# Fusion

## 2.1.4 (April 19th, 2019)

**Apache Syncope 2.1.4 Fusion** is the forth maintenance release of Apache Syncope 2.1, with several fixes and improvements.

Upgrade procedure

Upgrading from 2.1.3? There are some notes about this process.

## New and noteworthy

### Support for MySQL 8

Thanks to dependency upgrade to Apache OpenJPA 3.1.0, this release can now be deployed with internal storage on MySQL 8.

### Support for MySQL JSON Data Type

Similarly to what done for PostgreSQL's JSONB with 2.1.3, this release brings support for MySQL's JSON data type.

Not production-ready with MySQL <= 8.0.15

SYNCOPE-1461 is opened to track the resolution of a severe bug, affecting MySQL versions prior to 8.0.15, which prevents this new feature to be deployed on production environments.

### Dynamic Conditions Improvements

Various fixes and enhancements improving dynamic conditions: see SYNCOPE-1439 and SYNCOPE-1441 for details.

### Elasticsearch improvements

The Elasticsearch extension was reviewed and ensured working with latest Elasticsearch 6.x releases. Code was migrated to High-level REST client.

### Docker images now featuring OpenJDK

The Docker images are now based on OpenJDK builds provided by courtesy of Zulu.

## Issues

### Bug

- [SYNCOPE-1428] - APIs to read by key return 404 instead of 401 for not authenticated calls
- [SYNCOPE-1429] - Wildcard case-insesitive queries do not work with Elasticsearch
- [SYNCOPE-1430] - ItemTransformer for Date schemas throws NPE
- [SYNCOPE-1431] - Connector and Resource history compare does not work
- [SYNCOPE-1432] - After creating new connector / resource, Topology does not show it
- [SYNCOPE-1437] - Error while searching for users / groups / any objects with Elasticsearch when no data are present
- [SYNCOPE-1438] - "changePwdDate" field is not initialized when create a new user with the specified password
- [SYNCOPE-1439] - User membership attributes not updated
- [SYNCOPE-1440] - Pagination of Users/Groups doesn't work as expected with Elasticsearch
- [SYNCOPE-1442] - Inactive Job with cron expression set is executed anyway
- [SYNCOPE-1443] - Changing Display Rows number in Reconciliation Resource Panel doesn't work
- [SYNCOPE-1446] - Persistence exception on PostgreSQL when AUDIT is enabled on propagation tasks
- [SYNCOPE-1447] - NPE while deleting a privilege from admin console
- [SYNCOPE-1448] - Bean loading/register section not threadsafe
- [SYNCOPE-1450] - Audit: sensitive information not masked by default during update
- [SYNCOPE-1452] - Notification about is not deleted after update
- [SYNCOPE-1453] - MappingItem with "mustChangePassword" field cannot be provisioned and updated during import
- [SYNCOPE-1454] - Avoid duplicated Propagation Tasks
- [SYNCOPE-1457] - NonAlphaNumeric policy pattern matches the "Not word" character class

### New Feature

- [SYNCOPE-1401] - Leverage MySQL JSON type

### Improvement

- [SYNCOPE-1433] - Unflag/flag uniqueness shouldn't be permitted
- [SYNCOPE-1436] - Remove pullPolicy EAGER fetchType from JPAExternalResource
- [SYNCOPE-1441] - Perform in-memory match for dynamic conditions
- [SYNCOPE-1444] - Pull correlation rules: allow to discriminate ongoing event
- [SYNCOPE-1445] - Docker: support pgjsonb as DBMS option
- [SYNCOPE-1449] - Support multi-value attributes in JEXL expressions

### Task

- [SYNCOPE-1400] - Support MySQL 8

# 2.1.3 (January 17th, 2019)

**Apache Syncope 2.1.3 Fusion** is the third maintenance release of Apache Syncope 2.1, with several fixes and improvements.

Upgrade procedure

Upgrading from 2.1.2? There are some notes about this process.

## New and noteworthy

### Support for PostgreSQL JSONB Data Type

With general purpose of increasing overall performance, and specific target of making Syncope able to scale up to million identities, support for PostgreSQL JSONB data type was introduced.

Performance test results are available.

Configuration options to enable such support are documented in the Reference Guide.

### Request Management support in the Enduser UI

Introduced in Syncope 2.1.2, request management is now also available from Enduser UI, enabling end-users to initiate new requests, fill data and check existing requests.

### Search Improvements

Various fixes and enhancements finally landed that significantly improve User, Group, Any Object and Task search operations, both in performance and consistence terms; see SYNCOPE-1417, SYNCOPE-1419, SYNCOPE-1412 and SYNCOPE-1424 for details.

### After Enduser UI, now also Admin Console is accessible to the visually impaired

Now both Admin Console and Enduser UI implement accessibility features to help usage by the visually impaired.

## Issues

### Bug

- [SYNCOPE-1391] - Check template for confirmPasswordReset and mustChangePassword
- [SYNCOPE-1393] - jexl function fullPath2Dn return invalid value for ROOT realm
- [SYNCOPE-1399] - Error while executing the custom task to initialize indices with Elasticsearch v6.x
- [SYNCOPE-1404] - Dialog not closing in Netbeans ide plugin when creating a new element
- [SYNCOPE-1405] - Error during db initialization: views.xml always set for PostgreSQL
- [SYNCOPE-1406] - Error during startup because of missing property 'historyLevel'
- [SYNCOPE-1407] - Date pattern ignored by widget
- [SYNCOPE-1408] - Partial user edit via Role layout implies removing all unmanaged attributes
- [SYNCOPE-1411] - User/Any object updates generate attributes with null owner in case of patches involving membership attributes
- [SYNCOPE-1417] - Search with order by two plain attributes gives no results
- [SYNCOPE-1419] - User and AnyObject search fails in case of not leaf conditions given on multivalue fields
- [SYNCOPE-1420] - Expired Access Tokens might impede successful authentication
- [SYNCOPE-1425] - Mapping item transformers do not work for non-string values

## New Feature

- [SYNCOPE-1368] - Add some accessibility features to Console
- [SYNCOPE-1395] - Leverage PostgreSQL's jsonb type

## Improvement

- [SYNCOPE-1392] - Reduce usage of Reflection to improve overall performance
- [SYNCOPE-1394] - Add un-claim capability for requests
- [SYNCOPE-1396] - Give the possibility to configure TLS client parameters
- [SYNCOPE-1397] - No Such element exception while editing USER update approval
- [SYNCOPE-1409] - Avoid double round-trip to External Resource during Push
- [SYNCOPE-1412] - Serch for identities with null attributes can be improved
- [SYNCOPE-1416] - remove user_search_null_attr view
- [SYNCOPE-1422] - Permit to provide custom implementation of NotificationManager and AuditManager
- [SYNCOPE-1424] - Improve Propagation task ordered search

## Task

- [SYNCOPE-1381] - Support user request from Enduser UI
- [SYNCOPE-1402] - Upgrade to Validation API 2.0

# 2.1.2 (November 2nd, 2018)

**Apache Syncope 2.1.2 Fusion** is the second maintenance release of Apache Syncope 2.1, with several fixes and improvements.

Upgrade procedure

Upgrading from 2.1.1? There are some notes about this process.

## New and noteworthy

### Request Management

Request management is a key-feature of Identity Governance and allows to define and manage, in a structured way, whatever process intended to update identity attributes, memberships and relationships.
Request examples are "assign mobile phone", "grant groups on AD" or "consent access to application".

Users can initiate whichever request among the ones defined; once initiated, such requests will follow their own path, which might also include one or more approval steps.

More details in the Reference Guide.

### Enduser UI improvements

- Dynamic Templating
  a simple and fast way to customize structure and style of the whole application - read more in the Reference Guide.
- Accessibility
  Enduser UI is now accessible to the visually impaired - read more in the Reference Guide.

### Netbeans IDE Plugin: support for Groovy implementations

As successful completion of Google Summer of Code 2018, a student contribution was made to enable the Netbeans IDE Plugin with capability to remotely manage Groovy implementations.

## Issues

### Bug

- [SYNCOPE-1360] - Delegated administration to Dynamic Realms not possible
- [SYNCOPE-1361] - Custom audit appender does not work after a restart
- [SYNCOPE-1362] - Sorting users by creation date raises RuntimeException
- [SYNCOPE-1363] - Deleting multiple users at once reports "Operation delete not supported"
- [SYNCOPE-1364] - Upgrade tool from 2.0 script error
- [SYNCOPE-1365] - Erorr during retrieve candidate groups for approval process
- [SYNCOPE-1366] - Audit events ownership always set to admin user
- [SYNCOPE-1370] - Password reset succeeds also on wrong captcha
- [SYNCOPE-1371] - After upgrade from 2.0, error when updating Realm: ClassCastException: Expected LOGIC_ACTIONS, got PULL_ACTIONS
- [SYNCOPE-1372] - Password history checks not effective
- [SYNCOPE-1373] - Custom task schedule is reset after update

- [SYNCOPE-1374] - Concurrent propagation tasks for non-Master domains not saved
- [SYNCOPE-1375] - The existence of a membership attribute mapping implies membership creation during pull
- [SYNCOPE-1376] - swagger-ui server URL incorrect behind ssl reverse proxy
- [SYNCOPE-1377] - Wrong X-Syncope-Domain header does not throw an error
- [SYNCOPE-1380] - During Push or Pull, if policy with conflict resolution IGNORE is set, the process is interrupted as soon as such setting applies
- [SYNCOPE-1383] - Exception during "getObject" from external resource
- [SYNCOPE-1387] - ClassCast exception when pull realms
- [SYNCOPE-1388] - mustChangePassword flag does not prevent user from invoking actions
- [SYNCOPE-1389] - In case of virtual attribute mapping, propagation is always set as UPDATE also in case of CREATE
- [SYNCOPE-1390] - Pull Realms: pull task with Unmatching Rules: PROVISION shouldn't create propagation task

## New Feature

- [SYNCOPE-1019] - Template mechanism for Enduser UI
- [SYNCOPE-1220] - Support Groovy implementations in the Netbeans IDE plugin
- [SYNCOPE-1367] - Add some accessibility features to Enduser
- [SYNCOPE-1369] - User requests

## Improvement

- [SYNCOPE-1379] - Make configurable resource check timeout
- [SYNCOPE-1382] - Failure specifying push task filters including db column mapped as integer
- [SYNCOPE-1384] - SAML 2.0: Allow to customize RequestedAuthnContext for a given Service Provider
- [SYNCOPE-1385] - Priority propagation timeout hard coded into PriorityPropagationTaskExecutor

# 2.1.1 (August 17th, 2018)

**Apache Syncope 2.1.1 Fusion** is the first maintenance release of Apache Syncope 2.1: besides several fix, it introduces Batch requests.

Upgrade procedure

ⓘ
Upgrading from 2.1.0? There are some notes about this process.

# New and noteworthy

## Batch

Batch requests allow grouping multiple operations into a single HTTP request payload.
A batch request is represented as a Multipart MIME v1.0 message, a standard format allowing the representation of multiple parts, each of which may have a different content type (currently JSON, YAML or XML), within a single request.

More details in the Reference Guide.

# Issues

## Bug

- [SYNCOPE-1331] - ExternalResourcePropagationAction is too long name for a table in Oracle DB
- [SYNCOPE-1333] - Missing virtual attribute value in case of type extension
- [SYNCOPE-1334] - Maven install problem with Apache Syncope 2.1.0
- [SYNCOPE-1335] - Missing SQL statements when upgrading from 2.0 Jazz
- [SYNCOPE-1337] - Password history policy is not enforced on salted passwords
- [SYNCOPE-1338] - Double type conversion applied during pull leads to errors
- [SYNCOPE-1339] - Enduser spinner does not apply to the whole page
- [SYNCOPE-1340] - Cannot update membership attribute
- [SYNCOPE-1342] - console UI login form ignores Domain selection
- [SYNCOPE-1343] - Attributes are not reset after pull of null values
- [SYNCOPE-1344] - CORE_SCHEME not being updated in enduser.properties
- [SYNCOPE-1346] - Adding a new task while re-executing a propagation task
- [SYNCOPE-1347] - Invocation Problem calling org.apache.syncope.installer.processes.ArchetypeProcess
- [SYNCOPE-1350] - Date values not formatted according to the conversion pattern
- [SYNCOPE-1352] - Group wizard doesn't update the plain attributes
- [SYNCOPE-1353] - DBPasswordPropagationActions link in the reference guide is wrong
- [SYNCOPE-1354] - Push Tasks do not send status onto External Resources
- [SYNCOPE-1356] - LDAPMembershipPullActions does not remove memberships
- [SYNCOPE-1357] - MemoryVirAttrCache not working
- [SYNCOPE-1358] - Search by boolean value does not work from Admin Console

## New Feature

- [SYNCOPE-1348] - REST: replace bulk operations with batch requests

## Improvement

- [SYNCOPE-1336] - Add pagination for approvals forms
- [SYNCOPE-1341] - Domain should be configurable parameter for syncope-enduser docker image

# 2.1.0 (June 5th, 2018)

**Apache Syncope 2.1.0 Fusion** is the first 2.1 release, and brings a whole lot of new features and improvements.

Simply put, **Syncope 2.1 Fusion is Syncope 2.0 Jazz on steroids**.

## New and noteworthy

### Apache Groovy-based customizations

One of the most noticeable advantages of Apache Syncope is in its extreme flexibility: since the early days, in fact, practically any aspect of the system can be tweaked and customized to adapt to the various needs that might be encountered during deployments.
In most cases, this boils to down to code some Java class, add it to own Syncope project, rebuild and redeploy to see it at work. Naturally, this can be possible only when there is a local Maven project: other artifacts as Docker images, Debian packages or Standalone Distribution are simply not applicable.

In Syncope 2.1 Fusion it is possible to provide implementations in Apache Groovy, without losing any customization capability: this implies:

1. faster development cycle: no need to rebuild and redeploy to apply the changes
2. possibility to customize the behavior of Docker images, Debian packages and Standalone Distribution

### Privilege Management

Enables Syncope with the ability to define, map and query the rights that users own on external applications.

### Remediation

Errors during Pull might arise for various reasons: values might not be provided for all mandatory attributes or fail the configured validation, delete User as consequence of an incremental change's processing might be blocked because such User is configured as Group owner, and so on.

When Remediation is enabled for a certain Pull Task, execution errors are reported to administrators, which are given the chance to examine and possibly fix, or just discard.

### Flowable 6

The Flowable User Workflow Adapter was available since Syncope 2.0, as an alternative to Activiti; Syncope 2.1 Fusion embeds the latest evolution of Flowable 6 as the reference workflow engine.

### Miscellaneous

- Provisioning enhancements:
  - ignore-case match during Pull and Propagation
  - support to automatically fetch identifiers generated by external identity repositories as Azure, Google Apps, Salesforce
  - Push Correlation Rules
  - the default password cipher algorithm was switched from SHA1 to SSHA256
- The whole codebase was reviewed to leverage Java 8 language features; as a consequence, several dependencies were upgraded:
  - Spring 5 / Spring Security 5
  - Apache CXF 3.2.5
  - Apache Wicket 8.0.0
  - Apache OpenJPA 3.0.0
  - Apache Camel 2.22.0

## How to upgrade from 2.0

The upgrade process is outlined here.

## Issues

### Sub-task

- [SYNCOPE-808] - Netbeans plugin
- [SYNCOPE-984] - Errors when building on Windows for archetype and Eclipse plugin
- [SYNCOPE-985] - org.apache.syncope.client.cli.commands.MigrateTest Fails on Windows

## Bug

- [SYNCOPE-937] - Security question not loaded while resetting the user password
- [SYNCOPE-940] - Handle authorization issues more gracefully in the console
- [SYNCOPE-942] - Bug in changing security answer in the Enduser UI
- [SYNCOPE-944] - Cannot manually assign groups provided with dynamic assignment rules
- [SYNCOPE-946] - Encrypted attribute values not managed as password values
- [SYNCOPE-950] - Self-registration / self-update not working
- [SYNCOPE-953] - Enduser shows groups of the selected realm rather than groups assignable to users in the selected realm
- [SYNCOPE-965] - Cron expression for scheduled job is not saved from the console
- [SYNCOPE-966] - Exception reported when looking at propagation task details from user list
- [SYNCOPE-970] - On logout, page translation doesn't reset to default settings.
- [SYNCOPE-974] - Incorrect error reported when creating notification with missing events
- [SYNCOPE-975] - Search case insensitive ilike operator triggers search validation
- [SYNCOPE-976] - Duplicated events shown by admin console for notifications and audit
- [SYNCOPE-977] - style missing for captcha buttons in responsive template (under 800px width)
- [SYNCOPE-979] - resource id is missing in user propagation task table
- [SYNCOPE-980] - AnyObject search filter not honored with inGroups condition
- [SYNCOPE-981] - Oracle/SQLServer configuration does not work
- [SYNCOPE-982] - Notification tasks modal window does not provide access to actual HTML and TEXT e-mail body
- [SYNCOPE-987] - Build issues on Windows
- [SYNCOPE-990] - Explore resource detailed view always shows empty left column
- [SYNCOPE-992] - Date not registered in self registration
- [SYNCOPE-993] - Footer buttons positioning and resizing
- [SYNCOPE-994] - Character encoding not being respected
- [SYNCOPE-997] - Angular transition errors
- [SYNCOPE-999] - REST exception mapper overwrites Spring Security response
- [SYNCOPE-1000] - CSVDir connector unclear about required attributes/columns
- [SYNCOPE-1001] - Closing the Activiti Modeler popup does not make the spinner to disappear
- [SYNCOPE-1002] - Updating any objects' name via console is ineffective
- [SYNCOPE-1003] - Error when accessing notification tasks for a given user
- [SYNCOPE-1004] - Notification tasks generated for self read event not linked to user
- [SYNCOPE-1007] - NPE in Console when on an empty search term for user assignment
- [SYNCOPE-1008] - Maven home directory not trimmed of whitespace
- [SYNCOPE-1010] - Some PushActions methods not invoked even if assigned
- [SYNCOPE-1012] - Security answer not recognized during password reset
- [SYNCOPE-1013] - Password reset link generated by default notification template does not trigger Enduser UI features
- [SYNCOPE-1014] - The list of security questions is not refreshed after creating new one
- [SYNCOPE-1016] - Last change date not updated for users when attributes are updated via pull
- [SYNCOPE-1022] - UTF-8 characters in security questions not correctly encoded by Enduser UI
- [SYNCOPE-1023] - Maven projects from archetype deploy test content with 'all' profile
- [SYNCOPE-1024] - Enduser does not manages properly ENUM schema labels
- [SYNCOPE-1025] - SYNCOPEAUDIT table not populated
- [SYNCOPE-1026] - Cannot remove group owner once set
- [SYNCOPE-1027] - Mapping errors cannot be fixed when defining provision rules for a new resource
- [SYNCOPE-1030] - Invalid DefaultAccountRule definition from Admin Console
- [SYNCOPE-1032] - Role key must be not modifiable during edit from Admin Console
- [SYNCOPE-1033] - NPE in Admin Console when working with Reconciliation Report
- [SYNCOPE-1034] - Assigned Auxiliary classes disappear in the Type Extensions panel when click on cancel
- [SYNCOPE-1036] - Notification icon does not refresh on new approval event
- [SYNCOPE-1037] - Pending approvals list is clickable
- [SYNCOPE-1038] - User create: finish button should remain clickable if the last step is reached
- [SYNCOPE-1039] - User attributes in user edit/create form are reset after validation error
- [SYNCOPE-1040] - Membership derived attributes cannot reference own plain attributes
- [SYNCOPE-1042] - Removal of all executed pull tasks via bulk action returns a missing resource exception
- [SYNCOPE-1043] - Improve JWT token expiration handling
- [SYNCOPE-1044] - By editing the provisioning rules, modal footer is not disabled
- [SYNCOPE-1045] - Activiti Modeler: log out from Admin Console in case of error
- [SYNCOPE-1046] - Console: task execution sort not working properly
- [SYNCOPE-1048] - Into the connector configuration page the same bundle appear more then once if different versions exist
- [SYNCOPE-1049] - Console returns an error if you try to explore Syncope as a remote object
- [SYNCOPE-1051] - It is possible to schedule task execution in the past
- [SYNCOPE-1052] - Enduser CAPTCHA not reloading
- [SYNCOPE-1057] - Type extensions cleared after group update during pull
- [SYNCOPE-1060] - Date in membership attribute is propagated as timestamp
- [SYNCOPE-1062] - Changes pulled from one resource not propagated externally
- [SYNCOPE-1066] - WADL servlet uses request url to provide wadl
- [SYNCOPE-1069] - Incomplete HA setup instructions
- [SYNCOPE-1070] - Conversion pattern ignored for date, long and double values during propagation
- [SYNCOPE-1071] - The executed notification tasks are not displaying on the console
- [SYNCOPE-1075] - User lastChangeDate attribute is not displayed correctly
- [SYNCOPE-1076] - The console doesn't allow to download the report in various formats
- [SYNCOPE-1078] - Activiti modeler window doesn't open on click
- [SYNCOPE-1079] - Missing toggle panel for the job control widget of the administration console dashboard
- [SYNCOPE-1081] - Console: new toggle panel behavior anomalies
- [SYNCOPE-1082] - Concurrent CRUD random failures with dynamic memberships
- [SYNCOPE-1085] - Custom tasks modal page shouldn't show "Cancel" button
- [SYNCOPE-1089] - Improve provisioning mapping page in order to avoid duplicates in internal attribute name list
- [SYNCOPE-1090] - Error defining clause to search for group owners

- [SYNCOPE-1091] - Error while downloading Jpeg binary attribute content
- [SYNCOPE-1094] - Out of memory error while rendering PDF
- [SYNCOPE-1098] - User edit modal page opening takes long in case of a lot of groups defined
- [SYNCOPE-1099] - Dynamic group membership does not trigger propagation
- [SYNCOPE-1101] - Error showing action icons on Notidfication events managements
- [SYNCOPE-1104] - Missing autocomplete for ConnId object class when defining new provision
- [SYNCOPE-1107] - The installer fails with a NoClassDefFoundError
- [SYNCOPE-1108] - NullPointerException while saving an empty template
- [SYNCOPE-1109] - Installer fails to setup Activiti
- [SYNCOPE-1110] - Error replacing group/auxclass/resource during self-management operation
- [SYNCOPE-1111] - New any type not shown unders Realms
- [SYNCOPE-1112] - Error searching for user/group/anyobject by providing conditions on attribute with schema type Long
- [SYNCOPE-1114] - Dynamic group information not available during propagation
- [SYNCOPE-1121] - Enduser form customization does not work with empty section in edit mode
- [SYNCOPE-1122] - Enduser must show all attributes when customForm.json has empty section with show=true
- [SYNCOPE-1123] - Enduser UserRequestValidator NPE on custom form empty sections
- [SYNCOPE-1125] - Password on external resource not updated via Enduser
- [SYNCOPE-1127] - Membership attribute values are not shown
- [SYNCOPE-1128] - Content exporter does not sort for internal foreign keys
- [SYNCOPE-1130] - NPE refreshing realm page after realm creation
- [SYNCOPE-1131] - Cannot delete resources owned by realms
- [SYNCOPE-1133] - Search panel used for relationships definition does not work
- [SYNCOPE-1134] - Action menu not working after page refresh
- [SYNCOPE-1135] - Groups list not refreshing after realm change
- [SYNCOPE-1139] - StackOverflowError while serializing AuditEntry after propagation
- [SYNCOPE-1140] - Error when trying to assign a relationship
- [SYNCOPE-1141] - Error when getting /numbers with application/xml
- [SYNCOPE-1149] - Access token still required for the third party JWT SSO integration scenario
- [SYNCOPE-1150] - Invalid property set for propagation task modal page header
- [SYNCOPE-1151] - Glinch in the root realm information
- [SYNCOPE-1158] - Misleading Push Task reports
- [SYNCOPE-1162] - Change to Connector's display name not reflected by contextual menu
- [SYNCOPE-1163] - External Resource priority is never NULL
- [SYNCOPE-1166] - No propagation task is created for resources where the password is not propagated
- [SYNCOPE-1168] - Encryptor pads short secret keys with "0" instead of random characters
- [SYNCOPE-1169] - Operation not supported error when trying to run a bulk action for users
- [SYNCOPE-1170] - Can't remove a "Dynamic USER assignment"
- [SYNCOPE-1174] - NPE in AccessTokenDataBinderImpl if no 'jwt.lifetime.minutes' schema is present
- [SYNCOPE-1175] - Password Reset Token Generation Not Working After Upgrading to 2.0.4
- [SYNCOPE-1178] - PlainSchema page empty while self update on Enduser
- [SYNCOPE-1179] - JWT "Date" claims are interpreted using milliseconds instead of seconds
- [SYNCOPE-1180] - No e-mail debug output
- [SYNCOPE-1184] - In the "Attributes to be displayed" sellection show the ones already displayed by default
- [SYNCOPE-1188] - NPE Message while saving Dynamic Realm with empty key
- [SYNCOPE-1189] - Realms page not accessible when user has permissions on dynamic realms
- [SYNCOPE-1190] - Username not refreshed on toggle menu after user update
- [SYNCOPE-1193] - Add the option to update a user via REST by using the username as key
- [SYNCOPE-1199] - Syncope performance: AnyObjectTO's creation time grows with it's quantity
- [SYNCOPE-1203] - Not possible to add provision rules for "Realm" type
- [SYNCOPE-1205] - Serialization exception in the logs when editing users pending approval
- [SYNCOPE-1206] - Dynamic membership updates not considered for provisioning during update
- [SYNCOPE-1207] - Audit: incorrect output element reported for Pull Tasks
- [SYNCOPE-1210] - Random password generation fails for push tasks
- [SYNCOPE-1211] - syncope migration 1.2 to 2.0 users blocked to 200
- [SYNCOPE-1213] - Syncope console should advice user about exceeded file size
- [SYNCOPE-1214] - Error when sorting Users by Realm
- [SYNCOPE-1215] - Multivalue readonly fields allow frontend deletion
- [SYNCOPE-1216] - Upgrade to Spring 5
- [SYNCOPE-1217] - Using the JAVA API is possible to create a Realm with the same name in the same parent realm
- [SYNCOPE-1222] - Unwanted delete from External Resources on Membership removal
- [SYNCOPE-1223] - Cannot search for values containing comma
- [SYNCOPE-1224] - CLI: user "all" operations limited to 25 users
- [SYNCOPE-1226] - List the attributes to be displayed show deleted attributes
- [SYNCOPE-1227] - Password template not nullable after setting
- [SYNCOPE-1229] - Pull task execution bulk delete fails
- [SYNCOPE-1230] - Bad toggle handling during task execution delete
- [SYNCOPE-1231] - Hidden columns in bulk action resul modal page
- [SYNCOPE-1232] - AnyType removal does not check for existing AnyObjects
- [SYNCOPE-1233] - NullPointerException in Topology after creating a connector with no displayName using pure REST call
- [SYNCOPE-1235] - Unlink or unassign Group from External Resource resets dynamic membership conditions
- [SYNCOPE-1236] - Pagination error for executed tasks
- [SYNCOPE-1239] - Missing specified plain attr values if plain attr step is the last one of the any management wizard
- [SYNCOPE-1241] - Under high load propagation after pull might fail
- [SYNCOPE-1244] - Error creating bean with name 'logicInitializer' on startup related to quartz clustering
- [SYNCOPE-1246] - Group membership search stucks with several thousands of groups
- [SYNCOPE-1247] - Group search and auto-completion does not work with several thousands of groups
- [SYNCOPE-1248] - Password policy history error when the user is updated before being approved
- [SYNCOPE-1250] - Missing attributes layout order
- [SYNCOPE-1251] - UserTO variable is not updated during Update Activiti Task

- [SYNCOPE-1252] - Search failing for non-string attributes from Admin Console
- [SYNCOPE-1253] - Pulled users have password set even if no mapping was provided
- [SYNCOPE-1254] - Cannot create new connector instances from Admin Console
- [SYNCOPE-1257] - USER search by GROUP does not work if group name has spaces
- [SYNCOPE-1261] - When starting with empty database and no ConnInstances in Content.xml no bundles are reported as available
- [SYNCOPE-1263] - REST invocation with invalid JWT string returns 500
- [SYNCOPE-1265] - SAML 2.0 IdP cache empty until either new is imported or SAML2IdPService#list is invoked
- [SYNCOPE-1266] - Multivalue binary attributes leads to OutOfMemory exception
- [SYNCOPE-1269] - Cannot specify validator for Configuration Parameters
- [SYNCOPE-1272] - Export of the report always returns the result of the last execution
- [SYNCOPE-1275] - Add the possibiliy to delete a job
- [SYNCOPE-1276] - Link or assign Group from External Resource resets dynamic membership conditions
- [SYNCOPE-1282] - Search schema error
- [SYNCOPE-1285] - Quartz db init on HA environments occurs on all nodes
- [SYNCOPE-1288] - Propagation tasks list not keeping order while browsing pages
- [SYNCOPE-1290] - Deletion of only schema entry breaks schema UI
- [SYNCOPE-1291] - Cannot login again into Admin Console after Session Expired
- [SYNCOPE-1293] - Default password reset notifications not working
- [SYNCOPE-1294] - Plainschema panel doesn't display the assigned validator class
- [SYNCOPE-1296] - Eclipse Plugin OSGI Dependency Issue
- [SYNCOPE-1297] - Select all + bulk button redirecting to top of the page on click
- [SYNCOPE-1298] - Quartz jobs with no matching Task or Report not visible from Admin Console
- [SYNCOPE-1301] - Token creation is not threadsafe
- [SYNCOPE-1303] - Content migration from 1.2 problems
- [SYNCOPE-1304] - Order Groups by userOwner throws DataIntegrityViolation exception
- [SYNCOPE-1306] - Date value without a conversion pattern not shown by Admin Console
- [SYNCOPE-1307] - Wrong export order for Realms
- [SYNCOPE-1308] - Exception getting users with orderBy on SyncopeClient API with Postgres 10.3
- [SYNCOPE-1309] - Enduser UI does not remove Access Token on Finish
- [SYNCOPE-1312] - Console CSS is depending from Google fonts
- [SYNCOPE-1314] - Bulk action from reconciliation section ever shows NOT ATTEMPTED after provision
- [SYNCOPE-1315] - Propagation task sorting by Object Type not working as expected
- [SYNCOPE-1317] - RuntimeException when remove all schemas
- [SYNCOPE-1318] - Future task rejected from ScheduledThreadPoolExecutor
- [SYNCOPE-1319] - Pull Task template not assigning roles
- [SYNCOPE-1320] - Push task report generation fails in case of IgnoreProvisionException
- [SYNCOPE-1321] - Search doesn't work for date attributes with conversion pattern with time zone
- [SYNCOPE-1326] - Wizard generates unnecessary attrPatch when the field is empty

## New Feature

- [SYNCOPE-152] - Support SCIM REST API
- [SYNCOPE-882] - Log viewer
- [SYNCOPE-956] - Allow for scripted customizations
- [SYNCOPE-1015] - User Authentication using email
- [SYNCOPE-1018] - Social registration for Enduser UI
- [SYNCOPE-1035] - JWT-based access to REST services
- [SYNCOPE-1041] - SAML 2.0 Service Provider feature
- [SYNCOPE-1054] - Replace Activiti-based workflow adapter with Flowable
- [SYNCOPE-1077] - Extension: Elasticsearch-based search engine
- [SYNCOPE-1095] - Provide preview for JSON and XML binary field
- [SYNCOPE-1129] - Third Party JWT SSO integration
- [SYNCOPE-1144] - Customizable Audit appender
- [SYNCOPE-1145] - Connector and Resource configuration versioning
- [SYNCOPE-1249] - Support for mustChangePassword mapping
- [SYNCOPE-1256] - Docker images
- [SYNCOPE-1259] - Japanese translation for Admin console & Enduser UI
- [SYNCOPE-1270] - OpenID Connect client feature
- [SYNCOPE-1279] - Provide live updates from running tasks and reports
- [SYNCOPE-1281] - Privilege management
- [SYNCOPE-1283] - Support Azure AD
- [SYNCOPE-1287] - Remediation
- [SYNCOPE-1289] - REST: support YAML payloads
- [SYNCOPE-1310] - Support SCIM v1.1
- [SYNCOPE-1316] - Support ServiceNow

## Improvement

- [SYNCOPE-470] - Implement correlation rule management for push task
- [SYNCOPE-681] - i18n labels for schema names
- [SYNCOPE-773] - Allow in-place edit in Job dashboard widget
- [SYNCOPE-779] - Use Kendo UI Boostrap DateTimePicker
- [SYNCOPE-938] - Use Java 8 language features
- [SYNCOPE-948] - Optionally provide schema information with attribute values
- [SYNCOPE-949] - Leave WebApplicationException to default processing
- [SYNCOPE-952] - Provide realm management to enduser
- [SYNCOPE-958] - Enduser improvements
- [SYNCOPE-959] - Specify working domain in enduser.properties

- [SYNCOPE-960] - Make the breadcrumb in creation navigable only when the Finish page has been reached
- [SYNCOPE-971] - Case insensitive search
- [SYNCOPE-972] - Make Syncope Enduser template responsive
- [SYNCOPE-978] - Add sample REST external resource
- [SYNCOPE-983] - Search performance improvement with mandatory schemas only
- [SYNCOPE-989] - Upgrade FOP to 2.1
- [SYNCOPE-991] - Improve user password management / resource management
- [SYNCOPE-996] - Replace Angular Bootstrap DateTimePicker with Kendo UI DateTimePicker
- [SYNCOPE-1005] - Schema sorting should be done on JS side
- [SYNCOPE-1009] - Enduser must provide an easy way to enable/disable visualization and sorting of USER attributes
- [SYNCOPE-1020] - Support for BPMN call activity
- [SYNCOPE-1028] - Improve usability of the modal window for provision rules
- [SYNCOPE-1029] - Change modal window title and button bars background
- [SYNCOPE-1031] - Hide key when creating / editing Security Questions from Admin Console
- [SYNCOPE-1047] - Replace ActionLinksPanel with TogglePanel
- [SYNCOPE-1050] - Allow easier extension of REST interface exposed to AngularJS
- [SYNCOPE-1053] - Show actual pending modifications during approval
- [SYNCOPE-1058] - Do not show time picker and values for date-only schemas
- [SYNCOPE-1059] - Remove final landing page after user create/update
- [SYNCOPE-1061] - Support SAML 2.0 Redirect profile
- [SYNCOPE-1063] - Incomplete title for modal windows from Topology
- [SYNCOPE-1064] - Improve security of customization mechanism
- [SYNCOPE-1067] - More flexible delegated administration model
- [SYNCOPE-1068] - Console: CSRF protection
- [SYNCOPE-1072] - Display or enable add button only to realms were CREATE is owned
- [SYNCOPE-1073] - Hide realm management if no realm entitlement are owned
- [SYNCOPE-1074] - Realm navigator: show only relevant realms for delegated admin
- [SYNCOPE-1083] - ConnInstance location is not normalized
- [SYNCOPE-1084] - Switch to HikariCP for Core's default DataSource definitions
- [SYNCOPE-1086] - Avoid to read whole entities to check ETag
- [SYNCOPE-1087] - Avoid to read input entities if no notification or audit are requested
- [SYNCOPE-1088] - Store authorizations with access tokens
- [SYNCOPE-1093] - Add some feedbacks when linking not existing groups/resources to existing user
- [SYNCOPE-1096] - Download button should be disabled while populating for the first time a binary attribute
- [SYNCOPE-1097] - Downloaded file for binary attribute better naming
- [SYNCOPE-1100] - Provide JWT expiration information to self
- [SYNCOPE-1103] - Option to disable Quartz instances across cluster
- [SYNCOPE-1106] - Remove misleading getAttrMap and similar methods from TOs
- [SYNCOPE-1115] - Display attributes for propagation tasks
- [SYNCOPE-1117] - Make it more obvious that the jwsKey needs to be changed
- [SYNCOPE-1118] - Update docs to explain what "anonymousKey" refers to
- [SYNCOPE-1119] - Make it more obvious that the default admin password needs to be changed
- [SYNCOPE-1120] - Use the standard Bearer Authorization header for JWT tokens
- [SYNCOPE-1124] - Support functions for internal JEXL engine
- [SYNCOPE-1126] - Include realms into the Explore Resource feature
- [SYNCOPE-1136] - Groups list reset always after realm change
- [SYNCOPE-1138] - Update RelationshipTO to also report the "left" end of a relationship
- [SYNCOPE-1143] - Fine-grained administration rights for Connector and Resources
- [SYNCOPE-1146] - On-the-fly creation of unmatched users logging via SAML 2.0
- [SYNCOPE-1147] - Extend SAML 2.0 IdP mapping to Roles
- [SYNCOPE-1148] - SAML-initiated self-registration
- [SYNCOPE-1152] - Clear out unneeded anonymous authenticated services
- [SYNCOPE-1153] - Push Tasks result to show "no operation" when operation is not enabled
- [SYNCOPE-1154] - Edit resource to show always in the same order in list of object provision rules
- [SYNCOPE-1155] - Hard-coded /syncope-enduser HTTP subcontext
- [SYNCOPE-1159] - Allow to set Realm for Push Tasks
- [SYNCOPE-1164] - Complete mapping for Realm provisioning
- [SYNCOPE-1165] - Switch the default password cipher algorithm from SHA1 to SSHA256
- [SYNCOPE-1167] - Preliminary AnyType selection when adding new provision rule
- [SYNCOPE-1171] - Skip Relationships page when no relationship types exist
- [SYNCOPE-1172] - Error message of "Malformed Path" could be made a little clearer
- [SYNCOPE-1173] - Replace List<String> dynGroups with List<MembershipTO> dynMemberships
- [SYNCOPE-1176] - Edit provisioning rules menu is flat and not toggle
- [SYNCOPE-1177] - Configuration Parameter deletion should ask for confirmation
- [SYNCOPE-1182] - Use Remote Key in the Mapping to fetch external entities
- [SYNCOPE-1183] - Realm attribute available (as a detail) to use as a column in the "realm view" object list
- [SYNCOPE-1185] - Further validate SAML responses with CXF's SAMLSSOResponseValidator
- [SYNCOPE-1192] - Provide latest GIT commit hash alongside with version number
- [SYNCOPE-1194] - Sign the SAML SSO Service Provider Metadata
- [SYNCOPE-1196] - Binary previewer also for configuration parameters
- [SYNCOPE-1197] - Enduser console doesn't specify "SAML 2.0" as per the admin console
- [SYNCOPE-1198] - Make the signature algorithm configurable for SAML SSO
- [SYNCOPE-1200] - Allow to update user data during approval
- [SYNCOPE-1201] - Allow AnyType-based conditions for DynRealms
- [SYNCOPE-1202] - Support IdP Initiated SAML SSO
- [SYNCOPE-1212] - Allow for easier Pull / Push processes customization
- [SYNCOPE-1225] - Search funcionality in Schemas
- [SYNCOPE-1228] - Parent should be passed once for Realm create
- [SYNCOPE-1234] - SyncDelta pre-processing

- [SYNCOPE-1237] - Copy table row element key to clipboard by clicking on its name in toggle menu
- [SYNCOPE-1238] - Terminate Topology background checks once completed
- [SYNCOPE-1242] - Simple way to see elements full text value in Palette Panels
- [SYNCOPE-1243] - Add information to GroupTO about user and AnyObject membership counts
- [SYNCOPE-1255] - Dynamic group/role create/update can result in timeout error in case of a great number of members
- [SYNCOPE-1267] - Provide check of mimetypes before generate a binary attribute preview
- [SYNCOPE-1274] - Report required and read-only payload properties in OpenApi spec
- [SYNCOPE-1280] - Better job interrupt
- [SYNCOPE-1292] - Use Remote Key during Pull to match internal entities
- [SYNCOPE-1295] - Create a structured wizard to edit SCIM 2.0 configuration
- [SYNCOPE-1299] - Manual reconciliation
- [SYNCOPE-1300] - Resource: ignoreCase match
- [SYNCOPE-1302] - New expression model in mapping for internal attributes to access user relationships
- [SYNCOPE-1311] - Support to save ids generated by identity repositories upon create
- [SYNCOPE-1322] - Get available tasks from workflow definition
- [SYNCOPE-1323] - Upgrade to Wicket 8
- [SYNCOPE-1324] - Have I Been Pwned password rule
- [SYNCOPE-1328] - Need option to configure the encryption algorithm used to generate JWT.
- [SYNCOPE-1329] - JWT: need support for asymmetric key

## Wish

- [SYNCOPE-1161] - Option to clone a resource

## Task

- [SYNCOPE-962] - Upgrade to Wicket 7.5.0
- [SYNCOPE-1080] - Update swagger-jaxrs dependency to 1.5.13
- [SYNCOPE-1204] - Upgrade Migration code and guide
- [SYNCOPE-1208] - MIgrate to JUnit 5
- [SYNCOPE-1262] - Upgrade to Swagger UI 3.0
- [SYNCOPE-1327] - Enable build with Java 10

a simple and fast way to customize structure and style of the whole Enduser