



**OX2OX Migration Framework Scheduler Technical
Documentation for
2.1.0**

2021-09-29

Copyright notice

©2021 by OX Software GmbH. All rights reserved. Open-Xchange and the Open-Xchange logo are trademarks or registered trademarks of OX Software GmbH. All other company and/or product names may be trademarks or registered trademarks of their owners. Information contained in this document is subject to change without notice.



Contents

1	General Information	2
1.1	Warnings	2
1.2	Delivery Comment	2
1.3	Install Package Repository	2
1.4	Build Dependencies	2
2	Shipped Packages and Version	2
2.1	Package open-xchange-omf-orchestrator	2
2.1.1	Installation	2
2.1.2	Configuration	2
2.2	Package open-xchange-omf-scheduler	3
2.2.1	Installation	3
2.2.2	Configuration	3
A	Configuration Files	3

1 General Information

1.1 Warnings



Warning

This preview delivery is not for productive usage and not affected by service-level agreements.



Warning

Custom configuration or template files are potentially not updated automatically. After the update, please always check for files with a **.dpkg-new** or **.rpmnew** suffix and merge the changes manually. Configuration file changes are listed in their own respective section below but don't include changes to template files. For details about all the configuration files and templates shipped as part of this delivery, please read the relevant section of each package.

1.2 Delivery Comment

This delivery was requested with following comment:

OMF Scheduler 2.1.0 Preview Delivery 11

1.3 Install Package Repository

This delivery is part of a restricted preview software repository:

<https://software.open-xchange.com/components/omf-scheduler/preview/2.1.0/RHEL7>
<https://software.open-xchange.com/components/omf-scheduler/preview/2.1.0/DebianStretch>
<https://software.open-xchange.com/components/omf-scheduler/preview/2.1.0/DebianBuster>

1.4 Build Dependencies

This delivery was build with following dependencies:

RedHat:RHEL-7,Debian:Stretch,Debian:Buster

2 Shipped Packages and Version

2.1 Package open-xchange-omf-orchestrator

OMF Orchestrator CLI to interoperate with the OX2OX Migration Framework.

Version: 2.1.0-11

Type: Other

2.1.1 Installation

Install on nodes with package installer **apt-get** or **yum**:

```
<package installer> install open-xchange-omf-orchestrator
```

2.1.2 Configuration

For details, please see appendix [A](#)

/opt/open-xchange/omf/orchestrator/etc/omf-orchestrator.yml (page [4](#))

2.2 Package open-xchange-omf-scheduler

OMF Scheduler OX2OX Migration Framework Scheduler.

Version: 2.1.0-11

Type: Other

2.2.1 Installation

Install on nodes with package installer **apt-get** or **yum**:

```
<package installer> install open-xchange-omf-scheduler
```

2.2.2 Configuration

For details, please see appendix [A](#)

/opt/open-xchange/omf/scheduler/etc/omf-scheduler.yml (page [9](#))

A Configuration Files

File 1 /opt/open-xchange/omf/orchestrator/etc/omf-orchestrator.yml

```

1 micronaut:
2   application:
3     name: omf
4   http:
5     services:
6       # The OMF Scheduler HTTP REST API service configuration
7       scheduler-admin-source:
8         url: "${omf.scheduler.url}/omf/scheduler/admin/source/"
9         read-timeout: ${omf.http.read-timeout}
10        connect-timeout: ${omf.http.connect-timeout}
11        ssl:
12          enabled: ${omf.http.ssl.enabled}
13          trust-store:
14            path: ${omf.http.ssl.trust-store.path}
15            password: ${omf.http.ssl.trust-store.password}
16            type: ${omf.http.ssl.trust-store.type}
17
18       scheduler-admin-target:
19         url: "${omf.scheduler.url}/omf/scheduler/admin/target/"
20         read-timeout: ${omf.http.read-timeout}
21         connect-timeout: ${omf.http.connect-timeout}
22         ssl:
23           enabled: ${omf.http.ssl.enabled}
24           trust-store:
25             path: ${omf.http.ssl.trust-store.path}
26             password: ${omf.http.ssl.trust-store.password}
27             type: ${omf.http.ssl.trust-store.type}
28
29       # The OMF Scheduler Migration HTTP REST API service configuration
30       scheduler-migration:
31         url: "${omf.scheduler.url}/omf/scheduler/migration/"
32         read-timeout: ${omf.http.read-timeout}
33         connect-timeout: ${omf.http.connect-timeout}
34         ssl:
35           enabled: ${omf.http.ssl.enabled}
36           trust-store:
37             path: ${omf.http.ssl.trust-store.path}
38             password: ${omf.http.ssl.trust-store.password}
39             type: ${omf.http.ssl.trust-store.type}
40
41       # The OMF Scheduler Monitoring HTTP REST API service configuration
42       scheduler-monitoring:
43         url: "${omf.scheduler.url}/ws/omf/scheduler/workers/monitor/"

```

```

44     read-timeout: ${omf.http.read-timeout}
45     connect-timeout: ${omf.http.connect-timeout}
46     ssl:
47         enabled: ${omf.http.ssl.enabled}
48         trust-store:
49             path: ${omf.http.ssl.trust-store.path}
50             password: ${omf.http.ssl.trust-store.password}
51             type: ${omf.http.ssl.trust-store.type}
52
53 omf:
54     http:
55         read-timeout: 30s
56         connect-timeout: 10s
57         ssl:
58             enabled: true
59             # If the scheduler does not have a valid public certificate
60             # (e.g. uses a self-signed certificate), then its certificate can be
61             # configured here.
62             trust-store:
63                 path: file:/opt/open-xchange/omf/certs/scheduler.p12
64                 password: secret
65                 type: PKCS12
66         readonly: false
67     shell:
68         start.dir:
69         config:
70             user.dir: ${user.dir}/.omf/config
71             app.dir: /opt/open-xchange/omf/lib/scripts
72     scheduler:
73         # Credentials for the scheduler
74         # On multi-user systems, specifying the password in a configuration file
75         # with proper file system permissions is preferred to specifying it on
76         # the command line, since the command line is visible to all local users.
77         #
78         # Example:
79         # username: admin
80         # password: secret
81
82         # Location of the scheduler. Only the protocol and host name need to be
83         # specified.
84         url: "https://localhost:8443"
85     ui:
86         color: true
87         color.theme: DARK
88         unicode: true
89         expandIds: false
90         tz: UTC
91         showTz: false
92         showAgo: false
93         prettyJson: false
94         highlightJson: false
95         shell:
96             prettyJson: true
97             highlightJson: true
98             fancyPrompt: true
99             rightHandPrompt: true
100         history.file: ${user.dir}/.omf_history
101
102     logger:
103         levels:
104             # change this to TRACE to see a detailed log of the HTTP traffic between the
105             # Orchestrator and the Scheduler
106             io.micronaut.http.client: INFO

```

File 2 /opt/open-xchange/omf/scheduler/etc/omf-scheduler.yml

```

1 # https://docs.micronaut.io/latest/guide/config.html#configurationProperties
2 ---

```

```

3 micronaut:
4   # SSL configuration
5   # Required for production environments.
6   # See https://docs.micronaut.io/latest/guide/index.html#https for details.
7   ssl:
8     enabled: true
9     port: 8443
10    key-store:
11      path: file:/opt/open-xchange/omf/certs/keystore.p12
12      type: PKCS12
13      password: secret
14    server:
15      dual-protocol: true
16      port: 8080
17
18    http:
19      services:
20        # The omf-source service is use to collect health status and metrics from the Source
21        # OMF nodes. The HTTP client can be configured (ex: ssl) here by referencing
22        # https://docs.micronaut.io/latest/guide/configurationreference.html#io.micronaut.
23        # http.client.ServiceHttpClientConfiguration
24        # and the subsequent sections related to micronaut.http.services.*
25        omf-source:
26          connect-timeout: 30s
27          read-timeout: 120s
28          # Example SSL configuration in case a source uses a private certificate
29          # ssl:
30          #   trust-store:
31          #     path: file:/opt/open-xchange/omf/certs/source.p12
32          #     type: PKCS12
33          #     password: secret
34          omf-target:
35            connect-timeout: 30s
36            read-timeout: 120s
37        application:
38          name: omf-scheduler
39          # Configure security including basic auth: https://micronaut-projects.github.io/
40          # micronaut-security/latest/guide/#basicAuth
41          # Must be set to true or the Source Controller is not secure
42          security:
43            enabled: true
44            # Change the security of the open api views to anonymous so that they can be viewed
45            # without credentials
46            intercept-url-map:
47              - pattern: /swagger/**
48                access:
49                  - isAnonymous()
50              - pattern: /swagger-ui/**
51                access:
52                  - isAnonymous()
53              - pattern: /rapidoc/**
54                access:
55                  - isAnonymous()
56              - pattern: /redoc/**
57                access:
58                  - isAnonymous()
59            # https://docs.micronaut.io/latest/guide/index.html#_configuring_caches
60            #caches:
61              #example:
62                #charset: UTF-8
63                #expire-after-access: 1h
64            metrics:
65              enabled: true
66              export:
67                # Creates an endpoint like http://host/prometheus - uses basic auth from
68                # credentials under scheduler.http.admin
69                prometheus:
70                  enabled: true
71                  step: PT1M
72                  descriptions: true
73            router:
74              # Adds api versioning: https://docs.micronaut.io/latest/guide/index.html#apiVersioning

```

```

72     versioning:
73         enabled: true
74     parameter:
75         enabled: true
76         names: 'v'
77     header:
78         enabled: true
79         names: 'X-API-VERSION'
80     # Allows the openapi views to be seen
81     static-resources:
82         swagger:
83             paths: classpath:META-INF/swagger
84             mapping: /swagger/**
85         redoc:
86             paths: classpath:META-INF/swagger/views/redoc
87             mapping: /redoc/**
88         rapidoc:
89             paths: classpath:META-INF/swagger/views/rapidoc
90             mapping: /rapidoc/**
91         swagger-ui:
92             paths: classpath:META-INF/swagger/views/swagger-ui
93             mapping: /swagger-ui/**
94 ---
95     scheduler:
96         # Must be unique for each Scheduler instance.
97         # Be very careful when changing this value, as it is also used to determine the
98         # transactional ID for writing
99         # batches into Kafka topics for each Scheduler node.
100         id: 'scheduler-0'
101         hostname: ''
102         window:
103             # If more than this many batches are created as part of a new Window, don't return the
104             # list of
105             # Batch IDs as part of the Window creation result DTO, as they would just be too many
106             # to display
107             # in the first place (also affects the debug logging):
108             batch.id.threshold: 50
109             # If more than this many context IDs are assigned as part of a new Window, don't
110             # return the list of
111             # context IDs as part of the Window creation result DTO, as they would just be too
112             # many to display
113             # in the first place:
114             context.id.threshold: 50
115         batch:
116             presync:
117                 # Max number of contexts in a batch
118                 size: 10
119                 # Strategy to use when creating batches.
120                 # Current supported strategies:
121                 # - fill-first: create batches up to the batch size then create the next batch
122                 # - fill-equal: create batches of equal size
123                 strategy: fill-equal
124             cutover:
125                 size: 10
126                 strategy: fill-equal
127             preprovisioning:
128                 size: 10
129                 strategy: fill-equal
130         kafka:
131             wait: false
132             queues:
133                 batch: "omf-batch"
134                 response: "omf-response"
135             resize:
136                 batch: true
137                 response: true
138             record.header.enhance: true
139             topic:
140                 list:
141                     timeout: -1s
142             describe:
143                 timeout: -1s

```



```

139     retry:
140         attempts: 3
141         wait: 3s
142     create:
143         # whether topics should be created when a source is created or synced (true) or
144         # whether we make use of auto-creation instead (old behaviour prior to 2.1.0-6):
145         enabled: true
146         timeout: -1s
147         partitions: 2
148         replication.factor: 0
149         config:
150             retention.ms: 432000000
151     workers:
152         allow:
153             # allow Worker shutdown via the REST API
154             shutdown: false
155             # allow overriding the Sources Workers subscribe to via the REST API
156             changeSources: false
157     http:
158         admin:
159             # Basic auth creds
160             username: admin
161             password: secret
162             controller:
163                 path: /omf/scheduler/admin
164         migration:
165             controller:
166                 path: /omf/scheduler/migration
167     metrics:
168         monitor:
169             windows:
170                 enabled: true
171                 interval: 5m
172                 delay: 30s
173             batches:
174                 enabled: true
175                 interval: 5m
176                 delay: 30s
177             sources:
178                 enabled: true
179                 interval: 5m
180                 delay: 30s
181             targets:
182                 enabled: true
183                 interval: 5m
184                 delay: 30s
185             contextmappings:
186                 enabled: true
187                 interval: 5m
188                 delay: 30s
189             migrationevents:
190                 enabled: true
191                 interval: 5m
192                 delay: 30s
193     workers:
194         idle.since: [5m, 10m, 30m]
195 ---
196     jackson:
197         bean-introspection-module: true
198         serialization:
199             indent-output: true
200             writeDatesAsTimestamps: false
201 ---
202     datasources:
203         # Used to persist scheduling data
204         scheduler:
205             # url should use createDatabaseIfNotExist=true if the database will not
206             # already exist: https://dev.mysql.com/doc/connector-j/8.0/en/connector-j-reference-
207             configuration-properties.html
208             url: jdbc:mysql://localhost:3306/scheduler?createDatabaseIfNotExist=true
209             username: root
210             password: my-secret-pw

```

```

210     driverClassName: org.mariadb.jdbc.Driver
211     dialect: MYSQL
212     maximumPoolSize: 10
213     maxLifetime: 180000
214 # Used to create/drop databases for sources. This is not really the "default" data
    source
215 # but we need to use default because of bug https://github.com/micronaut-projects/
    micronaut-data/issues/598s
216 default:
217     url: jdbc:mysql://localhost:3306/
218     username: root
219     password: my-secret-pw
220     driverClassName: org.mariadb.jdbc.Driver
221     dialect: MYSQL
222     maximumPoolSize: 5
223     maxLifetime: 180000
224 ---
225 endpoints:
226     loggers:
227         enabled: true
228         sensitive: true
229     health:
230         discovery-client:
231             enabled: false
232         sources:
233             enabled: false
234         targets:
235             enabled: false
236     liquibase:
237         # fails with missing transition, might be fixed in later Micronaut releases
238         enabled: false
239     info:
240         enabled: true
241         sensitive: true
242         sourceCodeOrigin:
243             enabled: true
244             location: file:/opt/open-xchange/omf/scheduler/share/SourceCodeOrigin.txt
245 ---
246 zookeeper:
247     server: zookeeper:2181
248     blockUntilConnected: true
249     maxConnectedWaitTime: 30s
250     sessionTimeout: 1m
251     connectionTimeout: 15s
252     maxCloseWait: 15s
253     waitForShutdownTimeout: 15s
254     connectionRetry:
255         baseSleepTime: 5s
256         maxSleepTime: 30s
257         maxRetries: 50
258 ---
259 kafka:
260     bootstrap:
261         servers: kafka-1:9092, kafka-2:9092, kafka-3:9092
262     producers:
263         batch-producer:
264             enable.idempotence: true
265             # This enables transactions for the Batch Producer
266             # The value must be unique per application, but should
267             # not change for the same app after a crash, etc.
268             # Note that if you only want to allow a single Scheduler instance to be capable of
269             # writing Batches into the Kafka topics, then change this to be the same value
                across
270             # all Scheduler instances as Kafka will fence them (see PRODUCER_FENCED).
271             # But if you want all Scheduler instances to be able to write batches into Kafka
                topics,
272             # use a unique value for each Scheduler instance:
273             transactional.id: ${scheduler.id}
274     #consumers:
275         #response-consumer:
276 ---
277 mail:

```

```
278 # whether to send emails
279 enabled: false
280 window:
281   # whether to send emails when a Window succeeds:
282   success: false
283   # whether to send emails when a Window fails:
284   failure: true
285 # mandatory, must be set to be able to send emails and it
286 # must be a valid email address in the form localpart@domain, or sending will fail:
287 from: ${scheduler.id}@example.com
288 # whom to send those mails to (can be a comma separated list):
289 to:
290 cc:
291 bcc:
292 # text to include in the subject line, wrapped in []:
293 subject.id:
294 smtp:
295   host: localhost
296   port: 25
297   # leave empty for no authentication:
298   username:
299   password:
300   # SMTP, SMTPS or SMTP_TLS (SMTP with mandatory StartTLS):
301   transport: SMTP
302   # whether to allow SMTP without StartTLS:
303   smtp.plain: true
304   tls:
305     # whether to trust all SMTP server keys
306     trustall: false
307     # whether to verify SMTP server keys
308     verify: true
309 ---
310 liquibase:
311   datasources:
312     scheduler:
313       change-log: 'classpath:liquibase/scheduler/liquibase-changelog.xml'
314 ---
315 logger:
316   levels:
317     ROOT: INFO
318     com.openxchange: INFO
319     omf: INFO
320     omf.scheduler.admin.AuthenticationProviderUserPassword: WARN
321     org.apache.kafka.clients.consumer.ConsumerConfig: WARN
322 ---
```