

Salesforce Data Reporting Platform

Technical Documentation

Rev: 1.0

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Objectives

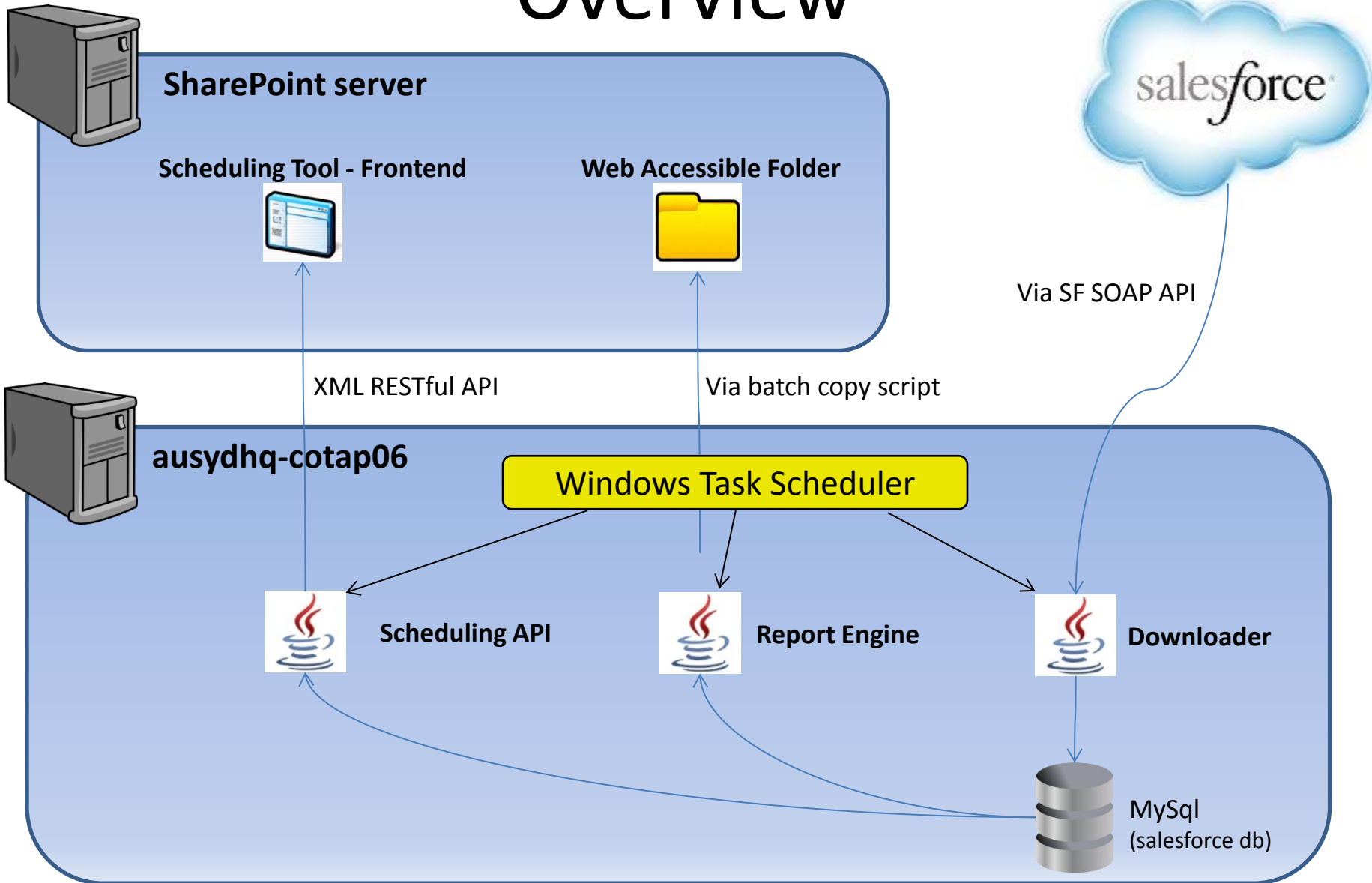
1. Reporting:

1. Provide advanced reporting of Salesforce data
2. Automate reports to be run at scheduled date/time
3. Publish reports to Global Business Portal for standardised access.

2. Scheduling Tool

1. Select auditor(s) best suited to perform a given audit in order to facilitate and streamline the scheduling team workload.
2. Auditor selection to be based on a list of “business rules”
3. The final objective is to define and fine-tune the mix of business rules that maximise scheduling and resource allocation efficiency
4. This is a temporary tool. Long term objective is implement the final business rules mix (as identified in 3) directly into Salesforce scheduling tool.

Overview



Downloader

Java executable (sf_downloader.jar) performing:

- Replicate salesforce data schema (standard + custom objects) into local database
- One Way Sync of data from Salesforce to local database
- Utilise Salesforce SOAP API to access Salesforce data (<http://www.salesforce.com/us/developer/docs/api/index.htm>)
- Configuration via .properties file passed as command line parameter. For details see slide: [Downloader - Configuration](#)

Report Engine

- Java executable (sf_report_engine.jar) performing:
 - Load a class implementing a ReportBuilder interface passed as parameter (-rb).
 - The class is responsible to create a JasperReportBuilder report (for details please refer to Jasper doc: <http://jasperreports.sourceforge.net/api/>)
 - The report is exported in a format as defined by a command line parameter (-rff). Available formats are xlsx, csv, pdf and jpg
 - The name (including possible sub-path) of the report file is included in the implementation of the interface ReportBuilder
 - The location of the report file is included in a property file passed as parameter
 - Configuration details in slide: [Report Engine - Configuration](#)

Scheduling API

- Java Web application providing:
 - XML Restful API:
 - GET <http://ausydhq-cotap06:8080/SchedulingApi/wi?name=<text-to-serach>> performs text search of parameter and returns list of matching work items
 - GET <http://ausydhq-cotap06:8080/SchedulingApi/wi?id=<workItem-id>> retrieves list of Auditors suitable for a work item passed as parameter based on predetermined business rules. The list is sorted by a score calculated by the business rules.
 - Current business rules include:
 - Resource Availability. The auditor has time available for the audit during the target month of the audit
 - Resource Capability. The auditor has the competencies (standards and codes) for the audit.
 - Distance to site
 - Resource Utilisation (adjust score based on f.y. utilisation of resource)
 - Reporting Business Unit vs. Revenue Ownership
 - Resource Cost (hourly rate for fte/contractor)
 - Travel cost (car/plane, accommodation, ec...)
 - Resource Location (Country/State)
 - Currently running on Apache Tomcat 8.0 application server (for details please refer to <http://tomcat.apache.org/tomcat-8.0-doc/index.html>)
 - Frontend GUI for the scheduling tool to be implemented on SharePoint server (still to be confirmed)
 - Configuration. Same as [Downloader module](#)

Current Status

- Downloader – Scheduled to run every 5 min from 6am to 6pm. Running hourly from 6pm to 6am
- Report Engine. Currently used for the following [reports](#).
- Scheduling API. In order to test the api, I temporarily included in the xml response a xsl stylesheet so that the browser displays the result in a human readable format. Currently, being tested phase by selected schedulers

Source Code

Java source code:

Project	Repository
Downloader	https://github.com/LucaContri/SAIG/tree/master/SFDownloader
Report Engine	https://github.com/LucaContri/SAIG/tree/master/SFReportEngine
Scheduling API	https://github.com/LucaContri/SAIG/tree/master/SchedulingApi
Core (project required by all above)	https://github.com/LucaContri/SAIG/tree/master/SFCore

Downloader - Configuration

Property file defined by command line parameter: -propertyFile
(default C:/SAI/properties/global.config.properties)

Salesforce credentials

SalesforceUser=luca.contri@assurance.com

SalesforcePassword=

SalesforceToken=

SalesforceEndpoint=https://na14.salesforce.com/services/Soap/u/28.0

Local db details

DbUser=root

DbPassword=

DbHost=localhost

DbSchema=salesforce

Parameters

CreateLocalTables=true #if true salesforce schema is replicated on local db

DropIfTableExists=false #drop table and recreate. Leave false, please.

PopulateDb=true #if true enabled objects will be sync'd

task.sfdownloader.enable=true #enable/disable execution

task.sfdownloader.error.disable=true #set task.sfdownloader.enable to false if error occurs

task.sfdownloader.error.email=true #email error report

Email properties

mail.transport.protocol=smtp

mail.smtp.starttls.enable=true

mail.smtp.host=smtp.gmail.com

mail.smtp.port=587

mail.smtp.auth=true

mail.smtp.user=saig.assurance.report@gmail.com

mail.smtp.from=Assurance Report

mail.smtp.password=

mail.smtp.log.error.to=luca.contri@saiglobal.com

Downloader – Configuration 2

Local table sf_tables

This is a local table that determines the objects to be sync'd.

Field	Description
Id	Primary Key
TableName	Salesforce object name
LastSyncDate	Timestamp of last successful download
ToSync	Flag to enable/disable sync for object
MinSecondsBetweenSyncs	Minimum time in seconds between syncs. If LastSyncDate + MinSecondsBetweenSyncs > now() -> the sync won't be performed for this object

To sync a new table execute:

```
UPDATE sf_tables SET ToSync=1 WHERE TableName='<object-name-here>'
```

Report Engine - Configuration

Property file

(default C:/SAI/properties/global.config.properties - this is the same file used by downloader)

Besides the properties already described in [Downloader - Configuration](#)

ReportFolder=E:\\Reports

task.sfrepoprtengine.enable=true

task.sfrepoprtengine.error.disable=true

task.sfrepoprtengine.error.email=true

Command line parameters:

-rb. Name of the ReportBuilder class to be use. Mandatory. (ex: -rb com.saiglobal.sf.reporting.processor.ContractorDaysActualReport)

-itin. Insert timestamp in file name . Default false. (usage: -itin true/false)

-sdth. Save report data to history table in local database Default false. (usage: -sdth true/false)

-propertyFile. Property file to be used. Default C:/SAI/properties/global.config.properties)

-rff. Report file type. Default Excel (usage: -rff xslx|csv|pdf|jpg)

Reports Descriptions

File	Description
Planning Days Report - Food.<YYYY.MM.DD.HH.mm.ss>.xlsx	Summary of Audit days by period (YYYY-MM) and status (Open, Scheduled, Scheduled-Offered, Confirmed, New Business)
Planning Days Report - MS.<YYYY.MM.DD.HH.mm.ss>.xlsx	
Planning Days Report.<YYYY.MM.DD.HH.mm.ss>.xlsx	
Resource Days Report - Details.<YYYY.MM.DD.HH.mm.ss>.xlsx	Details of Auditors days by Auditor & period. Also showing resource Utilization
Resource Days Report - Summary.<YYYY.MM.DD.HH.mm.ss>.xlsx	Summary of Auditors days by Auditor, period. Also showing resource Utilization
Resource Availability Report Crosstab.xlsx	Summary of Days Available by Auditor & Period in Crosstab format
Resource Availability Report Tabular.xlsx	Summary of Days Available by Auditor & Period in Tabular format
Work Items Demand Details -SA-NT.xlsx	Details of Work Item Supply by Reporting Business Unit, Period, Standards and Codes.
Work Items Demand Details-NSW-ACT.xlsx	
Work Items Demand Details-QLD.xlsx	
Work Items Demand Details-VIC-TAS.xlsx	
Work Items Demand Details-WA.xlsx	
Work Items Demand Summary -SA-NT.xlsx	Summary of Work Item Supply by Reporting Business Unit, Period, Standards and Codes. Also showing resource capacity for given standards & Codes
Work Items Demand Summary-NSW-ACT.xlsx	
Work Items Demand Summary- QLD.xlsx	
Work Items Demand Summary- VIC-TAS.xlsx	
Work Items Demand Summary-WA.xlsx	
Open Work Items Schedule Report.<YYYY.MM.DD.HH.mm.ss>.xlsx	Summary of Open Work Items with Resource matching competencies required and showing days available. Used for Scheduling.

Report Engine – Current Schedule

File	Frequency	Ready By	Estimated Size
\\AUSYDHQ-COTAP06\Reports2\Audit Days Overview\<YYYY-MM>\Planning Days Report - Food.<YYYY.MM.DD.HH.mm.ss>.xlsx	Weekly	Monday 7am	40k
\\AUSYDHQ-COTAP06\Reports2\Audit Days Overview\<YYYY-MM>\Planning Days Report - MS.<YYYY.MM.DD.HH.mm.ss>.xlsx	Weekly	Monday 7am	40k
\\AUSYDHQ-COTAP06\Reports2\Audit Days Overview\<YYYY-MM>\Planning Days Report.<YYYY.MM.DD.HH.mm.ss>.xlsx	Weekly	Monday 7am	40k
\\AUSYDHQ-COTAP06\Reports2\Resource Days Summary \<YYYY-MM>\Resource Days Report - Details.<YYYY.MM.DD.HH.mm.ss>.xlsx	Daily	8am	380k
\\AUSYDHQ-COTAP06\Reports2\Resource Days Summary \<YYYY-MM>\Resource Days Report - Summary.<YYYY.MM.DD.HH.mm.ss>.xlsx	Daily	8am	40k
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Resource Availability \Resource Availability Report Crosstab.xlsx	Daily	9am	40k
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Resource Availability \Resource Availability Report Tabular.xlsx	Daily	9am	700k
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Details -SA-NT.xlsx	Monthly	First Saturday 5pm	~7M
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Summary -SA-NT.xlsx	Monthly	First Sunday 5pm	~500k
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Details-NSW-ACT.xlsx	Monthly	First Saturday 5pm	~20+M
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Summary-NSW-ACT.xlsx	Monthly	First Sunday 5pm	~500k
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Details-QLD.xlsx	Monthly	First Saturday 5pm	~15M
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Summary- QLD.xlsx	Monthly	First Sunday 5pm	~500k
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Details-VIC-TAS.xlsx	Monthly	First Saturday 5pm	~20+M
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Summary- VIC-TAS.xlsx	Monthly	First Sunday 5pm	~500k
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Details-WA.xlsx	Monthly	First Saturday 5pm	~15M
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Demand Supply\Work Items Demand Summary-WA.xlsx	Monthly	First Sunday 5pm	~500k
\\AUSYDHQ-COTAP06\Reports2\Resource Planning\Schedule\Open Work Items Schedule Report.<YYYY.MM.DD.HH.mm.ss>.xlsx	Weekly	Friday 4am	100K