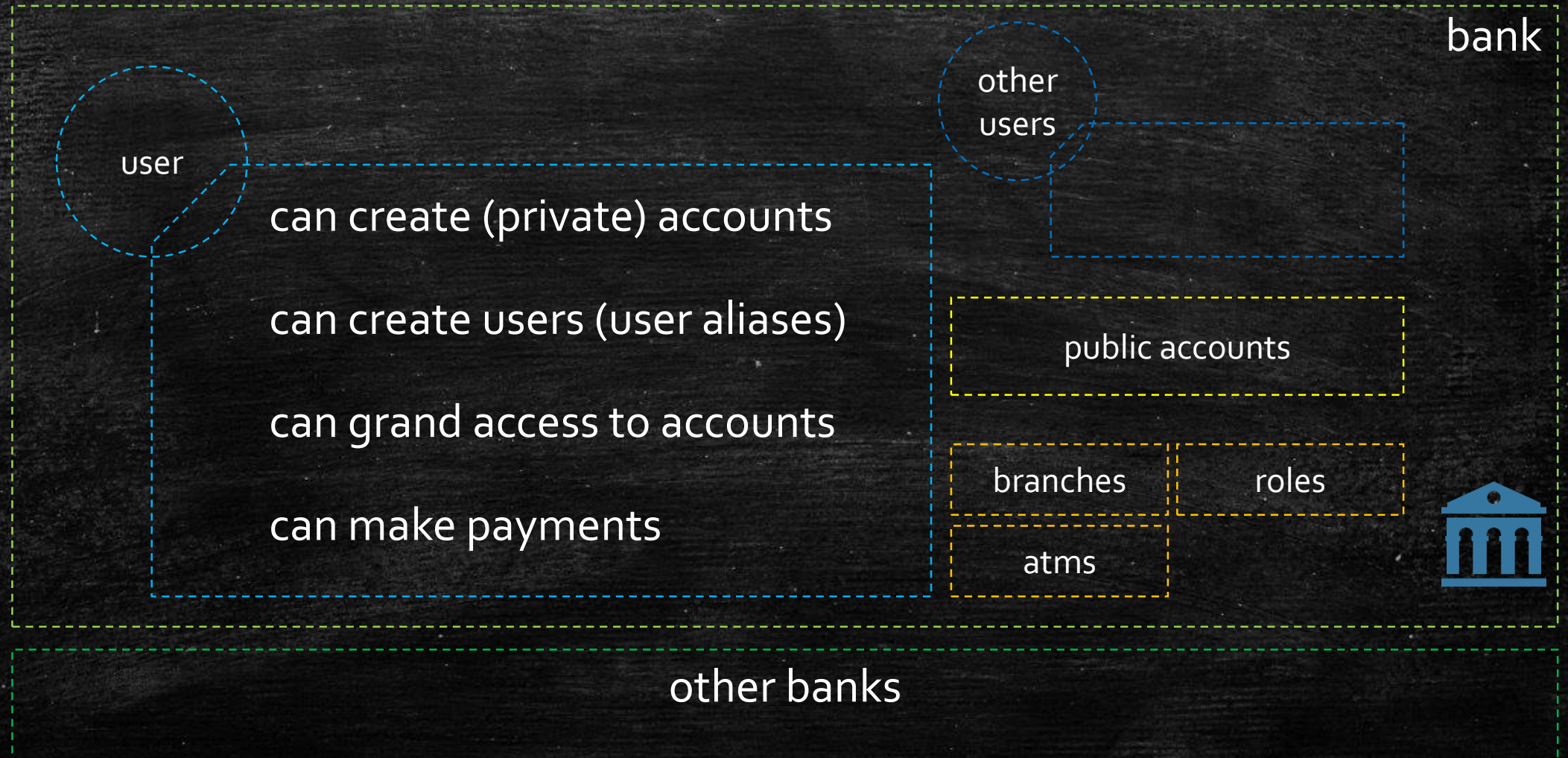


Open Bank Project API

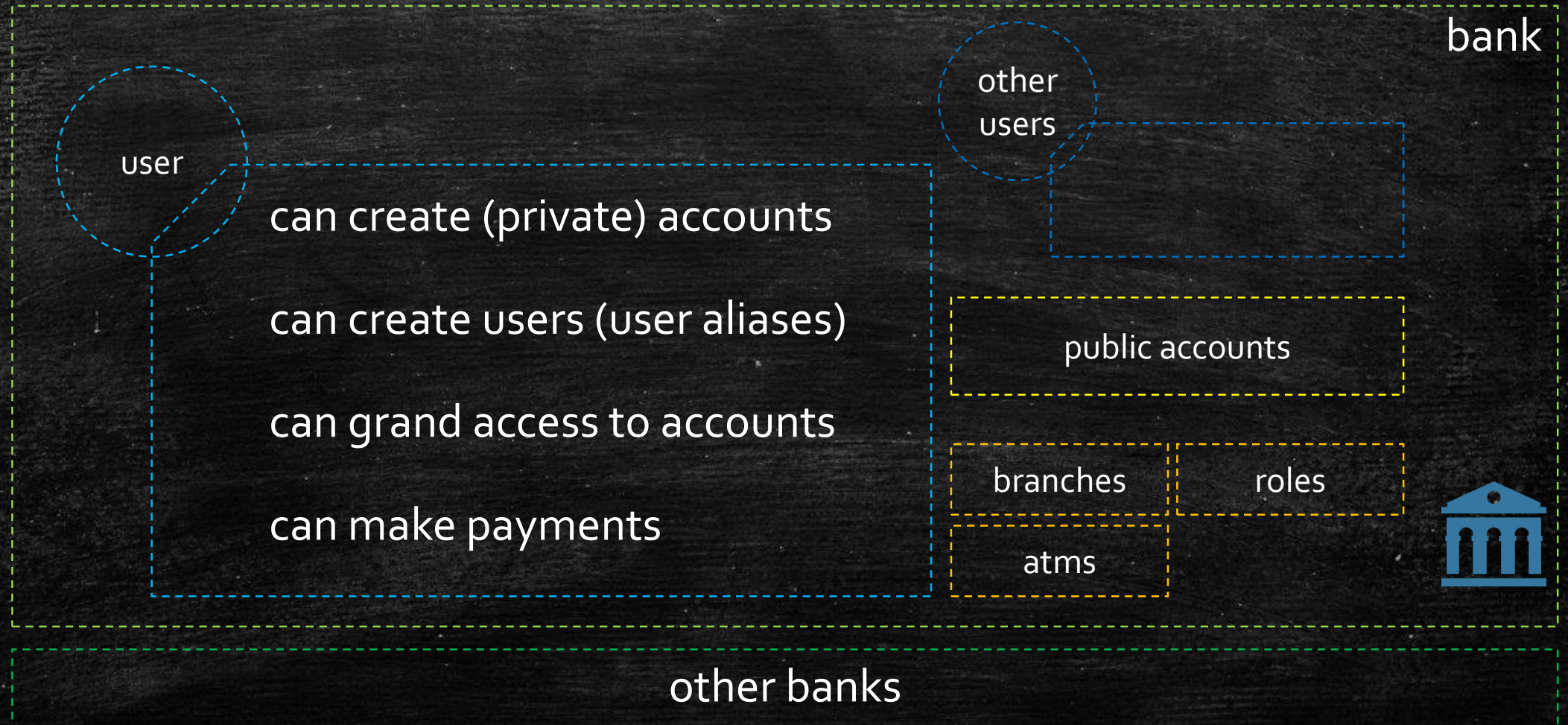
NBG implementation

NBG Open Bank API sandbox



NBG Open Bank API sandbox

create
export
upload
edit



Http Headers

- sandbox_id
- application_id
- user_id
- provider, provider_id, username

Http Headers & endpoint structure

- sandbox_id
- application_id
- user_id
- provider, provider_id, username
- /banks/[BANK_ID]/

API structure

- [Users](#)
- [Accounts](#)
- [Views & Permissions](#)
- [Other Accounts \(counterparties\)](#)
- [Transactions](#)
- [Payments](#)

user

```
{
  "user_id": "5995d6a2-01b3-423c-a173-5481df49bdaf",
  "email": "robert.x.0.gr@example.com",
  "provider_id": "2345xr23894",
  "provider": "NBG.OBP",
  "username": "robert.x.0.gr",
  "entitlements": {
    "list": [
      {
        "entitlement_id": "6fb17583-1e49-4435-bb74-a14fe0996723",
        "role_name": "CanQueryOtherUser",
        "bank_id": "2B41C0F4-3B98-405F-B0B4-E7E86EA2B724"
      }
    ]
  }
}
```

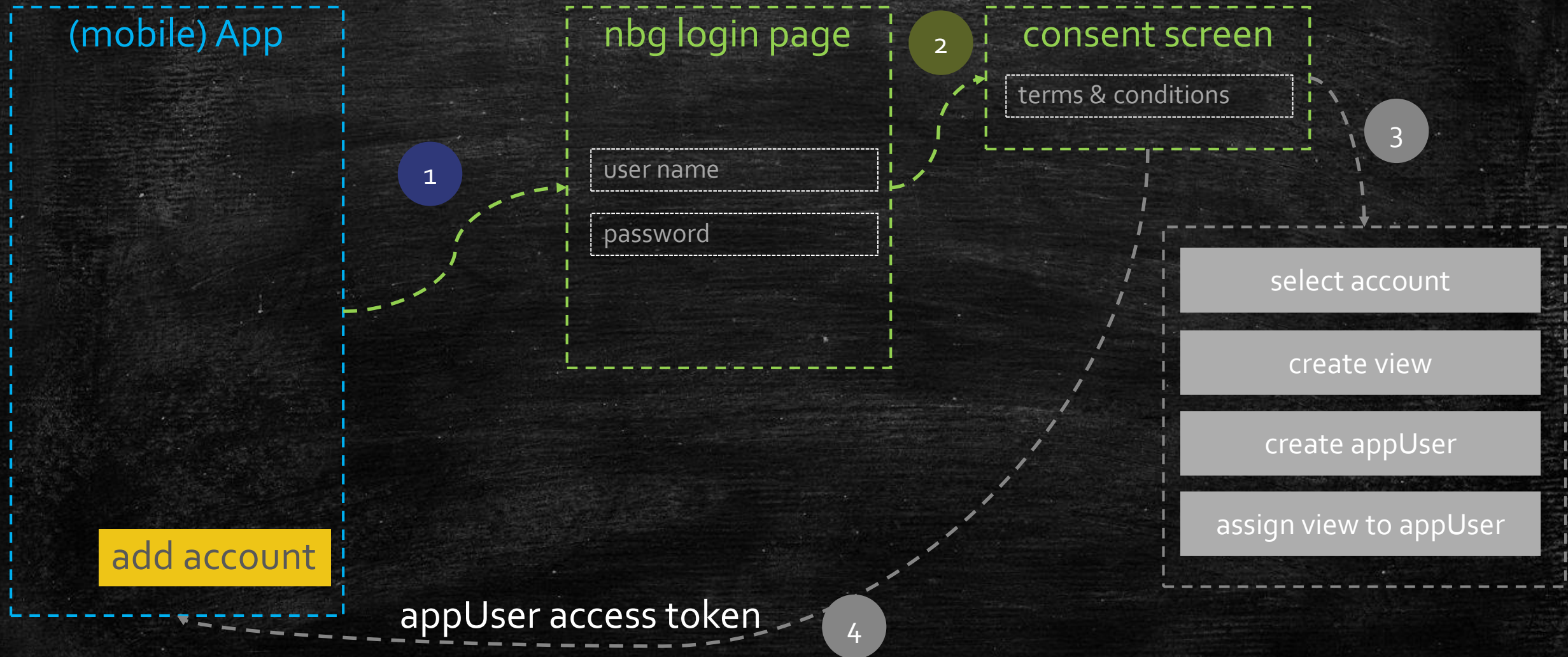
/users GET POST

/users/current GET

/roles GET

/users/[USER_ID]/entitlements GET POST DELETE

account registration flow



account #1

```
[{  
  "id": "5938FB22-352B-46FA-BDF2-F6AA3140404E",  
  "label": "Label",  
  "bank_id": "8ca8a7e4-6d02-48e3-a029-0b2bf89de9f0",  
  "views_available": [{  
    "id": "owner",  
    "short_name": "Owner",  
    "is_public": false  
  }]  
}]
```

GET

/banks/[BANK_ID]/accounts

/banks/[BANK_ID]/accounts/private

/banks/[BANK_ID]/accounts/public

/my/accounts

/my/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/account

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]/account

account #2

GET

/banks/[BANK_ID]/accounts

/banks/[BANK_ID]/accounts/private

/banks/[BANK_ID]/accounts/public

/my/accounts

/my/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/account

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]/account

```
[{
  "id": "8ca8a7e4-6d02-48e3-a029-0b2bf89de9f0",
  "label": "String",
  "bank_id": "8ca8a7e4-6d02-48e3-a029-0b2bf89de9f0",
  "account_routing": {
    "scheme": "IBAN",
    "address": "GR89 3704 0044 0532 0130 00"
  }
}]
```


account #3

GET

/banks/[BANK_ID]/accounts

/banks/[BANK_ID]/accounts/private

/banks/[BANK_ID]/accounts/public

/my/accounts

/my/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/account

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]/account

```
{
  "id": "8ca8a7e4-6d02-48e3-a029-0b2bf89de9f0",
  "label": "not assigned",
  "number": "123",
  "owners": [
    {
      "id": "5995d6a2-01b3-423c-a173-5481df49bdaf",
      "provider": "NBG",
      "display_name": "NBG"
    }
  ],
  "type": "SAVINGS",
  "balance": {
    "currency": "EUR",
    "amount": "10"
  },
  "IBAN": "GR1301720530005053000582373",
  "swift_bic": "ETHNGRAA",
  "bank_id": "1ba06626-8924-4abd-a754-b783e6ff9a72",
  "account_routing": {
    "scheme": "IBAN",
    "address": "GR1301720530005053000582373"
  }
}
```


account #4

```
{
  "user_id": "8ca8a7e4-6d02-48e3-a029-0b2bf89de9f0",
  "label": "NoneLabel",
  "type": "SAVINGS",
  "balance": {
    "currency": "EUR",
    "amount": "10"
  },
  "branch_id": "8ca8a7e4-6d02-48e3-a029-0b2bf89de9f0",
  "account_routing": {
    "scheme": "IBAN",
    "address": "GR1301720530005053000582373"
  }
}
```

POST

DELETE

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]

view

```
{  
  "id": "123",  
  "short_name": "short_name",  
  "description": "description",  
  "is_public": true,  
  "alias": "None",  
  "hide_metadata_if_alias_used": true,  
  "can_[add|delete|edit|see]_[option]": true/false,  
}
```

permission

```
{  
  "user": {  
    "id": "5995d6a2-01b3-423c-a173-5481df49bdaf",  
    "provider": "NBG",  
    "display_name": "NBG"  
  },  
  "views": [{  
    "id": "123",  
    "short_name": "short_name",  
    "description": "description",  
    "is_public": true,  
    "alias": "None",  
    "hide_metadata_if_alias_used": true,  
    "can_[add|delete|edit|see]_[option]": true/false,  
  }]  
}
```

views & permissions

attribute	option	sample
comment	add, delete,	can_add_comment, can_delete_comment,
corporate_location	add, delete,
image	add, delete,	
image_url	add,	
more_info	add,	
open_corporates_url	add,	
physical_location	add, delete,	
private_alias	add,	
public_alias	add,	
tag	add, delete,	
url	add,	
where_tag	add, delete,	
owner_comment	edit	

view composition #1

attribute	option	sample
comments	see	can_see_comments
corporate_location	see
images	see	
image_url	see	
more_info	see	
open_corporates_url	see	
physical_location	see	
private_alias	see	
public_alias	see	
tag	see	
url	see	
where_tag	see	

view composition #2

attribute	bank_account	other_account	sample
balance	X		can_see_bank_account_balance
bank_name	X	X	can_see_bank_account_bank_name, can_see_other_account_bank_name
currency	X	
iban	X	X	
label	X		
national_identifier	X	X	
number	X	X	
owners	X		
swift_bic	X	X	
type	X		
kind		X	
metadata		X	

view composition #3

attribute	sample
amount	can_see_transaction_amount
balance	can_see_transaction_balance
currency
description	
finish_date	
metadata	
other_bank_account	
start_date	
this_bank_Account	

view composition #4

view operations

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/permissions GET

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/permissions/[PROVIDER_ID]/[USER_ID] GET

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/permissions/[PROVIDER_ID]/[USER_ID]/views POST DELETE

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/permissions/[PROVIDER_ID]/[USER_ID]/views/[VIEW_ID] POST DELETE

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/views GET POST

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/views/[VIEW_ID] PUT DELETE

other_account #1

```
"physical_location": {  
  "latitude": 1.231,  
  "longitude": 1.231,  
  "date": "2013-01-22T00:08:00Z",  
  "user": {  
    "id": "5995d6a2-01b3-423c-a173-5481df49bdaf",  
    "provider": "NBG",  
    "display_name": "NBG"  }  
}
```

GET /banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]

.../other_accounts

.../other_accounts/[OTHER_ACCOUNT_ID]

.../transactions/[TRANSACTION_ID]/other_account

```
{  
  "id": "5995d6a2-01b3-423c-a173-5481df49bdaf",  
  "holder": {  
    "name": "OBP",  
    "is_alias": true  
  },  
  "number": "123",  
  "kind": "3456",  
  "IBAN": "UK234DB",  
  "swift_bic": "UK12321DB",  
  "bank": {  
    "national_identifier": "NBG",  
    "name": "NBG"  
  },  
  "metadata": {  
    "public_alias": "NONE",  
    "private_alias": "NONE",  
    "more_info": "developer.nbg.gr",  
    "URL": "developer.nbg.gr",  
    "image_URL": "developer.nbg.gr",  
    "open_corporates_URL": "developer.nbg.gr",  
    "corporate_location": {  
      "latitude": 1.231,  
      "longitude": 1.231,  
      "date": "2013-01-22T00:08:00Z",  
      "user": {  
        "id": "5995d6a2-01b3-423c-a173-5481df49bdaf",  
        "provider": "NBG",  
        "display_name": "NBG"  
      }  
    },  
    "physical_location": {...}  
  }  
}
```


other_account #2

```
{  
  "name": "my rent pay",  
  "other_account_routing_scheme": "IBAN",  
  "other_account_routing_address": "7987987-2348987-234234",  
  "other_bank_routing_scheme": "BIC",  
  "other_bank_routing_address": "123456",  
  "other_branch_routing_scheme": "NBG",  
  "other_branch_routing_address": "Athens",  
  "is_beneficiary": true  
}
```

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]/counterparties POST

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]/[OTHER_ACCOUNT_ID] POST PUT DELETE

.../metadata/more_info

.../metadata/physical_location

.../public_alias

transaction #1

```
"counterparty": {  
  "id": "c3d9bf17-d58d-4daa-a1ee-782104a7d8c3",  
  "holders": {  
    "name": "ΣΠΑΝΙΟΣ ΕΥΣΤΡΑΤΙΟΣ ΝΕΚΤΑΡΙΟΣ",  
    "is_alias": false  
  },  
  "number": "10591438667",  
  "kind": null,  
  "IBAN": "GR6301101050000010591438667",  
  "swift_bic": "ETHNGRAA",  
  "bank": {  
    "name": "NATIONAL BANK OF GREECE S.A.",  
    "national_identifier": "ETHNGRAA"  
  }  
}
```

```
{  
  "id": "27919911",  
  "account": {  
    "id": "f1fbff6f-168f-47de-88a1-595fdc8fce30",  
    "holders": null,  
    "number": "09575973632",  
    "kind": null,  
    "IBAN": "GR1501100950000009575973632",  
    "swift_bic": "ETHNGRAA",  
    "bank": {  
      "name": "NATIONAL BANK OF GREECE S.A.",  
      "national_identifier": "ETHNGRAA"  
    }  
  },  
  "counterparty": {...},  
  "details": {  
    "type": null,  
    "description": "TEST11_NBG",  
    "posted": null,  
    "completed": "2017-06-23T10:46:20Z",  
    "new_balance": {  
      "currency": "EUR",  
      "amount": "3340.06"  
    },  
    "value": {  
      "currency": "EUR",  
      "amount": "-11.00"  
    }  
  }  
}
```

GET

my/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/transactions

banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]/transactions

/[TRANSACTION_ID]/transaction

transaction #2

custom headers

obp_sort_by [default value: "completed" field]

obp_sort_direction [default value: DESC]

obp_limit [default value: 50]

obp_offset [default value: 0]

obp_from_date [default value: date of the oldest]

obp_to_date [default value: date of the newest]

date format: yyyy-MM-dd'T'HH:mm:ss.SSS'Z'

GET

my/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/transactions

banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]/transactions

/[TRANSACTION_ID]/transaction

```
{
  "id": "27919911",
  "account": {
    "id": "f1fbff6f-168f-47de-88a1-595fdc8fce30",
    "holders": null,
    "number": "09575973632",
    "kind": null,
    "IBAN": "GR1501100950000009575973632",
    "swift_bic": "ETHNGRAA",
    "bank": {
      "name": "NATIONAL BANK OF GREECE S.A.",
      "national_identifier": "ETHNGRAA"
    }
  },
  "counterparty": {...},
  "details": {
    "type": null,
    "description": "TEST11_NBG",
    "posted": null,
    "completed": "2017-06-23T10:46:20Z",
    "new_balance": {
      "currency": "EUR",
      "amount": "3340.06"
    },
    "value": {
      "currency": "EUR",
      "amount": "-11.00"
    }
  }
}
```


transaction #3

```
"this_account": {
  "id": "f1fbff6f-168f-47de-88a1-595fdc8fce30",
  "holders": null,
  "number": null,
  "kind": null,
  "IBAN": null,
  "swift_bic": null,
  "bank": {
    "name": null,
    "national_identifier": null
  }
}
```

```
{
  "id": null,
  "this_account": { ... },
  "other_account": { ... },
  "details": {
    "type": null,
    "description": "AAAAA@1.:_",
    "posted": null,
    "completed": null,
    "new_balance": {
      "currency": null,
      "amount": null
    },
    "value": {
      "currency": null,
      "amount": null
    }
  },
  "metadata": {
    "narrative": null,
    "comments": null,
    "tags": null,
    "images": null,
    "where": null
  }
}
```

```
"other_account": {
  "metadata": null,
  "id": null,
  "holders": {
    "name": "ΑΓΝΩΣΤΟΣ ΚΩΝΣΤ ΕΕΝΟΦΩΝ",
    "is_alias": false
  },
  "number": null,
  "kind": null,
  "IBAN": null,
  "swift_bic": null,
  "bank": null
}
```

GET

my/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/transactions

banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]/transactions

/[TRANSACTION_ID]/transaction

+ custom headers

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]

POST /transaction-request-types/SEPA/transaction-requests

(request)

```
{
  "value": {
    "currency": "EUR",
    "amount": "10"
  },
  "to": {
    "iban": "GR4100110230000000000"
  },
  "description": "This is a SEPA Request",
  "charge_policy": "SHA"
}
```

(response)

```
{
  "id": "ad3e6654-0722-43a1-9474-07a6f9b412dd",
  "type": "SEPA",
  "from": {
    "bank_id": ".",
    "account_id": "."
  },
  "details": {
    "to": {
      "bank_id": ".",
      "account_id": "."
    },
    "value": {
      "currency": "EUR",
      "amount": "16.16"
    },
    "description": "The sender's description"
  },
  "status": "INITIATED",
  "start_date": "2016-07-18T15:33:46.9501123+03:00",
  "end_date": "0001-01-01T00:00:00",
  "transaction_ids": [ ],
  "challenge": {
    "id": "7ced2d1b-b20b-4978-974c-459d64cc787d",
    "allowed_attempts": 1,
    "challenge_type": "SMS_OTP"
  }
}
```

payment initiation

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]

POST /transaction-request-types/COUNTERPARTY/transaction-requests

(request)

```
{
  "value": {
    "currency": "EUR",
    "amount": "10"
  },
  "to": {
    "counterparty_id": "3641ff14-ca40-410c-a654"
  },
  "description": "This is a SEPA Request",
  "charge_policy": "SHA"
}
```

(response)

```
{
  "id": "ad3e6654-0722-43a1-9474-07a6f9b412dd",
  "type": "COUNTERPARTY",
  "from": {
    "bank_id": ".",
    "account_id": "."
  },
  "details": {
    "to": {
      "bank_id": ".",
      "account_id": "."
    },
    "value": {
      "currency": "EUR",
      "amount": "16.16"
    },
    "description": "The sender's description"
  },
  "status": "INITIATED",
  "start_date": "2016-07-18T15:33:46.9501123+03:00",
  "end_date": "0001-01-01T00:00:00",
  "transaction_ids": [ ],
  "challenge": {
    "id": "7ced2d1b-b20b-4978-974c-459d64cc787d",
    "allowed_attempts": 1,
    "challenge_type": "SMS_OTP"
  }
}
```

payment initiation

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]

POST transaction-request-types/[TRANSACTION_REQUEST_TYPE]
/transaction-requests/[TRANSACTION_REQUEST_ID]/challenge

transaction-request-types/SEPA/
transaction-requests/ad3e6654-0722-43a1-9474-07a6f9b412dd/
challenge

(request)

```
{
  "id": "7ced2d1b-b20b-4978-974c-459d64cc787d",
  "answer": "1234"
}
```

```
{
  "to": {
    "bank_id": ".",
    "account_id": "."
  },
  "value": {
    "currency": "EUR",
    "amount": 16.16
  },
  "description": "The sender's description"
}
```

(response)

```
{
  "id": "ad3e6654-0722-43a1-9474-07a6f9b412dd",
  "type": "SEPA",
  "from": {
    "bank_id": ".",
    "account_id": "."
  },
  "details": {...},
  "status": "COMPLETED",
  "start_date": "2016-07-18T12:02:33.0618694+03:00",
  "end_date": "2016-07-18T12:02:33.1128748+03:00",
  "transaction_ids": [
    "27794602"
  ],
  "challenge": {
    "id": "7ced2d1b-b20b-4978-974c-459d64cc787d",
    "allowed_attempts": 1,
    "challenge_type": "SMS_OTP"
  },
  "charge": {
    "summary": "Good",
    "value": {
      "currency": "EUR",
      "amount": "10"
    }
  }
}
```

payment challenge

Bank

/banks

/banks/[BANK_ID]

/banks/[BANK_ID]/branches

/banks/[BANK_ID]/branches/[BRANCH_ID]

/banks/[BANK_ID]/atms

/banks/[BANK_ID]/atms/[ATM_ID]

/banks/[BANK_ID]/products

/banks/[BANK_ID]/products/[PRODUCT_CODE]

/banks/[BANK_ID]/transaction-types

/banks/[BANK_ID]/transaction-request-types

/banks/[BANK_ID]/crm-events

```
{
  "id": "3641ff14-ca40-410c-a654-0006e0c313d5",
  "full_name": "NATIONAL BANK OF GREECE",
  "short_name": "NBG",
  "logo_url": null,
  "website_url": null,
  "swift_bic": null,
  "national_identifier": null,
  "bank_routing": {
    "scheme": "BIC",
    "address": "ETHNGRAAA"
  }
}
```


Branches

/banks

/banks/[BANK_ID]

/banks/[BANK_ID]/branches

/banks/[BANK_ID]/branches/[BRANCH_ID]

/banks/[BANK_ID]/atms

/banks/[BANK_ID]/atms/[ATM_ID]

/banks/[BANK_ID]/products

/banks/[BANK_ID]/products/[PRODUCT_CODE]

/banks/[BANK_ID]/transaction-types

/banks/[BANK_ID]/transaction-request-types

/banks/[BANK_ID]/crm-events

```
{
  "id": "String",
  "name": "String",
  "address": {
    "line_1": "Athens",
    "line_2": "Athens",
    "line_3": "Athens",
    "city": "Athens",
    "state": "Athens",
    "postcode": "123",
    "country": "Greece"
  },
  "location": {
    "latitude": 11.45,
    "longitude": 11.45
  },
  "lobby": {
    "hours": "5"
  },
  "drive_up": {
    "hours": "5"
  },
  "meta": {
    "license": {
      "id": "5",
      "name": "IT"
    }
  },
  "branch_routing": {
    "scheme": "String",
    "address": "String"
  }
}
```


ATMs

/banks

/banks/[BANK_ID]

/banks/[BANK_ID]/branches

/banks/[BANK_ID]/branches/[BRANCH_ID]

/banks/[BANK_ID]/atms

/banks/[BANK_ID]/atms/[ATM_ID]

/banks/[BANK_ID]/products

/banks/[BANK_ID]/products/[PRODUCT_CODE]

/banks/[BANK_ID]/transaction-types

/banks/[BANK_ID]/transaction-request-types

/banks/[BANK_ID]/crm-events

```
{
  "id": "String",
  "name": "String",
  "address": {
    "line_1": "Athens",
    "line_2": "Athens",
    "line_3": "Athens",
    "city": "Athens",
    "state": "Athens",
    "postcode": "123",
    "country": "Greece"
  },
  "location": {
    "latitude": 11.45,
    "longitude": 11.45
  },
  "meta": {
    "license": {
      "id": "5",
      "name": "IT"
    }
  }
}
```


Transaction request types

/banks

/banks/[BANK_ID]

/banks/[BANK_ID]/branches

/banks/[BANK_ID]/branches/[BRANCH_ID]

/banks/[BANK_ID]/atms

/banks/[BANK_ID]/atms/[ATM_ID]

/banks/[BANK_ID]/products

/banks/[BANK_ID]/products/[PRODUCT_CODE]

/banks/[BANK_ID]/transaction-types

/banks/[BANK_ID]/transaction-request-types

/banks/[BANK_ID]/crm-events

```
{
  "transaction_request_types": [{
    "transaction_request_type": "MY_NBG_ACCOUNT"
  },
  {
    "transaction_request_type": "SEPA"
  },
  {
    "transaction_request_type": "NON_SEPA"
  },
  {
    "transaction_request_type": "COUNTERPARTY"
  }
]
```


/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]

GET

/transaction-request-types

/transaction-requests

```
{
  "transaction_request_types": [
    {
      "value": "MY_NBG_ACCOUNT",
      "charge": {
        "summary": "Warning! Default value!",
        "value": {
          "currency": "EUR",
          "amount": "0.00"
        }
      }
    },
    {
      "value": "SEPA",
      "charge": {
        "summary": "Warning! Default value!",
        "value": {
          "currency": "EUR",
          "amount": "0.00"
        }
      }
    },
    {
      "value": "COUNTERPARTY",
      "charge": {
        "summary": "Warning! Default value!",
        "value": {
          "currency": "EUR",
          "amount": "1.00"
        }
      }
    }
  ]
}
```

payment request types

/banks/[BANK_ID]/accounts/[ACCOUNT_ID]/[VIEW_ID]

GET

/transaction-request-types

/transaction-requests

```
{
  "id": "8b088508-f8f8-4a2b-9c4f-4553f9bef40a",
  "type": "SEPA",
  "from": {
    "bank_id": "ETHNGRAA",
    "account_id": "955133"
  },
  "details": {
    "to": {
      "bank_id": "ETHNGRAA",
      "account_id": "955133"
    },
    "value": {
      "currency": "EUR",
      "amount": "10"
    },
    "description": "Good"
  },
  "transaction_ids": [
    "e246fcb5-eacb-4997-a2e56b7a0"
  ],
  "status": "COMPLETED",
  "start_date": "2017-09-11T00:00:00Z",
  "end_date": "2017-09-11T00:00:00Z",
  "challenge": null,
  "charge": {
    "summary": "Total charges for transaction",
    "value": {
      "currency": "EUR",
      "amount": "2.0"
    }
  }
}
```

payment requests

About Open Banking

Open Banking:

- is about how banks share their own products and how they enable their customers to share their data and account functionality with third party applications in a secure and resilient fashion by using Open APIs
- makes possible for customers to use their banking service in the context of other services by combining innovative functionalities from banks and non-banks with reach through infrastructure
- leads to more transparency, customer choice and customer control over personal data

More about Open Banking:

- https://www.abe-eba.eu/downloads/knowledge-and-research/EBA_May2016_eAPWG_Understanding_the_business_relevance_of_Open_APIs_and_Open_Banking_for_banks.pdf
- <https://www.mulesoft.com/resources/api/what-is-open-banking>

Open Bank Project

NBG moves towards an Open Banking structure by following the standards of Open Bank Project.

Open Bank Project (<https://openbankproject.com>) is an open source API and App store for banks that:

- enables banks to offer an ecosystem of 3rd party apps and services to their customers by connecting banks, software developers and account holders
- builds innovative applications and services based on the account holders' transaction data

Other API standardization initiatives:

- The Concept of an Open Standard Interface for Controlled Access to Payment Services - CAPS (https://www.europeanpaymentscouncil.eu/news-insights/insight/concept-open-standard-interface-controlled-access-payment-services-caps?articles_uuid=42210000-5056-B741-DB0CD1AA4E9F34EA)
- Banking Industry Architecture Network (<https://bian.org>)
- Open Financial Exchange (<http://www.ofx.net>)
- Open Banking (<https://www.openbanking.org.uk>)