# TrustFactor Backoffice User Manual

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# **Release Notes**

This document is the user manual for the TrustFactor backoffice.

There are two main ways of integrating the TrustFactor Authentication Solution in your application – either through the TrustFactor App which is shared among customers and managed by SecuritySide or through Customized Applications – and choosing one or the other changes the level of access you have to the backoffice.

Customers integrating with the TrustFactor App will only have application-level permissions on the backoffice, whereas if you have a Customized Application you will have full owner permissions to the backoffice.

Throughout this document, we will mark the sections available only for Customized Application customers with the "CustomApps only" tag for clarity and simplicity.

### Changelog - v4.8.0

- Add contract revalidation event
- Add contract list & details

### Changelog - v4.7.0

- Add Authentication provider to application settings
- Change all dates strings to show according the ISO 8601

### Changelog - v4.6.0

- Add T&C listing & details
- Add device location to devices list

### Changelog - v4.5.0

- Event feed datails, show timestamp and CID values
- Virtual agents Show a list of failed shared contracts

### Changelog - v4.4.0

- Handle application callback errors (virtual agents)
- Change Error logs default 'Created At' filter value, to be 30 mins

- Show Error logs details in new tab
- Remove contract\_key filter from transactions list
- Add button on successful creation of API Token to add event in calendar (to renew, containing all information about token)
- Implement lazy loading in get permissions request
- Handle error codes when api return error 500 (or other mapped status code)
- Add support to filter by CID on Error logs list

# Changelog - v4.3.0

- Add Virtual Agents
- Implement scrollbar on sidebar
- Fix bug on change application via app selector

### Changelog - v4.2.0

- Changing the behavior of table filters, allowing the use of relative periodic filters
- Changing the behavior of table filters, allowing it to be possible to copy filters without them being applied
- Add more information to event history details screen
- Fix event history list to support transactions sibs and sibs\_v2
- Changing the behavior of opening details screen in transactions, event history lists
- Fix dropdown filter with multiple values selected (UI bug)
- Add share links on devices and logs lists
- Fix duplicated tables requests
- Fix exclusive filters cleanup
- Fix label on device history search bar

### Changelog - v4.1.0

- Add missing information to transaction details screen
- Change red asterisk to (1) superscript to avoid confusion with required field (table filters)
- Add password-requiments on change password screen
- Export log data as CSV
- Implement share link on transactions screen
- Implement share link transaction details
- Fix 404 error when click on button "back" in event history pages
- Fix status toggle on operations list

# Changelog - v4.0.1

• Fix navigation to back in event history pages

# Changelog - v4.0.0

- Add event history page
- Add error logs page
- Change refresh data on dashboard page to use signalr
- Add support to exact match legend on table filter
- Transaction details (modal), show button to download proof
- Fix change language on your account screen
- Fix all date formatting according to preferred language

# Changelog - v3.1.2

• Fix error on create app, inputs validation

# Changelog - v3.1.1

- Fix renew session flow
- Add transaction proof download
- Add transaction proof validator
- Add support to marketing name on devices list

### Changelog - v3.1.0

- Fix edit roles when role is locked
- Add support to secundary endpoint
- Add support to iPadOS on list of devices and dashboard

### Changelog - v3.0.3

- Show transaction\_id in transaction details modal
- Dashboard Separating digits in graphics
- Fix permission validation to see dashboard page

# Changelog - v3.0.2

• Update pipelines

### Changelog - v3.0.1

• Fix fallback image on application selector

### Changelog - v3.0.0

- Fix rule template condition modal when is closed to allow reopen
- Fix bug on transaction details risk\_modules
- Replace functionalities endpoints to remove deprecated endpoints
- Add lock\_out information on devices list

# Changelog - v2.16.4

• Fix edit rule templates

### Changelog - v2.16.3

- Fix operation presets page
- Fix device delete button in devices page

### Changelog - v2.16.2

- Fix dropdown hover top bar while editing operation
- Fix dashboard tooltips
- Fix max results alert message on devices screen
- Fix operation parameter risk buttons: add rule, edit rule, delete rule

### Changelog - v2.16.1

- Fix of max results warning message on devices list page
- Fix Dashboard transactions counter

# Changelog - v2.16.0

- Add Dashboard PAGE
- Add RTAS back-end and front-end address in RTAS configuration pages
- Fix RTAS status toggle
- Fix bug on sidebar list when change preferred language

### Changelog - v2.15.3

• Add pipeline id for e2e tests

### Changelog - v2.15.2

- Add toogles to enable functionalities on create application screen
- Fix bug on edit application page to update the input values when inputs are changed multiple times

### Changelog - v2.15.1

• Fix visual bug on create v2 application screen

### Changelog - v2.15.0

- Add functionality access manager into settings -> functionalities screen
- Hide button of transaction details when transaction doesn't have details to show (pending)
- Add pophover on pagination on "..." button to choose page number to navigate
- Update internal dependecies
- Add suggested username on registration screen
- Fix some navigation inside admin area
- Fix limit/offset on API token applications list

# Changelog - v2.14.2

### Changelog - v2.14.1

- Fix administration roles screen navigation
- Fix oidc login/registration screens

### Changelog - v2.14.0

- Add toogle to enable/disable email notifications
- Fix bug in pagination when changing the current page
- Fix broken URL path on settings, functionalities pages
- Fix validation of user permissions to access the settings page
- Change some labels on SIBS3DS V2 transaction details
- Fix API Tokens creation with multiple applications

### Changelog - v2.13.1

• Fix callback timeout retro-compatibility on application settings

### Changelog - v2.13.0

- Fix renew session flow
- Fix bug in pagination when changing the items per page in tables
- Change callback timeout on application settings to 1...30 seconds
- Remove unnecessary requests on operations page
- Fix requests when user switches from one app to another

# Changelog - v2.12.0

- Add Transaction ID filter to transaction list
- Add security-related HTTP response headers

# Changelog - v2.11.1

- Improve labels and translations
- Add action field to simulator on generic transactions screen
- Pagination is now limited to 100 requests, users must adjust their filters to get full results
- Fix bug in setting strict mode when editing money-v2 rules in operations
- Optimize API requests

### Changelog - v2.11.0

- Improve labels and translations
- Add Realtime Authentication functionality
- Add new column and filter "Association date" into devices list

### Changelog - v2.10.0

- Moved transaction duration in operations to the basic settings screen
- Added operations step names
- Small improvements on labels and tooltips
- Fix pagination bug (returning to page 1 in a table)

# **Endpoint Access**

The TrustFactor Backoffice is deployed behind a firewall and is only available when accessed from certain IP addresses. To gain access to the Backoffice, you must first contact SecuritySide and request that your egress IP address(es) be added to the firewall allow list.

When the firewall blocks access, you will see a white page with just the word "Error" displayed on it. If this is happening then either:

- 1. Your egress IP address has not been added to the firewall. Use a website like ifconfig.io to figure out what your IP address is and send it over to SecuritySide Support.
- 2. Your egress IP address has been added but you are not using it for some reason. This is a common scenario when using VPNs, so please check your VPN connectivity if this is happening.

# Authentication

Authentication in the TrustFactor BackOffice can be set up to work from two sources – local and OpenId Connect.

# Local Authentication

When you enter the backoffice landing page, you are prompted to sign in. You can use either your email address or your username.

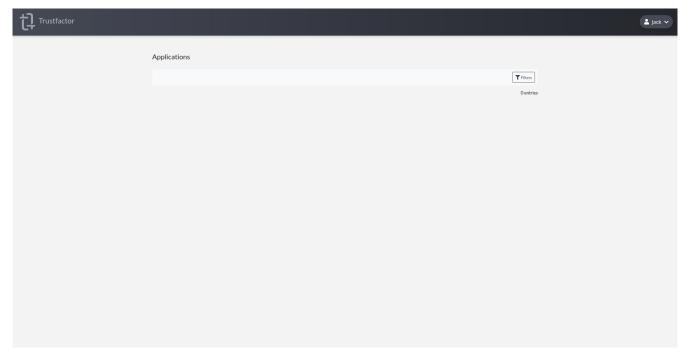
If you are already signed in you will be redirected to the app selector page.

User Sign Up	User	Sign	Up
--------------	------	------	----

SIGN IN SIGN UP Username Email Password Confirm Password
SIGN IN SIGN UP Username Email Password Confirm Password

If you do not have an account, click "Sign Up" and fill out the registration form.

Registering an account does not give you privileges of any kind inside the backoffice, so it is normal to see an empty screen like the one below right after you register.



If the application you want to access already exists, you must ask an existing Application Owner for access. If the application needs to be created, you must contact SecuritySide Support to create it for you. SecuritySide can create an application for you with placeholder values that you can then change on the Application Settings or you can look through that section to find the required fields and provide them to SecuritySide when you request your new application. If you have a custom app deployment, then you may be able to create new applications yourself. See the *creating a new application section*.

# **OpenId Connect - CustomApps only**

If you prefer to have SSO, you may request that your backoffice be linked to an OpenID Connect-capable provider. AzureAD is one of the supported providers, and you may enable access to the backoffice only to a specific AzureAD group. Please contact SecuritySide Support in order to set this up.

After your OpenId Connect has been configured, you may log in simply by pressing the "Login with Microsft" button on the login page. You may also request to remove local authentication in order to ensure users are signing in with Microsoft.

# Your Account

After you have authenticated, you can press the top-right corner drop-down button with your username on it to reveal the *Your Account* option. This is where you can make changes to your backoffice account profile.

### General

In the *General* panel, users can change their preferred language and also set whether to receive email updates.

TrustFactor			🛓 teste 🗸
	Your Account	General Security API Tokens	
	Username	Email	
	teste	teste@securityside.com	
	Preferred Language	Email updates 👩	
	American English × ¥		
		Save	)

# Security

In the Security panel, users can change their account password.

דעstFactor			≗ teste ∨
Your Account		General Security API Tokens	
	Change Password		
	Current Password		
	New Password		
	Confirm New Password		
	Change Password		

**NOTE**: Users that have signed up through OIDC cannot change their password here and must use their Identity Provider's page to do so.

Your Account		General Security API Tokens
	To change your password you will need to do so in Microsoft	

# API Tokens

The backoffice back-end serves a REST API that can be used by other applications to perform actions within the context of one or more applications.

This section allows you to create API Tokens that can be used to authenticate against the back-end API. You can configure specific permissions for each application the Token has access to. See the Roles section under Applications for more information on application-level permissions.

け Trustfactor				Cyan Bank > Back to app
	Your Account		General API Tokens	
	← Back		G Save	
	Name 🕢	Expires At 🔞		
	Application Access Token	09/03/2022, 08:41:23		
	Applications Permissions 🛛		^	
	Select	~	+ Add	
	Cyan Bank		<b>a</b> ^	
	View Operations			
	Manage Operations			
	View Contracts		٥	
	Manage Contracts		0	
	View Transactions		0	
	ViewRoles			
	Manage Roles			

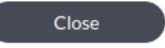
When you are done configuring the API token's permissions, press the *Save* button and the token will be created and shown to you **once**. Save your token now as it will not be shown again.

# The token was successfully created



Token:

# eyJhbGciOiJIUzI1NiIsInR5cCl6lkpXVCJ9.eyJuYW1lljoiQXE

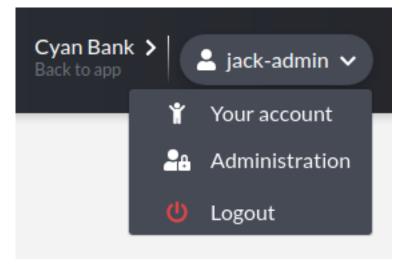


You can then manage (list or revoke) the tokens associated with your account in the main API Tokens view.

tl Trustfactor			Cyan Bank > Back to app
	Your Account	General API Tokens	
		+ Add New Token	
		<b>T</b> Filters	
	Name	Created at ↑↓ Expires at ↑↓	
	Application Access Token	3/9/2021, 8:47:35 AM 3/9/2022, 8:41:23 AM 🚫	
	Show 15 <sup>v</sup> per page	Showing 1 to 1 of 1 entries	

# Administration - CustomApps Only

The TrustFactor backoffice has application-level permissions and roles and backoffice-level permissions and roles. This allows proper responsibility segregation between application owners and backoffice owners. If your user is a backoffice owner, you will see the Administration option in the drop-down menu with your username.



# Users

Trustfactor					Cyan Bank : Back to app	💄 jack-admin 🗸
Users Roles						
Username Email jack	Registration date Without filter *				€ Restore defaui	t filters <b>T</b> Filters
Username	†↓ Email	Role	OpenID Associatio	on Applications Roles	Reset password	
jack	example@gmail.com	N/A	/ ×	See applications roles	P Reset	2. 1
jack-admin	example-admin@gmail.com	Owner	/ ×	N/A	P Reset	X #
Show 15 Y per page					SI	owing 1 to 2 of 2 entries

In the **Users** tab, you can manage backoffice users.

In this screen you can:

- Reset a user's password
- Update a user's backoffice role
- Check a user's OpenID Association
- See a user's application roles (applications in which they have application-level permissions)
- Delete a user

### Roles

If you switch to the **Roles** tab, you can see the default role **Owner** has all of the permissions available at the backoffice-level. You can create new roles using the different permissions available suitable for your needs.

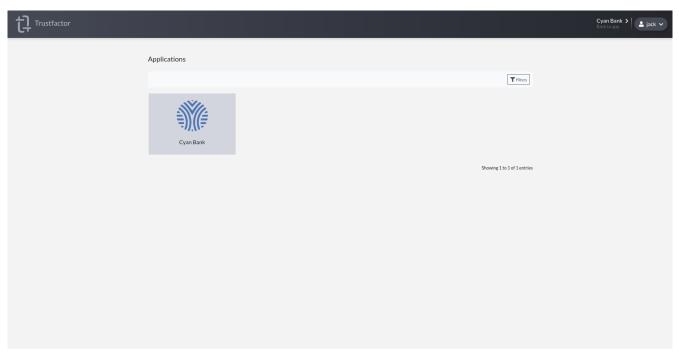
, Trustfactor	Cyan Bank > Eack to app
Isers Roles	
	+ Add new role
Owner	
Manage Applications	٥
Manage Users	٥
View Roles	۵
Manage Roles	٥
View Operations Presets	٥
Manage Operations Presets	٥

### **Backoffice-level Permissions**

Below is a list of backoffice-level permissions:

- Manage Applications Backoffice users with "Manage Applications" can create, delete and otherwise manage any application in the backoffice.
- Manage Users Backoffice users with "Manage Users" can assign backoffice-level roles to backoffice users.
- View Roles Backoffice users with "View Roles" can see the different roles available and what permissions they hold.
- Manage Roles Backoffice users with "Manage Roles" can create new backoffice-level custom roles.
- View Operations Presets Backoffice users with "View Operations Presets" can view and use operation presets in their applications.
- Manage Operations Presets Backoffice users with "Manage Operations Presets" can create operation presets for all applications. # Applications

The first screen you will find upon login is the application selector. This is where you can navigate to different applications you have access to.



If you press the application card you will enter the application context on the default option, which is Devices.

Before getting into each of the functionalities provided in the application context, you should get familiar with application permissions and roles.

For more information about application permissions and roles, check out the Roles section.

≡ 1 Trustfactor		Cyan Bank ➤ Back to app
	APPLICATION FUNCTIONALITIES USERS ROLES BACKUP	
Operations		
Rule Templates	Owner	+ Add new role
Devices	View Operations	0
Transactions	Manage Operations	
Caracteria	View Contracts	٢
Simulator	Manage Contracts	
Settings	View Transactions	٢
	View Roles	٢
	Manage Roles	
	View Rules	٢
	Manage Rules	
	Application Administrator	
	Branch Manager	
	Branch Operator	
	Operation Manager	

# Creating a new application - CustomApps Only

If you have a custom app deployment, you will be able to create new applications on the backoffice at will, provided your user has the "manage applications" backoffice-level permission.

In the application selector, you will see a + Add Application button which will take you to the new application screen.

け Trustfactor					💄 jack-admin 🗸
	New Application Choose an application version and after fill the form			Back to Apps	
	Application Version				
	Application Configuration:  Application Name		Application Logo 💿		
			Choose an image	Browse	
	Extras 👔				
	Generic Transactions 💡				
	Functionalities 🛛				
	RTAS @	SIBS 3DS 👩			
	Server application credentials 📀				
	Application Public Key 👔		Application Private Key 💿	• 2	
	Client application credentials 📀				
	Client (SDK) Public Key 📀			× 0	
	Callbacks @				
	Callback timeout		Custom Root CA 👩		
	1secs	120secs	Choose a Certificate	Browse	
	Share Contract Callback URL 👩	120	Remove Device Callback URL 👩		
	Transaction Callback URL 👔		Register Callback URL 👔		
	Contract Recover Callback URL 💡				
				Submit	
				Submit	

To create a new application, you need to fill out the fields in the *New Application* screen. These fields are the same fields used in the Application Settings menu.

# Settings

### Application

Permissions required to view this screen: -  ${\bf Application}~{\bf Administrator}$ 

Permissions required to make changes in this screen: - Application Administrator

≡	Trustfactor			Cyan Bank > Back to app
		APPLICATION FUNCTIONALITIES USERS ROLES BACKUP		
	Rule Templates	Application Edit		🗧 Version Upgrade 🔻
		Endpoint Configuration		
		Public Key 📀	Endpoint address 👩	
		FLnN6UWjCJlh5UXikHI5fL4IKz3WEDoQBLAtcsHDIf4=	https://applications.dev.trustfactor.securityside.com	
		Application Configuration: @		
	Settings	Application Name 💿	Application Logo 💿	
	Sectings	Cyan Bank Application Unique ID: 2ff26584-faf1-40bd-8883-1cea215a4e5b	Choose an image File resolution (required): 512px x 512px	Browse
			Current logo URL: https://securityside-dev-v2.azureedge.net/tf- logos/dd9aa75fee2ea30d0e00a962d3c1d61d507c82811c5ee2bd40f2838ec54fe847.png	
		Application Status 👔	Production Mode 📀	
		Extras 😡		
		Generic Transactions 💿		
		Server application credentials @		

**Endpoint Configuration** In the application settings is where application owners can change and view configurations for their application.

The first section holds endpoint configurations. These should be used to initialize the TrustFactor SDK. The EndPoint Public Key is used to encrypt messages to the TrustFactor Application Endpoint. The Endpoint URL is also shown in this section.

**Application Configuration** In the Application Configuration section, Application Administrators can change some of the main configurations of their application.

### • Name

The name of the application as it is shown in the TrustFactor App

#### • Status

Whether or not the app is enabled. If the app is disabled, the SDK methods CreateRegisterCode, CreateTransactionV2, CreateTransactionV3 and UpdateTransactionStatus will be blocked from being used. This is useful if you are migrating users from one application to another and don't want to allow new users or transactions to be created in the disabled application.

### Application Logo

This is the app logo shown in the TrustFactor App when users receive a new transaction to authenticate. It must be 512x512 px.

### • Production mode

Enabling production mode allows the TrustFactor App to abort functionality if the application does not respond with a 200 OK HTTP code in the callback. This prevents state from diverging between the application and the TrustFactor services and should be enabled for production applications. It is sometimes useful to disable Production mode during development and integration of TrustFactor with an application, because for example a given callback has not been implemented yet. If that is the case you can disable production mode here.

The affected functionalities are:

- Device Registrations
- Device Removals
- Contract Sharing

• Contract Recovery

**Extras** This section is used to enable extras on the TrustFactor SDK. A good example is Generic Transactions, which allow developers to generate authentication requests on the fly without having to configure an operation for them.

Trustfactor		<b>Cyan Bank</b> Back to app	> 💄 jack 🗸
	APPLICATION FUNCTIONALITIES USERS ROLES BACKUP		
Operations	Server application credentials @		
Rule Templates	Application Public Key	Application Private Key 💿	@ C
Devices			
Transactions	Client application credentials  Client (SDK) Public Key		× 2
Simulator	DizyOYknpobHOhX1GSoo83PTWouQ0ut2k3Fwh52R8YM=		
Settings	Callbacks @		
	Callback timeout 🔞	Custom Root CA 👩	
	1secs 120secs	Choose a Certificate	Browse
	120	There is no Custom Root CA file	
	Share Contract Callback URL 😧	Remove Device Callback URL 👩	
	http://demobank-backend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbacks/share	http://demobank.backend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobank.svc.cluster.local/api/tfcallbackend-v2-demobankend-v2	ks/remove
	Transaction Callback URL	Register Callback URL 🛛	
	http://demobank-backend-v2.securityside-dev-v2-demobank.svc.cluster.local/apl/tfcallbacks/transactions and the second s	http://demobank-backend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbac	ks/register
	Contract Recover Callback URL 💿		
	http://demobank-backend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbacks/recoverdetarrows/demobank-backend-v2.securityside-dev-v2-demobank.svc.cluster.local/api/tfcallbacks/recoverdetarrows/demobank.svc.cluster.local/api/tfcall		

Toggling Generic Transactions on, enables this functionality on the SDK.

**Server application credentials** This section is where the authentication credentials for the server-side application can be configured and generated. Use the generate button to create Public / Private key-pair to register your TrustFactor App. Both keys will be sent to the server and then used to send and receive requests on behalf of your application.

**Client application credentials** This section is where the authentication credentials for the SDK application can be configured and generated. Use the generate button to create Public / Private key-pair to use with your TrustFactor SDK. Only the public key will be sent to the server here. The private key never leaves your browser and when you generate a new keypair you must save the private key to use with the TrustFactor SDK. Only SDKs configured with this key will be allowed to communicate with your application on the TrustFactor App, so without it, you will not be able to use the SDK.

Callbacks In the callback section you can configure:

### Callback URLs

The URLs at which your application is receiving the asynchronous callbacks sent from the TrustFactor cloud services for the relevant events.

### Callback timeout

The HTTP client timeout, seconds after which the TrustFactor services should close a connection to your application. Slower applications must configure the callback timeout here as they see fit. The current maximum timeout is 120 seconds.

#### Custom Root CA Certificate

It is sometimes useful to have a self-signed certificate used for development or testing endpoints of your application. This option can be used to set the public certificate of the Root Certificate Authority that signs the TLS certificate on your application callback endpoints.

### Functionalities

This section is used to configure functionalities or modules added to TrustFactor.

### Set up functionalities access Permissions required to view this screen: - Manage Applications

First, before configuring a feature, you need to give the application access to allow it to be used. This depends on the features that are active for the environment. ex: "3DS SIBS", "Real-Time Authentication Service".

≡ בו Trustfactor		Cyan Bank ➤ Back to app
	APPLICATION FUNCTIONALITIES USERS ROLES BACKUP	
Operations	There are no functionalities with access for this application	
Rule Templates	Set up functionalities access	^
Devices	Select a functionality	
Transactions	2DS SIBS × · Constraints (See	
Simulator		
Settings		

After enabling access to at least one feature, you will be able to see the screens documented below and can proceed with the configuration of the respective features.

**3DS SIBS - Custom Apps only** The 3DS SIBS functionality allows you to integrate TrustFactor with the MB-WAY mobile SDK, enabling 3D-Secure online card payment authentication through TrustFactor. This functionality requires embedding the SIBS MBWAY SDK on the TrustFactor Agent applications and so is available for custom apps only.

There are two different versions of the SIBS MBWay implementation: v1 and v2. v1 is not recommended for new implementations, as it lacks the ability to interact with pending authentication requests, knowing the final status of the authentication, among others, so new implementations should always target v2.

≡ 🔁 Trustfactor				Cyan Bank > Back to app
	APPLICATION FUNCTIONALITIES USER	S ROLES BACKUP		
	Select a functionality			
Rule Templates	3DS SIBS			× ~
	Functionality Description			
	The 3DS SIBS functionality allows you to integrate Tr	ustFactor with the MBWAY mobile SDK, enabling 3D-Sec	ure online card payment authentication through TrustFactor	
	Status 👩	Select the SIBS 3DS version to implement	URL of the service that returns the MBWAY activation code	
Settings		V2 ~	http://demobank-backend-v2.securityside-dev-v2-demobank.svc.cluster	er.local/api/tfcallbacks/get-sibs-regi
				Submit
				Submit

The SIBS 3DS v2 implementation requires:

- C# SDK v3.1.0 or higher
- Java SDK v3.2.0 or higher

In these SDK versions there are methods to create SIBS 3DS V2 transactions, to update the status of SIBS 3DS V2 transactions when the decision callback is received from SIBS and also to get a new SIBS MBWAY SDK activation code. This last endpoint is required and must be configured in the screen as shown above.

**Real-Time Authentication Service** Real-Time Authentication Service (RTAS) allows you to quickly and simply implement on your front-end clients (web and mobile) the asynchronous authentication used by TrustFactor,

without having to deal directly with websockets, polling or other mechanisms to update your front-ends when authentications or registrations are concluded.

This external service uses its own SDK for backend applications and also has a Javascript component to use in the front-end application (mobile or web). Please contact SecuritySide support for more information on this service and how to use it.

In order to get credentials for RTAS, you can use the functionalities tab. You need to set:

• Allowed Origins: Define the front-end application origins (http://example.com) from which the Javascript code will contact RTAS. If you intend to use mobile webviews, don't forget to add *null* as well.

≡ ਹੋ				Cyan Bank > Back to app	💄 joao.gil-user 🗸
		APPLICATION FUNCTIONALITIES USERS ROL	LES BACKUP		
Oper	rations	Select a functionality			
Rule	Templates	Real-Time Authentication Service			× *
Devid	ces				
Trans	sactions	Functionality Description Real-Time Authentication Service allows you to quickly and sin	mply implement on your front-end clients (web and mobile) the asynchronous authentication usee	l by TrustFactor, without having to deal di	rectly with
Tiana	54-110115	websockets, polling or other mechanisms to update your front		, · · ·	
Simu	lator				
Setti	ings	Status  Allowe	ed Origins 😡	6	
			s selecionadas ps://cyanbank.dev.trustfactor.securityside.com	0	
			ps///yanbank.uev.rustracioi.securitysuex.on	Renew Credentials	Submit
				Mellen er edelmans	Bubint

After activating the service, you will see a pop-up showing you the endpoint address, the clientId and clientSecret of your application, all of which will be needed on the RTAS backend and frontend SDKs in order to authenticate your users.

= 🎝 Trustfactor			Edited-CypressAppab5b0cf094cc416abc37e25449accf7b >
	APPLICATION FUNCTIONALITIES USERS ROLE	S BACKUP	
Operations			
	Select a functionality		
Rule Templates	Real-Time Authentication Service		× *
		Success	
Devices			
	Functionality Description		
Transactions	Real-Time Authentication Service allows you to quic		asynchronous authentication used by TrustFactor, without having to deal directly with
	websockets, polling or other mechanisms to update		
Simulator			
	Realtime Auth has been registered successful Address	https://realtime.dev.trustfactor.securitysid	×
Settings			
I	Client Id	d2720b97-00b9-465f-b7b4-0f14e986c0	
	Client Secr	et 7cc7a1ec1744474baf3766af8926c9c2	•
			8
			U
		Close	Renew Credentials Submit

#### Users

Permissions required to view this screen: - Application Administrator

Permissions required to make changes in this screen: -  ${\bf Application}~{\bf Administrator}$ 

= 口 Trustfactor				<b>Cyar</b> Backt	h Bank 义 to app	💄 jack 🗸
		RS ROLES BACKUP				
Operations						
Rule Templates					+ Assign	n new User
Devices	Username	†↓ Email		Role		
Transactions	hilario.coelho	Assign new User		Owner	1	*
	pedro.costa	Username/Email address		Mobile Develop	1	*
Simulator	teste	Role		Owner	1	2.
Settings	leandro.pinto	Choose an option × ,		Owner	1	*
	rui.nascimento@securityside.com	Owner		Mobile Develop	1	*
	kaleem	Branch Manager Branch Operator		Mobile Develop	1	*
	cypressef13b839244649439c8a705cd61dc9df	Operation Manager Fraud Analyst	c9df@securityside.com	Owner	1	*
	cypressa1b8aa9c90464f1d851f0772a948a85c	Fraud Analyst Manager	185c@securityside.com	Owner	1	*
	cypresse683d42b96084026bf3baab06df07cf7	Mobile Develop dsds	7cf7@securityside.com	Owner	1	2
	cypress87eda10d1aa84689b75d17db81426ce0	cypress87eda10d1aa84689b75d17db81	426ce0@securityside.com	Owner	1	2
	cypress922ee911ec8e48d1a0f266fea3865363	cypress922ee911ec8e48d1a0f266fea38	65363@securityside.com	Owner	1	*
	cypress058a736695f244ad8abe09642b47dc66	cvpress058a736695f244ad8abe09642b	47dc66@securityside.com	Owner		*

In this section you can assign users a role on your application. Access to this screen requires "Manage Roles" permission.

By pressing the "Assign new user" button, you can give any registered backoffice user access to your application. You can use their email address or username and pick a role from the dropdown menu.

### Roles

= 口 Trustfactor		Cyan Bank ➤ Back to app   ▲ jack ➤
	APPLICATION FUNCTIONALITIES USERS ROLES BACKUP	
Operations		
Rule Templates	Owner	+ Add new role
Devices	Owner Branch Manager	
Transactions	Branch Operator	
Simulator	Operation Manager Mobile Develop	/ =
Settings		_
Settings		

Permissions required to view this screen: - View Roles

Permissions required to make changes in this screen: - Manage Roles

Roles is where you can create or view user roles in your application. For backoffice applications, there are several application-level user permissions. These allow users to access functionality to read data or even change data using

write permissions. All of these settings are configured in the Settings menu. Permissions can be aggregated into user-defined Roles and then Users can be assigned these Roles.

≡ 1 Trustfactor		Cyan Bank ≯ Backto app ≜ jack ✔
	APPLICATION FUNCTIONALITIES USERS ROLES BACKUP	
Operations		
Rule Templates		+ Add new role
	Owner	
Devices	View Operations	٢
Transactions	Manage Operations	۵
Simulator	View Contracts	٢
Simulator	Manage Contracts	۵
Settings	View Transactions	٢
	View Roles	
	Manage Roles	٢
	View Rules	۵
	Manage Rules	٢
	Application Administrator	٢
	Branch Manager	
	Branch Operator	
	Operation Manager	

Below is a list of all application-level permissions:

- View Operations Read-only access to the Operations tab
- Manage Operations Write access to the Operations tab (adds View Operations automatically)
- View Contracts Read-only access to the Devices tab
- Manage Contracts Write access to the Devices tab (adds View Contracts automatically)
- View Transactions Read access to the Transactions tab
- View Roles Read-only access to the Roles tab in the settings
- Manage Roles Write access to the Roles tab in the settings (adds View Roles automatically)
- View Rules Read-only access to the Rule Templates tab
- Manage Rules Write access to the Rule Templates tab (adds View Rules automatically)
- Application Administrator Application Administrator allows access to the settings tab and assign backoffice users their roles

There are a few roles already built-in with every application:

• Owner

The owner role has all permissions, including Application Administrator, and therefore can access all functionalities and configurations on the application. There must always be at least one Application Administrator at any time for an application.

### • Branch Manager

This role was designed with front-office or contact center users in mind. They only have "manage contracts" permission which allows them to remove devices from users who get in touch with your support team. They cannot view the users' transaction history or any other information on the application.

### Branch Operator

This role can only check if a user has a device enrolled with the application, but cannot remove it. It has no other permissions.

### • Operation Manager

This role was designed for a user that manages the operations and risk rules. This user has read/write access to the created operations in the application and risk rule templates. They can change risk rule values for live operations,

create new operations or edit live ones.

### **Restricted Application Access**

Users who have restricted permissions will not see all of the application menu tabs. For example, if a user has a custom role that only has the permissions *Manage Contracts*, *View Contracts* and *View Transactions* and they click the application card on the application selector menu, they will have the view as seen in the screenshot below with only two menu tabs shown.

							Cyan Bank > Sack to app
	DEVICES						
Devices							
Transactions							T Filters
	Username	APP User Unique ID	Manufacturer	Device Model	Operating System	OS Version	
					Choose an option ×	×	
	Search						

### Backup

Permissions required to view this screen: - Application Administrator

Permissions required to make changes in this screen: - Application Administrator

≡	Trustfactor					Eyan Bank > 2 jack-admin ~
		APPLICATION FUNCTIONALITIES USERS	ROLES BACKUP			
	Operations	Backup import				
	Rule Templates					
			Choose a backup		Browse	
			Draghe	re your backup		
		Backup Export				
		Select the options you want to export:				
	Settings	Operations	Roles	Rule Templates		
		Export				

The backup tab is used to export and import different settings in the application. This allows users to store backups of configurations and restore them easily into new applications for different environments.

You can back up and restore:

- Operations
- Custom Roles
- Rule Templates

**Restore** To restore, choose a backup file on the Browse button in the "Backup import" section.

After the file is loaded, you can then check which options you want to import from that file and press the "Import" button to proceed with the import.

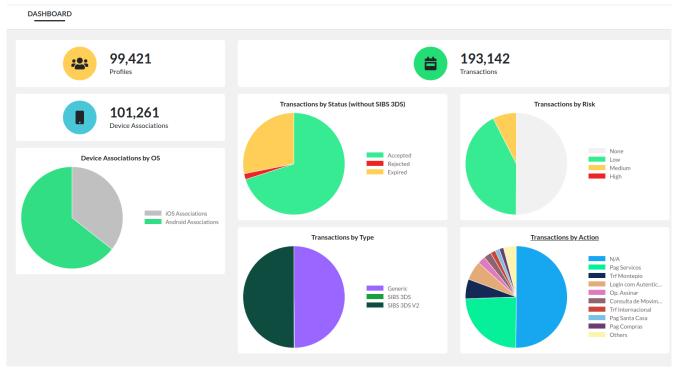
**NOTE**: Restoring operations will overwrite existing configurations. If, for example, you already have an operation with action "login" and restore a backup that also has an operation with action "login", the operation defined in the backup will override the existing configuration.

≡ בן Trustfactor					Cyan Bank > 2 jack-adr	min 🗸
	APPLICATION FUNCTIONALITIES	USERS ROLES BACKUP				
Operations	Backup import					
Rule Templates		× Operations	Roles	Rule Templates		
Devices	<b>F</b>					
Transactions		Import				
Simulator	Backup Export					
Settings	Select the options you want to export:					
Settings	Operations	Roles	Rule Templates			
	Export					

**Backup** To back up, simply tick off the options you want to export and press the export button. This will output a JSON file with the configurations that can be used in the *restore screen*. ## Dashboard

The dashboard can be used to get real-time statistics of TrustFactor use on your application. Here we show you data about enrolled devices, profiles and the transaction usage and risk.

Permissions required to view this screen: - Application Administrator



## Devices

In the devices screen you can search for user devices associated with your application. You can also remove them if the user has lost access to the device and needs to re-enroll their TrustFactor App.

Permissions required to view this screen: - View Contracts

Permissions required to make changes in this screen: - Manage Contracts

■ 口 Trustfactor						Cyan Bank > 2 jack
	DEVICES					
Operations						
Rule Templates						✔ Restore default filters ▼ Filters
1	Username	APP User Unique ID	Manufacturer Device Model	Operating System	OS Version	Last association date
Devices	hilario			Choose an option >	•	Without filter *
Transactions	Search					
Simulator	Username	†↓ APP User Unique ID	Device Name	Type of device	Operating System	Last association date $\uparrow\downarrow$
Sinulator	hilario.coelho.v2	hilario.coelho.v2	iPhone de Hilário	Apple iPhone X	IOS 14.5.1	06/05/2021, 16:06:46
Settings	hilario.coelho.v3	hilario.coelho.v3	iPhone de Hilário	Apple iPhone X	iOS 14.5.1	07/05/2021, 10:21:50 📋
	hilario.coelho.v4	hilario.coelho.v4	iPhone de Hilário	Apple iPhone X	iOS 14.5.1	07/05/2021, 10:22:07
	hilario.coelho.v5	hilario.coelho.v5	iPhone de Hilário	Apple IPhone X	IOS 14.5.1	07/05/2021, 10:22:53
	hilario.coelho.v6	hilario.coelho.v6	iPhone de Hilário	Apple iPhone X	iOS 14.5.1	07/05/2021, 10:23:08
	hilario.coelho.v7	hilario.coelho.v7	iPhone de Hilário	Apple iPhone X	iOS 14.5.1	07/05/2021, 10:23:41
	hilario.coelho.v8	hilario.coelho.v8	iPhone de Hilário	Apple iPhone X	IOS 14.5.1	07/05/2021, 10:23:53
	hilario.coelho.v9	hilario.coelho.v9	iPhone de Hilário	Apple iPhone X	iOS 14.5.1	07/05/2021, 10:25:36

By default, the search results are hidden and you must select a filter to search.

You can filter for:

- Username
- App User Unique ID

- Device Manufacturer
- Device Model
- Device Operating System
  Device Operating System Version
  Association date

# Transactions

### Transactions Search - Advanced

Permissions required to view this screen: - View Transactions

≡ בן TrustFactor			<b>Cya</b> Boti	an Bank 🗲 🛓 🛓 jack 🗸
	SEARCH VALIDATE TRANSACTIONS			
Dashboard				
Devices	Search: Advance (Transaction ID)			
Event History				Share Filters
Operations	* When filled in, the exact value will be used to filter APP User Unique ID * Contract Key * Action		Status * Created At Choose an option_ x * Custom *	
Rule Templates		Choose an option X	Choose an option ×  Cestom	
Transactions	Search			
	Status 11 APP User Unique ID	†↓ Action †↓ Type	1↓ Created At 1↓ Decided At	†↓
Simulator	( pedro.costa	transfer Actionable	le 2/7/2022, 10:41:37 AM 2/7/2022, 10:42:54 AM	Details
Error Logs	pedro.costa	transfer Actionable	le 2/7/2022, 10:37:23 AM 2/7/2022, 10:38:41 AM	Details
Settings	? pedro.costa	SIBS 3DS 1	5 V2 2/3/2022, 10:50:27 AM N/A	Details
	pedro.costa	transfer Actionable	le 1/28/2022, 2:13:47 PM 1/28/2022, 2:13:57 PM	Details
	pedro.costa	transfer Actionable	le 1/28/2022, 2:13:17 PM 1/28/2022, 2:13:31 PM	Details
	pedro.costa	transfer Actionable	le 1/28/2022, 1:57:15 PM 1/28/2022, 1:57:35 PM	1 @ Details

The transactions tab allows backoffice users to view the authentication history of the application users.

You can filter for:

- Transaction ID
- App User Unique ID
- Contract Key
- Action
- Type
- Status
- Created At (time period)

By pressing the "Details" button at the end of the transaction line in the table, you can access a mockup of what the user saw when they interacted with the authentication request.

≡ בן TrustFactor								Cyan Bank > Back to app
Dashboard	TRANSACTI	ONS VALIDATE TRA	INSACTIONS					
Dashooar u	-	rui.na:	Transaction details				10/12/2021, 13:46:19	Details
Operations	-	rui.na:				12/2021, 13:12:55	10/12/2021, 13:13:26	Details
Rule Templates		rui.na:	0 D:?: ↑ ∆ El 1001-899-10.55		Transaction ID : 9056928925f040b9bc630c207629e4cc	12/2021, 13:02:00	10/12/2021, 13:02:31	Details
Devices	-	rui.na:	TRANSFEREDITED LOW RESK TRANSACTION pedrocosta Cyan Bank Are you trying to transfer \$1.00	Mozilla/5.0 (Mac AppleWebKit/53	User Agent : Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko)	12/2021, 12:48:21	10/12/2021, 12:48:52	Details
Transactions		rui.na:			Chrome/96.0.4664.93 Safari/537.36 Platform :	12/2021, 12:29:15	10/12/2021, 12:29:45	Details
Simulator	-	rui.na: <				12/2021, 12:28:04 12/2021, 12:10:42	10/12/2021, 12:28:34	Details
Cattlena.	-	rui.na:	GB33BUKB20201566644543 to PT50000201234321598790154?				10/12/2021, 12:11:12	Details
Settings	$\checkmark$	pedro	Details Reject			12/2021, 21:49:17	09/12/2021, 21:49:24	Details     Proof
	$\times$	pedro	© Transfer		Timestamp: 09/12/2021,21:49:16	12/2021, 19:23:24	09/12/2021, 19:23:31	Details     Proof
	$\checkmark$	pedro			Close	12/2021, 19:22:38	09/12/2021, 19:22:45	Details     Proof
	-	rui.nascimento		transfer	Actionable	09/12/2021, 15:59:37	09/12/2021, 16:00:07	Details
	$\checkmark$	rui.nascimento		transfer	Actionable	09/12/2021, 15:59:22	09/12/2021, 15:59:31	Details     Proof
				_				
≡ † TrustFactor								Cyan Bank > Back to app

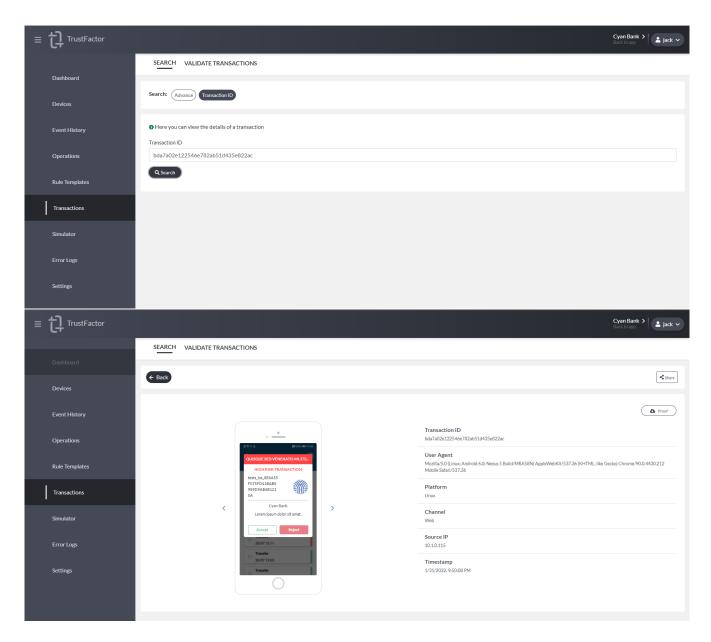
Cr _								
	TRANSACT	IONS VALIDATE TR	RANSACTIONS					
Dashboard	-	rui.na:	Tr	Transaction details			10/12/2021, 13:46:19	Details
Operations	4	rui.na:				12/2021, 13:12:55	10/12/2021, 13:13:26	Details
Rule Templates	4	rui.na:	0	P05692297251040b9bc530c207629e4cc           P05692297251040b9bc530c207629e4cc           IDENTIFY           IDENTIFY           IDENTIFY           Petro costs           Destination Account           P150002012243215989740154	Transaction ID : 9056928925f040b9bc630c207629e4cc	12/2021, 13:02:00	10/12/2021, 13:02:31	@ Details
Devices	-	rui.na:	LOW RISK TRANSACTION		Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko)	12/2021, 12:48:21	10/12/2021, 12:48:52	Details
Transactions	4	rui.na:	pedro.costa		12/2021, 12:29:15	10/12/2021, 12:29:45	Details	
Simulator	4	rui.na: <	PT50000201234321598790154		MacIntosh	12/2021, 12:28:04	10/12/2021, 12:28:34	Details
Settings	4	rui.na:	Source Account GB33BUKB202015666644543		Web	12/2021, 12:10:42	10/12/2021, 12:11:12	Details
occurrigo	$\checkmark$	pedro	Amount \$1 on Accept Reject		Source IP : 10.1.2.158	12/2021, 21:49:17	09/12/2021, 21:49:24	Details     Proof
	$\times$	pedro	Transfer		Timestamp: 09/12/2021,21:49:16	12/2021, 19:23:24	09/12/2021, 19:23:31	Details     Proof
	$\checkmark$	pedro			Close	12/2021, 19:22:38	09/12/2021, 19:22:45	Details     Proof
	-	rui.nascimento		transfe	r Actionable	09/12/2021, 15:59:37	09/12/2021, 16:00:07	Details
	$\checkmark$	rui.nascimento		transfe	r Actionable	09/12/2021, 15:59:22	09/12/2021, 15:59:31	Details     Proof

≡ בן TrustFactor								Cyan Bank > Back to app
	TRANSACT	IONS VALIDATE TR	ANSACTIONS					
Dashboard	4	rul.na:	Т	ransactio	n details	12/2021, 13:45:49	10/12/2021, 13:46:19	Details
Operations	4	rui.na:	•				10/12/2021, 13:13:26	Details
Rule Templates	4	rui.na:			Transaction ID : 9056928925f040b9bc630c207629e4cc	12/2021, 13:02:00	10/12/2021, 13:02:31	Details
Devices	-	rui.na:	TRANSFER EDITED	-	User Agent : Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, Iike Gecko)	12/2021, 12:48:21	10/12/2021, 12:48:52	<ul> <li>Details</li> </ul>
Transactions	-	rui.na:	Authorized		Chrome/96.0.4664.93 Safari/537.36 Platform :	12/2021, 12:29:15	10/12/2021, 12:29:45	Details
Simulator	-	rui.na: <	OK	>	MacIntosh Channel : Web	12/2021, 12:28:04	10/12/2021, 12:28:34	Details
Settings	4	rui.na:	© 20/07 14:21			12/2021, 12:10:42	10/12/2021, 12:11:12	Details
, i i i i i i i i i i i i i i i i i i i	$\checkmark$	pedro	20/07 13:11 Transfer 20/07 13:03		Source IP : 10.1.2.158	12/2021, 21:49:17	09/12/2021, 21:49:24	Details     Proof
	$\times$	pedro	Transfer		Timestamp: 09/12/2021,21:49:16	12/2021, 19:23:24	09/12/2021, 19:23:31	Details     Proof
	$\sim$	pedro			Close	12/2021, 19:22:38	09/12/2021, 19:22:45	Details     Proof
	4	rui.nascimento		transfe	er Actionable	09/12/2021, 15:59:37	09/12/2021, 16:00:07	Details
	$\sim$	rui.nascimento		transfe	er Actionable	09/12/2021, 15:59:22	09/12/2021, 15:59:31	Detalls     Proof
	1							

# Transactions Search - By Transaction ID

Permissions required to view this screen: - View Transactions

≡ בן TrustFactor	Cyan Bark >   La jac	k 🗸
	SEARCH VALIDATE TRANSACTIONS	
Dashboard		
Devices	Search: (Advance) Transaction ID	
Event History	Here you can view the details of a transaction Transaction ID	
Operations		
Rule Templates	Q search	
Transactions		
Simulator		
Error Logs		
Settings		



### Validate Transactions

Permissions required to view this screen: - Transaction Proofs Reader

≡ בן TrustFactor			Cyan Bank ≯ Back to app
	TRANSACTIONS VALIDATE TRANSACTIONS		
Dashboard	[		
Operations	Choo	ose a file	Browse
Rule Templates	Please	e drag here the transaction proof JSON file. If you do not have this file, get it on the 'Transactions' tab using button	the 'Proof'
Devices			
Transactions			
Simulator			
Settings			

The "validate transactions" tab allows to validate a transaction proof.

≡ בן TrustFactor				Cyan Bank ≯ Back to app
	TRANSACTIONS VALIDATE TRANSACTIONS			
Dashboard	×			
Operations				
Rule Templates	<b>↓</b>	Services	Device	Contract
Devices	43bc7097ff264c188597694625f88375.json			
Transactions				
Simulator				
Settings				

When the file is uploaded, some validations will be done to confirm that the transaction proof is valid.

# **Rule Templates**

Permissions required to view this screen: - View Rules

Permissions required to make changes in this screen: - Manage Rules

≡ 🔁 Trustfactor				<b>Cyan Bank</b> Back to app	i > 💄 jack 🗸
Operations					
Rule Templates				( + A	dd new rule
Devices					<b>T</b> Filters
<b>-</b>	Identifier	t	, Туре	Conditions	
Transactions	montante_high		money	1	/ =
Simulator	montante_low		money	1	/ =
Settings	montante_medium		money	2	/ =
	montante_v2_high		money-v2	1	/ =
	montante_v2_low		money-v2	1	/ =
	montante_v2_medium		money-v2	2	/ =
	Show 15 v per page			Showin	ng 1 to 6 of 6 entries

The rule templates tab can be used to create templates for risk rules that can be applied to your operation parameters.

Risk rules must match the same type for each risk rating (low, medium and high). Different parameter types allow for different conditions.

### Example - Funds Transfer

Let's explore an example:

A banking application wants to define a low, medium and high risk rules for funds transfers based on the amount of the transaction. Their definition is as follows:

- API call to transfer funds has 3 parameters:
  - Source Account
  - Destination Account
  - Transaction Amount
- Transaction Amounts below 500 USD or 500 EUR are ranked **low risk**
- Transaction Amounts between 501 USD and 1500 USD or 501 EUR and 1000 EUR are ranked medium risk
- Transaction Amounts above 1501 USD or 1001 EUR are ranked high risk
- Transaction Amounts in other currencies should not be subject to risk calculation

Because we are using money (amount and currency) for our definition, we will start by using Money Rules.

### Money Rules

In order to create these rules and then use them in operations, we must first enter the Rule Templates tab, and press + Add new rule.

≡ ट्री	Trustfactor				Cyan Bank Back to app	<b>`</b>  (	🛓 jack 🗸
		RULE TEMPLATES					
Ope	erations						
Rule	le Templates				<b>+</b> Ad	ld new	rule
Devi	vices						Filters
T	nsactions	Identifier	t↓	Туре	Conditions		
Iran	nsactions	montante_high		money	1	1	•
Simu	ulator	montante_low		money	1	/	Ť.
Setti	tings	montante_medium		money	2	1	•
		montante_v2_high		money-v2	1	1	<b>T</b>
		montante_v2_Jow		money-v2	1	ø	•
		montante_v2_medium		money-v2	2	1	Ŧ
		Show 15 v per page			Showing	g1to6	of 6 entries

In the next screen, we enter the risk rule identifier (funds\_transfer\_low\_risk) and define the type of the parameter this rule will apply to (money-v2).

= t.	Trustfactor					Cyan Bank Back to app	> 💄 jack 🗸
		RULE TEMPLATES					
0	Operations						
R	Rule Templates	+ Back					Next >
D	Devices	Identifier o		Туре 📀			
		funds_transfer_low_risk		money-v2			~
Tr	ransactions					_	
Si	imulator					+ Add n	new condition
		Allas	†↓ Туре		Value	Strict mode	
Se	ettings	No results					
		Show 15 v per page					0 entries

After these two configurations are done, we can start adding conditions to our rule by pressing + Add new condition.

≡ בן Trustfactor				Cyan Bank > Sack > Back to app
	RULE TEMPLATES			
Operations				
Rule Templates	e Back			Next →
Devices	Identifier 😡	Турс	e @	
	funds_transfer_low_risk		oney-v2	~
Transactions		Add new condition		
		Alias 😧		+ Add new condition
Simulator	Allas	low_risk_upper_limit	Value	Strict mode
		Туре 😡		
Settings	No results	Choose an option	<u>^</u>	
	Show 15 Y per page	Less than		0 entries
		Less Equals		
		Greater than		
		Greater Equals		
		Equals	_	

In the pop-up, we define the name of alias for the rule (low\_risk\_upper\_limit) and then set it as "Less Equals". This will change the pop-up UI to allow you to enter different amount / currency pairs. The available logic operators are:

- Less equals (equivalent to <=)
- Less than (equivalent to <)
- Greater than (equivalent to >)
- Greater equals (equivalent to >=)
- Equals (equivalent to =)

You may also notice the Strict mode is disabled – this ensures the rule is compliant with the last statement in the definitions above. In Strict Mode, if a new authentication request is created in a currency that has not been defined in the risk rules, it will throw an error. If Strict Mode is disabled, risk rules are not applied when the authentication request uses a transaction that has not been defined in the Rule Template.

≡ בן Trustfactor				Cyan Bank > 🔒 jack 🗸
	RULE TEMPLATES			
Operations				
Rule Templates	← Back			Next →
Devices	Identifier 🛛	Add new condition		
	funds_transfer_low_risk	low_risk_upper_limit		×
Transactions		Type 🛛		+ Add new condition
Simulator	Allas	Strict mode	Value	Strict mode
Settings	No results			
	Show 15 rer page	Choose an option		0 entries
		AUD		
		CAD CHF Close Done		
		EUR GBP		
		Yqt		
		NOK		
		<b>CEV</b> ▼		

目 口 Trustfactor						<b>Cyan E</b> Back to	Bank > 🛓 jack 🗸
Operations	← Back	Add n	ew condition				Next >
Rule Templates	e Back	Alias 😡					Next 7
Devices	Identifier @	low_risk_upper_limit					
Transactions	funds_transfer_low_rlsk	Type		~			×
		Strict mode 💡				+	Add new condition
Simulator	Allas				Value	Strict mode	
Settings	No results	Choose an option Y	0	•			
	Show 15 Y per page	Currency	Value				0 entries
		EUR	€500.00	Ŧ			
		USD	\$500.00	Ť			
			Close	Done			

After you are done entering your limits for each currency, you can press *Done*.

This will add the condition you just defined to the condition list. For the low risk rule, this is the only condition we need because it already implements the first statement in the definitions, so we can now press *Next* to proceed to the rule logic screen.

≡	נן Trustfactor					C	Cyan Bank 🗲 🚨 jack 🗸
		RULE TEMPLATES					
	Operations						_
	Rule Templates	← Back					Next →
	Devices	Identifier 😡		Туре 😡			
		funds_transfer_low_risk		money-v2			~
	Transactions						
	Simulator						+ Add new condition
		Alias	†↓ Type		Value	Strict mode	
	Settings	low_risk_upper_limit	Less Equals		View values	•	/ =
	Settings	low_risk_upper_limit			View values	•	Showing 1 to 1 of 1 entries
	Settings				View values	•	
	Settings				Viewvalues	0	
	Settings				View values	•	
	Settings				View values	•	
	Settings				Viewvalues	•	
	Settings				View values	٠	

In the Rule Logic screen, we have to select the logic with which to apply our conditions. When using multiple conditions, we can define their relationship through logic operators. The supported operators are:

- AND (&&)
- **OR** (||)

In this case it's simple because we only have one condition, so we just select that *low\_risk\_upper\_limit* condition from the left by clicking on it and moving it to the rule logic pane. After that, press *Next* again and if all goes well

with the validation, we should see a success screen and our first rule has been created.

= 口 Trustfactor		Cyan Bank > Back to app
	RULE TEMPLATES	
Operations Rule Templates	← Back	←Previous Next →
Devices	(    3.3 )	
Transactions	low_risk_upper_limit	
Simulator		
Settings		
		ĥ
≡ בן Trustfactor		Cyan Bank > Back to app
≡ בָן Trustfactor	RULE TEMPLATES	Cyan Bank > Back to app
■ ŢŢ Trustfactor Operations		Cyan Bank > Eack to app
	RULE TEMPLATES Rule was successfully created	Cyan Bank > Each to app
Operations		Cyan Bank > Bisk to app
Operations Rule Templates		Cyan Bank >
Operations Rule Templates Devices		Cyan Bank >
Operations Rule Templates Devices Transactions	Rule was successfully created	Cyan Bank >
Operations Rule Templates Devices Transactions Simulator	Rule was successfully created	Cyan Bank > Exit to app
Operations Rule Templates Devices Transactions Simulator	Rule was successfully created	Spart to app
Operations Rule Templates Devices Transactions Simulator	Rule was successfully created	Span Bank >
Operations Rule Templates Devices Transactions Simulator	Rule was successfully created	Start on app
Operations Rule Templates Devices Transactions Simulator	Rule was successfully created	Shak to app

Now that we have a rule for the first definition (low risk), we need to create the second one for medium risk. We follow the same steps as before but now we need to add two separate conditions, one "greater equals" and another "lower equals" to define the upper and lower bounds of the values that match this rule.

ב ב <u>ו</u>	Trustfactor						C	Cyan Bank >
Oper	rations		Add ne	ew condition				
Rule	e Templates	← Back	Alias 👔					Next >
Devi	ices	Identifier 😡	medium_risk_upper_limit					
Tran		funds_transfer_medium_risk	Type 🛛 Less Equals		~			~
ITali			Strict mode 😧					+ Add new condition
Simu		Alias				Value	Strict mode	
Setti		medium_risk_lower_limit	Choose an option Y	0	Ð	View values	•	Z #
		Show 15 v per page	Currency	Value				Showing 1 to 1 of 1 entries
			EUR	€1,000.00				
			USD	\$1,500.00				
				Close	Done			
				Close	Done			

After both conditions are entered you should see a screen like the one below.

≡ בן Trustfactor					<b>Cyan</b> Back to	Bank > 💄 jack 🗸
	RULE TEMPLATES					
Operations						
Rule Templates	← Back					Next →
Devices	Identifier @		Туре 😡			
Transactions	funds_transfer_medium_risk		money-v2			~
transactions					đ	Add new condition
Simulator	Alias	†↓ Туре		Value	Strict mode	
Settings	medium_risk_lower_limit	Greater Equals		View values	•	2 B
	medium_risk_upper_limit	Less Equals		View values	•	2 B
	Show 15 ° per page				S	Showing 1 to 2 of 2 entries

Now in the rule logic screen, we need to reference both rules and say we want both of them to match through an  $\mathbf{AND}$  operator.

j ≡	Trustfactor			Cyan Bank > Back to app
	Rule Templates	← Back		← Previous Next →
1			( 8.8 )	
		medium_risk_lower_limit	medium_risk_lower_llmit && medium_risk_upper_limit	
		medium_risk_upper_limit		
3	Settings			
				ů.
_				

After this, we press Next to proceed to the validation screen and then Submit our changes to create the Medium risk Rule.

The creation of the last rule to match the definitions above is similar to the first one except instead of having an upper boundary it has a lower boundary and all values above that boundary must be rated **High Risk**.

≡	Trustfactor			Cyan Bank > Back to app
	Rule Templates	← Back	Add new condition	Next >
		Identifier @ blacklisted_target	Alias	~
		שומראווזגבע_נמו פבי	blacklisted_accounts	
		Alias	In Value  Value	+ Add new condition
		No results		
		Show 15 Y per page	GB33BUKB202015555555555555555555555555555555555	0 entries
			GB33BUKB2020155555556	
			Close Done	

## String Rules

For string parameters, we have the following types of conditions:

## • In

Checks whether the value matches a provided list of values

• Contains

Checks whether the value contains a provided value as substring

• Equals

Checks if the value is equal to a provided value

• Regex

Performs a regular expression check against the value

## **Boolean Rules**

≡ בן Trustfactor				Cyan Bank > Back to app
	RULE TEMPLATES			
Operations				
Rule Templates	C Back			Next >
Devices	Identifier 😡	Add new condition		
	Write the Identifier			~
Transactions		Allas 😧 Write the allas		
Simulator				+ Add new condition
Similator	Alias	Type 🕡 Equals 🗸	Value	
Settings	No results	Value @		
	Show 15 Y per page	○ True ● False		0 entries
		• raise		
		Close Done		

You can also create rules that match boolean parameters. In this case, only "Equals" is supported and values can be "True" or "False".

## Datetime Rules

=	Trustfactor						Cyan Bank > Back to app
		← Back					Next →
		Identifier 😡		Add new conditi	on		
		Write the Identifier	Alias 🕢				~
			middle_of_the_ni	ght			
			Туре 😡				+ Add new condition
		Alias	Between				
		No results	Value 😡				
			23	: 30	: 00		
		Show 15 <sup>×</sup> per page	06	: 30	: 00		0 entries
				Close	Done		

Datetime parameters are also supported in TrustFactor and as such you can create risk rules for them. In the image above we define an interval between 11:30pm and 06:30am called "middle of the night". We can use this to raise the risk level of authentication requests performed during this time period.

## Float Rules

You can apply the same kind of rules and conditions described in the **Money Rules** above to parameters of *float* type.

## Assigning Rules to Operations

In order to assign a rule template to an operation, first you need to have an operation with a parameter of the same type as the rule you want to assign.

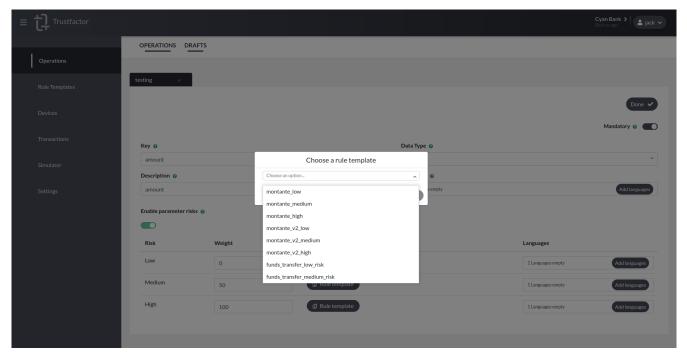
An operation parameter without risk rules looks like this:

≡	Trustfactor			Cyan Bank > 2 jack ~
		OPERATIONS DRAFTS		
	Operations	← Back		+ New Operation
	Rule Templates	Show new operations Show edit operations		
	Devices	testing >		
	Transactions			Done 🗸
	Simulator			Mandatory g 🌑
	Settings	Key Ø	Data Type 😡	
		amount	money	~
		Description 🛛	Languages 😡	
		amount	0 Languages empty	Add languages
		Enable parameter risks @		

You need to *Enable parameter risks* in order to define the risk rules for this *amount* parameter.

	_					Cyan Bank 🗲 🛓 jack 🗸
	OPERATIONS D	RAFTS				
Operations						
	testing ×					
Rule Templates						
Devices						Done 🗸
						Mandatory 👔 🌑
Transactions	Key 😡			Data Type 👩		
Simulator	amount			money		~
	Description 😧			Languages 🤢		
Settings	amount			O Languages empty		Add languages
	Enable parameter r	isks 😡				
	Risk	Weight	Rule		Languages	
	Low	0	Rule template		1 Languages empty	Add languages
	Medium	50	Rule template		1 Languages empty	Add languages
	High	100	Rule template		1 Languages empty	Add languages

Now we can select the rules we created earlier for our example scenario from the dropdown menu at each risk level:



In addition, we can define the risk message shown to the end user when this rule matches by clicking "Add languages".

When all risk levels have an associated risk rule, you can click *Done* to complete the definition for this operation parameter. The screen should look like the one below:

≡ [] Trustfactor						Cyan Bank > Sack > Back to app	
		DRAFTS					
Operations	_						
Rule Templates	testing ×						
Devices						Done 🗸	
Transactions						Mandatory 👔 💽	
	Key 👔			Data Typ	e 👔		
Simulator	amount			money		~	
	Description 👔				Languages 🛛		
Settings	amount			0 Langua	iges empty	Add languages	
	Enable parameter i	risks 😧					
	Risk	Weight	Rule		Langua	ges	
	Low	0	🖋 Edit rule	× Remove rule	1 Langu	Add languages	
	Medium	50	🖋 Edit rule	× Remove rule	0 Langu	Add languages	
	High	100	🖋 Edit rule	× Remove rule	0 Langu	ages empty Add languages	

For more information on how to define Operations, read the section below.

# Operations

Permissions required to view this screen: - View Operations

Permissions required to make changes in this screen: - Manage  ${\bf Operations}$ 

目 つ Trustfactor			Cyan Bank ≯   ▲ jack ∨ Backto app
	OPERATIONS DRAFTS		
Operations			
Rule Templates			Drafts
Devices			<b>T</b> Filters
	Action	†↓ Туре	†↓ Status
Transactions	notification	Notification	
Simulator	stock_purchase	Actionable	
Settings	parameters-less	Actionable	
	transfer	Actionable	
	autentiacao_bloqueada	Notification	
	testee	Actionable	
	12	Actionable	
	transfer-v2	Actionable	
	test-money-v2	Actionable	

The operations menu is where you can define and manage *TrustFactor operations*. These operations will then be referenced by your application when using the *CreateTransaction* methods in the TrustFactor SDK, so you will want to create operations for sensitive actions inside your application.

Creating an operation is a relatively complex multi-step procedure, so we provide a *Drafts* screen where you can edit or create new operations before submitting them.

## Drafts

Drafts are saved automatically and allow you to resume your work later if needed. Saved Drafts are accessible by anyone with access to the application's Operations. This allows multiple users to edit the same draft, e.g. one user from the security team configures the parameters and risk rules, another user from the marketing team defines the messages shown to the user in the same operation draft.

There are two types of drafts: **New Operations** and **Edit Operations**. The toggles allow you to switch between these two types when using the Drafts.

Drafts appear under **New Operations** when you press the + New Operation button to create a new operation. Drafts appear under **Edit Operations** when you press the *pencil* button to edit an existing operation.

# Creating a new operation

**Step: Basic Settings** In this screen we define the basic settings for the operation. The first thing to notice here is the internationalization support through the Languages field. If you define multiple languages, TrustFactor will check if the end-user's device is in a language you defined and show the messages accordingly. If the device is set to an undefined language, TrustFactor will fall-back to the default language for the operation.

≡ נָן Trustfactor			Cyan Bank > 2 jac	:k 🗸
OPERATIONS DRAFTS				
funds_transfer ×				
Step: Basic configurations				
Action 😝		Description @		
funds_transfer		Funds Transfer Operation		
Action display name 👩		Туре 🔞		
0 Languages empty	Add languages	Actionable	~	
Languages 😧 Show all Languages		Select common Language	s Remove common Languages	
1 active languages				
□ 日本語	□ 한국어			
British English				
español de España				
<ul> <li>português europeu</li> <li>italiano</li> </ul>				
American English				
русский				
Transaction duration 📀		Default Languages 👔		
30secs	● 150sec	s American English	~	
	120			
			Next →	)

## • Action

The action field is the identifier for this operation that will be used in the SDK's CreateTransaction methods. Every operation must have a unique Action within the application. This value is not shown to the end-user.

## • Action display name

This field is the name of the operation as it is shown to the user. We need to press *Add languages* to set the name of the operation in each defined language.

## • Description

The description field is used for notes or to describe the operation. This value is not shown to the user and is only readable through the backoffice.

## • Type

There are two main operation types: **Notification** and **Actionable**. **Actionable** is the type of transaction that end-users can approve or reject. This requires the callbacks to be configured properly in order to receive the authentication request result from the end-user's mobile app. **Notification** is a fire-and-forget type of authentication request. This type is useful to securely send messages to the end-user's mobile app that only have an "OK" button instead of the "Approve" and "Reject" buttons.

## • Default Language

This setting defines the language TrustFactor will default to if the end-user's device is configured in a language that is not set in the **Languages** field.

**Step: Parameters** The **Parameters** screen is where we define the parameters for the operation and list existing parameters for the operation.

ጏ	Trustfa				Cyan Bank > Back to app	💄 jack-adm
OPERA		DRAFTS				
- Back	< Contract of the second secon				+	New Operatio
w new o	operations	Show edit operations				
ods tra	ansfer ×					
	Parameters					
Jup.1	urumeters				+ Nev	/ parameter
						parameter
Order	by ascending	Order by descending				
Order	by ascending Order	Corder by descending	Description	Data Type	Mandatory	
Order			Description Source account from the Funds Transfer example	Data Type string	<b>Mandatory</b> Yes	/ 1
	Order	Кеу				<pre>/ + / +</pre>
¢	Order	Key source_account	Source account from the Funds Transfer example	string	Yes	
<ul><li>⊕</li><li>⊕</li><li>⊕</li></ul>	Order 1 2 3	Key source_account destination_account	Source account from the Funds Transfer example Destination account from the Funds Transfer example	string string	Yes Yes	/ 1
<ul><li>⊕</li><li>⊕</li><li>⊕</li></ul>	Order 1 2	Key source_account destination_account	Source account from the Funds Transfer example Destination account from the Funds Transfer example	string string	Yes Yes	× #
<ul><li>⊕</li><li>⊕</li><li>⊕</li></ul>	Order 1 2 3	Key source_account destination_account	Source account from the Funds Transfer example Destination account from the Funds Transfer example	string string	Yes Yes	/ 1
<ul><li>⊕</li><li>⊕</li><li>⊕</li></ul>	Order 1 2 3	Key source_account destination_account	Source account from the Funds Transfer example Destination account from the Funds Transfer example	string string	Yes Yes	/ 1

We can create new parameters by pressing + New parameter.

≡	Trustfactor						Cyan Bank > Back to app
		OPERATIONS DRAF	TS				
	Operations						
	Rule Templates	transfer-v2 ×	-				
	Devices						Done 🗸
							Mandatory 🥹 🌑
	Transactions	Key 👔			Data Type 👩		
	Simulator	amount		1	money		~
		Description 📀			Languages 🕜		
	Settings	Amount			0 Languages empty		Add languages
		Enable parameter risks	Ø				
		Risk	Weight	Rule		Languages	
		Low	0	Rule template		2 Languages empty	Add languages
		Medium	50	Rule template		2 Languages empty	Add languages
		High	100	Rule template		2 Languages empty	Add languages

In the new parameter screen you need to define your parameter:

- **Key** defines the name of the parameter to be used when calling CreateTransaction on the SDK. This is not a translated field and will not be shown to the end-user.
- Data Type defines the data type for the parameter. Parameters can of four different types: *boolean*, *float*, *money* or *string*
- **Description** defines a developer-only description much like the operation's description. This is not shown to the end-user.
- Languages is used to define the visible translations of the parameter's name. You have to define the visible name for the parameter in every language you selected in the operation's basic setttings screen.

You can also assign risk rules you already created in the Rule Templates tab to the parameter you are creating.

≡ 1 Trustfactor						Cyan Bank > Back to app
	OPERATIONS D	RAFTS				
Operations						
Rule Templates	transfer-v2 ×	•				
						Done 🗸
Devices						Mandatory 🛛 🌑
Transactions	Кеу 🕡			Data Type 🔞		
Simulator	amount		Choose a rule template			~
	Description 😧		Choose an option	<u> </u>		
Settings	Amount		montante_low	s empty		Add languages
	Enable parameter r	isks @	montante_medium			
			montante_high montante_v2_low			
	Risk	Weight	montante_v2_medium		Languages	
	Low	0	montante_v2_high funds_transfer_low_risk		2 Languages empty	Add languages
	Medium	50	funds_transfer_medium_risk		2 Languages empty	Add languages
	High	100	D Rule template		2 Languages empty	Add languages

After adding a risk rule, you can define the messages for each risk level, in every supported language you selected in the operation's basic setttings screen.

You can also assign the weight for these parameters, which will be used in the risk calculation for the whole transaction.

**Step:** Messages The Messages screen is where we define the messages shown in the first screen of the decision workflow in the mobile app.

目 口 Trustfactor	Cyan Bank > Sack-admin V
OPERATIONS DRAFTS	
← Back	+ New Operation
Show new operations Show edit operations	
funds_transfer × -	
Step: Messages	
	+ New Message
Id 11 Message Languages	
1 Do you approve a transfer of [[.amount]] from [[.source_account.Value]] to [[.destination_account.Value]]?	/ =
1     Do you approve a transfer of {[amount]] from {[source_account.Value]} to {[.destination_account.Value]]?     0 Languages empty       Show 15 ° perpage     5	Showing 1 to 1 of 1 entries
Show 15 v perpage	Showing 1 to 1 of 1 entries
Show 15 v perpage	Showing 1 to 1 of 1 entries
Show 15 v perpage	Showing 1 to 1 of 1 entries
Show 15 v perpage	Showing 1 to 1 of 1 entries

We could add more messages to the operation that can be used in different scenarios by referencing the message ID. First we define the message for the default language. After setting the default language message, we must also define the translations for the other languages set in the application's basic settings by pressing Add languages. When you are done configuring the message, 0 languages empty should appear on the messages table.

#### **Referencing Parameter Values in Messages**

It's possible to reference parameter values in messages by using Go templates. If you have a parameter with the key username, you can reference the passed parameter in the message by doing {{.username.Value}}. This is straightforward for all parameter types except *money*. For money you may want a formatted string with the amount and the currency and for that you need to use just the parameter key (e.g. if you have a money parameter with key amount, then you reference it with {{.amount}}).

A full message can be something like:

Do you wish to proceed with funds transfer of {{.amount}} ?

We can now click *Next* -> in the bottom left corner to proceed.

**Step: Risk Settings** Here you can configure risk settings for this operation. There are no parameters so there are no settings there. We can however enable Risk Modules.

Trustfactor			Cyan Bank > Back to app
OPERATIONS DRAFTS			
← Back			+ New Operation
ow new operations Show edit operations			
asswordless_l ×			
Step: Risk configurations			
Risk Parameters			
Risk Modules 💡			
Module Name	Weight	Mandatory	
Module Name Choose a module_ ~		Mandatory	+
			+
Choose a module v	0		
Choose a module.	0 100		/ T / T
Choose a module_ ~	0 100		× *
Choose a module.	0 100		/ T / T
Choose a module.	0 100		/ T / T

An operation may define static rules for transaction's risk based on parameters' values. In order to use static rules for a parameter the operation should define:

- The weight of the parameter for the whole transaction's risk evaluation;
- Risk conditions to apply to the parameter for each risk level;
- The expression logic for the parameter for each risk level;
- The risk multiplier for each risk level.

The parameter risk levels will be evaluated from the highest to the lowest. The evaluation stops as soon as a risk level is triggered. The transaction will fail if the parameter's value doesn't fit in any rule.

The transaction's risk level calculation is based on defined thresholds:

- 33 points or less Low risk
- + 34 points or more but less than 68 points  $\mathbf{Medium\ risk}$
- 68 points or more **High risk**

The transaction's risk score is calculated using the following formula:

 $\Sigma$ (params risk score) +  $\Sigma$ (modules risk score)

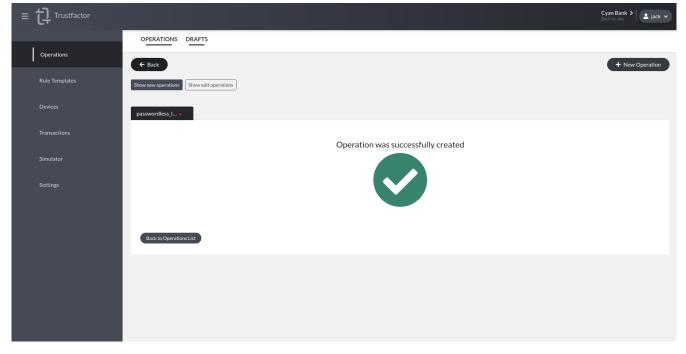
The risk score for each parameter is defined by:

Parameter's weight \* Parameter's Risk Level Multiplier

**Risk Modules** There are currently two risk modules supported:

- LRC The Location Risk Calculator leverages the geo-location of the user to assess the risk of the transaction. This requires either the client IP (of the application user) who created the transaction to be sent in CreateTransaction metadata or the coordinates (latitude and longitude).
- **IP Reputation** The IP Reputation risk module uses our threat intelligence sources to flag suspicious source IP addresses. This requires the client IP (of the application user) who created the transaction to be sent in CreateTransaction metadata.

You can select one or both and assign a weight to it. This weight will be factored in the risk calculation for the transaction as defined in the section above. Normally we select both and assign a weight of 100 to each so that if either of these modules are triggered the transaction is bumped to high risk immediately.



Submission When you are ready and get no errors on the validation step, you can then create the operation.

After creating the operation, you can use the Simulator to check what the authentication request will look like for a given user.

#### Example 1 - Password-less Login

In order to explore operations usage, we will set a few common scenarios that can leverage TrustFactor operations for multi-factor authentication.

One of the most common use cases for TrustFactor is password-less login. This is one of the simplest operations to configure on TrustFactor, as it usually does not have any parameters, just a simple message like "You have requested to log in on using . Do you wish to proceed?".

The first thing we need to do is access the Operations menu in our application and press + New Operation. This opens the basic configurations screen for operations as shown below.

≡ בן Trustfactor				Cyan Bank >   ▲ jack ∨
1	OPERATIONS DRAFTS			
Operations	← Back			+ New Operation
Rule Templates	Show new operations Show edit operations			
Devices	New Draft ×			
Transactions	Step: Basic configurations			
Simulator	Action 0		Description	
	Write the action name		Write the action description	
Settings	Action display name o		Type o	
	0 Languages empty	Add languages	Choose an option	~
	Languages  Show all Languages			Select common Languages Remove common Languages
	0 active languages			
	<ul> <li>British English</li> <li>русский</li> </ul>	□ 한국어		
	American English			
	<ul> <li>español de España</li> </ul>			
	🗌 italiano			
	português europeu			
	Transaction duration 😡		Default Language 💿	
	303665	150%	Choose an option	
	30			
				Next →

**Step: Basic Settings screen** For the password-less login example, let's configure two languages: **Portuguese** and **American English**.

## • Action

For this example, we'll just set it to *passwordless\_login*.

## • Action display name

We set "Password-less Login" for the American English language and "Autenticação sem Password" for the Portuguese language.

≡ בן Trustfactor		Cyan Bank > Back to app
	OPERATIONS DRAFTS	
Operations	← Back	+ New Operation
Rule Templates	Show new operations Show edit operations	
Devices	passwordless_L =	
Transactions	Action  American English	
Simulator	passwordless_login         Password-less Login           Action display name </td <td></td>	
Settings	0 Languages empty         Autenticação sem Password	×
	Languages @ showall.an 2 active languages i italiano españd de España Coor españd de España Atas pyccowi British English 한국어 Default Languages @ American English	Select common Languages Remove common Languages
		Next →

# • Description

A password-less login operation example.

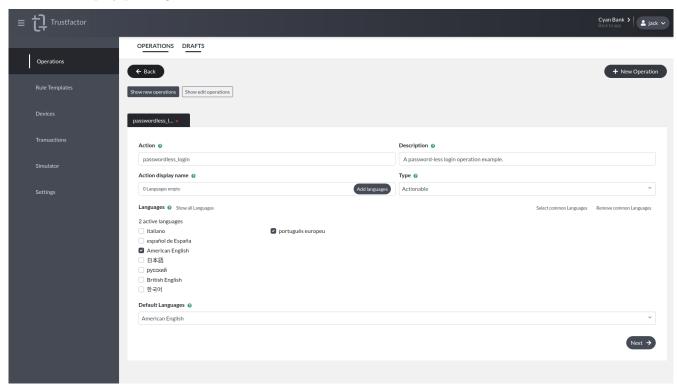
# • Type

For the password-less login example, this must be set to **Actionable**, because we want to know if the user approved or rejected.

## • Default Language

We'll set the default language to American English.

The basic configurations screen for password-less login should look like the screenshot below. We can now proceed to the next step by pressing the  $Next \rightarrow button$  in the bottom left corner.



Step: Parameters For this example, we will not define any parameter, so we just press the Next -> button.

≡	לן Trustfactor				Cyan Bank ➤ Back to app
		OPERATIONS DRAFTS			
	Operations	← Back			+ New Operation
	Rule Templates	Show new operations Show edit operations			
		passwordless_l ×			
					+ New parameter
		Order by ascending Order by descending			
		Order Key No results	Description	Data Type	Mandatory
		€ Previous			Next >

**Step:** Messages For the password-less login example, we must define one message for each language defined in the operation's basic settings.

We could more messages to the operation that can be used in different scenarios by referencing the message ID.

First we define the message for the default language.

≡	Trustfactor			Cyan Bank 3 Back to app	> 💄 jack 🗸
		OPERATIONS DRAFTS			
	Operations	← Back		+ Ne	ew Operation
	Rule Templates	Show new operations Show edit operations			
		passwordless_l ×			
				+ New M	Message
		ld ↑↓ Message	Languages		
		1 You have requested to log-in to CyanBank. Do you wish to proceed?	1 Languages empty Ad	id languages	/ 1
		Show 15 ° perpage		Showing 1 to	o 1 of 1 entries
		← Previous		(	Next >

After setting the default language message (American English), we must also define the translations for the other languages set in the application's basic settings by pressing *Add languages*. When you are done configuring the

message,  $\theta$  languages empty should appear on the messages table.

We can now click *Next* -> in the bottom left corner to proceed.

**Step: Risk Settings** Here you can configure risk settings for this operation. There are no parameters so there are no settings there. We can however enable Risk Modules.

Trustfactor			Cyan Bank > Back to app
OPERATIONS DRAFTS			
E Back			+ New Operation
ow new operations Show edit operations			
asswordless_l × •			
Step: Risk configurations			
Risk Parameters			
Risk Modules 💡			
Module Name	Weight	Mandatory	
Choose a module	0		+
Choose a module	0 100		+
Choose a module			
IP Reputation	100		/ =
IP Reputation	100		Z #
IP Reputation LRC	100		/ T / T
IP Reputation LRC	100		/ 1

An operation may define static rules for transaction's risk based on parameters' values. In order to use static rules for a parameter the operation should define:

- The weight of the parameter for the whole transaction's risk evaluation;
- Risk conditions to apply to the parameter for each risk level;
- The expression logic for the parameter for each risk level;
- The risk multiplier for each risk level.

The parameter risk levels will be evaluated from the highest to the lowest. The evaluation stops as soon as a risk level is triggered. The transaction will fail if the parameter's value doesn't fit in any rule.

The transaction's risk level calculation is based on defined thresholds:

- 33 points or less Low risk
- 34 points or more but less than 68 points Medium risk
- 68 points or more **High risk**

The transaction's risk score is calculated using the following formula:

```
\Sigma(params risk score) + \Sigma(modules risk score)
```

The risk score for each parameter is defined by:

```
Parameter's weight * Parameter's Risk Level Multiplier
```

Risk Modules There are currently two risk modules supported:

• LRC - The Location Risk Calculator leverages the geo-location of the user to assess the risk of the transaction. This requires either the client IP (of the application user) who created the transaction to be sent in CreateTransaction metadata or the coordinates (latitude and longitude).

• **IP Reputation** - The IP Reputation risk module uses our threat intelligence sources to flag suspicious source IP addresses. This requires the client IP (of the application user) who created the transaction to be sent in CreateTransaction metadata.

You can select one or both and assign a weight to it. This weight will be factored in the risk calculation for the transaction as defined in the section above. Normally we select both and assign a weight of 100 to each so that if either of these modules are triggered the transaction is bumped to high risk immediately.

目 口 Trustfactor				Cyan Bank > Backto app
	OPERATIONS DRAFTS			
Operations	← Back			+ New Operation
Rule Templates	Show new operations Show edit operations			
Devices	passwordless_l ×			
Transactions	Transaction duration 😡			
Simulator	30secs	150secs		
Settings	Risk Parameters	of this operation		
	Risk Modules 👔			
	Module Name	Weight	Mandatory	
	Choose a module	~ 0		+
	IP Reputation	100	5	2 B
	LRC	100	2	/ =
	← Previous			Next >

Submission When you are ready and get no errors on the validation step, you can then create the operation.

≡ 1 Trustfactor		Cyan Bank ≯   💄 jack ✔
	OPERATIONS DRAFTS	
Operations	<del>C</del> Back	+ New Operation
Rule Templates	Show new operations Show edit operations	
Devices	passwordless_L ×	
Transactions	Operation was successfully created	
Simulator		
Settings		
	Back to Operations List	

After creating the operation, you can use the Simulator to check what the authentication request will look like for

a given user.

## Example 2 - Funds Transfer

In this example we will go through the operation create workflow but now we will define parameters and assign risk rules to them. We will take the previous example defined in Example - Funds Transfer.

Let's go through the operations creation workflow.

Step: Basic Configuration We define the action, languages, description and proceed to the parameters screen.

≡ tl Trustfactor			Cyan Bank 🗲 🙎 jack 🗸
OPERATIONS DRAFTS			
funds_transfer ×			
Step: Basic configurations			
Action 📀		Description 🔞	
funds_transfer		Funds Transfer Operation	
Action display name 😡		Туре 😡	
0 Languages empty	Add languages	Actionable	~
Languages 📀 Show all Languages		Select common Languages	Remove common Languages
1 active languages			
□ 日本語	□ 한국어		
British English			
🗌 español de España			
<ul> <li>português europeu</li> <li>italiano</li> </ul>			
Italiano     American English			
<ul> <li>динегсал english</li> <li>русский</li> </ul>			
_ русский			
Transaction duration 💡		Default Languages 💡	
30secs	150secs	American English	~
	120		
	—		
			Next >

Step: Parameters In order to create the Funds Transfer operation, we're going to need to define 3 parameters:

- Source Account
- Destination Account
- Transaction Amount

In the parameters screen, choose + New Parameter. This will take you to the parameter creation screen. The first parameter we create is going to define is the source account. Let's fill in the required parameter fields.

- Key source\_account
- Data Type string
- Description Source account from the Funds Transfer example
- Default Language Parameter Label (english) Source Account

This parameter does not have any risk rules associated with it, so we leave the *Enable parameter risk rules* toggle disabled for this one.

目 口 Trustfactor		Cyan Bank > Back to app
OPERATIONS DRAFTS		
← Back		+ New Operation
Show new operations Show edit operations		
funds_transfer ×		
		Done 🗸
		Mandatory 💡 🌑
Key ø	Data Type 🧑	
	Data Type  string	~
		~
source_account	] string	∼ Add languages
source_account Description	string	
source_account Description  Source account from the Funds Transfer example Enable parameter risks	string	
source_account Description  Source account from the Funds Transfer example Enable parameter risks	string	
source_account Description  Source account from the Funds Transfer example Enable parameter risks	string	
source_account Description  Source account from the Funds Transfer example Enable parameter risks	string	

Now we can press *Done* to save the parameter. A new line should appear on the *Step: Parameters* screen as shown below.

_ ≡ ī.	Trustfa	ctor			Cyan Ban Back to app	ak 🔪 💄 jack 🗸
OPER	ATIONS E	DRAFTS				
← Bac					+	New Operation
Show new	operations	Show edit operations				
funds_tr	ansfer ×					
Step:	Parameters					
					+ New	parameter
Orde	by ascending	Order by descending				
Orde	by ascending Order	Order by descending Key	Description	Data Type	Mandatory	
Orde ¢			Description Source account from the Funds Transfer example	Data Type string	<b>Mandatory</b> Yes	/ 1
\$	Order	Кеу				✓ <sup>*</sup> Next →
\$	Order 1	Кеу				_
\$	Order 1	Кеу				_
\$	Order 1	Кеу				_

Now we go ahead and create the other two parameters. **Destination Account** is next and it's definition is very similar to **Source Account**:

- Key destination\_account
- Data Type string
- Description Destination account from the Funds Transfer example
- Default Language Parameter Label (english) Destination Account

**Transaction Amount** is the most interesting parameter to create, because it needs risk rules. First we define the required parameters:

• Key - amount

- Data Type money
- Description Transaction Amount from the Funds Transfer example
- Default Language Parameter Label (english) Transaction Amount

Now we need to press *Enable parameter risk rules* to use the rule templates we created earlier on this operation. When you press the button, you should see a screen as shown below:

= 口 Trustfacto	pr			<b>Cyan Bank ≯</b> Back to app
OPERATIONS DR	FTS			
← Back				+ New Operation
Show new operations Sho	w edit operations			
funds_transfer ×				
				Done 🗸
				Mandatory 🛛 🌑
Key 🔞			Data Type 😧	
amount		Â	money	×
Description 😧			Languages 😡	
Transaction Amount	from the Funds Transfer example		0 Languages empty	Add languages
Enable parameter risk	s @			
Risk	Weight	Rule		Languages
Low	0	Rule template		1 Languages empty Add languages
Medium	50	Rule template		1 Languages empty Add languages
High	100	Rule template		1 Languages empty Add languages

We need to configure the rules that trigger each risk rating (low, medium and high) as explained in the Risk Settings Section. For *low* risk, we're going to use the rule funds\_transfer\_low\_risk that was created earlier. When *low* risk transactions are created, we don't want to show any risk message above the parameter, but we do for *medium* and *high* risk so let's configure those by setting the *rule template* and then pressing the *Add languages* button to add the risk message to be shown. For medium risk, let's add the message Please validate the transaction amount before proceeding. For high risk, we add Attention: High Transaction Amount! Please validate before proceeding.

When you are done the screen should look like the screenshot below.

L+ Trustfa	store Store edit operations     ter     ter     Data Type •     money     on •   tan Anount from the Funds Transfer example     OLInguages empty     an •   So   • <tr< th=""><th>Cyan Bank &gt; Back to app</th></tr<>		Cyan Bank > Back to app	
Answer Show edit operations ds transfer ter amount Terr				
Back				+ New Operation
w new operations	Show edit operations			
nds_transfer ×				
				Done 🗸
				Mandatory @
Key 👔			Data Type 👩	
amount				~
Description @			Languages 🕢	
Transaction Amo	unt from the Funds Transfer exam	ple	0 Languages empty	Add languages
Enable parameter	risks 👔			
Risk	Weight	Rule		Languages
				Languages 1 Languages empty Add languages
Risk	0	Edit rule X Remove rule		
<b>Risk</b> Low	0	Edit rule     Kemove rule     Edit rule     Kemove rule		1 Languages empty Add languages

After pressing Done, you will see all of the parameters defined as shown in the screenshot below.

לי Trustfaci	tor						Cyan Bank > Back to app
PERATIONS DE	AFTS						
Back							+ New Operation
new operations	now edit operations						
ls_transfer ×							
							Done 🗸
							Mandatory @
ey ❷				Data Type 👔			
amount				money			
escription 👔				Languages 😧			
Transaction Amour	nt from the Funds Transfer examp	ple		0 Languages empty			Add languages
nable parameter ris	sks 🚱						
Risk	Weight	Rule			La	nguages	
Low	0	🖋 Edit rule 🗙 Rer	move rule			1 Languages empty	Add languages
Medium	50	🖋 Edit rule 🗙 Rer	nove rule			) Languages empty	Add languages
High	100	🖋 Edit rule 🗙 Rer	move rule			) Languages empty	Add languages

**Step:** Messages In the messages screen, we can reference the parameter values in order to include them in the message using Go templating as shown below. Later we will reference this Message Identifier (1) in the simulator to see what will be shown to the end user.

目 口 Trustfactor	Cyan Bank > Back to app
OPERATIONS DRAFTS	
Back Show new operations Show edit operations	+ New Operation
funds_transfer ×	
Step: Messages	
	+ New Message
ld ↑↓ Message Lang	guages
1 Do you approve a transfer of {[.amount]] from [[.source_accountValue]] to [[.destination_accountValue]]? 0Lan	nguages empty 🥒 🍵
Show 15 ° per page	Showing 1 to 1 of 1 entries
← Previous	Next >

**Step: Risk Settings** In the risk configurations screen, we set the weight of the Amount parameter to 100. This means that if the amount parameter is flagged as high risk, the whole transaction is rated high risk. If we lower this weight we may create scenarios where a high risk parameter only causes the transaction to be rated medium risk, but this is not what we want in this case. We also add LRC and IP Reputation risk modules with weight set to 100 because if either module flags the transaction we want it to be high risk as well.

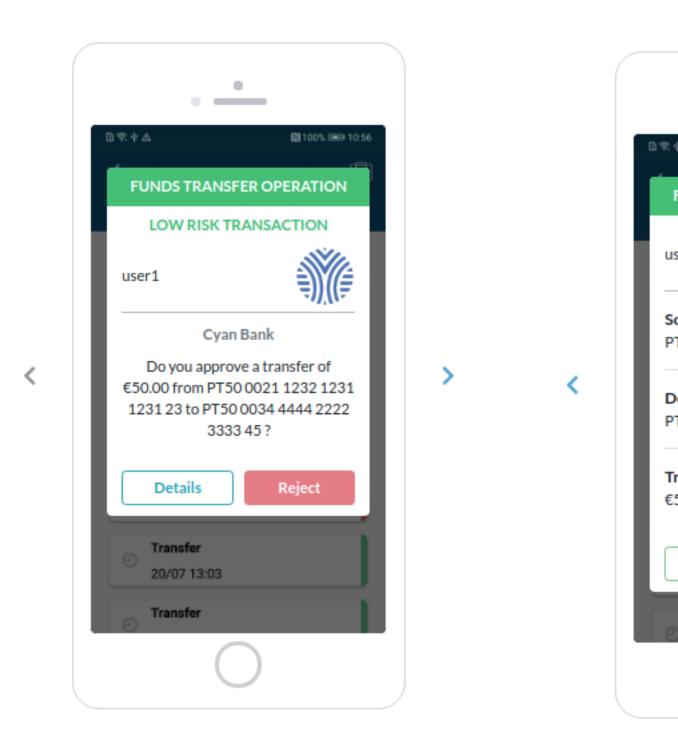
Trustfactor			Cyan Bank > Back to app
OPERATIONS DRAFTS			
- Back			+ New Operation
w new operations Show edit operations			
nds_transfer ×			
Step: Risk configurations			
Risk Parameters 💡			
Кеу	Weight		
amount	100		1
Risk Modules 💡			
Module Name	Weight	Mandatory	
	~ О		+
IP Reputation	100		/ 1
LRC	100		/ 1
			_
← Previous			Next >

**Simulator** If we use the Simulator on the newly created transaction, we can see how it will be shown to the end user. We select the **funds\_transfer** operation and now the form includes the parameters we need to fill out. We pick a user and set the amount to 50 EUR.

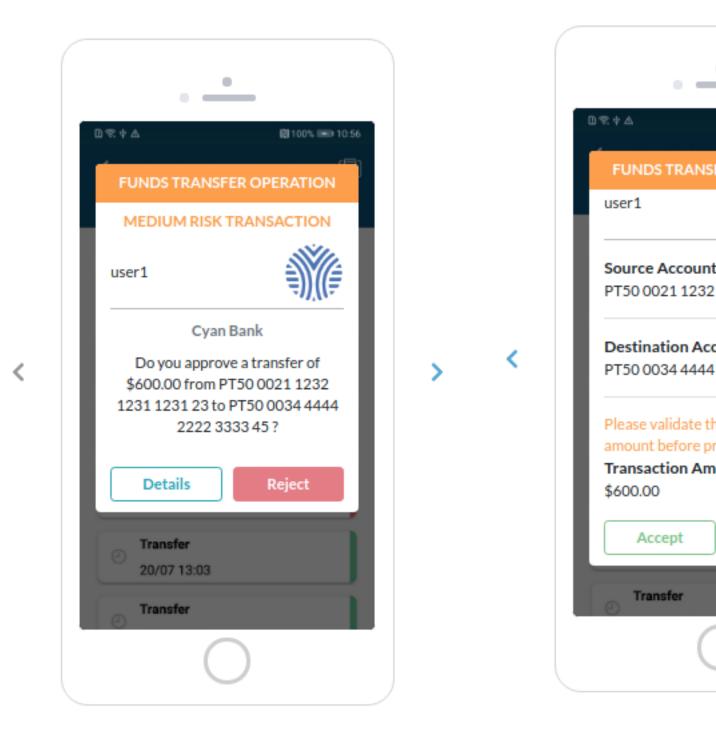
OPERATIONS GENERICS 3DSSIBS

	×``
	×
	×
	×``
Currency	
EUR	· · · · · · · · · · · · · · · · · · ·

When we press *Simulate* at the bottom, we will see both screens render as they would be shown to that user:



This shows no risk messages what soever above the parameters. Now let's try to trigger a medium risk transaction by setting the amount to US .



The medium risk message is now shown above the Transaction Amount parameter as we defined it. Now let's try 10.000 EUR to trigger the high risk rule.

0\$\$4	🕅 100% 💷 10:56		D\$\$\$\$
FUNDS TRANSI	FER OPERATION		FUNDS TRAN
HIGH RISK T	RANSACTION		
user1	- Me		Source Accourt PT50 0021 123
Cyar	Bank		Destination A
	ve a transfer of	>	PT50 0034 444
· · · · · · · · · · · · · · · · · · ·	PT50 0021 1232 PT50 0034 4444		Attention: High
2222 3	333 45 ?		Amount! Please proceeding
Details	Reject		Transaction A €10,000.00
Transfer			Accept
20/07 13:03			
Transfer			Transfer

This shows use the High Risk rule has been triggered and the message is shown accordingly.

<

# Error Logs

Error logs are used to diagnose failed TrustFactor callbacks.

Permissions required to view this screen: - View Logs

TrustFactor		Cyan Bank > Back to app
	ERROR LOGS	
Dashboard		
Devices	Your search query returned too many results showing only the first 100 ; if you did not find what you were looking for, try tuning the search filters to return less results.	×
Event History	* When filled in, the exact value will be used to filter	<b>T</b> Filters
Operations	Callback Type *     APP User Unique ID *     Transaction ID *     Error Message     HTTP Code     Created At       Choose an optionx     *     *     *     *     *     *	
Rule Templates	Search	
Transactions	APP User           Created At         ↑1         Callback Type ↑↓         Unique ID         Error Message	t↓
Simulator	1/24/2022, 4:32:07 PM Transaction paulo.carvalho 404 page not found	Details
Error Logs	1/24/2022, 4:32:06 PM Transaction paulo.carvalho 404 page not found	Details
	1/24/2022, 4:32:06 PM Transaction paulo.carvalho 404 page not found	Details
Settings	1/24/2022, 12:17:33 PM Get SIBS Register Token hilario.coelho ["see_atv_cod_sdk":"afe9d8dd-8824-4dd0-b140-6f453abd427e"]	Details
	1/24/2022, 12:04:48 PM Get SIBS hilario.coelho ["see_atv_cod_sdk":"3a6ff5bf-347f-4719-834b-b3160f1d2776"]	Details
	1/24/2022, 12:00:59 PM Get SIBS hilario.coelho Resister Token Resister Token Action Coeling and the coeling an	-register-token":

You can filter for:

- Callback Type
- App User Unique ID
- Transaction ID
- Error Message
- HTTP Code
- Created At (time period)

By pressing the "Details" button at the end of the table row, you will be able to see the error details.

	Details -	Transaction		
Transaction ID c99dcea6fc1c42ffaa129af920ffbb9d				Í
APP User Unique ID paulo.carvalho				
Correlation ID 8e7f4a6f-46e7-401f-9552-ca2d2b994485				
Request data		Response data		
Endpoint URL http://banking-demo-backend-v2.securityside-dev-v2- demobank.svc.cluster.local/api/tfcallbacks/transaction2		HTTP Code 404		
Method POST		<ul> <li>Headers</li> <li>Content-Length: 19</li> <li>Content-Type: text/plain; charset=utf-8</li> </ul>		
Headers Content-Type: application/json X-API-Version: 1.0.0 X-Application-Key: 1Vn6q3F50Yq0yOeTYo7Ffl9AyjZxbF		<ul> <li>Date: Mon, 24 Jan 2022 16:32:07 GMT</li> <li>Server: envoy</li> <li>X-Content-Type-Options: nosniff</li> <li>X-Envoy-Upstream-Service-Time: 2</li> </ul>		
<ul> <li>X-Request-Correlation-ID: 8e7f4a6f-46e7-401f-9552-ca</li> <li>X-Transaction-ID: c99dcea6fc1c42ffaa129af920ffbb9d</li> </ul>	32020994465	Body	🖞 Сору	1
Body	(Сору	404 page not found		
{     "status": 2,     "device_key": "6Qp/NflZezxyfjZ7BLaKqCIVc6rpRTM7     "transaction_id": "c99dcea6fc1c42ffaa129af920ffbb9     "app_user_unique_id": "paulo.carvalho",     "contract_key": "Ukmv5+kE5hfWZxMFatzjVZ14XzE7. }	d",			
			Close	, D

# **Event History**

# **Profile History**

The profile history is used to consult all the activity performed by a profile.

Permissions required to view this screen: - View Contracts - View Transactions

Here you can search by device.

≡ בן TrustFactor		Cyan Bank ≯ Back to app ▲ jack ✔
	PROFILE HISTORY DEVICE HISTORY	
Dashboard		
Devices	Here you can view the history of any profile even if it has no associated device     APP User Unique ID	
Event History	Q.Sairth	
Operations		

Here you can see profile event list.

≡ בן TrustFactor		Cyan Bank > Back to app
	PROFILE HISTORY DEVICE HISTORY	
Dashboard	← Back paulo.carvalho	
Devices		<b>T</b> Filters
Event History	Event ID Event Types Status Created At Choose an option x V Choose an option x V Lust 30 days *	
Operations	Search	
Rule Templates		
Transactions	transfer (Accepted) Device Name: IPhone de Paulo - DeviceID:6a575 Q Created At: 1/24/2022, 43:633 PM   Decided At: 1/24/2022, 43:648 PM	1/24/2022,4:36:33 PM
Simulator	transfer         Accepted           Device Name: IPhone de Paulo         - DeviceID:6a575         Q           Created At: 1/24/2022, 4/31:52 PM         Decided At: 1/24/2022, 4/3205 PM	1/24/2022, 4:31:52 PM
Error Logs	Associated device     Device Name: IPhone de Paulo - DeviceID:6a575 Q	1/24/2022, 4:31:06 PM
Settings		

You can filter for:

- Event ID
- Event Types
- Status
- Created At (time period)

By pressing the "Details" button at the end of the table row, you will be able to see the event details.

Event Details - Removed device (from Backoffice/SDK)				
Backoffice username <unknown></unknown>				
Device Apple iPhone XR				
Operating System				
iOS 15.1				
	Close			
	Backoffice username <unknown> Device Apple iPhone XR Operating System</unknown>			

## **Device History**

The device history is used to consult all the activity performed by a device.

Permissions required to view this screen: - View Contracts - View Transactions

Here you can search by device.

≡ בן TrustFactor	Cyan Bank > Back to app	🛓 jack 🗸
	PROFILE HISTORY DEVICE HISTORY	
Dashboard		
Devices	Here you can view the history of any device     Device ID	
Event History	Q.Search	
Operations		

Here you can see device event list.

≡ [] TrustFactor		Cyan Bank ➤ Back to app         jack
	PROFILE HISTORY DEVICE HISTORY	
Dashboard	← Back c29e8ea02536b9506ba678581fe137358dd6efc91c2442e8792afd65f836a575	
Devices		<b>T</b> Filters
Event History	Event ID     Event Types     Status     Created At       Choose an optionX     Choose an optionX     Lest 30 days *	
Operations	Search	
Rule Templates		
Transactions	transfer Accepted Device Name: IPhone de Paulo - Device ID:6a575 Q Created AI: 1/24/2022, 4:36:33 PM   Decided AI: 1/24/2022, 4:36:48 PM	1/24/2022, 4:36:33 PM
Simulator	transfer Accepted Device Name: IPhone de Paulo - Device ID:6a575 Q, Created AI: 1/24/2022,4:31:52 PM   Decided AI: 1/24/2022,4:32:05 PM	1/24/2022, 4:31:52 PM
Error Logs	Associated device     Device Name: iPhone de Paulo - Device ID:6a575 Q	1/24/2022, 4:31:06 PM
Settings		

You can filter for:

- Event ID
- Event Types
- Status
- Created At (time period)

By pressing the "Details" button at the end of the table row, you will be able to see the event details.

Event Details - Removed device (from Backoffice/SDK)				
Event ID ed2272bf19f4b5c43817bf065b6528bba7d792c1e79f7e0276887a699154d0ca	Backoffice username <unknown></unknown>			
Device				
Device Name Axios.js debug_local	Device Apple iPhone XR			
Device ID 20179cd4edfa37e3540aed893dea29156eb949113985fb070e25941db593db5c	Operating System iOS 15.1			
STER ACCENCE	Close			

# Simulator

In the simulator we can check what the user will see when they receive an authentication request for a given operation. The forms will match the API exposed through the SDK's CreateTransaction methods and will allow you to test what operations will look like before you start development.

Permissions required to view this screen: - Manage Roles - View Contracts

= T Trustfactor			Cyan Bank ➤ Back to app
	OPERATIONS GENERICS 3DSSIBS		
Operations			
Rule Templates	Operation 🗑		
Devices	passwordless_login ]	× ×	A * + A Briter we have a
Transactions	Target  user1	× ~	
Simulator	Language 💿 American English	× ~	Cyan Bank You have requested to log in to CyanBank. Do you wish to proceed?
Settings	Message 😡		Accept Reject
	Message Identifier 💿		Transfer     20407 13:03     Transfer
	1	× ×	0
	Metadata 😡		
	Channel 💿		
	WEB		
	Platform  Windows		

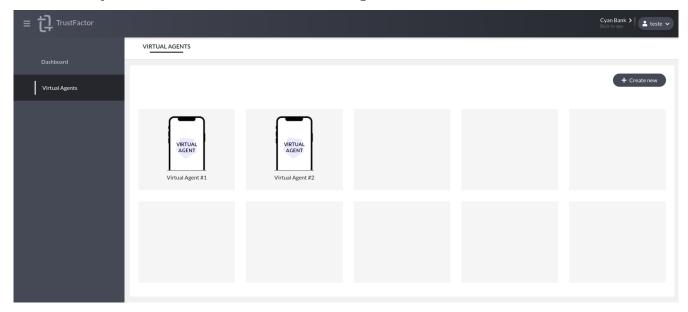
If we switch the device language to *Portuguese*, we will see it reflected in the simulator.

≡ 🔁 Trustfactor			Cyan Bank >   🔮 jack 🗸
Operations	OPERATIONS GENERICS 3DSSIBS		
Rule Templates	Operation 🛛		· <u>·</u>
Devices	passwordless_login ]	× *	
	Target 😧		LOW RISK TRANSACTION
Transactions	user1	× ~	user1
Simulator			Cyan Bank Estáa tentar autenticar-se no
'	português europeu	× *	CyanBank sem password?
Settings	Message 🛛		Transfer 2007/331
			Transfer     20/0713.03
	Message Identifier 🛛		© Transfer
	1	× *	0
	Metadata 🗑		
	Channel 📀		
	WEB		
	Platform 🛛		
	Windows		

# Virtual Agents

Virtual Agents main function is to emulate a real device, mainly for development use when a real mobile agent is not available. This functionality allows tests such as enrollment, transaction decision, profile sharing, backup and recovery.

Permissions required to view this screen: - Use Virtual Agents



## **Create Virtual Agent**

When creating a Virtual Agent, you are registering a "TFVA" device (that is the make and model shown in the *Devices* tab), and you can choose the location and authentication mechanisms (Biometrics and Password). This is akin to installing the mobile agent application on an Android or iOS device.

≡ 🔁 TrustFactor			Cyan Bank > Eack to app
	VIRTUAL AGENTS		
Dashboard	← Back		
Virtual Agents			
	Device Name	Device Location	
	Virtual Agent #1	41.16378167909097	-8.635652029032267
	Authentication mechanisms Password Biometrics		Submit

# Virtual Agent Settings

Dashboard     VIRTUAL AGENTS       Virtual Agents <ul> <li>Virtual Agent #1</li> </ul> Settings     Profiles     Transactions	<b>≮</b> Share
Virtual Agents Virtual Agent #1	<b>Share</b>
Device Name Device Location	
Virtual Agent #1 41.16378167909097 -8.635652029032267	
Biometrics	
	Edit
E Cyan Bank >	teste 🗸
Dashboard	
Virtual Agents	< Share
Virtual Agent #1	
Settings Profiles Transactions	
Device Name Device Location	
Virtual Agent #1 - Edited         41.16378167909097         -8.635652029032267	
Authentication mechanisms          Image: Constraint of the second seco	
X Cancel	omit

You will be able to view and edit the device settings if necessary.

## Virtual Agent Profiles

You will be able to view and manage profiles: register, share, remove, recover and create backup.

≡ בן TrustFactor					Cyan Bank > Eack to app
Dashboard	← Back				Share
Virtual Agents	Virtual Agent #1				
	Settings		Profiles	Transact	ions
	Share/Remove 🖨 Backup/Recover				+ Add
	teste_va	teste_va2			

## Virtual Agent Profiles Registration

In order to enroll a virtual agent with a profile from your application, you must first use the SDK to obtain a registration deep link URL, just like in a real TrustFactor agent. This is akin to scanning a QR code or opening a registration deep link with the TrustFactor App.

To register the profile, open the Virtual Agent you wish to enroll and access the "Profiles" tab. Use the "Add +" button to open the input box where you can enter the deep link URL to complete the registration.

	Cyan Bank ≯
VIRTUAL AGENTS	
(+ Back	Share
Virtual Agent #1	
Settings Create new profile	Transactions
Deeplink Url	
🖾 Share/Remove 🖨 Backup/Recover	+ Add
Close Submit	

## Virtual Agent Profiles Share/Remove

You can remove or share profiles between Virtual Agents, just like in the real agent apps.

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	VIRTUAL AGENTS		
Dashboard	← Back	< 8m	re
Virtual Agents	Virtual Agent #1		
	Settings	Profiles Transactions	
	Select the profiles you want to share/remove	Remove Share X Cancel	
	Select all		
	teste_va		

**Remove** To remove profiles from the Virtual Agent, click on the "Share/Remove" button, then select which profiles you want to remove and finally click on the "Remove" button.

**Share** To share profiles from the Virtual Agent, click on the "Share/Remove" button, then select which profiles you want to share, finally click on the "Share" button and select which Virtual Agent you want to share and click on "Share".

= 1 TrustFactor				Cyan Bank ≯ Sack to app
Dashboard	← Back			< Share
Virtual Agents	Virtual Agent #1			
	Settings	Share profile	15	Transactions
		Share profiles to: Virtual Agent #2	×   ~	
	Select the profiles you want to share/remove	Selected profiles: • teste_va		TRemove K Share X Cancel
	Select all	• teste_va		
		Close	Share	
	teste_va	teste_va2		

In the example you can see that in the Virtual Agent "Virtual Agent #2", it contains the profiles that were previously shared.

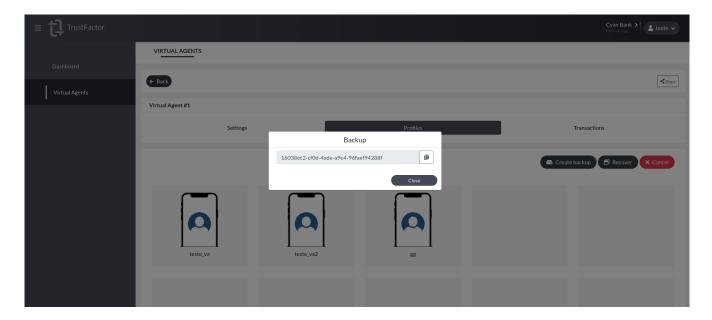
≡ בן TrustFactor			Cyan Bank > Back to app
Dashboard	VIRTUAL AGENTS		
	← Back		<b>4</b> Share
Virtual Agents	Virtual Agent #2		
	Settings	Profiles	Transactions
	Share/Remove Backup/Recover		+ Add
	teste_va		

# Virtual Agent Profiles Backup/Recover

Here you can generate a backup or recover profiles (using the code generated by a backup).

≡ בן TrustFactor				Cyan Bank ➤ Back to app
	VIRTUAL AGENTS			
Dashboard	e Back			<b>Stare</b>
Virtual Agents	Virtual Agent #1			
	Settings		Profiles	Transactions
				Create backup
	teste_va	teste_va2		

**Backup** To generate a backup, click on the "Backup/Recover" button and then on "Create backup" and wait until the request finishes and the recovery code is displayed.



 ${\bf Recover}~$  To perform the recovery, press the "Backup/Recover" button, then "Recover" and enter the recovery code.

≡ 🗗 TrustFactor		Cyan Bank > Back to app
Dashboard	VIRTUAL AGENTS	
Virtual Agents	( Back	Share
Virtual Agents	Virtual Agent #2	
	Settings Recover backup	Transactions
	Backup code           16038ec2-cf0d-4ade-a9e4-26faef94288f	Create backup 🗇 Recover 🗶 Cancel
	Close Submit	

Then select the profiles you want to recover and wait for the response, if it is not possible to recover any profile, the reason will be displayed.

≡ בן TrustFactor				Cyan Bank > 🔒 tes Back to apo	
Dashboard	← Back			•	Share
Virtual Agents	Virtual Agent #2		Recover backup		
		Settings	Backup code 16038ec2-cf0d-4ade-a9e4-96faef94288f	Transactions	
		Ŭ	Select all Select the profiles you want to recover:		
			gg gg	🖨 Create backup 🖻 Recover 🗙 Cano	el
			✓ teste_va		
			☑ teste_va2		
			Close Recovery		
゠				Cyan Bank > Buck to app	te 🗸
Dashboard					
Dashboard Victual Agents				[	Share
Dashboard Virtual Agents			Recover backup	[ ]	Share
	(+ Back	Settings	Recovered profiles:	Transactions	Share
	(+ Back	Settings		Transactions	
	(+ Back	Settings	Recovered profiles: teste_va teste_va2 We are unable to recover the following profiles: 85		
	(+ Back	Settings	Recovered profiles: teste_va teste_va2 We are unable to recover the following profiles:	Transactions	
	(+ Back	Settings	Recovered profiles: teste_va teste_va2 We are unable to recover the following profiles: 85	Transactions	
	(+ Back	Settings	Recovered profiles: teste_va teste_va2 We are unable to recover the following profiles: 88 The application cannot handle a contract recover at this time	Transactions	
	(+ Back	Settings	Recovered profiles: teste_va teste_va2 We are unable to recover the following profiles: 88 The application cannot handle a contract recover at this time	Transactions	
	(+ Back	Settings	Recovered profiles: teste_va teste_va2 We are unable to recover the following profiles: 88 The application cannot handle a contract recover at this time	Transactions	