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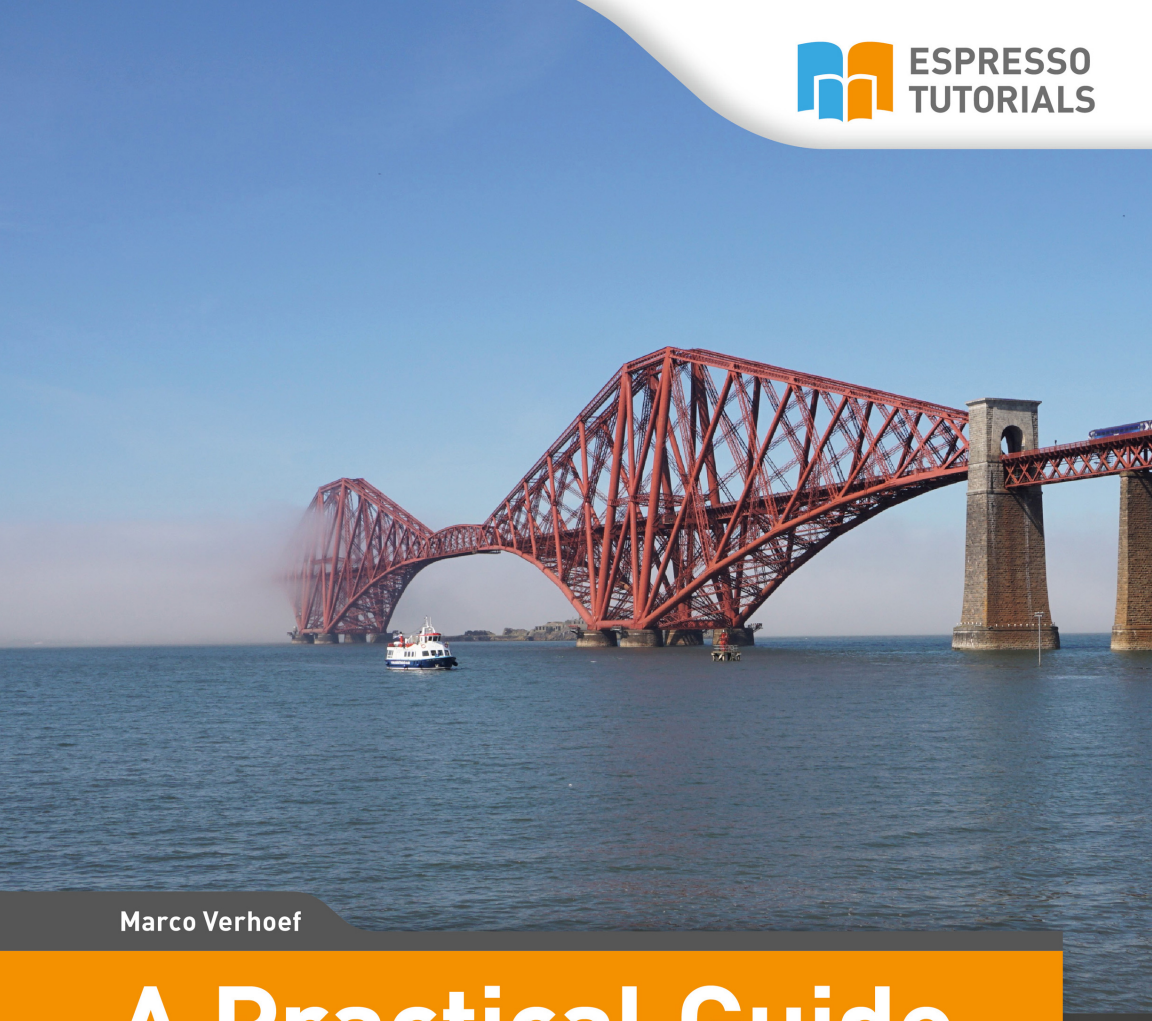

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A Practical Guide to the SAP® Cloud Connector

- Foundations of SAP Cloud Connector
- Basis activities including installation and configuration
- Developer activities including connection instructions
- Detailed inbound RFC example

Table of Contents

Preface **7**

1 Connecting systems **9**

2 Different roles **11**
2.1 SAP Basis consultants 11
2.2 Developers 14
2.3 Operators 14

3 Basis activities **17**
3.1 Installation 17
3.2 Configuration 30
3.3 Connectivity via reverse proxy 37
3.4 Upgrades 38
3.5 Configuration APIs (Application Programming Interfaces) 39
3.6 High availability and failover 52
3.7 Backup and restore 54
3.8 SAP Support information 56

4 Development **59**
4.1 Connect to on-premise 59
4.2 Connect to SAP Cloud Platform and S/4HANA Cloud 68
4.3 ABAP environment 71
4.4 Protocols connecting to on-premise 72
4.5 Use of email 78
4.6 Mapping and resources 92
4.7 Knowledge and examples 97

5 Operations **111**
5.1 Alerting 111
5.2 Monitoring 117
5.3 Audit 134
5.4 Logging and tracing 137
5.5 RFC inbound SAP example 147

6 The future **161**
6.1 SAP Cloud Platform on-premise 161

7 References **162**

A The Author **163**

B List of actions **164**

C Index **166**

D Disclaimer **168**

2 Different roles

The SAP Cloud Connector is used by different user groups. As an organization's IT setup grows, especially the SAP setup, more and more people need the SAP Cloud Connector in their daily activities. This is when a formal setup is needed. Roles, access, responsibilities, etc. have to be defined in order to achieve a smooth-running system where everybody can do their work in a secure, effective and efficient manner.

Once a decision has been made to implement an SAP Cloud Connector, careful planning is then required. This planning should not stand alone, and needs to relate to IT projects that are going to use this functionality.

System preparation and the actual installation itself are the responsibility of SAP Basis consultants. Prior to this activity, the Basis consultants need to obtain information on upcoming projects and identify the best solutions, while keeping the various developers and operators in mind.

2.1 SAP Basis consultants

The SAP Basis consultants' main objectives are:

- Planning and architecture
- Installation according to requirements
- Maintenance of the running system
- Keeping the solution in line with the company's vision

2.1.1 Planning and architecture

The Basis consultant has to work with the architect to determine if any SAP Cloud connector(s) are required in the system landscape. The first priority, and the main reason why the SAP Cloud Connector is installed, is security. From a security perspective, placing the server within the DMZ (demilitarized zone) is the best solution. Another option is to install the server in the internal network, where the SAP Cloud Connector resides in the same space as the back-end system. This approach is more flexible with respect to firewall traffic rules. In addition to security, other important activities include choosing a partner, working out an SLA (service-level agreement),

and making both the initial costs and maintenance costs transparent. An initial calculation has to be made in order to choose the right hardware and operating system.

2.1.2 Actual installation

Once the choice has been made to install an SAP Cloud Connector (or several), a formal project needs to be established. The installation involves many complex activities performed by different teams, which are often from different companies.

The main teams involved are:

- System integrator
- SAP Basis
- Cloud provider
- SAP development
- SAP operations
- (Internal) Customer with whom interfacing is done
- Security department
- Architect
- Budgeting

One part of this project is performance testing. As good practice, some real-world interfaces need to be built as a proof of concept. While this can increase time and costs for the project, it is efficient and effective to perform these activities within the project. If this work is not done as part of the project, then rework will have to be done, which is often very costly.

The Basis team needs to set up an authorization matrix, determining who can have admin rights on the SAP Cloud Connector and on the underlying operation system. Ideally the admin roles for the SAP Cloud Connector and the operation system should not be assigned to the same person. Audit logs should be write-protected.

2.1.3 Performance tuning and general maintenance

Once the systems are up and running, the Basis consultant has to periodically monitor performance, the cleanup of files, etc. Alerts, once set up, no-

tify of any issues with different priorities, and these will have to be handled by the consultant.

2.1.4 Upgrade and planned architecture

With dynamic environments, projects with new functionalities come and go; this more or less the standard these days.

Consider, for example, when a mobile development is introduced, as shown in Figure 2.1. Not only do the SAP Mobile related toolsets have to be installed, but the following are also required:

- SAP Cloud Platform SDK (software development kit) for iOS or Android
- Mobile Development Kit
- SAP Mobile Cards

Within such a project, the related components also have to be analyzed and changed accordingly.

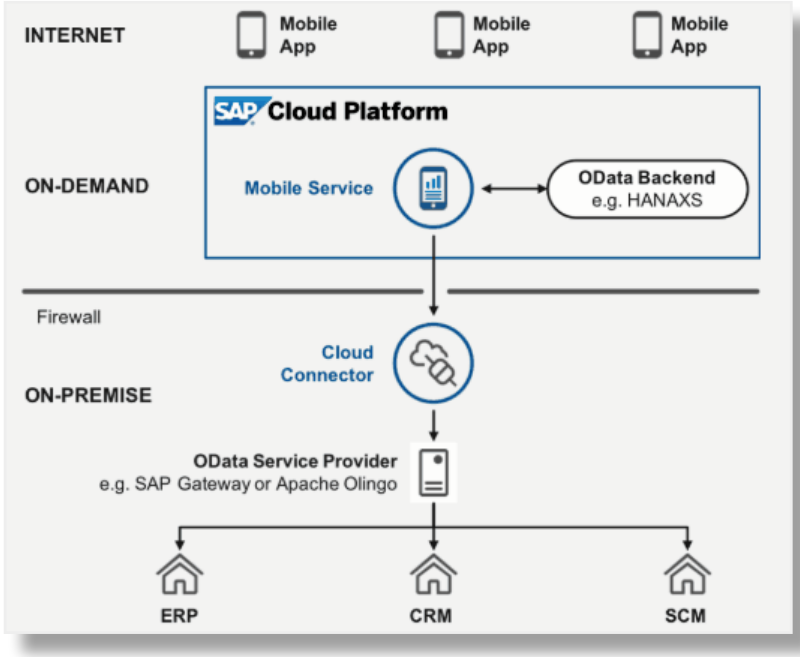

Figure 2.1: Additional functionality affects the SAP Cloud Connector

2.2 Developers

Developers are involved when the actual project starts (ideally within the installation project). It is always good practice to plan some proof of concept interfaces that cover the main techniques and systems that are going to be used. Authorizations should be in place, such as for SAP Cloud Platform, member and service dependent authorizations, and setup of OAuth and trust. Furthermore authorizations for the SAP Cloud Connector itself, as well as the Source and Target systems should be in place.

2.2.1 Proof of concept

When defining which interfaces to implement, there are important aspects to consider:

- Direction—is the technique inbound or outbound to/from SAP?
- Protocol—how often are the different protocols used?
- Priority/value—what interface has the most importance to the business?
- Complexity—how many systems are in the end-to-end interface?

2.2.2 User access

For interface development, service users for the different back-ends have to setup. For UI development, principle propagation have to be setup.

2.2.3 Transport mechanism and failover

Depending on the number of interfaces, the mechanisms for transport and failover can also be set up. Note that this also involves a significant amount of governance.

2.3 Operators

There are many daily operations that are required to keep the system's interfaces running smoothly, both functionally and technically.

2.3.1 Performance

Performance issues can arise within the SAP Cloud Connector and in connected systems. Often, when new projects are initiated using new UI or interface components, the sizing has to be recalculated. It is important that the load used for acceptance test on the SAP Cloud Connector is similar to the load on the production system, and that they have the same server characteristics. Regarding sizing, the CPU load is the main statistic to be monitored. It is also important to look at the statistics page where the requests are bundled in access time groups.

Connected systems can also influence the message processing speed; for example, when an upgrade is running or when many users and interfaces are running many sessions at the same time.

There are many solutions to deal with these issues, including:

- Load balancing— for example, use a fallback server temporarily
- Sizing—install a server with more CPUs
- Timing—manage time slots for (batch) interfacing and other activities that you can schedule
- Audit

Audit logs enables operators to understand what changes have been made at the configuration level. Some logs might raise questions and have to be reviewed with the authorized users(s).

2.3.2 Error analysis

Errors are communicated to the operator in different ways:

- SAP Cloud Connector alerts
- Emails from the business and IT
- SAP Cloud Platform services, e. g. CPI

When an error occurs, an operator is able to see where a message got stuck and what the reason might be.

C Index

A

ABAP 28, 31, 61, 71
API REST 123
Ariba 18

B

Backup 45, 55
BAPI 70, 76, 98
Best-of-breed 9
Best-of-suite 9

C

CDS 101
Cloud Foundry 60, 62
Cloud to On-Premise 25
CPU load 15, 113, 116

D

Developers 14, 59
DMZ 11, 21, 37
DTAP 102

E

Externalize 96

F

Focused Run for SAP Solution Manager 129

H

HANA databases 68
HTTP 25, 33, 34, 72, 136
HTTPS 28, 29, 34, 36, 72

I

IDOC 98
IMAP 86
IMAP4 86
IMAPS 78
Installation 20

J

JDBC 70
JNDI 73
JSON 109

L

LDAP 22, 26, 43, 44, 73
Location ID 95

N

Neo 59, 62
NEO 60

O

OData 98, 100
ODBC 70

P

POP3 86
POP3S 78
Principal propagation 28
Protocol 14

R

REST 98, 101
REST API 39
RFC 25, 28, 31, 38, 68, 75, 148

S

S/4HANA Cloud 68
SALE 130
SAP Basis 11
SAP Basis consultant 17
SAP Cloud Platform 150, 161
SAP Cloud Platform Cockpit 118
SAP Cloud Platform Integration 127, 150
SAP HANA database 17
SAP HANA Enterprise Cloud 17
SAP S/4HANA Cloud 17
SAP Solution Manager 129
Service channel 52
Service Channel 70
Service Channels 68
SFTP 77
SICF 93, 130
SLA 11
SMICM 130
SMTP 84, 114
SMTPS 78, 86
SNC 25, 31, 76
SOAMANAGER 92, 94, 130
SOAP 98
STARTTLS 84, 87
SuccessFactors 18
SXMB_ADMIN 130

T

TCP 77
TLS 37

U

User Interface 18

X

X-CSRF-Token 39