

- DS-OCR-Project API Documentation

- Overview
- Table of Contents
- Health Check
 - GET /
- Account Applications
 - Create Application
 - POST /account-applications
 - Get All Applications
 - GET /account-applications
 - Get Application by ID
 - GET /account-applications/{application_id}
 - Update Application
 - PUT /account-applications/{application_id}
 - Delete Application
 - DELETE /account-applications/{application_id}
- Search Endpoints
 - Search by CNIC
 - GET /account-applications/search/cnic/{cnic_no}
 - Search by Account Type
 - GET /account-applications/search/account-type/{account_type}
 - Search by City
 - GET /account-applications/search/city/{city}
 - Search by Account Number
 - GET /account-applications/search/account-number/{account_no}
 - Search by IBAN
 - GET /account-applications/search/iban/{iban}
- Utility Endpoints
 - Get Applications Count
 - GET /account-applications/count
 - Get Paginated Applications
 - GET /account-applications/paginated
- Data Models
 - AccountApplicationCreate
 - AccountApplication
 - Enumerations
 - AccountType

- [MaritalStatus](#)
- [Gender](#)
- [Occupation](#)
- [ResidentialStatus](#)
- [Validation Rules](#)
 - [General Rules](#)
 - [Field-Specific Validations](#)
 - [Next of Kin Validation](#)
- [Error Responses](#)
 - [Standard Error Format](#)
 - [Common HTTP Status Codes](#)
 - [Validation Error Example](#)
- [API Endpoints Summary](#)
- [Running the API](#)
 - [Interactive Documentation](#)

DS-OCR-Project API Documentation

Overview

Title: Hello World API

Version: 1.0.0

Base URL: <http://127.0.0.1:4444>

This API provides endpoints for managing bank account applications with OCR-based data extraction capabilities.

Table of Contents

1. [Health Check](#)
2. [Account Applications](#)
 - [Create Application](#)
 - [Get All Applications](#)
 - [Get Application by ID](#)
 - [Update Application](#)

- Delete Application
3. Search Endpoints
- Search by CNIC
 - Search by Account Type
 - Search by City
 - Search by Account Number
 - Search by IBAN
4. Utility Endpoints
- Get Applications Count
 - Get Paginated Applications
5. Data Models
6. Validation Rules
7. Error Responses
-

Health Check

GET /

Returns API status and version information.

Response:

```
{  
  "message": "Hello World!",  
  "status": "API is running",  
  "version": "1.0.0"  
}
```

Account Applications

Create Application

POST /account-applications

Creates a new account application. The `account_no` and `iban` are auto-generated.

Request Body: `AccountApplicationCreate`

```
{  
    "title_of_account": "JOHN DOE",  
    "name": "JOHN DOE",  
    "name_on_card": "JOHN DOE",  
    "cnic_no": "12345-1234567-1",  
    "fathers_husbands_name": "JAMES DOE",  
    "mothers_name": "JANE DOE",  
    "marital_status": "SINGLE",  
    "gender": "MALE",  
    "nationality": "PAKISTANI",  
    "place_of_birth": "KARACHI",  
    "date_of_birth": "1990-01-15",  
    "cnic_expiry_date": "2030-01-15",  
    "house_no_block_street": "HOUSE 123, BLOCK A, STREET 5",  
    "area_location": "GULSHAN",  
    "city": "KARACHI",  
    "postal_code": "75300",  
    "occupation": "SERVICE_PRIVATE",  
    "purpose_of_account": "SALARY",  
    "source_of_income": "EMPLOYMENT",  
    "expected_monthly_turnover_dr": 50000,  
    "expected_monthly_turnover_cr": 60000,  
    "residential_status": "HOUSE OWNED",  
    "residing_since": "2015-01-01",  
    "next_of_kin_name": "JANE DOE",  
    "next_of_kin_relation": "S/O",  
    "next_of_kin_cnic": "12345-1234567-2",  
    "next_of_kin_relationship": "MOTHER",  
    "next_of_kin_contact_no": "03001234567",  
    "next_of_kin_address": "HOUSE 456, BLOCK B",  
    "next_of_kin_email": "jane.doe@email.com",  
    "internet_banking": true,  
    "mobile_banking": true,  
    "check_book": true,  
    "sms_alerts": true,  
    "card_type_gold": true,  
    "card_type_classic": false,  
    "zakat_deduction": false  
}
```

Response: `200 OK` - Returns created `AccountApplication` object with auto-generated `id`, `account_no`, and `iban`.

Get All Applications

GET /account-applications

Retrieves all account applications.

Response: 200 OK - Array of AccountApplication objects.

```
[  
  {  
    "id": 1,  
    "account_no": "123456789012",  
    "iban": "PK123456789012345678",  
    "title_of_account": "JOHN DOE",  
    "name": "JOHN DOE",  
    "cnic_no": "12345-1234567-1",  
    ...  
  }  
]
```

Get Application by ID

GET /account-applications/{application_id}

Retrieves a specific account application by its ID.

Path Parameters:

Parameter	Type	Required	Description
application_id	integer	Yes	Unique application identifier

Response: 200 OK - AccountApplication object

Error Response: 404 Not Found - Application not found

Update Application

PUT /account-applications/{application_id}

Updates an existing account application.

Path Parameters:

Parameter	Type	Required	Description
application_id	integer	Yes	Unique application identifier

Request Body: AccountApplication object with updated fields.

Response: 200 OK - Updated AccountApplication object

Error Response: 404 Not Found - Application not found

Delete Application

DELETE /account-applications/{application_id}

Deletes an account application by its ID.

Path Parameters:

Parameter	Type	Required	Description
application_id	integer	Yes	Unique application identifier

Response: 200 OK - Deletion confirmation

Error Response: 404 Not Found - Application not found

Search Endpoints

Search by CNIC

GET /account-applications/search/cnic/{cnic_no}

Search for an account application by CNIC number.

Path Parameters:

Parameter	Type	Required	Description
cnic_no	string	Yes	CNIC number (format: 12345-1234567-1)

Response: 200 OK - AccountApplication object

Error Response: 404 Not Found - Account application not found

Search by Account Type

GET /account-applications/search/account-type/{account_type}

Search for account applications by account type.

Path Parameters:

Parameter	Type	Required	Description
account_type	string	Yes	Account type: CURRENT, SAVINGS, or AHU_LAT

Response: 200 OK - Array of AccountApplication objects

Search by City

GET /account-applications/search/city/{city}

Search for account applications by city.

Path Parameters:

Parameter	Type	Required	Description
city	string	Yes	City name (in uppercase)

Response: 200 OK - Array of AccountApplication objects

Search by Account Number

GET /account-applications/search/account-number/{account_no}

Search for an account application by account number.

Path Parameters:

Parameter	Type	Required	Description
account_no	string	Yes	12-digit account number

Response: 200 OK - AccountApplication object

Error Response: 404 Not Found - Account application not found

Search by IBAN

GET /account-applications/search/iban/{iban}

Search for an account application by IBAN.

Path Parameters:

Parameter	Type	Required	Description
iban	string	Yes	IBAN (format: PK + 18 digits)

Response: 200 OK - AccountApplication object

Error Response: 404 Not Found - Account application not found

Utility Endpoints

Get Applications Count

GET /account-applications/count

Get the total count of all account applications.

Response: 200 OK

```
{  
  "total_applications": 150
```

}

Get Paginated Applications

GET /account-applications/paginated

Get paginated list of account applications.

Query Parameters:

Parameter	Type	Required	Default	Description
skip	integer	No	0	Number of records to skip
limit	integer	No	10	Maximum number of records to return

Example: /account-applications/paginated?skip=10&limit=20

Response: 200 OK - Array of AccountApplication objects

Data Models

AccountApplicationCreate

Schema for creating new applications (without auto-generated fields).

Field	Type	Required	Description
title_of_account	string	Yes	Account title (BLOCK LETTERS)
name	string	Yes	Name as per CNIC (BLOCK LETTERS)
cnic_no	string	Yes	CNIC number (format: 12345 -)

Field	Type	Required	Description
			1234567-1)
name_on_card	string	No	Name for card (must match name)
fathers_husbands_name	string	No	Father's/Husband's name
mothers_name	string	No	Mother's name
marital_status	MaritalStatus	No	Marital status
gender	Gender	No	Gender
nationality	string	No	Nationality
place_of_birth	string	No	Place of birth
date_of_birth	string	No	Date of birth (YYYY-MM-DD)
cnic_expiry_date	string	No	CNIC expiry date
house_no_block_street	string	No	House address details
area_location	string	No	Area/Location
city	string	No	City name
postal_code	string	No	Postal code (5 digits)
occupation	Occupation	No	Occupation type
occupation_other	string	No	Other occupation details
purpose_of_account	string	No	Purpose of account
source_of_income	string	No	Source of income
expected_monthly_turnover_dr	float	No	Expected debit turnover (Rs M)
expected_monthly_turnover_cr	float	No	Expected credit turnover (Rs M)

Field	Type	Required	Description
residential_status	ResidentialStatus	No	Residential status
residential_status_other	string	No	Other residential details
residing_since	string	No	Residing since date
next_of_kin_name	string	Conditional*	Next of kin name
next_of_kin_relation	string	Conditional*	Relation (S/W/D/O)
next_of_kin_cnic	string	Conditional*	Next of kin CNIC
next_of_kin_relationship	string	No	Relationship type
next_of_kin_contact_no	string	No	Contact number
next_of_kin_address	string	No	Address
next_of_kin_email	string	No	Email address
internet_banking	boolean	No	Enable internet banking
mobile_banking	boolean	No	Enable mobile banking
check_book	boolean	No	Request check book
sms_alerts	boolean	No	Enable SMS alerts
card_type_gold	boolean	No	Request Gold card
card_type_classic	boolean	No	Request Classic card
zakat_deduction	boolean	No	Enable Zakat deduction

*Conditional: If any next of kin field is provided, `name`, `relation`, and `cnic` become required.

AccountApplication

Full schema including auto-generated fields (used for responses and updates).

Field	Type	Description
<code>id</code>	integer	Unique identifier (auto-generated)
<code>account_no</code>	string	12-digit account number (auto-generated)
<code>iban</code>	string	IBAN (PK + 18 digits, auto-generated)
<code>date</code>	string	Application date
<code>branch_city</code>	string	Branch city
<code>branch_code</code>	string	Branch code
<code>sbp_code</code>	string	SBP code
<code>account_type</code>	AccountType	Account type

+ All fields from
AccountApplicationCreate

Enumerations

AccountType

Value	Description
<code>CURRENT</code>	Current Account
<code>SAVINGS</code>	Savings Account
<code>AHU_LAT</code>	Ahu Lat Account

MaritalStatus

Value	Description
SINGLE	Single
MARRIED	Married
DIVORCED	Divorced
WIDOWED	Widowed

Gender

Value	Description
MALE	Male
FEMALE	Female
OTHER	Other

Occupation

Value	Description
SERVICE_GOV	Government Service
SERVICE_PRIVATE	Private Service
FARMER	Farmer
HOUSE_WIFE	House Wife
STUDENT	Student
OTHER	Other

ResidentialStatus

Value	Description
HOUSE_OWNED	Owned House
RENTAL	Rental
FAMILY	Family House
OTHER	Other

Validation Rules

General Rules

1. **BLOCK LETTERS:** All text fields must be in uppercase

- Applies to: `name`, `title_of_account`, `fathers_husbands_name`, `mothers_name`, `nationality`, `place_of_birth`, `house_no_block_street`, `area_location`, `city`, `purpose_of_account`, `source_of_income`, `next_of_kin_name`, `next_of_kin_address`, `occupation_other`, `residential_status_other`, `name_on_card`

2. **Name Consistency:** `title_of_account`, `name`, and `name_on_card` must be identical

Field-Specific Validations

Field	Validation Rule
<code>cnic_no</code>	Format: <code>12345-1234567-1</code> (5 digits - 7 digits - 1 digit)
<code>next_of_kin_cnic</code>	Same format as CNIC
<code>date_of_birth</code>	Date format: <code>YYYY-MM-DD</code>
<code>cnic_expiry_date</code>	Date format: <code>YYYY-MM-DD</code>
<code>postal_code</code>	5-digit numeric code
<code>next_of_kin_contact_no</code>	Valid phone number format
<code>next_of_kin_email</code>	Valid email format
<code>account_no</code>	12-digit numeric (auto-generated)
<code>iban</code>	PK + 18 digits (auto-generated)

Next of Kin Validation

If **any** next of kin field is provided, the following fields become **required**:

- `next_of_kin_name`

- `next_of_kin_relation`
 - `next_of_kin_cnic`
-

Error Responses

Standard Error Format

```
{  
  "detail": "Error message description"  
}
```

Common HTTP Status Codes

Status Code	Description
<code>200 OK</code>	Request successful
<code>404 Not Found</code>	Resource not found
<code>422 Unprocessable Entity</code>	Validation error
<code>500 Internal Server Error</code>	Server error

Validation Error Example

```
{  
  "detail": [  
    {  
      "loc": ["body", "cnic_no"],  
      "msg": "CNIC must be in format: 12345-1234567-1",  
      "type": "value_error"  
    }  
  ]  
}
```

API Endpoints Summary

Method	Endpoint	Description
GET	/	Health check
POST	/account-applications	Create new application
GET	/account-applications	Get all applications
GET	/account-applications/{id}	Get application by ID
PUT	/account-applications/{id}	Update application
DELETE	/account-applications/{id}	Delete application
GET	/account-applications/search/cnic/{cnic}	Search by CNIC
GET	/account-applications/search/account-type/{type}	Search by account type
GET	/account-applications/search/city/{city}	Search by city
GET	/account-applications/search/account-number/{no}	Search by account number
GET	/account-applications/search/iban/{iban}	Search by IBAN
GET	/account-applications/count	Get total count
GET	/account-applications/paginated	Get paginated list

Running the API

```
# Install dependencies
pip install -r requirements.txt

# Run the server
python main.py
```

The API will be available at <http://127.0.0.1:4444>

Interactive Documentation

- **Swagger UI:** <http://127.0.0.1:4444/docs>
- **ReDoc:** <http://127.0.0.1:4444/redoc>