Common questions	Answers
What is required to install and run Safyr?	The Microsoft Windows PC on which Safyr is to be installed should have the following: • A minimum of 8 Gigabytes of RAM • 100 Megabytes of hard disk space for the Safyr Software • Disk space of about 2GB for each Metadata Repository (each repository stores the metadata from 1 instance of a source system) • The appropriate client connectivity software (e.g., Oracle Net) for connection to the Safyr Repository database and (unless ABAP extraction is to be used for SAP) the Enterprise Application database. • FOR SAP: If Safyr is to be used with SAP or SAP BW and the user wants to have control of running the extraction of metadata from the SAP system, the SAP GUI client software needs to be installed on the PC, if the metadata is to be extracted from SAP via RFC/ABAP. (Note: The ABAP functions provided with Safyr can be run independently of the product. In this case, SAP GUI would not be required on the PC.)
What is a Safyr Repository and how much disk space is required?	Metadata extracted from a single instance of a source application is used to populate a Safyr Repository. This contains a set of tables in a relational database where the various extracted objects (e.g., tables, relationships, indexes…) are stored. The size of the repository will depend to some extent on the size of the source application. Therefore, an SAP S/4HANA or ECC source will require about 2GB of space. The other sources will need less.
What databases can Safyr repositories be stored in?	Safyr repositories can be stored in: • SQLite (ships with Safyr at no cost. Single user only) • Oracle • SQLServer

What version of the source applications does Safyr support?	• SAP Versions: 3.1, ECC and above (see list of modules below) including SAP S/4HANA • SAP MDG • SAP BW: 2.0 and above including SAP BW/4HANA • SAP SuccessFactors • Oracle eBusiness Suite: 11 and above. • Siebel Versions: 6.5 and above • J. D. Edwards EnterpriseOne Versions: Xe and above • PeopleSoft Versions: Enterprise 8.0 and above • Salesforce and Force based applications • Microsoft Dynamics 365 PLEASE NOTE: Safyr extracts metadata from the Microsoft Dataverse. As of January 2021, Dynamics 365 Finance & Operations does not store metadata in the Dataverse • Microsoft Dynamics AX 2012 • Microsoft Dynamics CRM
Where is the metadata in the applications Safyr supports and what is the mechanism Safyr uses for connection and extraction?	

Source application	Location of useful metadata	Connectivity and extraction method
SAP (ECC, S/4HANA)	Data dictionary tables	SAP Transport ABAP
SAP BW, SAP BW4/HANA	Data dictionary tables	SAP Transport ABAP
SAP SuccessFactors	Data dictionary tables	ODATA
Oracle eBusiness Suite	Data dictionary tables	ODBC
Siebel	Data dictionary tables	ODBC
JD Edwards	Data dictionary tables	ODBC & XML files from JDE
PeopleSoft	Data dictionary tables	ODBC
Salesforce	Data dictionary tables	API
Microsoft Dynamics 365	Dataverse (CDS)	API
Microsoft Dynamics AX	Data dictionary tables	API
Microsoft Dynamics CRM	Data dictionary tables	ODBC

<table>
<tr><td>How does Safyr connect and extract metadata from SAP?</td><td>The preferred process for connecting to SAP applications (SAP ECC (Business Suite), S/4HANA, SAP MDG, SAP BW, SAP BW/4HANA) and extracting their metadata is as follows:
Install the Silwood supplied SAP Transport(s) on the target SAP system(s). These contain the ABAP programs needed for accessing and extracting SAP metadata.
Install Safyr on a Windows PC which also has the SAP GUI installed. Use the Safyr connection wizard to an RFC program which initiates the ABAP and extracts the metadata from the SAP Data Dictionary tables into a Safyr Repository.
NOTE: Silwood’s SAP Transports are certified by SAP
For SAP SuccessFactors, Safyr uses an XML file of ODATA definitions produced by the customer to load the metadata into a Safyr repository</td></tr>
<tr><td>What SAP ECC modules does Safyr support?</td><td>
<table>
<tr><th>Functional Modules</th><th>Industry specific modules (SAP IS)</th><th>Technical modules</th></tr>
<tr><td>SAP APO module</td><td>SAP IS Aerospace & Defense</td><td>SAP ABAP module</td></tr>
<tr><td>SAP CO module</td><td>SAP IS Automotive</td><td>SAP Basis module</td></tr>
<tr><td>SAP CRM module</td><td>SAP IS Banking</td><td>SAP BI module</td></tr>
<tr><td>SAP CS module</td><td>SAP IS Chemicals</td><td>SAP BPC module</td></tr>
<tr><td>SAP EC module</td><td>SAP IS Consumer Products</td><td>SAP BODI module</td></tr>
<tr><td>SAP EHS module</td><td>SAP IS Defense & Security</td><td>SAP EP module</td></tr>
<tr><td>SAP EWM module</td><td>SAP IS Engineering, Construction, & Operations</td><td>SAP GRC module</td></tr>
<tr><td>SAP FI module</td><td>SAP IS Healthcare</td><td>SAP MDM module</td></tr>
<tr><td>SAP FM module</td><td>SAP IS Higher Education & Research</td><td>SAP Netweaver module</td></tr>
<tr><td>SAP FSCM module</td><td>SAP IS High Tech</td><td>SAP Security module</td></tr>
<tr><td>SAP HR module:</td><td>SAP IS Industrial Machinery and Components</td><td>SAP Solution Manager module</td></tr>
<tr><td>SAP IM module</td><td>SAP IS Insurance</td><td>SAP XI module</td></tr>
<tr><td>SAP MM module:</td><td>SAP IS Life Sciences</td><td>SAP PI module</td></tr>
<tr><td>SAP PLM module</td><td>SAP IS Media</td><td></td></tr>
<tr><td>SAP PM module</td><td>SAP IS Mill Products</td><td></td></tr>
<tr><td>SAP PP module</td><td>SAP IS Mining</td><td></td></tr>
<tr><td>SAP PS module</td><td>SAP IS Oil & Gas</td><td></td></tr>
<tr><td>SAP QM module:</td><td>SAP IS Professional Services</td><td></td></tr>
<tr><td>SAP RE module</td><td>SAP IS Pharma</td><td></td></tr>
<tr><td>SAP SCM module</td><td>SAP IS Public Sector</td><td></td></tr>
<tr><td>SAP SD module</td><td>SAP IS Retail</td><td></td></tr>
<tr><td>SAP SEM module</td><td>SAP IS Telecommunications</td><td></td></tr>
<tr><td>SAP SM module</td><td>SAP IS Transportation & Logistics</td><td></td></tr>
<tr><td>SAP TR module:</td><td>SAP IS Utilities</td><td></td></tr>
</table>
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<table>
<tr><td></td><td>
<table>
<tr><td>SAP WM module</td><td>SAP IS Wholesale Distribution</td><td></td></tr>
<tr><td>SAP LO module</td><td></td><td></td></tr>
</table>
Notes:

Safyr for SAP supports SAP applications from SAP 3.1 and above
If you are asked about a module not included in the table above, please refer the question to us.
Technical modules - please note the metadata extracted from these modules is restricted to data structures not process information.

</td></tr>
<tr><td>Which version of SAP S/4HANA does Safyr support?</td><td>Safyr supports all versions of SAP S/4HANA</td></tr>
<tr><td>Which SAP BW products does Safyr support?</td><td>Safyr supports the following:

SAP BW Classic
SAP BW on HANA
SAP BW/4HANA

</td></tr>
<tr><td>What metadata does Safyr extract from SAP BW?</td><td>
<table>
<tr><th>BW OBJECTS EXTRACTED BY SAFYR</th><th>SAP BW CLASSIC</th><th>SAP BW ON HANA</th><th>SAP BW/4HANA</th></tr>
<tr><td>InfoObjects</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>InfoCubes (&Multiproviders)</td><td>Yes</td><td>Yes</td><td>Not applicable</td></tr>
<tr><td>DSO’s</td><td>Yes</td><td>Yes</td><td>Not applicable</td></tr>
<tr><td>DataSources</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>InfoSources</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>OpenHub Destinations</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>Aggregation Levels</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>BW Queries</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>ADSO’s</td><td>Not applicable</td><td>Yes</td><td>Yes</td></tr>
<tr><td>OpenODS Views</td><td>Not applicable</td><td>Yes</td><td>Yes</td></tr>
<tr><td>HANA Composite Providers</td><td>Not applicable</td><td>Yes</td><td>Yes</td></tr>
<tr><td>HANA Calculation Views</td><td>Not applicable</td><td>Yes</td><td>Yes</td></tr>
</table>
</td></tr>
</table>

How does Safyr connect and extract metadata from Salesforce?	Safyr extracts the metadata from Salesforce using the Salesforce Enterprise WSDL API. Details of how to connect to the Salesforce system are required in order to make the connection and extract the metadata when using the Safyr connection wizard.
How does Safyr connect and extract metadata from SAP SuccessFactors	Safyr uses an XML file containing ODATA definitions of SuccessFactors data structures to populate the repository. This file is generated from the SuccessFactors system before the extraction of metadata into Safyr.
How does Safyr connect and extract metadata from Microsoft Dynamics 365 (Microsoft Dataverse)	Safyr uses a third-party solution that utilises an API connection to the Microsoft Dataverse to extract the metadata. This metadata is automatically stored in a staging area before being loaded into a Safyr repository. Dataverse stores both the metadata and data for Dynamics 365 CE and PowerApps based applications in the cloud. It does not store the metadata from Dynamics 365 F&O
How does Safyr connect and extract metadata from Microsoft Dynamics AX 2012?	To use Microsoft Dynamics AX metadata in Safyr it is necessary to configure a connection to the Dynamics AX system where the required metadata is stored. Safyr extracts the metadata from a Dynamics using the Dynamics AX Metadata Service API. In order to connect to the AX Server, the Windows user for the workstation where Safyr is installed needs to be known to the AX Server Active Directory, and .NET framework 4.0 or higher needs to installed on the workstation.
How does Safyr connect and extract metadata from Microsoft Dynamics CRM?	If the source is an on-premise Dynamics CRM system, then it is necessary to configure a connection to the application database in order to extract its metadata from the data dictionary tables. This is achieved using Microsoft ADO (ActiveX Data Objects). Appropriate security access to the database is required.
How does Safyr connect and extract metadata from JD Edwards?	Extracting metadata from JD Edwards requires an extra step compared to the methods used for other Oracle applications. This is because of the way the JD Edwards metadata is located and structured.

	It is necessary to configure a connection to the EnterpriseOne database where the required metadata is stored. Safyr extracts the metadata from a small set of tables in this database and a group of XML files that are generated by a process in the EnterpriseOne application. These files must be generated before attempting the extraction of metadata from the EnterpriseOne system. The connection to the JD Edwards EnterpriseOne database is achieved using Microsoft ADO (ActiveX Data Objects).
How does Safyr connect and extract metadata from Siebel	If the metadata source application is Siebel, then it is necessary to configure a connection to the application database in order to extract its metadata from the data dictionary tables. This is achieved using Microsoft ADO (ActiveX Data Objects). Appropriate security access to the database is required.
How does Safyr connect and extract metadata from Oracle eBusiness Suite?	If the source is Oracle eBusiness Suite it is necessary to configure a connection to the application database in order to extract its metadata from the data dictionary tables. This is achieved using Microsoft ADO (ActiveX Data Objects). Appropriate security access to the database is required.
How does Safyr connect and extract metadata from PeopleSoft?	If the source application is a PeopleSoft system it is necessary to configure a connection to the PeopleSoft application database data dictionary tables where the required metadata is stored. This is achieved using Microsoft ADO (ActiveX Data Objects). Appropriate security access to the database is required.
Is it possible to automate Safyr processes?	Safyr can be configured to perform many of the day-to-day tasks required of the product without the user having to be present and (if desired) as a scheduled process. Three types of Tasks can be automated: 1. Extraction of metadata from the source application (SAP, Salesforce, PeopleSoft…) 2. Creation and Expansion of Subject Areas 3. Export of Subject Areas (not all export formats supported) More information is available here

What metadata does Safyr extract and discover from Source applications?	Safyr extracts: • Custom objects (Tables, fields etc). • Programs and components (SAP only) • Technical names for database tables and fields (attributes) • Descriptive names for database tables and fields (attributes) • Long descriptions for tables and fields (where available) • Table and field information • Views (where available) • Table row count (where available) • Names in multiple languages (Only supported by SAP) Safyr discovers: • Primary and Foreign Keys • Table relationships • Application module hierarchy (where available)
How does Safyr create application hierarchies from extracted metadata?	The Application Hierarchies shown in Safyr will vary depending on the Application Type. In each case, the Hierarchy is based upon the metadata extracted and is never a 'pre-configured' structure delivered by Silwood.
What is a Safyr Subject Area and how do I create them?	A Safyr Subject Area is any user defined collection of tables from an instance of the source application. This grouping usually contains some or all of the related tables. A Subject Area can contain as many tables as needed for the project which is being worked on. It is common for a Subject Area to contain the tables and related tables which relate to a specific business concept or artefact. For example, Customer Master, Account, Product Master, Bill of Materials, Accounts Payable etc. In addition, Safyr can be used to group together tables and attributes which represent Personal or PII data and are useful in the context of meeting CCPA, GDPR and other regulatory requirements. Finally, Subject Areas can be reused between different instances of the same application course. This makes it possible to compare complete or partial instances of a source application.

	Safyr Subject Areas are used to populate or provision other products and tools with metadata via Safyr's Subject Area Export facilities.
How can Safyr be used to find Personal Data or PII for UK Data Protection Act, GDPR or CCPA?	Safyr's Advanced functions can be used to search for Attributes (Columns) in Tables which contain the text strings which are relevant for Personal Data Discovery for GDPR, CCPA and other regulatory regimes. The results show which table or tables hold those Personal Data attributes. Results can be saved as Safyr Subject Areas and exported to other tools and in other formats. It is also possible to combine all the Personal Data Subject Areas into a single consolidated Subject Area. Silwood also provide some pre-configured GDPR/CCPA Subject Areas.
What are the Safyr export formats?	Safyr Subject Areas can be exported to: • Safyr's ER Diagrammer • Safyr Metadata Reporting (Microsoft Excel format) • Safyr Compare (Compares whole or partial sets of metadata from two instances of the same source application) • Safyr JSON (Premium Export) (used by Alation, Solidatus, Zeenea and other data catalog vendors • Comma Separated Variable (CSV) • Extensible Mark-up Language (XML) • Collibra DGC (Premium Export) • Informatica EDC (Premium Export) • Erwin Data Modeler • ER/Studio • SAP PowerDesigner • IBM Infosphere Data Architect • System Architect
What are the advantages of using Safyr's export to JSON format?	Safyr's JSON export formats have two main advantages: 1. Supports the loading of larger quantities of metadata (e.g., thousands of tables and attributes or even complete SAP BW systems) very quickly.

	2. To provision the internal connectivity or data lineage between SAP BW objects into a data catalog, lineage or other application.
Is it possible to run Safyr in the Cloud?	Safyr needs to be installed in a Microsoft Windows environment. Normally this is a physical PC, but could equally be a Virtual Machine or a Citrix environment.
How is Safyr configured for multiple users?	To achieve this, we recommend that Safyr should be implemented in client / server configuration. This means that the RDBMS which will store the Safyr repositories should be installed on a separate server to which each Safyr user has a connection. Safyr needs a separate database or schema for each set of metadata to be stored. Each database will require a database user to be specified who must also be the Table Owner for the database. Each Safyr user wishing to share the metadata in a Safyr repository must specify the same database (or schema) and database user when defining a new Safyr repository within their local Safyr environment. Both Safyr Extractor/Browser licences and Safyr Browser only licences can access the Safyr repositories if required.
How long does it take to extract metadata from application sources?	This depends on two main factors. Firstly, the number of tables and attributes that are contained in the source application. Secondly the speed of the network across which the metadata is to be transferred. Under normal circumstances Silwood anticipate that it will take between 60 and 90 minutes to populate a Safyr repository with the metadata from an SAP system. A Salesforce application would be much quicker, perhaps 5 to 10 minutes only.
Do Silwood offer a Safyr training course?	Silwood offer two training courses for Safyr. These are usually delivered over the internet using web conferencing facilities. 1. **Fast track Safyr training – up to 2 delegates** This is a ½ day course designed to enable end users who do not need to know how to install and connect to source applications to get to know Safyr's browsing and export capabilities. **2. Web based training (Safyr) for up to 8 delegates** This is a one-day course normally delivered over 2 or 3 discreet sessions. It includes topics such as:

	a. Product installation **b.** Creating database schema for Safyr repositories **c.** Connecting to the application source(s) **d.** Extracting metadata **e.** Repository management **f.** Use of Safyr for metadata exploration, sub setting and export
What other technical or staff resources might to implement Safyr?	Most of the work to implement Safyr can be done by the end user (usually a data architect, analyst, scientist or modeler). It may be necessary to have some technical assistance with setting up a database server for the Safyr repositories or gaining access rights to the data dictionary tables in the source application. For SAP source applications it is common for the SAP BASIS team to install the Silwood Safyr SAP Transports. This is not a challenging or time-consuming task, it is merely something over which the SAP team often prefers to maintain control. All Safyr User documentation is available here

For more information:

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