial circumstances" section
 - Collect information on:
 - Annual revenue
 - Total assets
 - Liabilities (if applicable)
- 4. d. **Screen 9: Transaction Information**
 - Reference: "Software Requirements" document, Section "8. Business Profile Information"
 - Reference: Form 902.5e, "Origin of the deposited assets" and "Nature and purpose" sections
 - Collect information on:
 - Nature of assets
 - Origin of assets
 - Expected transaction volume
 - Purpose of business relationship
- 5. e. **Screen 10: PEP & Sanctions Screening**
 - Reference: "Software Requirements" document, Section "9. Risk-Related Questions"
 - Reference: Form 902.4e, "Evaluation of politically exposed persons" section
 - Reference: AML Directive v1.4, Section 4.4.5 (defining PEPs)
 - Questions about:
 - PEP status (for client, controlling persons, beneficial owners)
 - Connections to sanctioned countries
- 6. f. **Screen 11: Terms and Conditions**
 - Reference: "Software Requirements" document, Section "10. Terms and Identification"
 - Include checkboxes for:
 - Privacy Policy
 - Terms & Conditions

- Declaration of truthfulness
 - Information about legal penalties
- 7. g. **Screen 12: Verification Method Selection**
 - Reference: "Software Requirements" document, Section "10. Terms and Identification"
 - Reference: SOP 002, Section 6.2 point 6 - verification options
 - Options for:
 - In-person verification at Centi office
 - In-person verification at client's location
 - Video identification
- 8. h. **Screen 13-14: Additional Documents & Review**
 - Reference: "Software Requirements" document, Section "11. Document Upload" and "Review & Submit"
 - Final document upload options
 - Complete summary of provided information
 - Final submission button
- 9. **Implement comprehensive field validation**
 - Reference: "Software Requirements" document, Section "Field Validation"
 - Email validation using appropriate regex
 - Swiss phone format validation
 - Swiss postal code validation
 - Date format validation
 - UID number validation

Step 5: Dynamic Form Features

1. **Multiple person entry capability**
 - Allow adding multiple:
 - Business relationship establishing persons
 - Controlling persons
 - Beneficial owners
 - Include "Add another person" buttons with appropriate limits
 - Implement removal functionality
2. **Dynamic subform handling**
 - Show/hide forms based on user responses
 - Example: Only show beneficial owner form if client is not sole beneficial owner
 - Example: Only show managing director form if no controlling persons identified

Step 6: Timestamp and Security Implementation

1. **Implement secure timestamping**
 - Record time of form submission
 - Record time of document uploads
 - Use server-side timestamps for accuracy

2. Encryption implementation

- Use TLS 1.3 for all communications
- Ensure any temporary data is encrypted
- Implement proper key management

Phase 3 Implementation (Yellow Requirements)

Step 7: Risk Assessment Data Collection

1. PEP and Sanctions questions

- Reference: AML Directive v1.4, Section 4.4.5 (Increased Risk Business Relationships)
- Reference: Form 902.4e, Sections 1-2 (PEP and high-risk countries evaluation)
- Implement detailed questions about:
 - PEP status (domestic, foreign, international organizations)
 - Family or business relationships with PEPs
 - Connections to sanctioned countries (list from AML Directive)

2. Risk indicator flagging

- Reference: AML Directive v1.4, Section 4.4.1 (Client risk classification)
- Automatically identify potential risk indicators:
 - PEP connections
 - High-risk countries
 - High-risk business activities
 - Complex ownership structures

Step 8: Email Submission System

1. Create secure email package

- Bundle all collected information:
 - JSON data structure with all form inputs
 - Generated PDF forms (902.1e, 902.11e, 902.5e, Form A, Form K as applicable)
 - Uploaded documents
- Generate a unique reference number for the submission

2. Implement secure transmission

- Send to compliance@centi.ch
- Include submission timestamp
- Use secure email protocols
- Ensure delivery confirmation

3. Post-submission data handling

- Securely delete all data from server after confirmed transmission
- Implement proper data wiping procedures
- Generate client-facing confirmation

Step 9: Final Review & Integration Considerations

1. Review screen implementation

- Create comprehensive summary view
- Allow section-by-section editing
- Show document upload status
- Include clear submission button

2. Design for future integration

- Document all data structures using standard formats
- Create clear field naming conventions
- Consider potential API needs for later integration with backend systems

Detailed Form Field Mapping Reference

This section provides exact mapping between the onboarding form fields and the corresponding VQF form fields:

Form 902.1e (Identification) Field Mapping

Screen Section	Onboarding Form Field	902.1e Form Field
General Information	Company/Entity name	"Company name" in "Information on customer" section
General Information	Domicile/Business address	"Domicile" in "Information on customer" section
Person Establishing	Full name	"Full name" in "Information on natural persons" section
Person Establishing	Residential address	"Residential address" in "Information on natural persons" section
Person Establishing	Date of birth	"Date of birth" in "Information on natural persons" section
Person Establishing	Nationality	"Nationality" in "Information on natural persons" section
Person Establishing	Type of authorization	"Type of authorisation" in "Information on natural persons" section
Verification Method	Verification selection	"Accepted by" in "Acceptance of business relationship" section

Form 902.11e (Form K) Field Mapping

Screen Section	Onboarding Form Field	Form K Field
Controlling Persons	Company name	"Contracting partner"
Controlling Persons	Last name	"Last name(s)"
Controlling Persons	First name	"First name(s)"
Controlling Persons	Address	"Actual address of domicile"

Form 902.5e (Customer Profile) Field Mapping

Screen Section	Onboarding Form Field	902.5e Form Field
Business Activity	Business activities	"Profession, business activities etc."
Financial Information	Annual revenue, assets, liabilities	"Income and assets, liabilities"
Transaction Information	Nature of assets	"Nature, amount and currency of the involved assets"
Transaction Information	Origin of assets	"Origin of the deposited assets"
Transaction Information	Purpose of relationship	"Purpose of the business relationship"

Compliance Context for Key Questions

PEP Questions (Screen 10)

PEP (Politically Exposed Person) status is critical for AML risk assessment. According to the AML Directive v1.4, Section 4.4.5, PEPs include:

1. **Foreign PEPs:** Persons with leading public functions abroad (heads of state, politicians, high-level officials)
2. **Domestic PEPs:** Persons with leading public functions in Switzerland
3. **International organization PEPs:** Persons with leading functions in international organizations
4. **Associated persons:** Family members or close business associates of PEPs

Your implementation should ask if any of these relationships exist for:

- The client/owner
- Any controlling person
- Any beneficial owner
- Any person establishing the business relationship

Sanctions Questions (Screen 10)

Sanctions questions identify if the client has connections to countries under international restrictions. According to AML Directive v1.4, Section 2.1.1, Centi must not serve entities from:

- Cuba
- Iran
- North Korea
- Syria
- Russia
- Venezuela
- Certain regions of Ukraine (Crimea, Donetsk, Luhansk)

Ask if any client-related person is a citizen, resident, or has business ties to these countries.

Technical Implementation Requirements

Security Implementation

- 1. Data Transmission Security**
 - Use TLS 1.3 for all communications
 - Implement proper certificate validation
 - Use secure HTTP headers (HSTS, CSP, X-Content-Type-Options, etc.)
- 2. Form Security**
 - Implement CSRF protection
 - Validate all inputs server-side
 - Sanitize all inputs to prevent XSS
 - Implement rate limiting to prevent abuse
- 3. Document Handling Security**
 - Validate document types before processing
 - Scan uploads for malware
 - Use secure temporary storage for documents before transmission

Email Submission Implementation

- 1. Data Package Creation**
 - Create a structured JSON file with all form data

- Generate PDFs for all required forms
- Create a ZIP package with all documents
- 2. **Email Transmission**
 - Use secure SMTP with appropriate authentication
 - Include descriptive subject line with client name and timestamp
 - Include MD5 checksums of all attachments for verification
 - Request delivery receipts
- 3. **Post-Submission Cleanup**
 - Use secure data wiping for all temporary files
 - Log successful submission (without sensitive data)
 - Show user confirmation screen with reference number

Compliance Testing Scenarios

To ensure your implementation correctly handles various compliance scenarios, test these specific cases:

1. **Legal Entity with Multiple Controlling Persons**
 - Create a test case with 3 controlling persons, each owning 30% shares
 - Verify Form K is correctly populated with all 3 controlling persons
2. **Legal Entity with No Controlling Persons by Shares**
 - Create a test case where no shareholder owns $\geq 25\%$
 - Test "control by other means" path
 - Test managing director path if no other control exists
3. **PEP Identification**
 - Create a test case where a controlling person is a PEP
 - Verify PEP information is correctly collected
 - Verify risk flagging occurs
4. **Complex Beneficial Ownership**
 - Create a test case where beneficial owners differ from controlling persons
 - Verify Form A is correctly populated

By following this comprehensive guide, you should be able to implement the Centi Client Onboarding System with a clear understanding of the compliance requirements, even without prior compliance knowledge. The document references and detailed field mappings provide the specific context needed for proper implementation.