

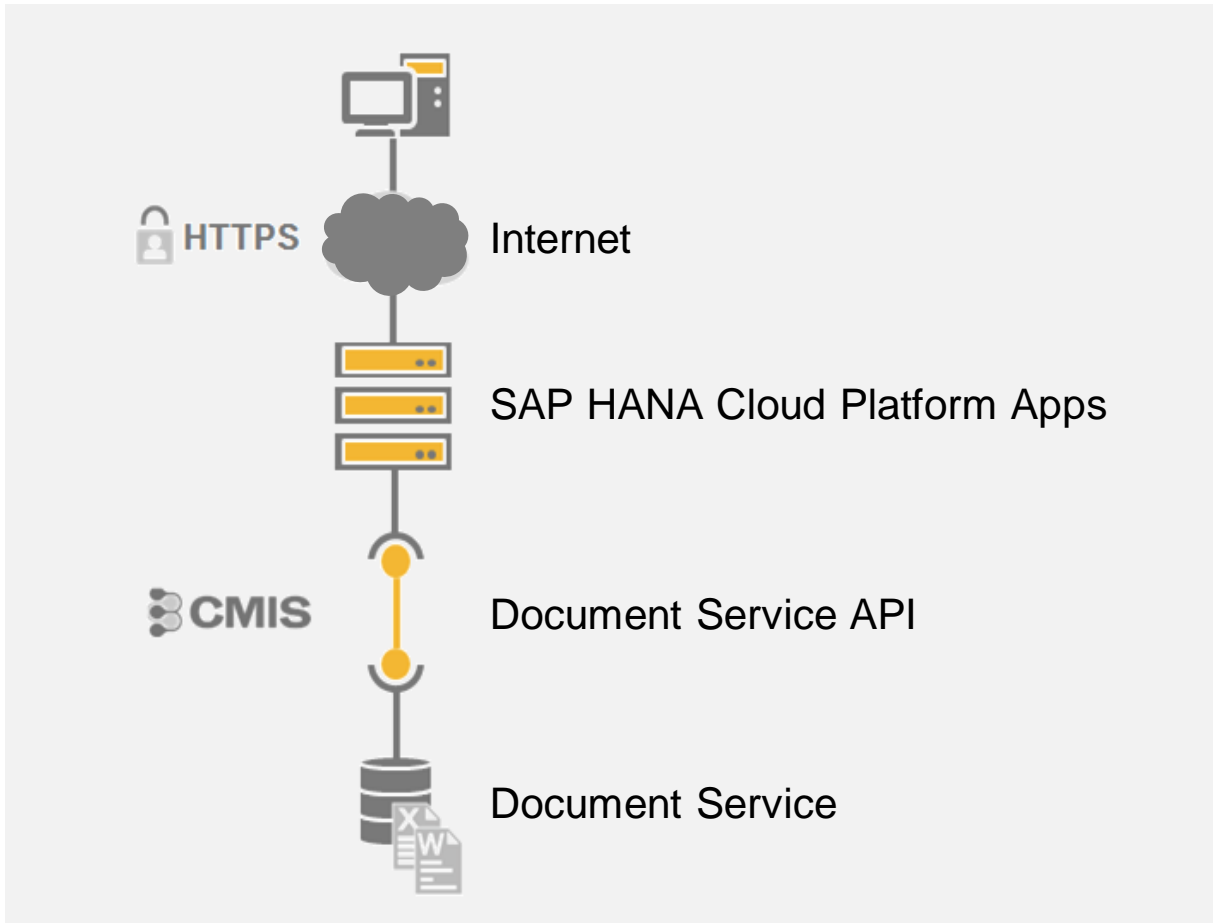
Week 4 Unit 3:

Document Service – Theory

Document Service – Theory

Overview

- Manages files and folders in the cloud
- Central shared service
- Open standards-based: CMIS
- Easy to consume
- Scalable
- High availability setup
- Secure
- Multitenancy-enabled



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Supported features



CMIS defined features

- Files & folders
- Metadata (types & properties)
- Queries via CMISQL
- Versioning
- Permission handling (ACL)
- Retention management



Additional features

- AES encryption of content
- Virus scan on upload
- Multitenancy support
- Repository lifecycle
- Backups to multiple locations

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Use cases

- Applications that need document management features like versioning, hierarchies, metadata, etc.
- Applications with a high amount of large binary objects (which would otherwise not fit into a relational DB)
- **Example apps using the document service:**
 - SAP Mobile Documents
 - <https://tools.hana.ondemand.com>
 - SAP SuccessFactors Media Service
 - SAP HANA Cloud Platform, portal service

Document Service – Theory

How to connect

- Document service implements CMIS (JSON & AtomPub bindings)
- Apache OpenCMIS client libraries automatically provisioned on all HCP Java runtimes
- Libraries automatically configured with document service endpoint and your account name as authentication means
- Initial service lookup either by JNDI (EcmService) or static class (EcmFactory):
 - JNDI: `(EcmService) new InitialContext().lookup("java:comp/env/EcmService");`
 - Static: e.g. `EcmFactory.connect(...)`
- Connection always from HCP VM. Connection from external requires setup of the ProxyBridge

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Sample code – Creating & connecting

Create a new repository

```
RepositoryOptions options = new RepositoryOptions();
options.setUniqueName("com.foo.MyRepository");
options.setRepositoryKey("my_super_secret_key_123"); // (min. 10 chars)
options.setVisibility(Visibility.PROTECTED);
InitialContext ctx = new InitialContext();
EcmService ecmService = (EcmService) ctx.lookup("java:comp/env/EcmService");
ecmService.createRepository(options);
```

Connect & fetch the root folder

```
openCmisSession = ecmService.connect("com.foo.MyRepository", "my_super_secret_key_123");
Folder root = openCmisSession.getRootFolder();
```

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Sample code – Listing & uploading

Get all children of root folder

```
ItemIterable<CmisObject> children = root.getChildren();  
for (CmisObject o : children) { ... }
```

Create a new document

```
// define mandatory properties  
Map<String, Object> properties = new HashMap<String, Object>();  
properties.put(PropertyIds.OBJECT_TYPE_ID, "cmis:document");  
properties.put(PropertyIds.NAME, "HelloWorld.txt");  
// define the content  
byte[] helloContent = "Hello World!".getBytes("UTF-8");  
InputStream stream = new ByteArrayInputStream(helloContent);  
ContentStream contentStream = openCmisSession.getObjectFactory().createContentStream("HelloWorld.txt",  
helloContent.length, "text/plain; charset=UTF-8", stream);  
// create the document below the root node  
root.createDocument(properties, contentStream, VersioningState.NONE);
```


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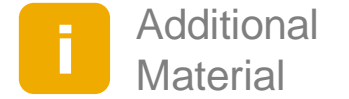
What you've learned in this unit

- Basic architecture overview
- Supported features
- When to use the document service
- How to connect to the document service
- Code snippets for basic tasks



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Further reading



- **SCN blog post:**

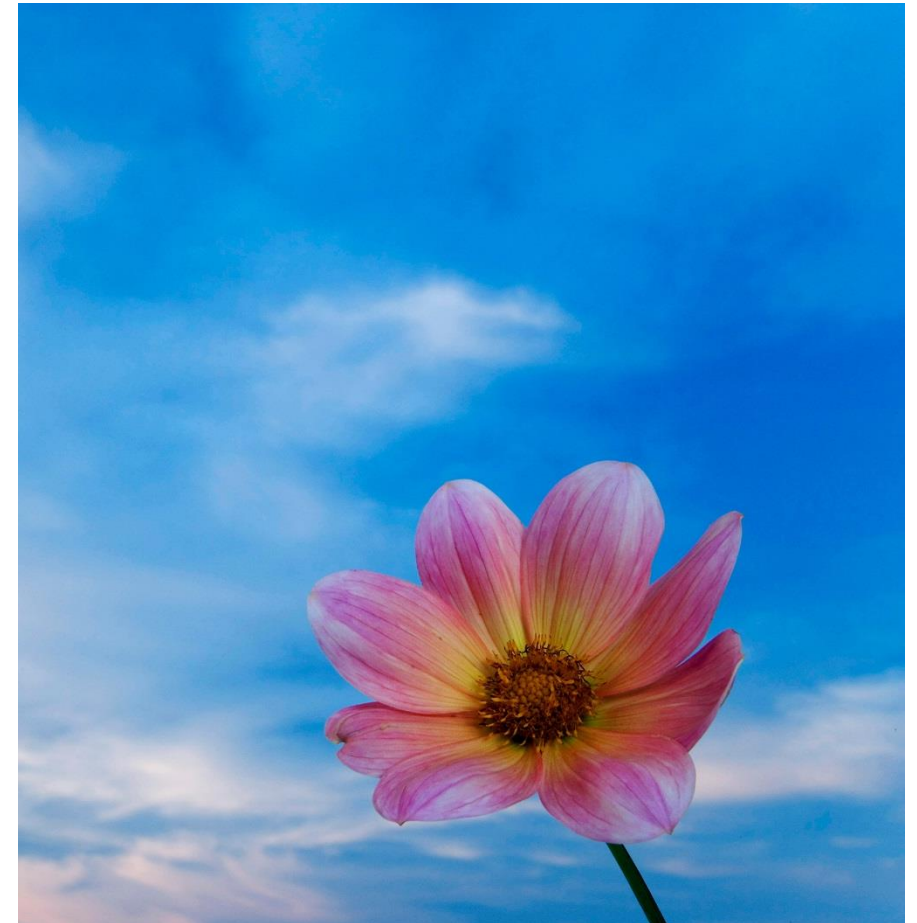
<http://scn.sap.com/community/developer-center/cloud-platform/blog/2013/02/28/coming-next-on-devtalks-document-service-on-sap-netweaver-cloud-and-the-borg>

- **Official documentation:**

<https://help.hana.ondemand.com/help/frameset.htm?e60b7e45bb57101487a881c7c5487778.html>

- **HelloWorld app:**

<https://help.hana.ondemand.com/help/frameset.htm?e62cd24abb571014b73792d85402f104.html>





Thank you

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