

autumo ifaceX

Product Presentation

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Overview.

- ifaceX is a secure and scalable enterprise interface exchange, monitoring, alerting and big data transformation platform that can transfer data from one endpoint to another, such as:

  - REST-API’s
  - Databases
  - CSV, JSON & Excel files
  - Mails
  - as well as connecting to Clouds and platforms such as HubSpot, PayPal, Thomson Reuters, Stripe, Spotify, CoinDesk, Quandl, NIST, SIX, SWIFT, SaferPay, Polygon, etc.

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Overview.

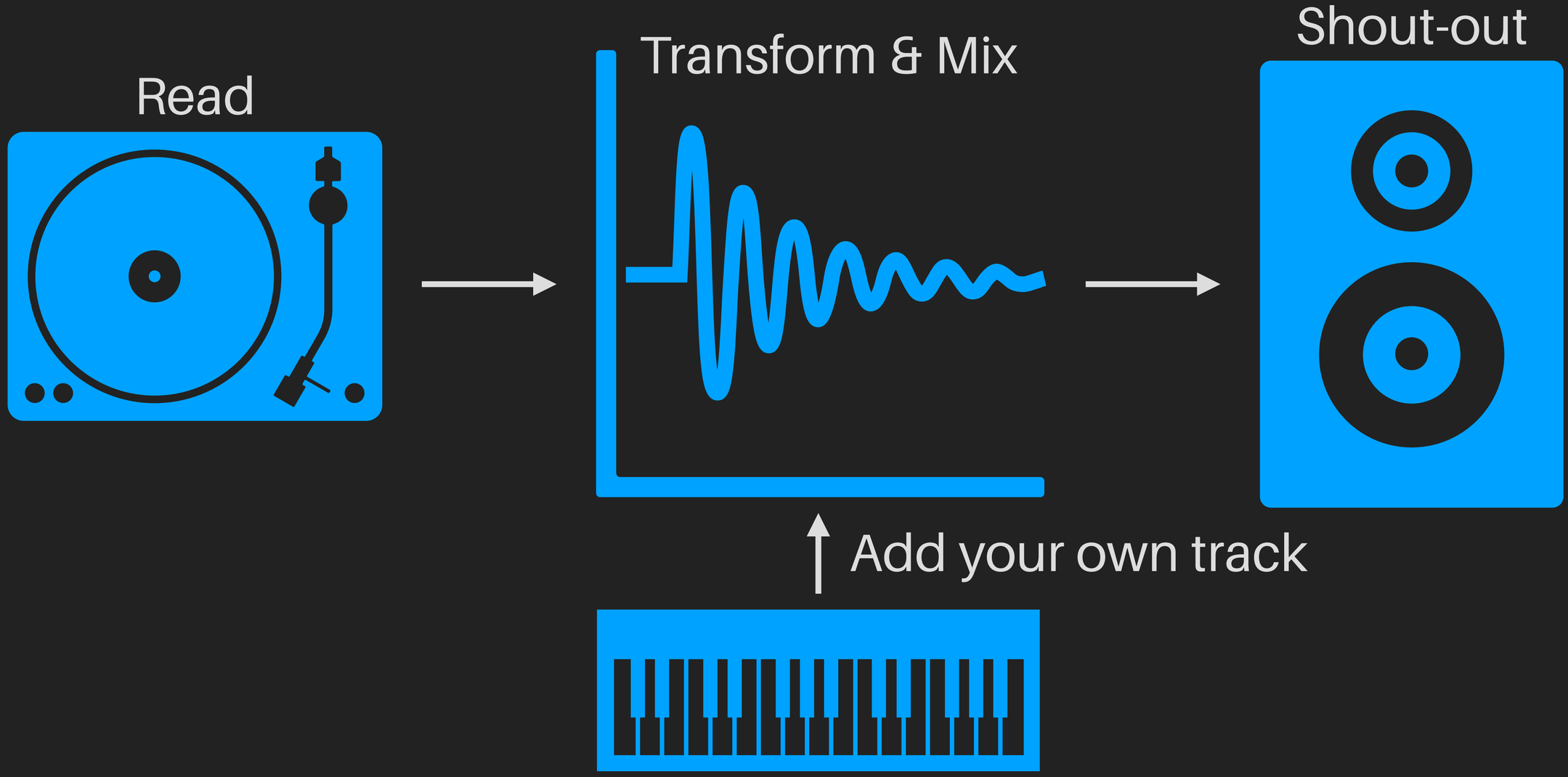
- Key Points:

  - ifaceX is a powerful big data transformer and integrator within your enterprise data landscape, e.g., can could be solely used as a data stage area mapping platform for converting data between different applications and databases

  - Monitoring, Reporting and Alerting functions for any IT operational purpose

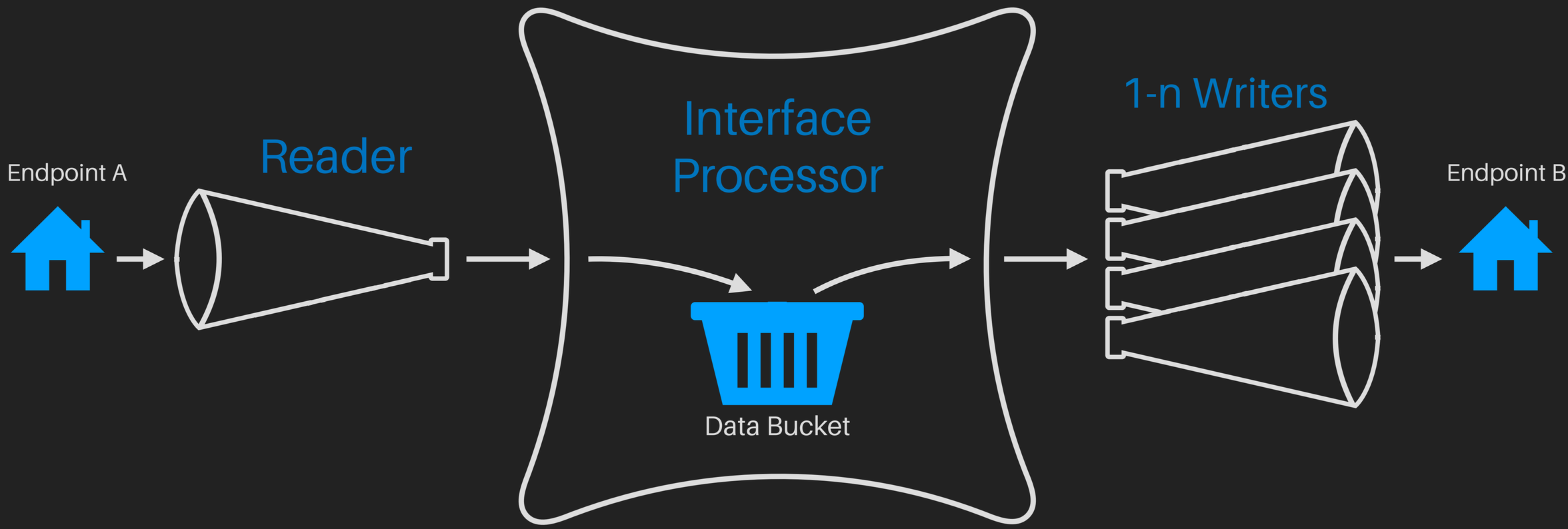
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Concept - Analogy.



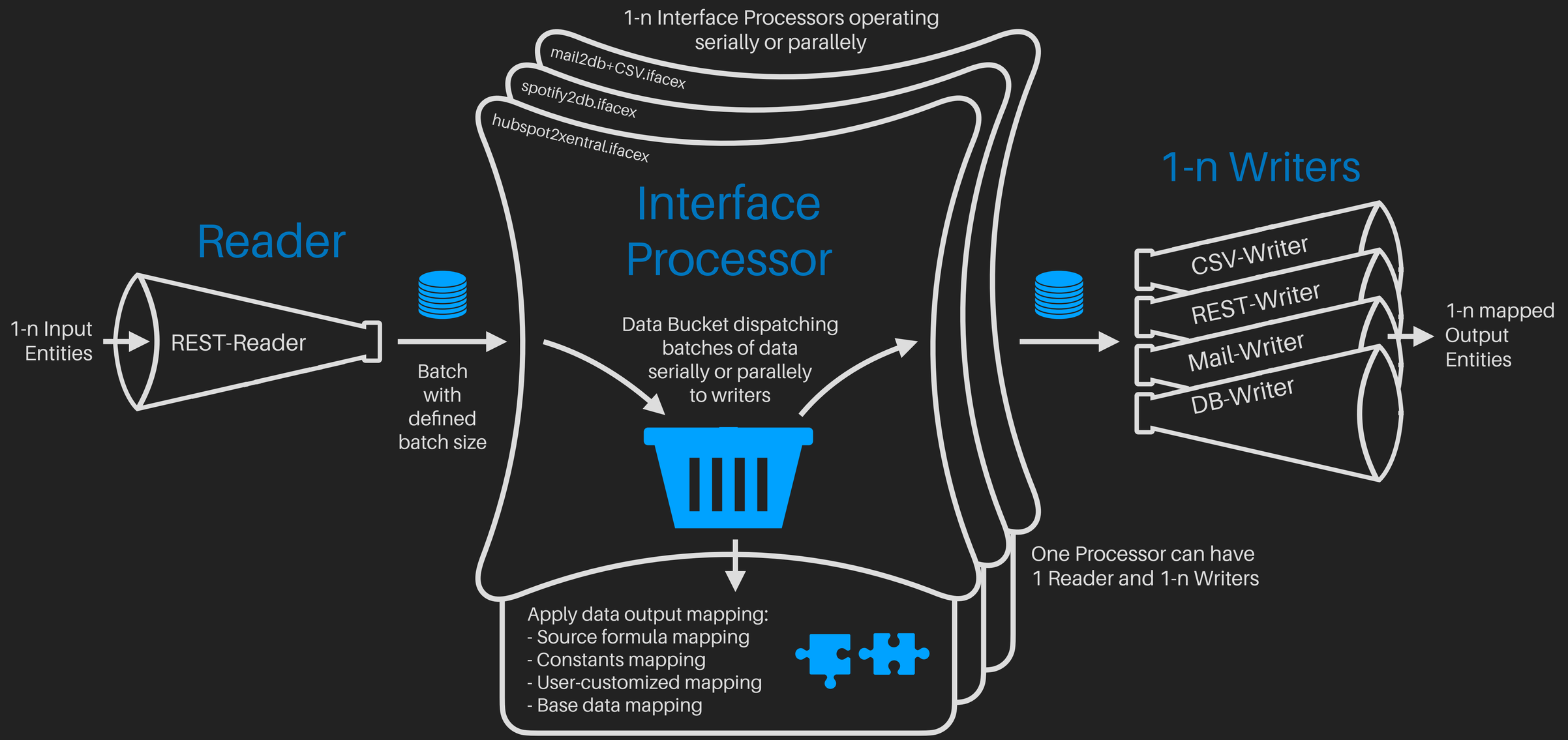
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Basic Scheme.



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Advanced Scheme.



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Current Readers.

- Readers:
  - CSV - Reads CSV files
  - JSON - Reads JSON files
  - Files - Reads file paths
  - Document - Ready any document (needs „autumo Documents“ module)
  - DB - Reads from PostgreSQL, MariaDB, MySQL & Oracle (JDBC)
  - Mongo - Reads from local or remote Mongo DBs
  - REST - Reads JSON web-resources | Authentication:
    - API-Key
    - Basic
    - Digest
    - OAuth 2.0 with or without Basic Authentication
      Grant Types: Password, Client Credentials, Authorisation Code
  - Enterprise-License: Write your own! It is easy to integrate e.g. OpenAPI into your own reader/writer.
  - Additional Readers available (e.g. for Clouds)

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Current Writers.

- Writers:
  - Console - Writes to console (for testing purposes)
  - CSV - Writes CSV files
  - JSON - Writes JSON files
  - Files - Copy files from an input source per Reader
  - DB - Writes to PostgreSQL, MariaDB, MySQL & Oracle (JDBC)
  - Mongo - Writes to local or remote Mongo DBs
  - REST - Writes to JSON web-resources | Authentication:
    - API-Key
    - Basic
    - Digest
    - OAuth 2.0 with or without Basic Authentication
      Grant Types: Password, Client Credentials, Authorisation Code
  - Programm execution - Pseudo writer that executes a system command
  - Code execution - Pseudo writer that executes Java code
  - Enterprise-License: Write your own! It is easy to integrate e.g. OpenAPI into your own reader/writer.
  - Additional Writers available (e.g. for Clouds, NiFi integration)

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Data Mapping.

- The processing can be highly customized including a flexible target-field-mapping based on formulas. Drag'n'Drop can be used to create formulas.
  - Use formulas based on source fields, e.g.:
    „{firstname}, {lastname}“
  - Use of constants
  - Add default values for insert fields when new records must be created in the target interface
  - Basic standard base data mapping such as country names to country codes - extendable
  - Develop your own data mappers
  - With JSON input sources data can be selected differently, by using selection path and and array access to a certain degree

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Data Mapping.

- The output mapping is further based on a create-or-update mechanism, no matter what the target endpoint is:
  - Filter fields are used to determine if a record already exists in the target system ➜
    - If it exists, an update is made
    - If it doesn’t exist, the record is created with additional insert fields

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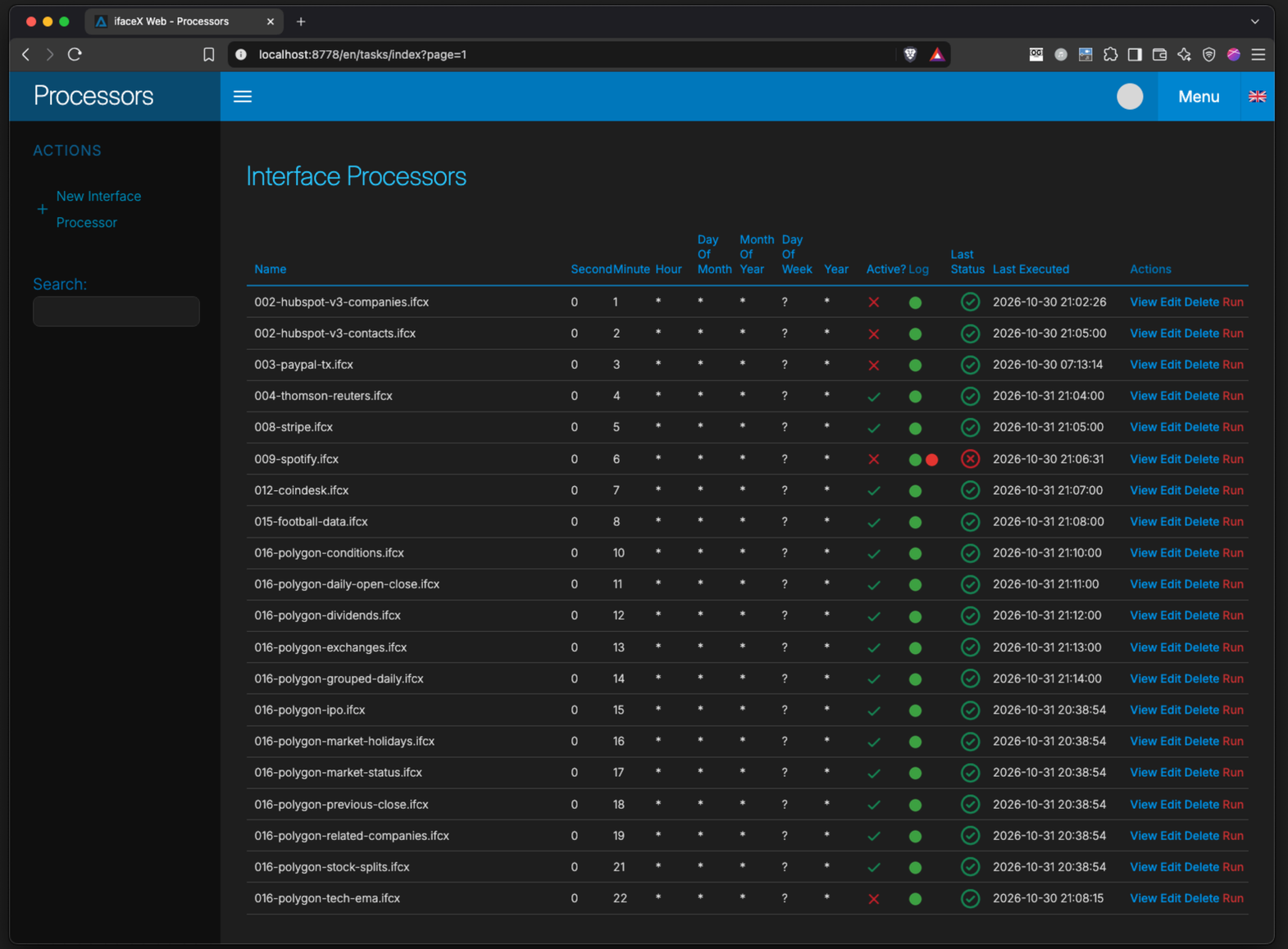
Modules.

- ifaceX consists of the following modules:
  - ifaceX:
    - Run your Interface Processors (IPs) - all at once, as many as you want or a single IP
    - Execute the IPs in different modes (serially/parallely) and configure processing details
    - Besides sending data to REST, databases, CSV and mails etc., you can run and any system program
  - ifaceX Scheduler:
    - Run ifaceX as a server that executes IPs with an internal scheduler (Quartz Scheduler)
  - ifaceX Web:
    - Schedule and surveil your Interface Processors in detail with an internal scheduler
    - Access Interface Processor data (e.g. status) per JSON REST
    - Operation monitoring and alarming with threshold levels (Email & SMS)
    - Available roles: Administrators, Operators & Controllers
  - ifaceX Studio:
    - Configure | Develop your IPCs within a GUI
    - Configure your ifaceX installation and test your IPCs
  - ifaceX Console Tools:
    - Run ifaceX with your OS scheduler and console dev-tools
    - Protect all sensitive data with advanced cryptographic algorithms
  - ifaceX Templates:
    - Provides lots of Interface Processor Configuration (IPC) templates to connect to many well-known cloud services per REST API out-of-the-box, e.g., PayPal, Financial Clouds, SWIFT, Hubspot, Spotify, etc. (continuously supplemented)

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ifaceX Web.

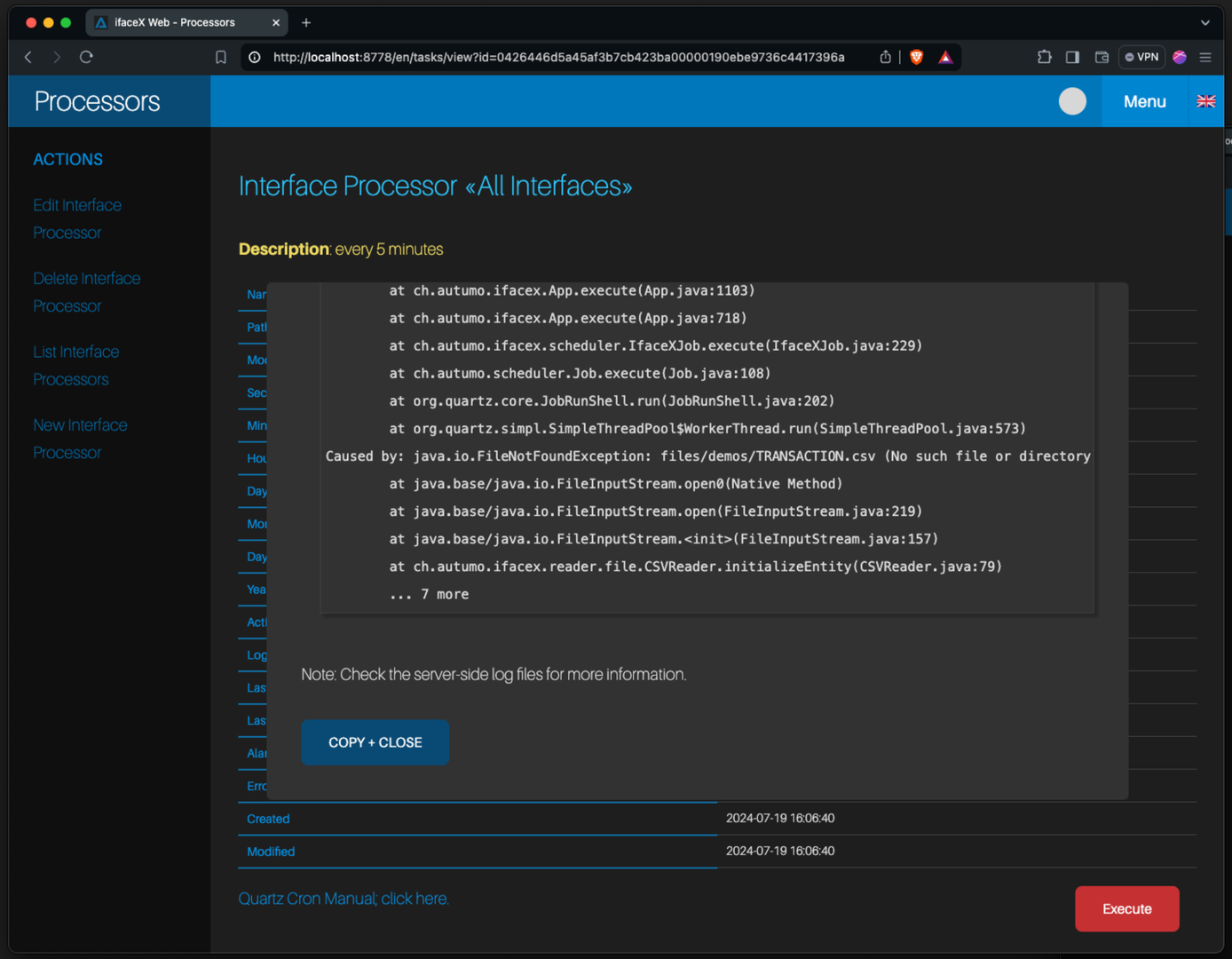
OVERVIEW

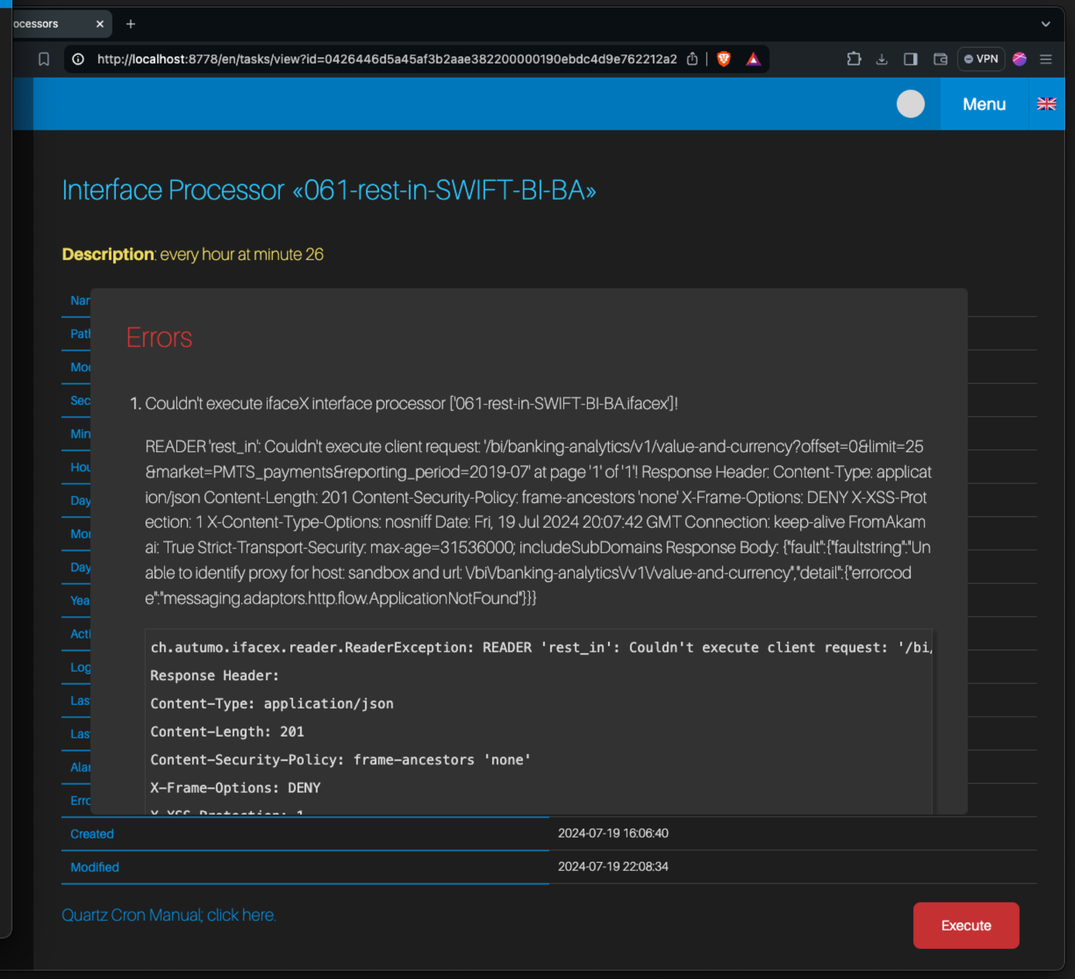


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ifaceX Web.

CHECKING ERRORS

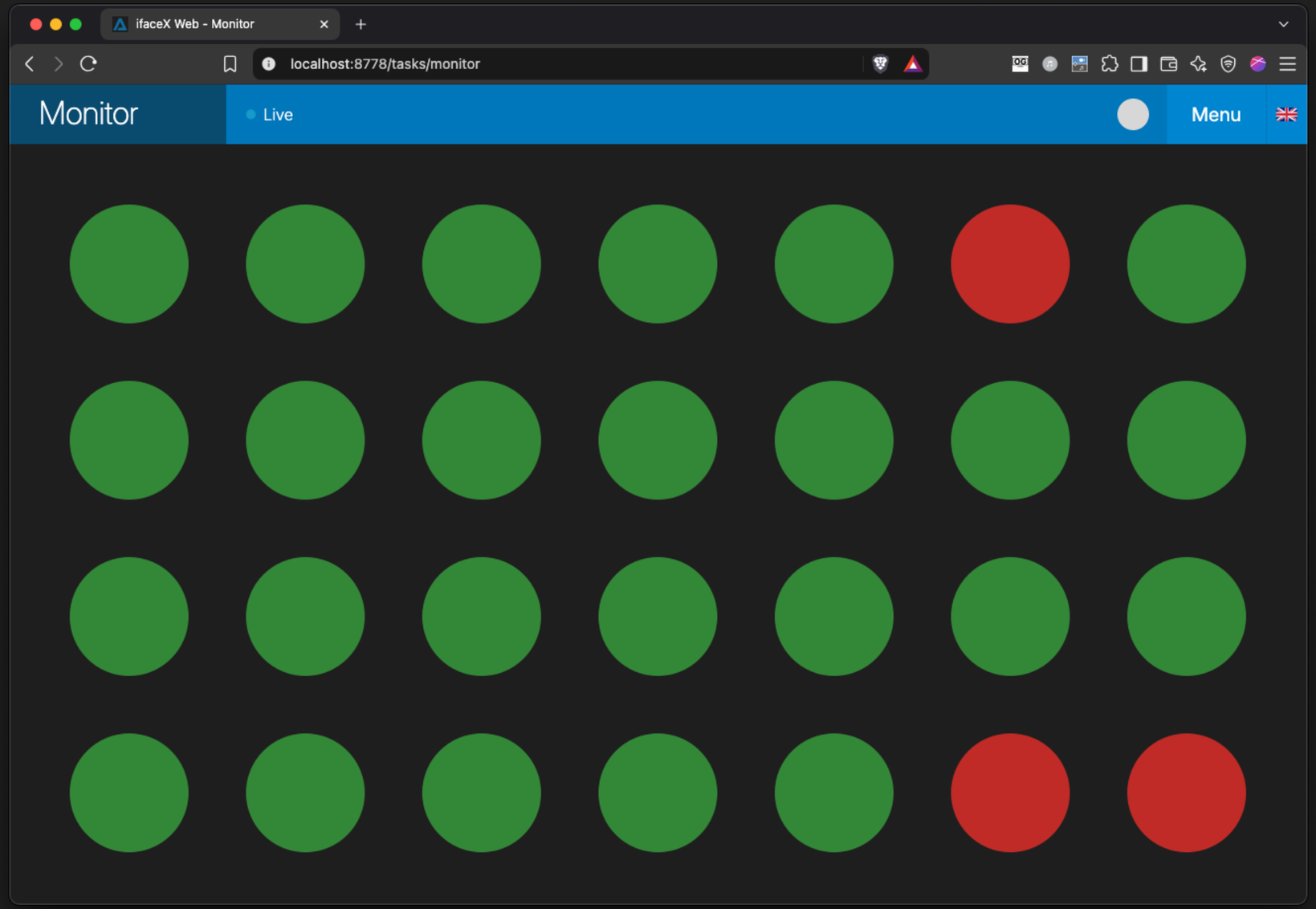




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MONITORING



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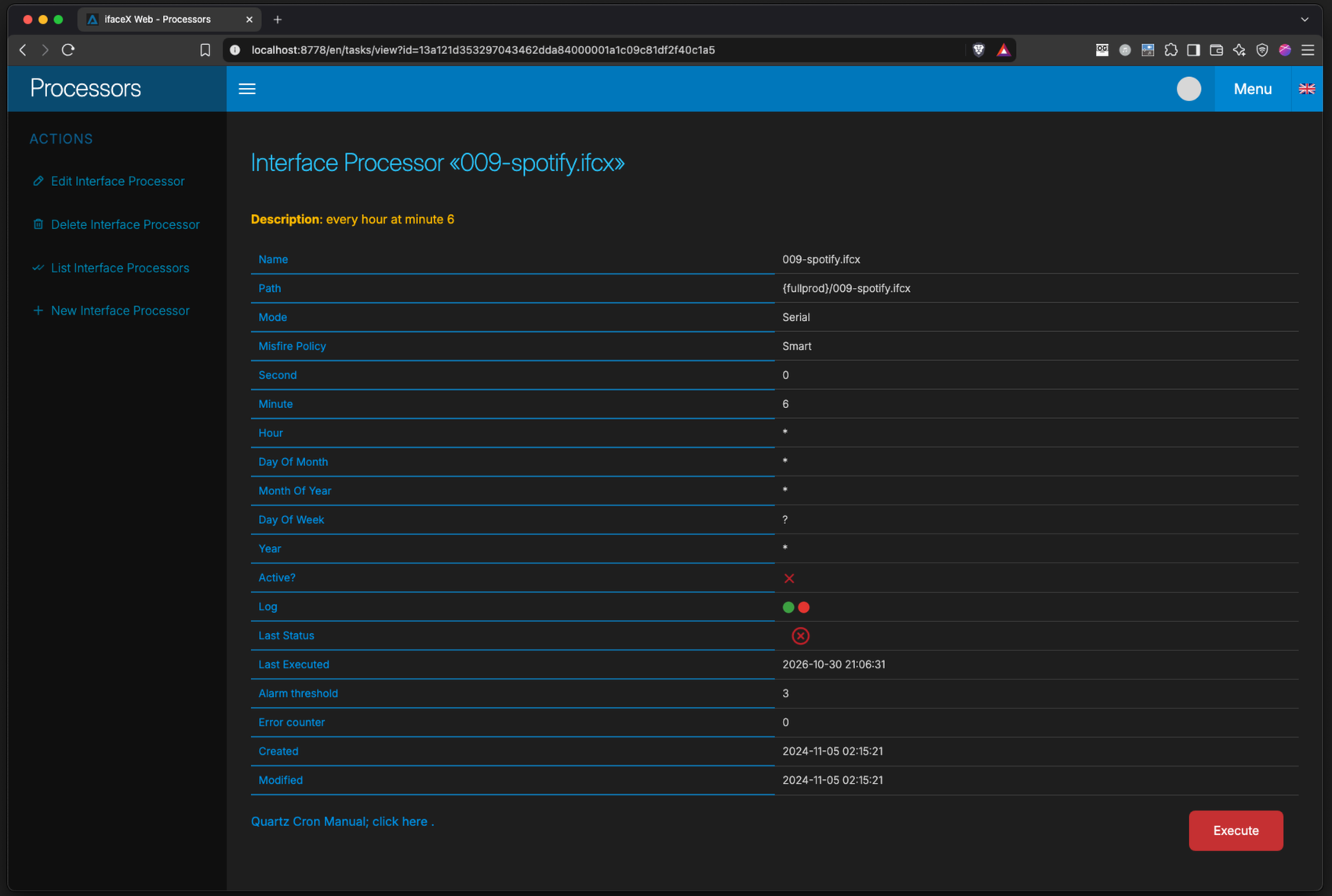
MANY !



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ifaceX Web.

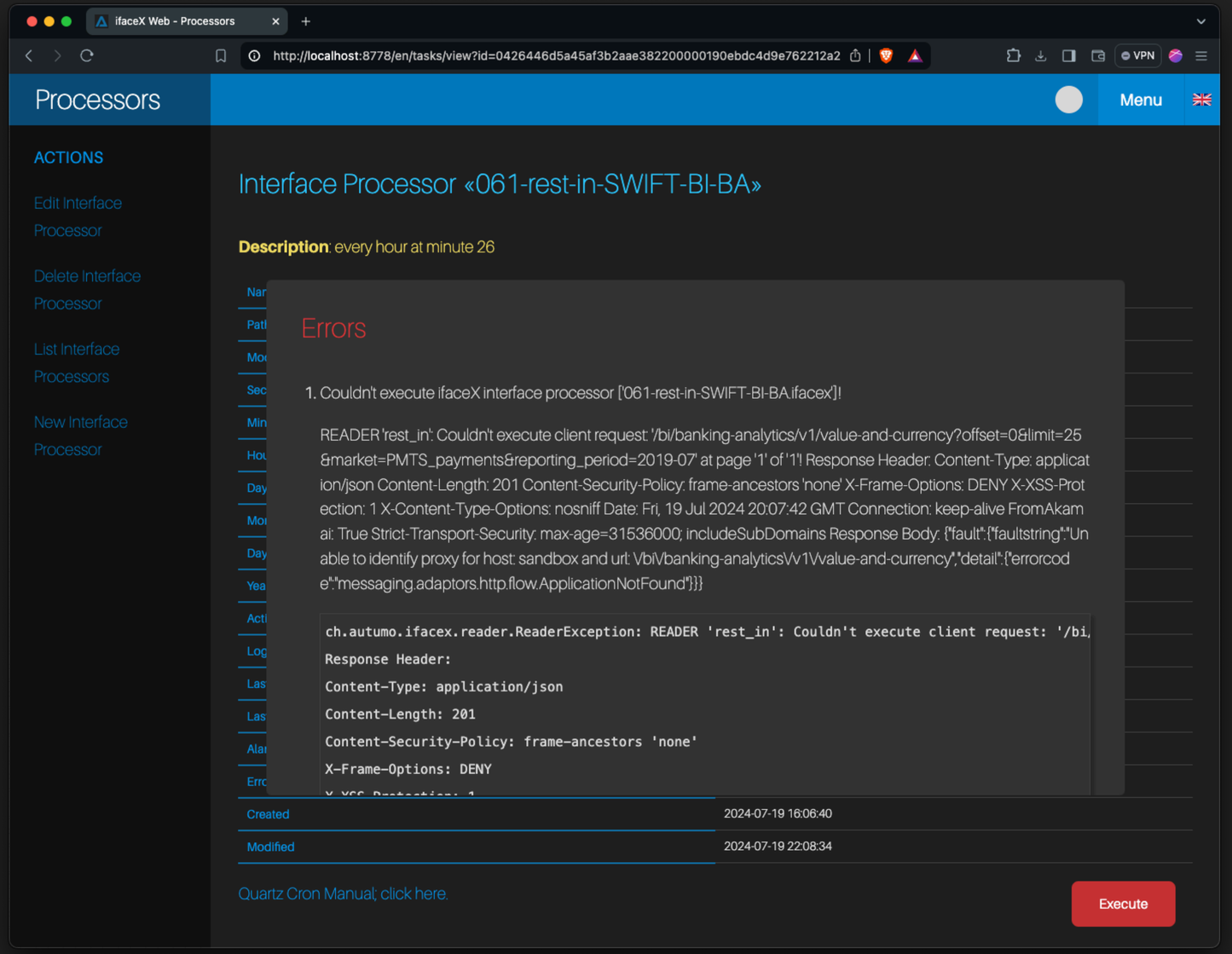
DETAILS



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ifaceX Web.

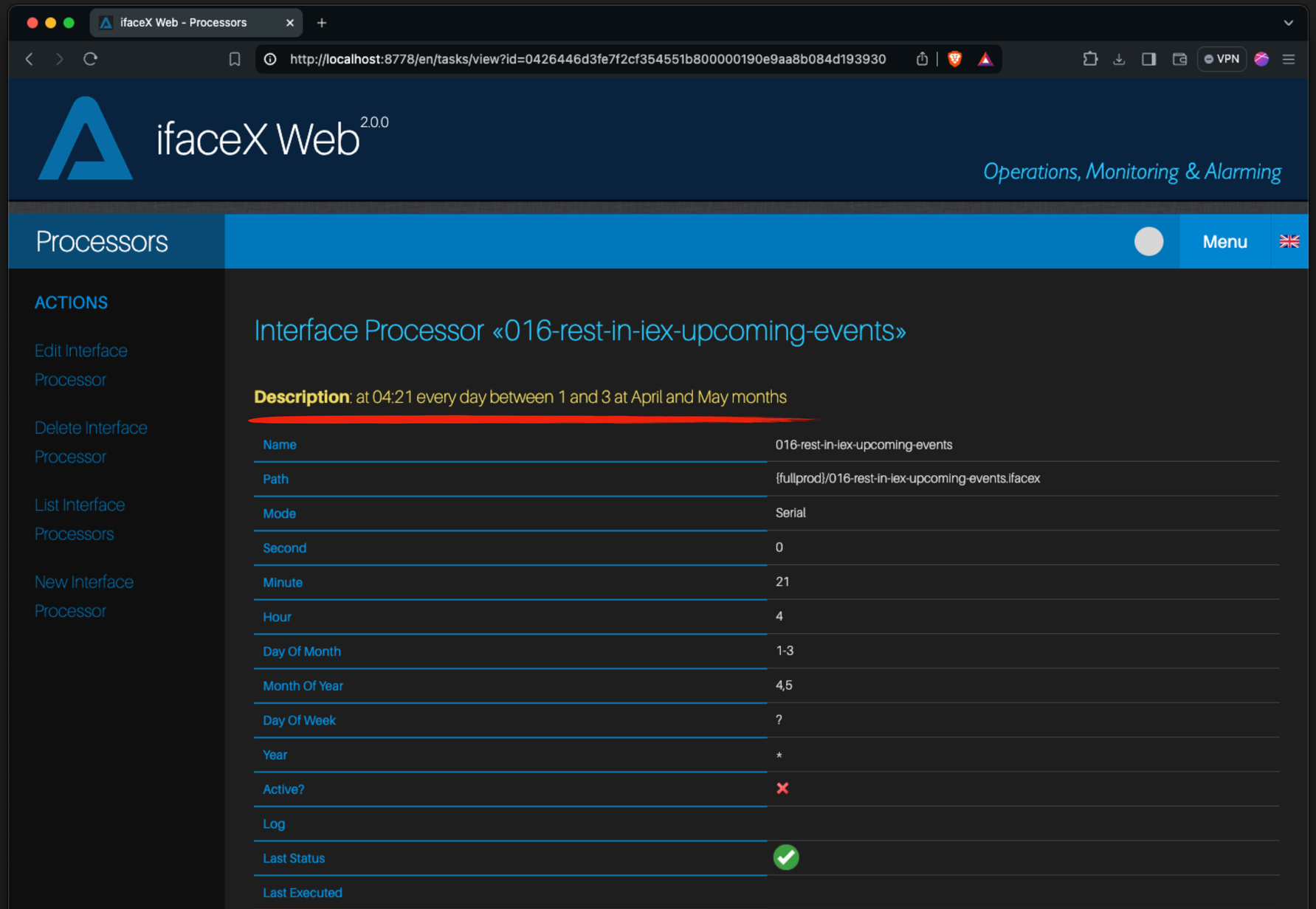
DETAILS: CHECKING ERRORS



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ifaceX Web.

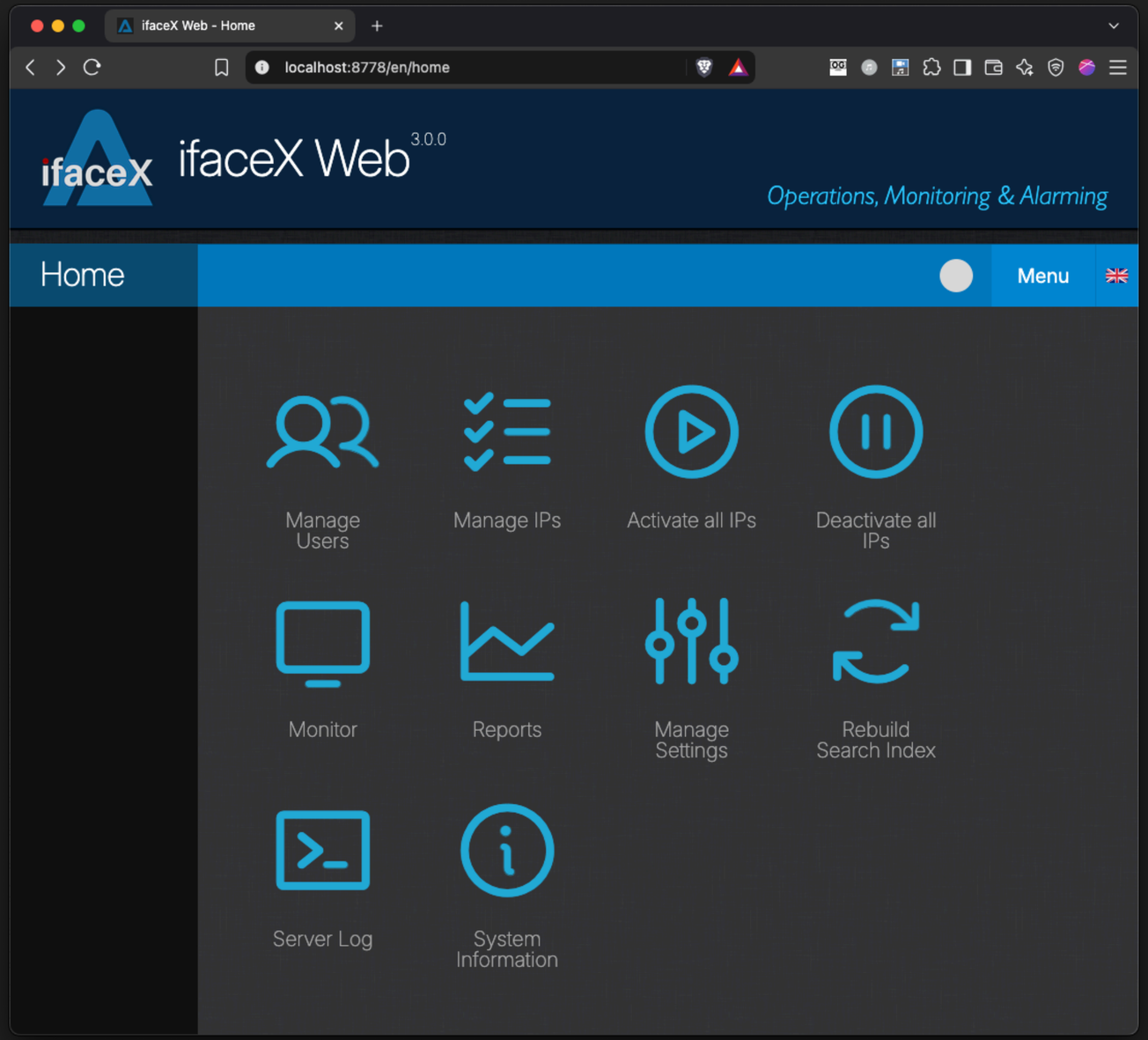
CRON DESCRIPTION



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ifaceX Web.

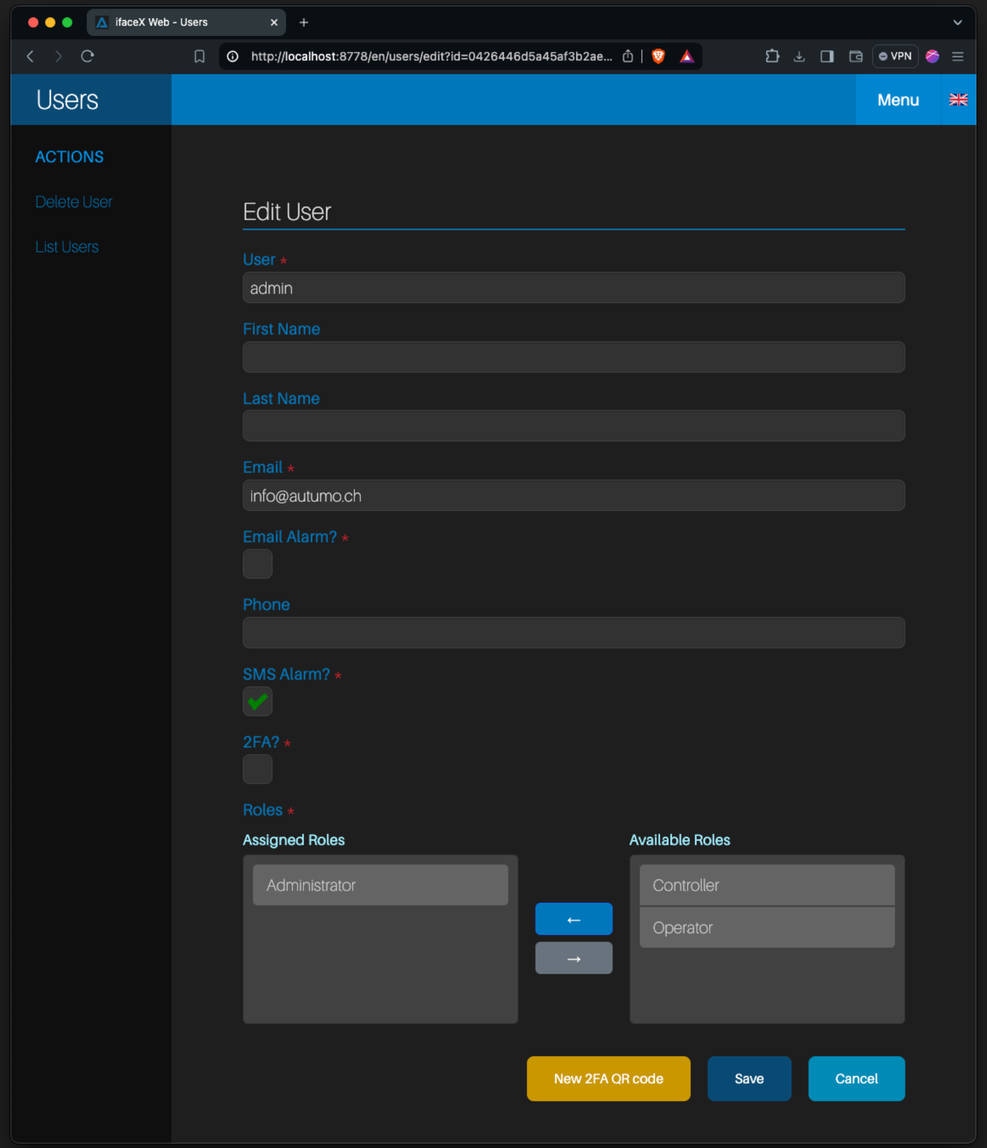
HOME MENU: FUNCTIONS

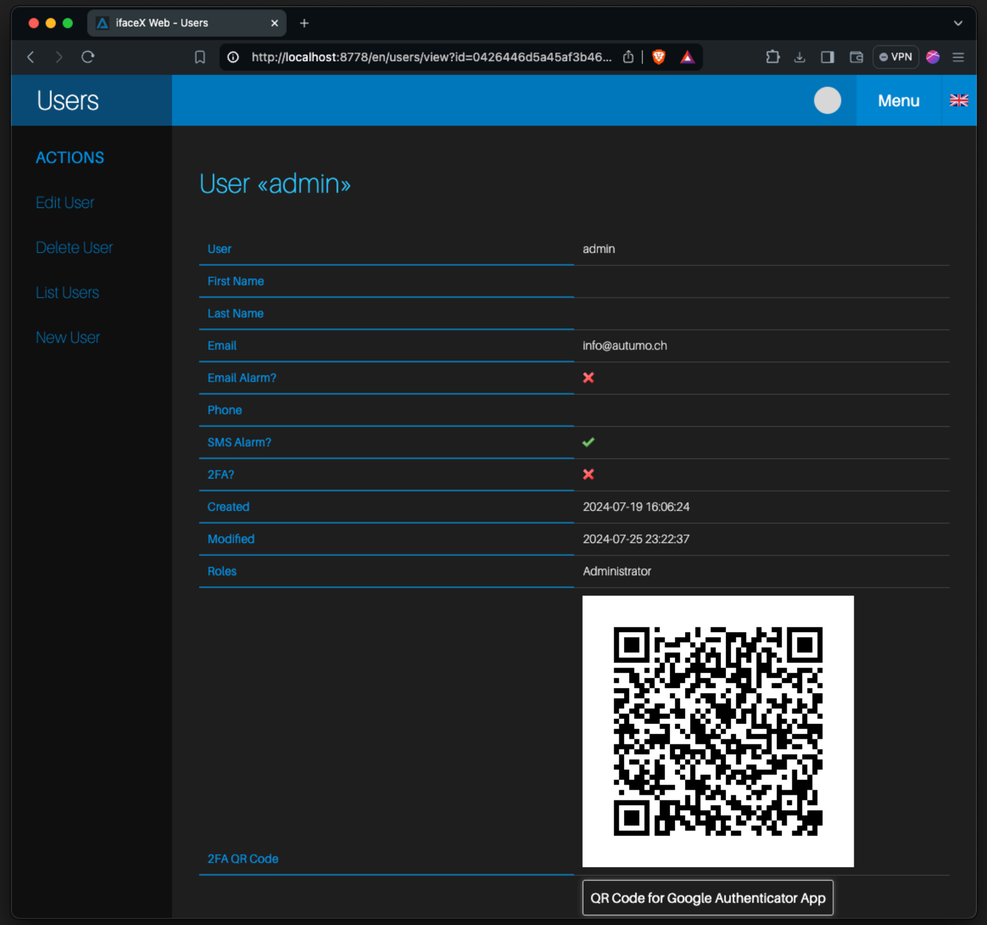


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USER MANAGEMENT





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ALERTING

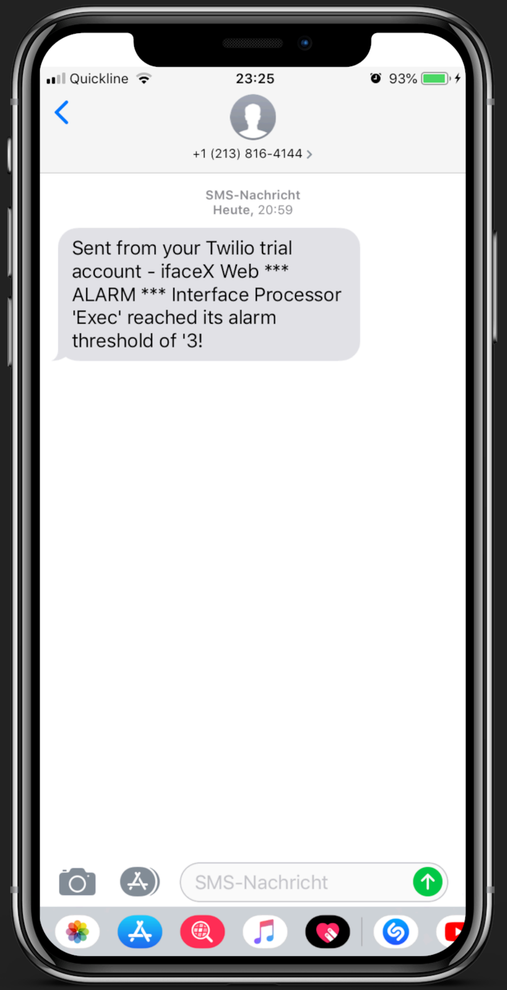
To: alarming@autumo.ch
From: ifacex.web-mailer@autumo.ch
Subject: ifaceX Web *** ALARM ***

ifaceX Web 1.2.0

ifaceX Web Alarm!

Interface Processor 'Exec' reached its alarm threshold of '3!

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You can even add telephone calls to the alarm if required

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ifaceX Web.

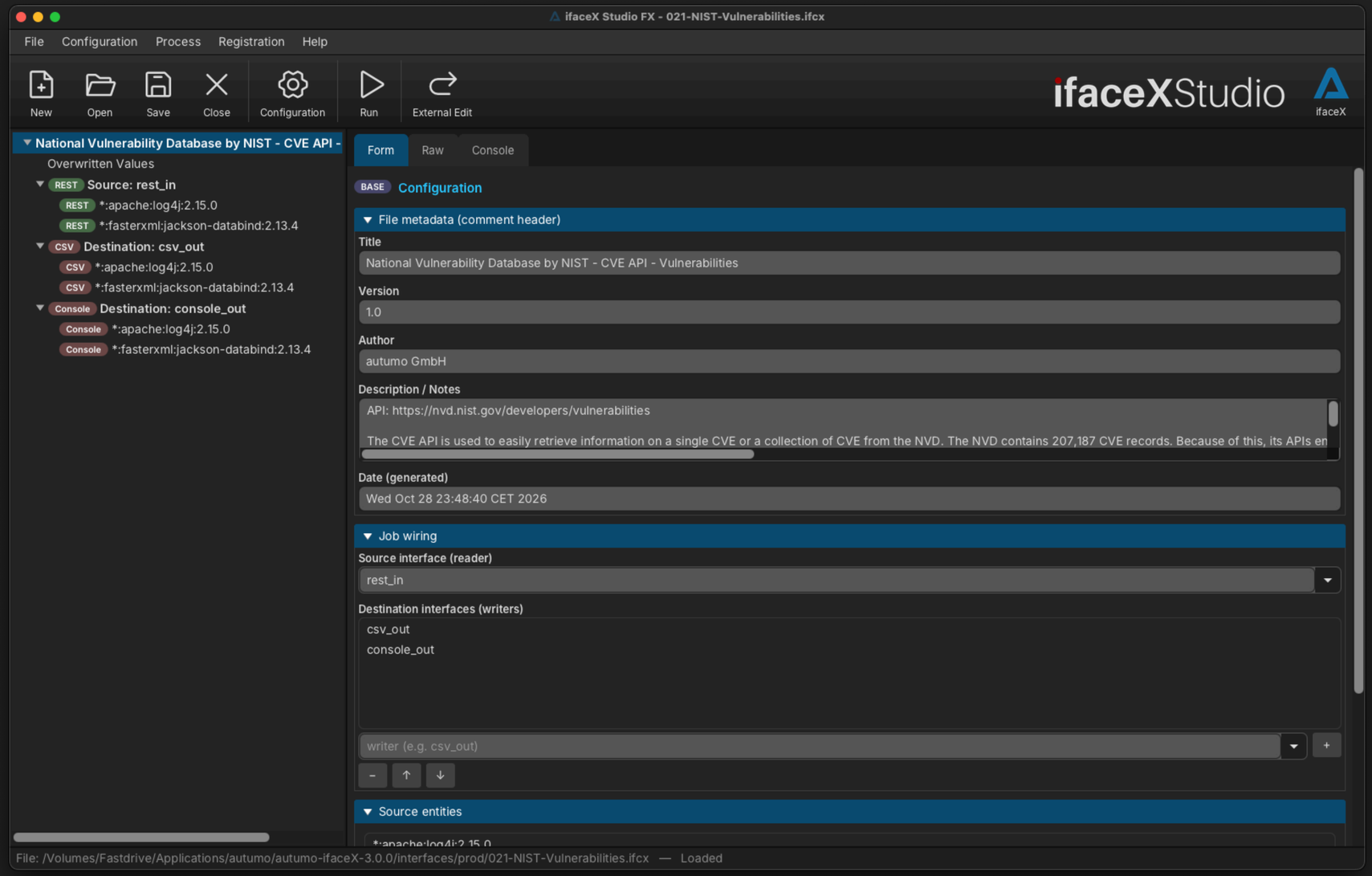
REPORTING



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ifaceX Studio.

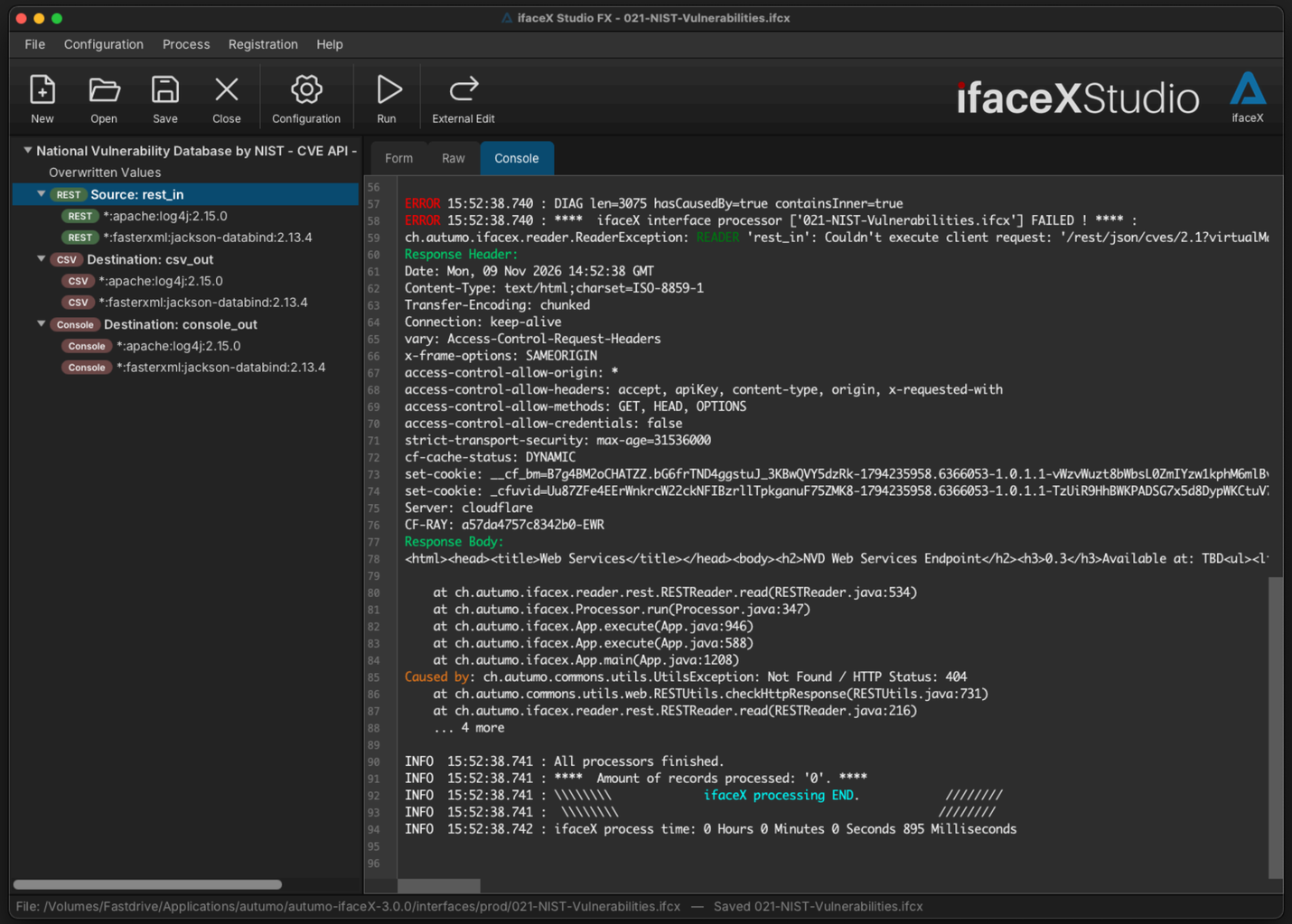
IPC DEVELOPMENT | CONFIGURATION

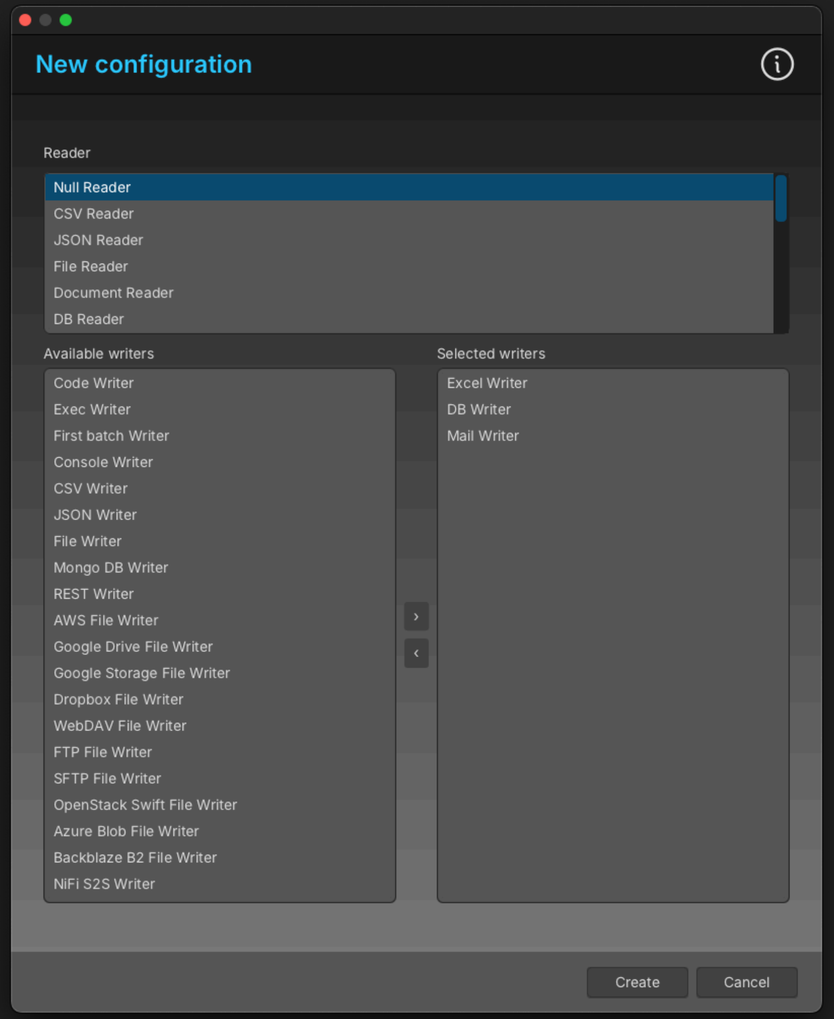


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ifaceX Studio.

IPC DEVELOPMENT | TESTING

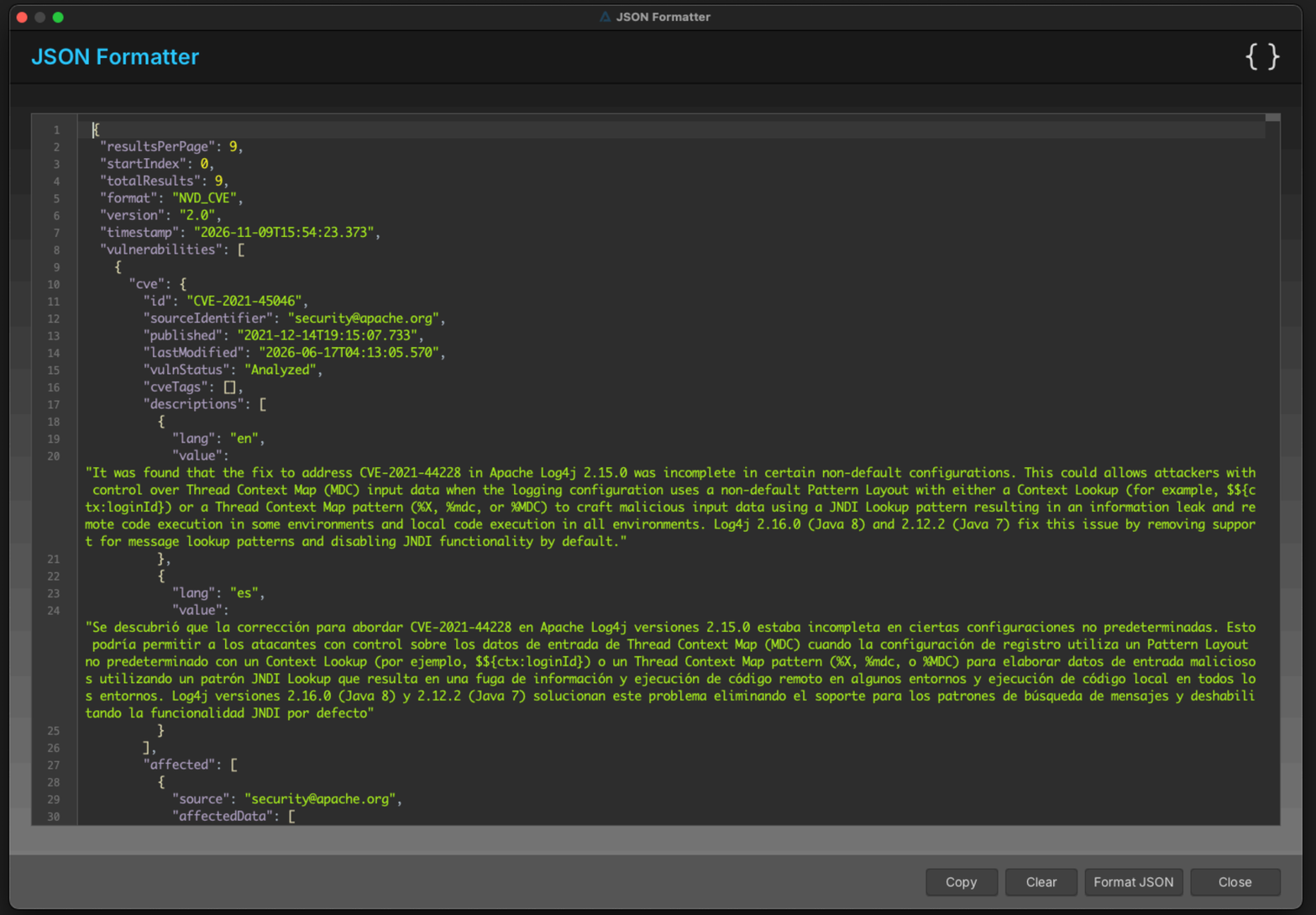




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IPC DEVELOPMENT | TESTING



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IFACEX | BASE CONFIGURATION

Base Interface Configuration

Base Interface Configuration

```
################################################################################
#
#  autumo ifaceX configuration
#  Version: 1.0
#
#-------------------------------------------------------------------------------
#
#  Author: autumo GmbH
#  Date: 2026-11-26
#
################################################################################

formatVersion: 1
general:

  #
  # Only valid for atomic processing of an IPC chain.
  #
  # If this value is set to 'yes', the processing chain of multiple
  # IPs executed is stopped as soon as one error occurs! This can
  # only be the case, if a directory of IPCs is processed and if the
  # processing mode specified is 'a' (Atomic). In all other cases and
  # processing modes, this value is obsolete.
  #
  # The atomic mode forces interface processors as well as batch
  # processors to be executed serially, no matter what is configured.
  # This mode is helpful in combination with this value.
  #
  # Values: yes|no
  #
  one_error_stop: "yes"

  #
  # Processor timeout for parallel processor/batch mode in seconds.
  # It's only used when processors are parallely executed.
  # Must be bigger than 60s.
  #
  # Note: If a processor is hanging while writing batches, he is
  #       forced to interrupt, no matter what the progress of
  #       the writers are!
  #
  proc_timeout: "3600"

  #
  # HTTP connection timeout for REST setup clients (authentication)
  # in seconds.
  #
  rest_setup_timeout: "5"
```

All variables listed here are available for read and write access and can be overwritten in any configuration of the interface processor.
Variable "RUN_ENV": Define your environment.

Save | Close

Interface Configuration

Interface Configuration

```

#-------------------------------------------------------------------------------
#
#  autumo ifaceX reader/writer interface configuration
#  Version: 3.4
#
#  Notes:
#   Reader (source_interface) & Writers (destination_interface) are assigned
#   here. Every name for a reader or writer must be unique within this
#   configuration !
#   This configuration is provided by technical support or supplier.
#   Don't change it, unless you know exactly what you are doing.
#
#-------------------------------------------------------------------------------
#
#  2024 autumo GmbH
#  Date: 16.09.2024
#
#-------------------------------------------------------------------------------




#-------------------------------------------------------------------------------
# Source Interface / Reader configuration
#-------------------------------------------------------------------------------

# CORE Readers
null_in=ch.autumo.ifacex.reader.NullReader
csv_in=ch.autumo.ifacex.reader.file.CSVReader
json_in=ch.autumo.ifacex.reader.file.JSONReader
file_in=ch.autumo.ifacex.reader.file.FilePathReader
doc_in=ch.autumo.ifacex.reader.file.DocumentReader
db_in=ch.autumo.ifacex.reader.database.JDBCDatabaseReader
mongo_in=ch.autumo.ifacex.reader.database.MongoDatabaseReader
rest_in=ch.autumo.ifacex.reader.rest.RESTReader

# Additional Readers
#aws_file_in=ch.autumo.ifacex.ip.amazon.AWSS3FileReader
#gdrive_file_in=ch.autumo.ifacex.ip.google.GoogleDriveReader
#gstorage_file_in=ch.autumo.ifacex.ip.google.GoogleStorageReader
#dbox_file_in=ch.autumo.ifacex.ip.dropbox.DropboxReader
#webdav_file_in=ch.autumo.ifacex.ip.webdav.WebDAVReader
#ftp_file_in=ch.autumo.ifacex.ip.ftp.FTPReader
#sftp_file_in=ch.autumo.ifacex.ip.sftp.SFTPReader
#os_swift_file_in=ch.autumo.ifacex.ip.openstack.OpenStackSwiftReader
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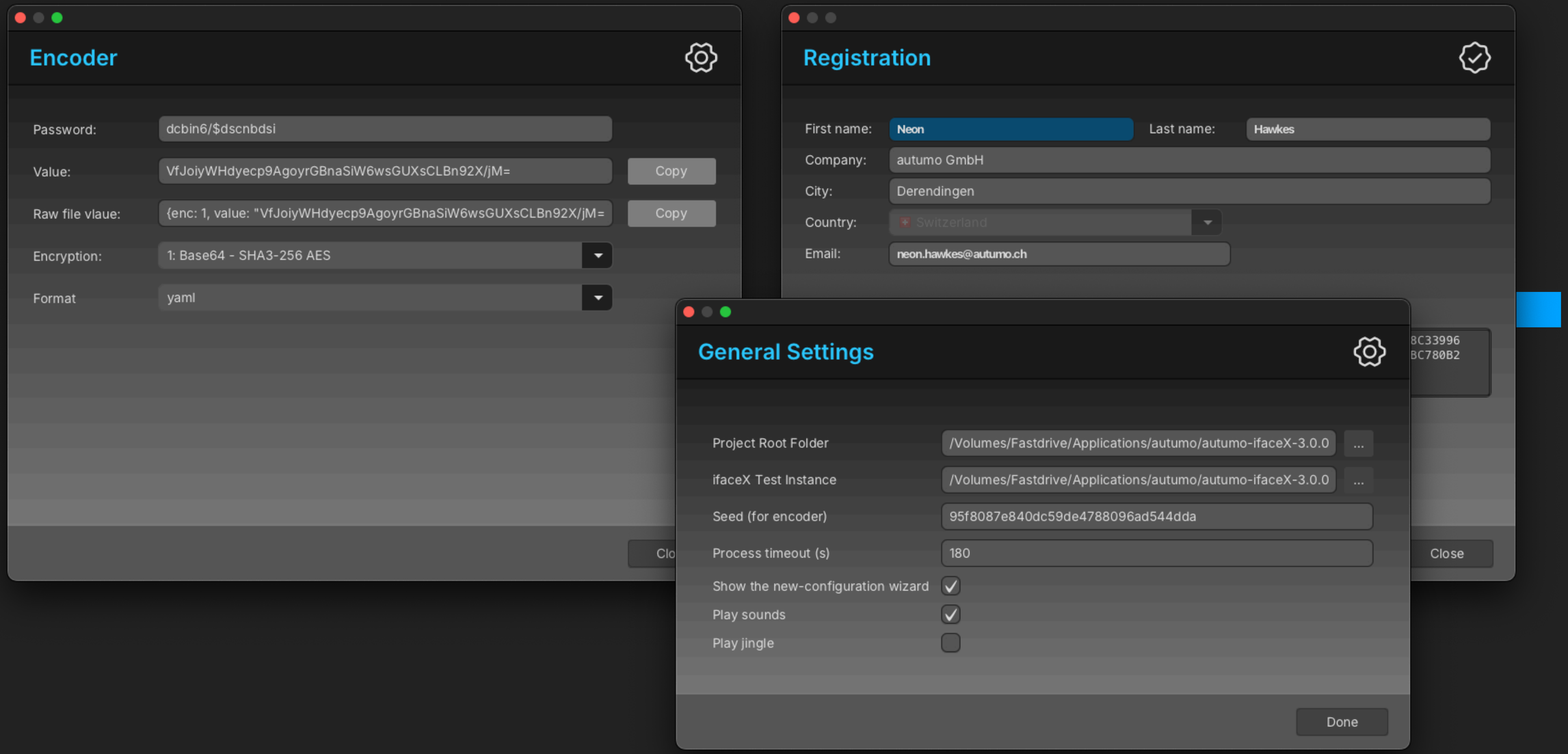
Only change the configuration of these interfaces if you know exactly what you're doing (ifaceX developer).

Save | Close

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ifaceX Studio.

IFACEX | TOOLS & REGISTRATION



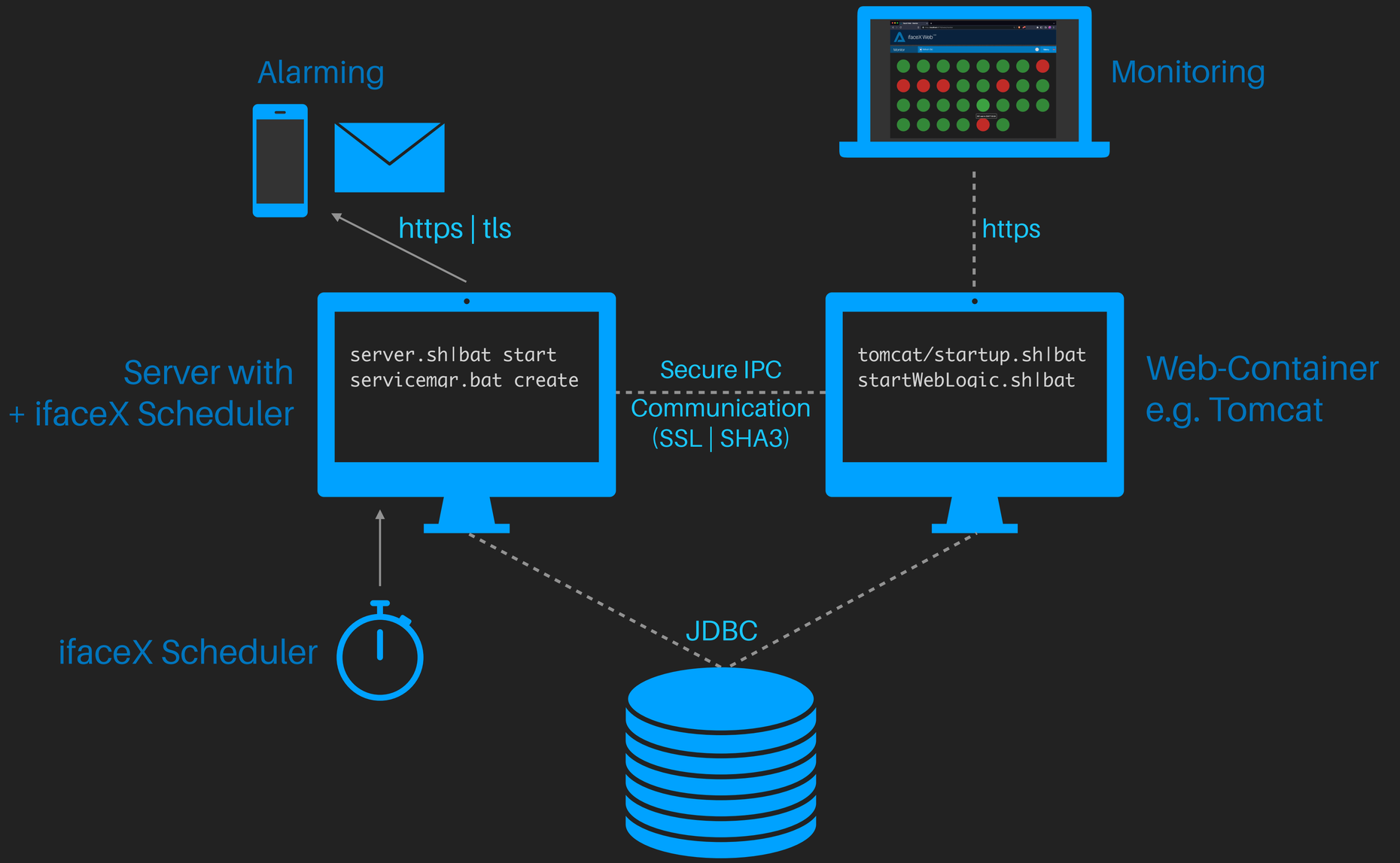
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Deployment Scenarios.

- There are different deployment scenarios possible:
  - Minimum Scenario:
    - ifaceX is deployed solely and runs IPs with an operating system scheduler such as the Cron daemon (Cron-jobs) on UNIX
  - With the ifaceX Scheduler & ifaceX Web:
    - Start the ifaceX Server that runs its internal scheduler that executes IPs and also runs the ifaceX Web application in the same server, no further installation necessary
  - With the ifaceX Scheduler & ifaceX Web distributed:
    - Start the ifaceX Server that runs its internal scheduler only
    - Deploy the ifaceX Web application in in your favourite web container such as e.g. Apache Tomcat or WebLogic

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Deployment Scenario: Distributed.



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Extended Setups.

- Logical Instances
  - Instead of having one single instance of ifaceX you could run multiple instances of ifaceX in your organisation to create a decentralised network of processing interfaces and tasks.2-FA authentication & supports HTTPS.

- Atomic Processing
  - Atomic processing provides to execute a chain of interface processors (IPs) in such a way, that either the whole chain of IPs, configured by multiple IPCs (Interface Processor configurations) within one directory, are processed according to their alphabetical order, or they are only executed until a first error occurs somewhere in the IP-chain.

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Security.

- Key Security Elements
  - ifaceX Web:
    - 2-FA authentication (email or Google Authenticator) & supports HTTPS
    - CSRF tokens & obfuscated primary keys (record IDs) are used for web requests
    - Login mechanism with password reset
  - Encrypt passwords & keys everywhere: Databases, Interface Processor Configurations (IPCs), access credentials to any endpoint
  - Encrypted server communication in a distributed ifaceX Web scenario, communication can be tunnelled through HTTPS too
  - Define your initial seed key for all ifaceX cryptic (encode|decode) operations
  - Every ifaceX interface process executed is supervised by a „Watchdog“

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Configuration.

- autumo ifaceX is highly customizable & configurable:
  - Basic configuration with environment configuration sets (dev, test, prod, etc.) that can be switched easily
  - Basic configuration with lots of configuration parameters, but all standard settings can be used from beginning ➜ minimum configuration expenses!
  - Vast possibilities to configure writers & readers with templates and using default configuration values
  - ifaceX Studio:
    - Configure all Interface Processor Configurations (IPCs) and all standard readers and writers
    - Configure & register ifaceX
    - Configure your ifaceX test instance
    - Test-run your IPs and make REST test-calls and evaluate JSON answers
    - In-App assisted help available
  - Enterprise License:
    - Extend your ifaceX Platform programmatically
    - Write your own readers and writers

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Operation.

- autumo ifaceX makes use of best operation practices:
  - Logging:
    - All logging uses the Simple Logging Facade for Java (SLF4J); you can put your own logging implementation behind it - by default, log4J 2.0 is used by default
    - Configure log4J as detailed as you want and for every production and test system
    - Logs only what is really necessary
  - Deployment:
    - ifaceX has an easy deployable structure
    - ifaceX Can be deployed by „copy and extract“
  - ifaceX Web:
    - Can be used as a surveillance application for all Interface Processors (IPs) if the internal scheduler is used
    - Monitoring: Easy „Traffic light“ surveillance with more details on request
    - Threshold Alarming with Emails & SMS
  - autumo ifaceX is built to excel in enterprises with settled operation & monitoring
  - Levels of scalability: OS-Processes, Interface Processors & Internal Data batches

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Minimum Requirements.

- autumo ifaceX minimum requirements:
  - Oracle Java 21, OpenJDK 21 (e.g. Azul ZULU) or higher versions
  - Disk Space: 200 MB | Memory: 1GB (Base Load: 250 MB)
  - Write access for log files and file writers
  - Optional: A reliable scheduler, usually crontab (UNIX) if the internal ifaceX Scheduler isn't used
  - Optional: Java Servlet Container such as Apache Tomcat or WebLogic if ifaceX Web isn't started within the stand-alone server (distributed scenario)
  - Registration process: access to web, once only
  - Target Platform: Any Unix, Linux or Windows for all modules, ifaceX, ifaceX Web and ifaceX Studio; the Studio has Installers for Windows, macOS & Linux.

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License Models.

- Based on amount of interface processors - an enterprise solution affordable for everyone and even small enterprises
- Enterprise Edition License:
  - Major updates
  - Unlimited processors
  - Developer API and more
- Integration as a standard enterprise application to other apps & market places or as the overall interface exchange platform in demanding IT operation scenarios (Banks, Insurances, IT Service Providers, etc.)
- Trial version available

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Competence.

- The ifaceX product is based on 20 years of experience in IT service provider environments serving enterprises with high data throughput and high security and operational requirements.

- GitHub:
  products.autumo.ch

- Documents & Trial Version:
  github.com/autumoswitzerland

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info@autumo.ch

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