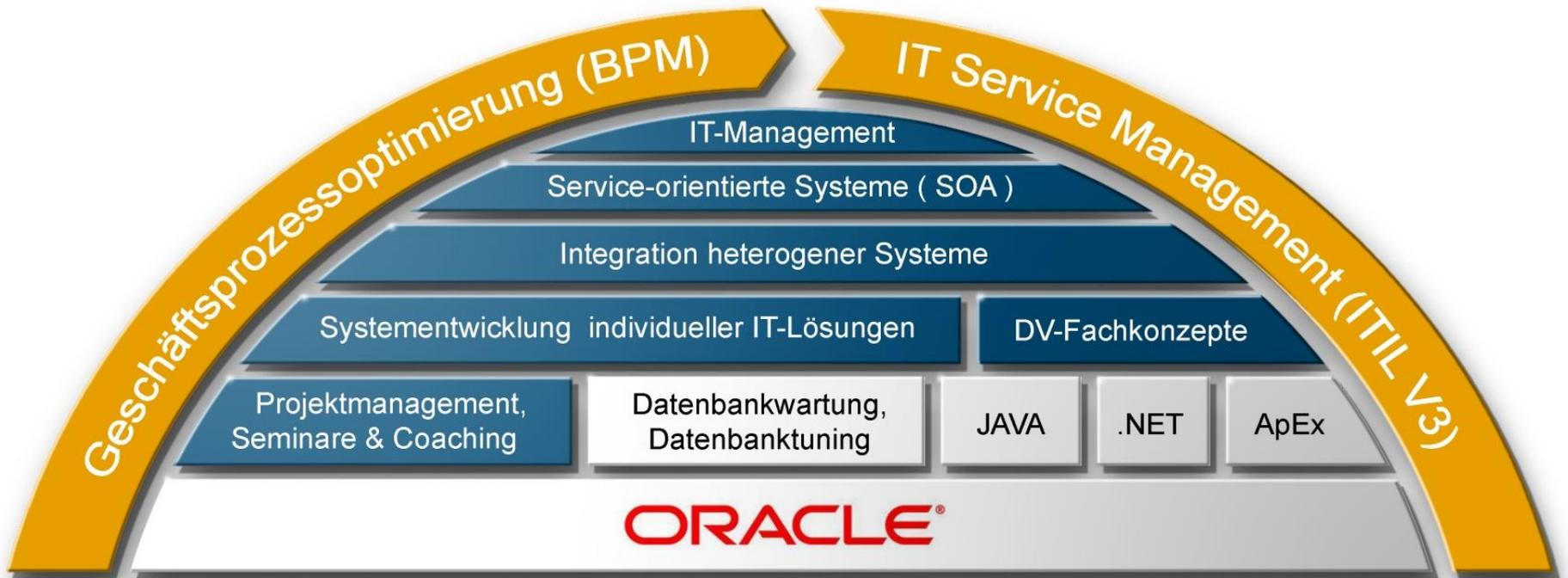


Reports erstellen mit Eclipse BIRT

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Bad Liebenzell • Karlsruhe • Neustadt / W. • Eningen

■ Überblick über BIRT

■ BIRT technisch

■ Demo

■ Stärken und Schwächen

■ BIRT vs. Oracle Reports / BI Publisher / Jasper Reports

■ Zusammenfassung

Warum kein Oracle-Tool

Warum denn nicht

- Oracle Reports
- Oracle BI Publisher



- Business Intelligence and Reporting Tool
- Top-Level Softwareprojekt innerhalb der Eclipse Foundation
- Aktuelle Version: 4.3.1
- Komponenten von BIRT:
 - ◆ Report Design Engine
 - Grafischer Berichtseditor als Plugin für Eclipse
 - RCP-Designer für Windows
 - ◆ Report Engine
 - ◆ Charting Engine

- Voraussetzungen für die **Entwicklung** von Reports
 - ◆ Java \geq 1.6 JDK / JRE
 - ◆ Betriebssystem: Linux / Unix / Windows / Max OS
 - ◆ BIRT Eclipse Plugins (Framework)
 - ◆ Standalone Designer (Windows)

■ Voraussetzungen für die Laufzeitumgebung

- ◆ Java \geq 1.6 JDK / JRE

- ◆ Tomcat

- ◆ JBoss

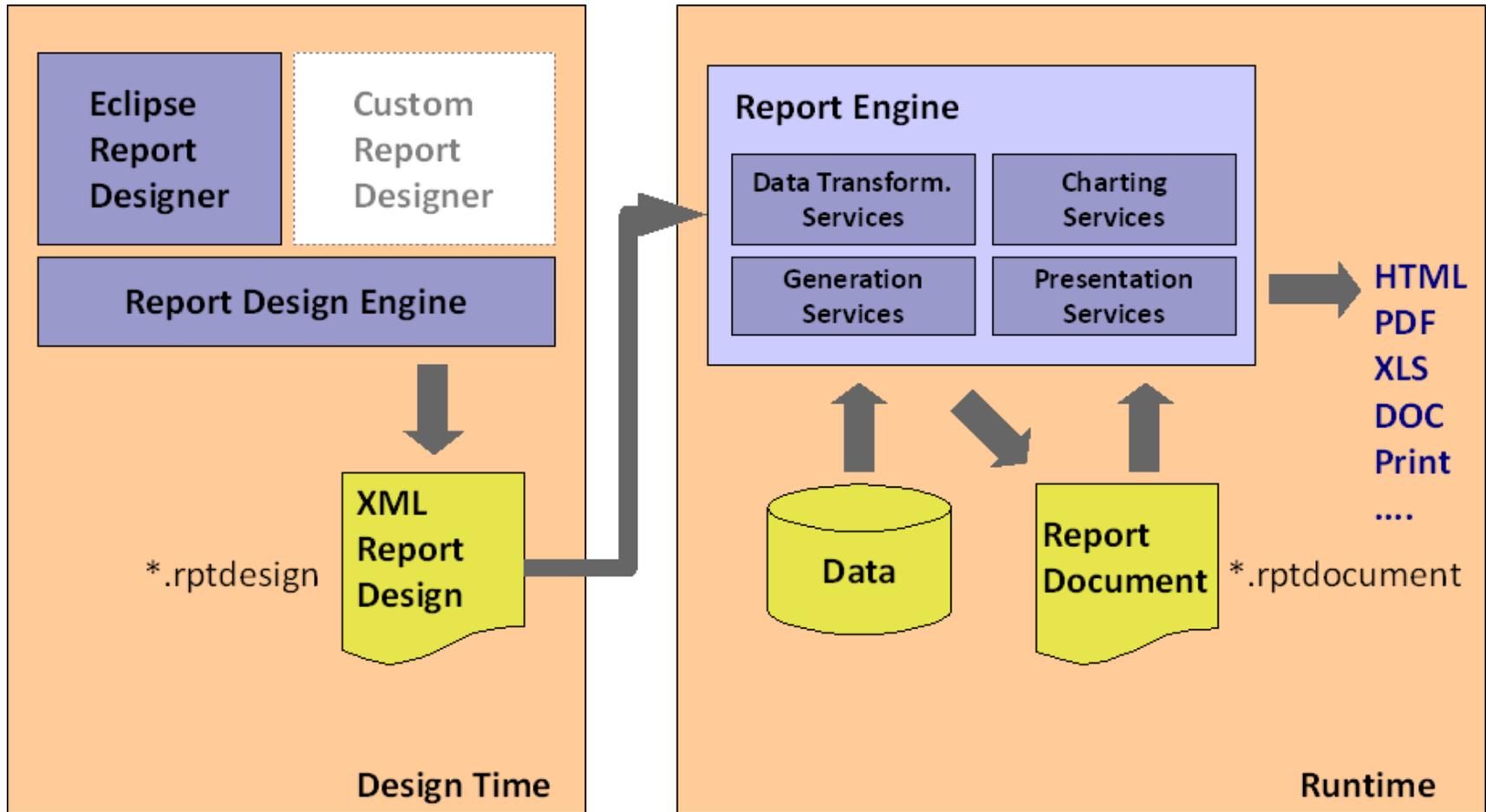
- ◆ WebLogic

- ◆ Websphere

■ Deployment der Run Time Engine über .war-File

- ◆ zusätzlich: JDBC-Treiber für Oracle

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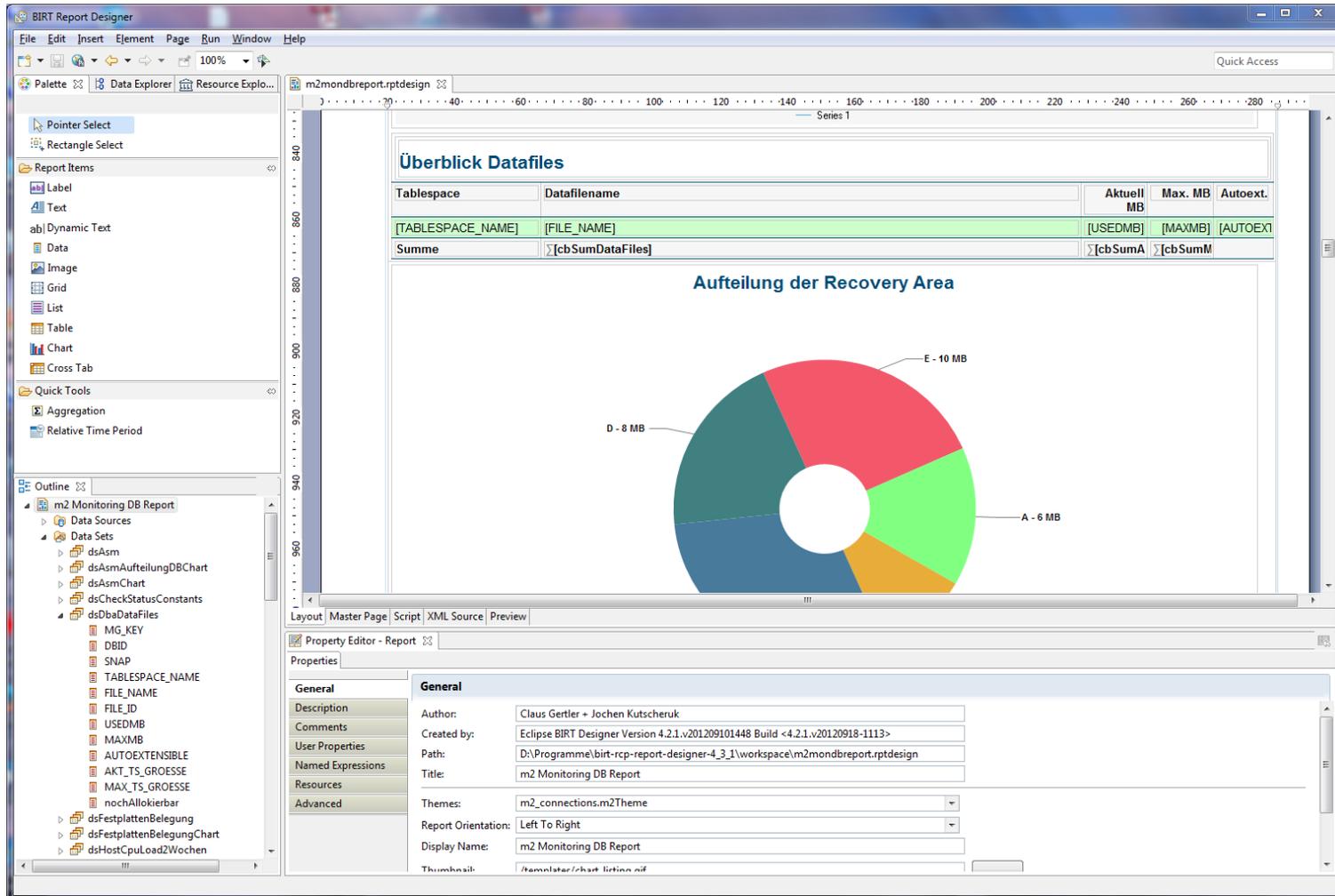
■ Datenquellen für BIRT:

- ◆ JDBC
- ◆ Stored Procedure
- ◆ Webservice
- ◆ XML
 - auch XML aus CLOB
- ◆ Excel
- ◆ Flat File: CSV / SSV / TSV / PSV
- ◆ Hive (Data Warehouse für Hadoop)
- ◆ Scripted

■ Ausgabeformate:

- ◆ PDF
- ◆ PostScript
- ◆ HTML
- ◆ Microsoft Word DOC und DOCX
- ◆ Microsoft Excel XLS und XLSX
- ◆ PowerPoint PPT und PPTX
- ◆ OpenDocument Text ODT
- ◆ OpenDocument Spreadsheet ODS
- ◆ OpenDocument Presentation ODP
- ◆ WebViewer

```
<?xml version="1.0" encoding="UTF-8"?>
<report xmlns="http://www.eclipse.org/birt/2005/design" version="3.2.17" id="1">
  <property name="author">Jochen Kutscheruk</property>
  <property name="createdBy">Eclipse BIRT Designer Version 4.2.1.v201209101448 Build &lt;4.2.1.v20120918-1113</property>
  <property name="units">in</property>
  <method name="beforeFactory"><![CDATA[if (reportContext.getParameterValue("draft") == "J")
{
  this.getMasterPage("Simple MasterPage").getStyle().backgroundImage = "draft.gif";
}]]></method>
  <property name="theme">m2_connections.m2Theme</property>
  <text-property name="displayName">m2Angebot</text-property>
  <property name="iconFile">/templates/blank_report.gif</property>
  <property name="layoutPreference">fixed layout</property>
  <property name="bidiLayoutOrientation">ltr</property>
  <list-property name="libraries">
    <structure>
      <property name="fileName">m2_connections.rptlibrary</property>
      <property name="namespace">m2_connections</property>
    </structure>
  </list-property>
  <parameters>
    <scalar-parameter name="p_an_key" id="345">
      <property name="valueType">static</property>
      <property name="dataType">decimal</property>
      <property name="paramType">simple</property>
      <text-property name="promptText">Angebot Key</text-property>
      <property name="controlType">text-box</property>
      <property name="defaultValue">102</property>
      <property name="distinct">>true</property>
      <structure name="format">
        <property name="category">Unformatted</property>
      </structure>
    </scalar-parameter>
  </parameters>
</report>
```



The screenshot displays the BIRT Report Designer interface. The main report area shows a table titled "Überblick Datafiles" and a donut chart titled "Aufteilung der Recovery Area".

Tablespace	Datafile Name	Aktuell MB	Max. MB	Autoext.
[TABLESPACE_NAME]	[FILE_NAME]	[USEDMB]	[MAXMB]	[AUTOEXT]
Summe	∑[cbSumDataFiles]	∑[cbSumA]	∑[cbSumM]	

The donut chart "Aufteilung der Recovery Area" is divided into five segments with the following values:

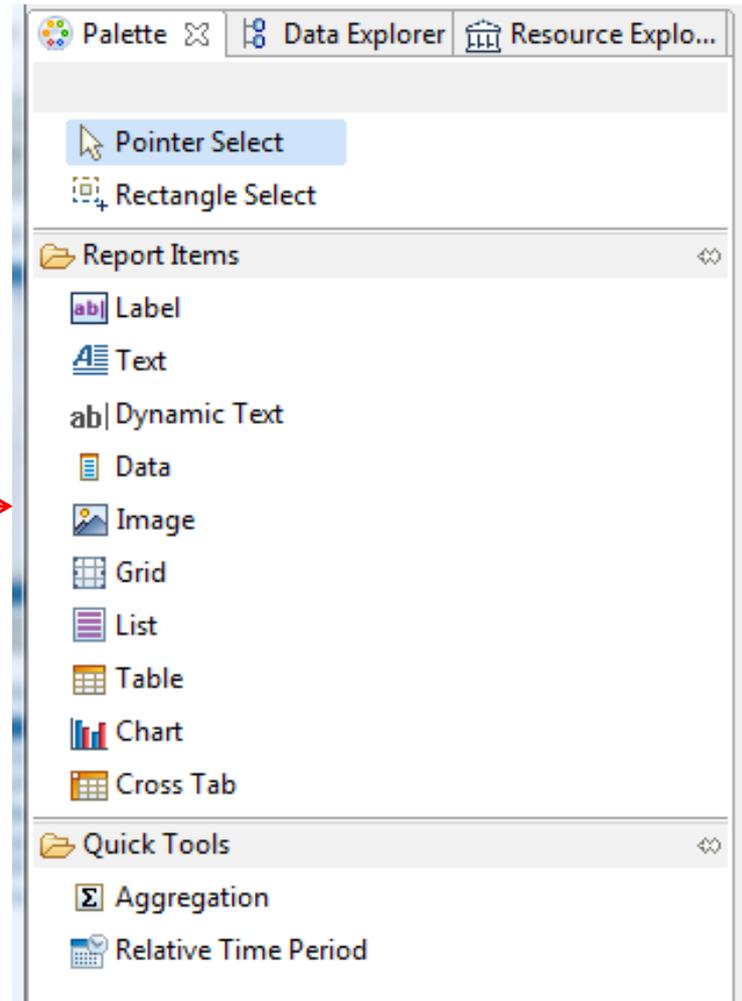
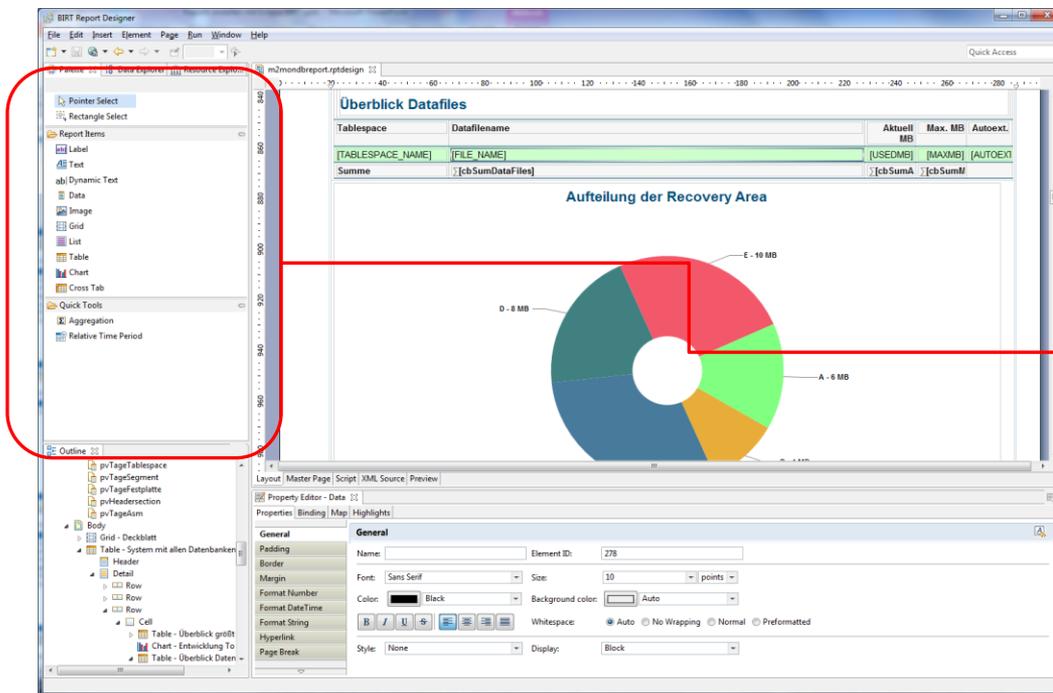
- E - 10 MB (Red)
- A - 6 MB (Green)
- D - 8 MB (Dark Green)
- Two unlabeled segments (Blue and Orange)

The Property Editor at the bottom shows the following details for the report:

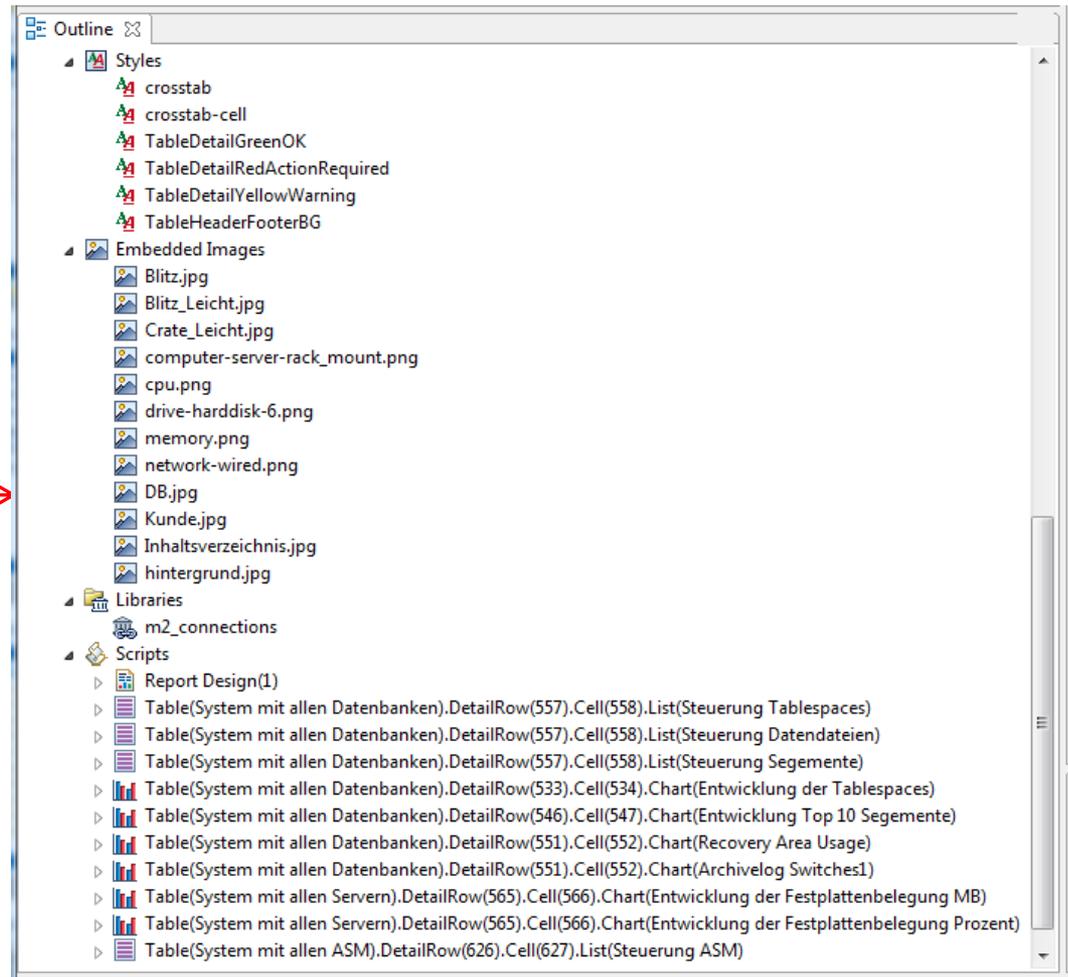
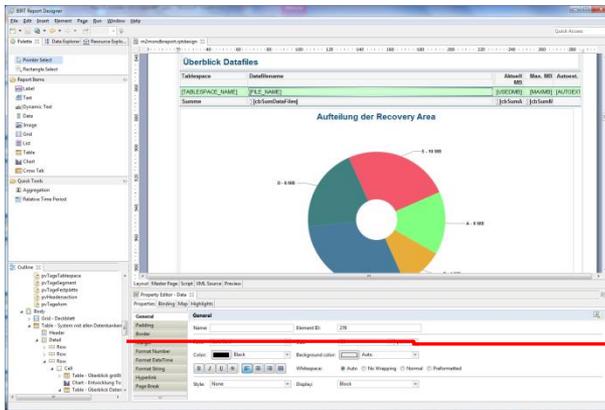
Property	Value
Description	Author: Claus Gertler + Jochen Kutscheruk
Comments	Created by: Eclipse BIRT Designer Version 4.2.1.v201209101448 Build <4.2.1.v20120918-1113>
User Properties	Path: D:\Programme\birt-rcp-report-designer-4_3_1\workspace\m2mondbreport.rptdesign
Named Expressions	Title: m2 Monitoring DB Report
Resources	
Advanced	Themes: m2_connections.m2Theme
	Report Orientation: Left To Right
	Display Name: m2 Monitoring DB Report
	Thumbnail: /template/chart_listing.gif

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- **Demo**
- Stärken und Schwächen
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- Zusammenfassung

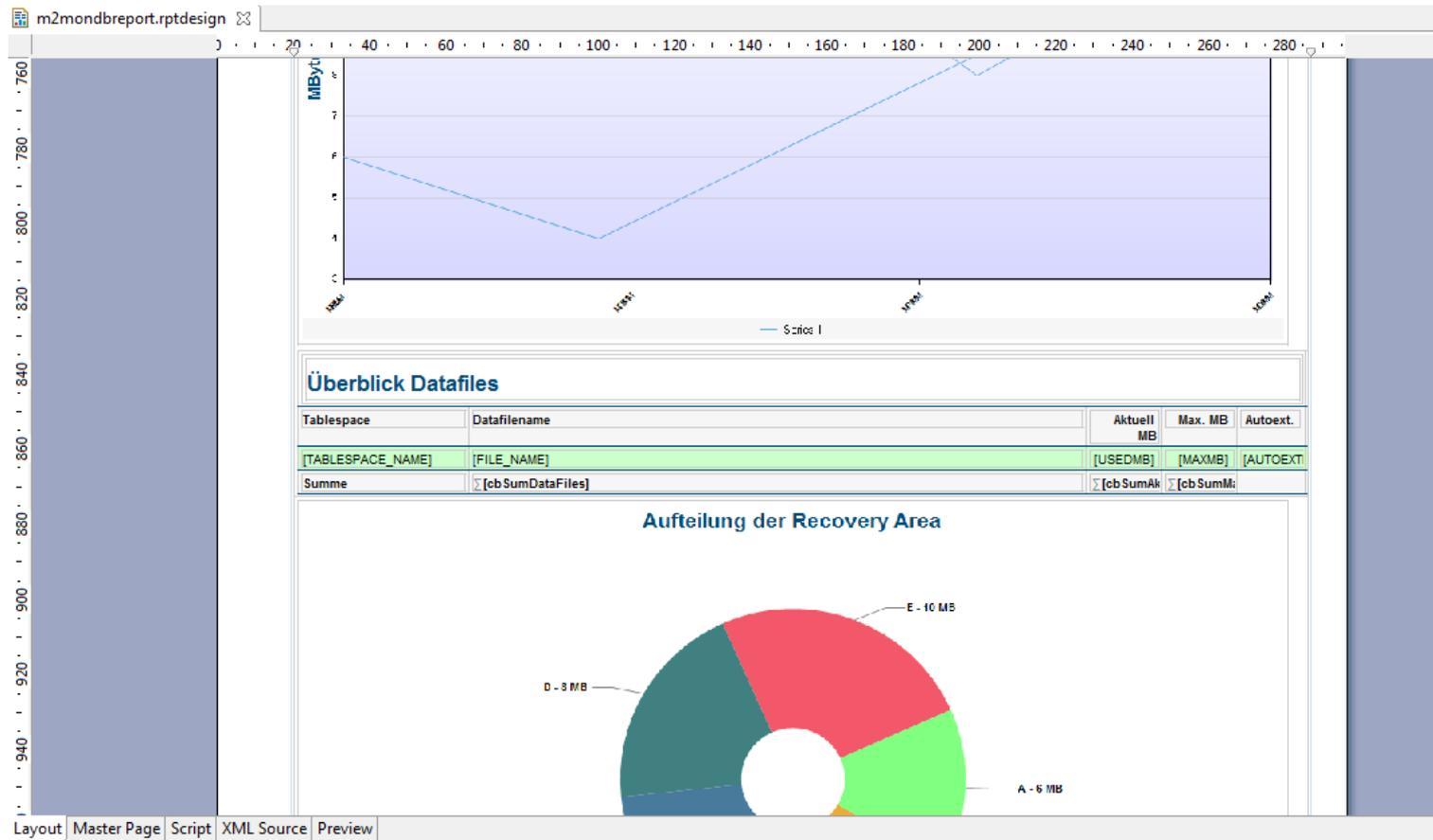
Die Werkzeugpalette:



Outline:



Reportdesign:



Property Palette:

Property Editor - Table

Properties Binding Groups Map Highlights Sorting Filters

General
Border
Margin
Page Break
Visibility
Table of Contents
Bookmark
Comments
User Properties
Named Expressions
Advanced

Advanced

Property	Value
▲ Table	
Allow export	true : Inherited
▶ Background	
Bookmark	
Bookmark display name	
▲ Box	
Border bottom color	Black : Inherited
Border bottom style	No Line Style : Inherited
Border bottom width	Medium : Inherited
Border left color	Black : Inherited
Border left style	No Line Style : Inherited
Border left width	Medium : Inherited
Border right color	Black : Inherited
Border right style	No Line Style : Inherited
Border right width	Medium : Inherited
Border top color	Black : Inherited
Border top style	No Line Style : Inherited
Border top width	Medium : Inherited
Margin bottom	Opt : Inherited
Margin left	Opt : Inherited
Margin right	Opt : Inherited
Margin top	Opt : Inherited
Padding bottom	Opt : Inherited
Padding left	Opt : Inherited
Padding right	Opt : Inherited
Padding top	Opt : Inherited

Property Palette:

Property Editor - Table

Properties | Binding | Groups | Map | Highlights | Sorting | Filters

General
Border
Margin
Page Break
Visibility
Table of Contents
Bookmark
Comments
User Properties
Named Expressions
Advanced

Visibility

Hide Element

For all outputs
 For specific outputs...

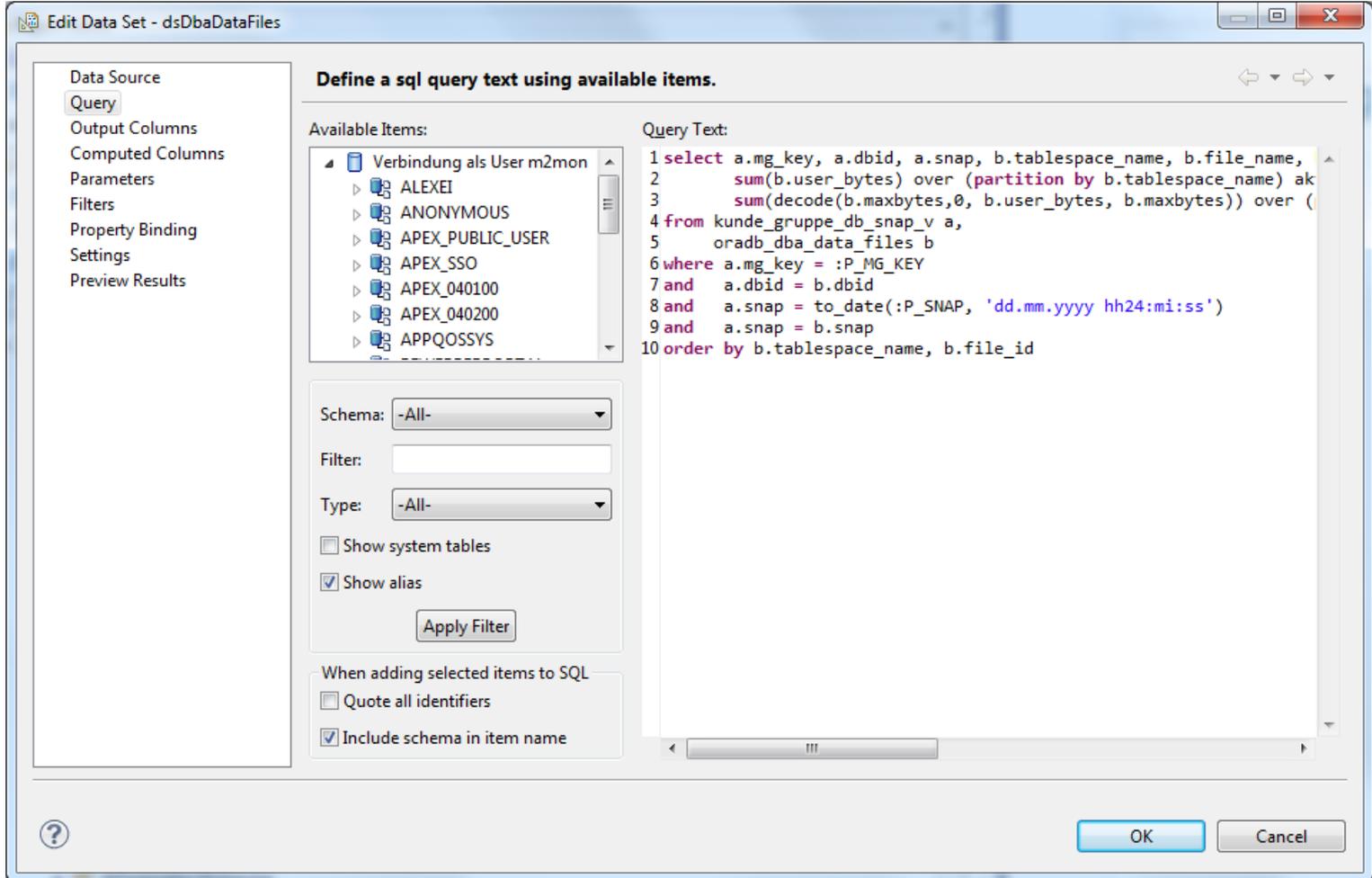
Detail (Specific outputs)

<input type="checkbox"/> xls	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>
<input type="checkbox"/> postscript	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>
<input type="checkbox"/> pdf	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>
<input type="checkbox"/> doc	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>
<input type="checkbox"/> odp	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>
<input type="checkbox"/> html	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>
<input type="checkbox"/> ods	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>
<input type="checkbox"/> ppt	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>
<input type="checkbox"/> odt	Expression:	<input type="text" value="true"/>	<input type="button" value="fx"/>

Data Sets:

- └─ m2 Monitoring DB Report
 - └─ Data Sources
 - └─ Verbindung als User m2mon
 - └─ Data Sets
 - └─ dsAsm
 - └─ dsAsmAufteilungDBChart
 - └─ dsAsmChart
 - └─ dsCheckStatusConstants
 - └─ dsDbaDataFiles
 - └─ MG_KEY
 - └─ DBID
 - └─ SNAP
 - └─ TABLESPACE_NAME
 - └─ FILE_NAME
 - └─ FILE_ID
 - └─ USEDMB
 - └─ MAXMB
 - └─ AUTOEXTENSIBLE
 - └─ AKT_TS_GROESSE
 - └─ MAX_TS_GROESSE
 - └─ nochAllokierbar
 - └─ dsFestplattenBelegung
 - └─ HOST_KEY
 - └─ HOSTNAME
 - └─ DATEISYSTEM
 - └─ GROESSE_MB
 - └─ BELEGT_MB

Data Sets:



Edit Data Set - dsDbaDataFiles

Define a sql query text using available items.

Available Items:

- Verbindung als User m2mon
 - ALEXEI
 - ANONYMOUS
 - APEX_PUBLIC_USER
 - APEX_SSO
 - APEX_040100
 - APEX_040200
 - APPQOSSYS

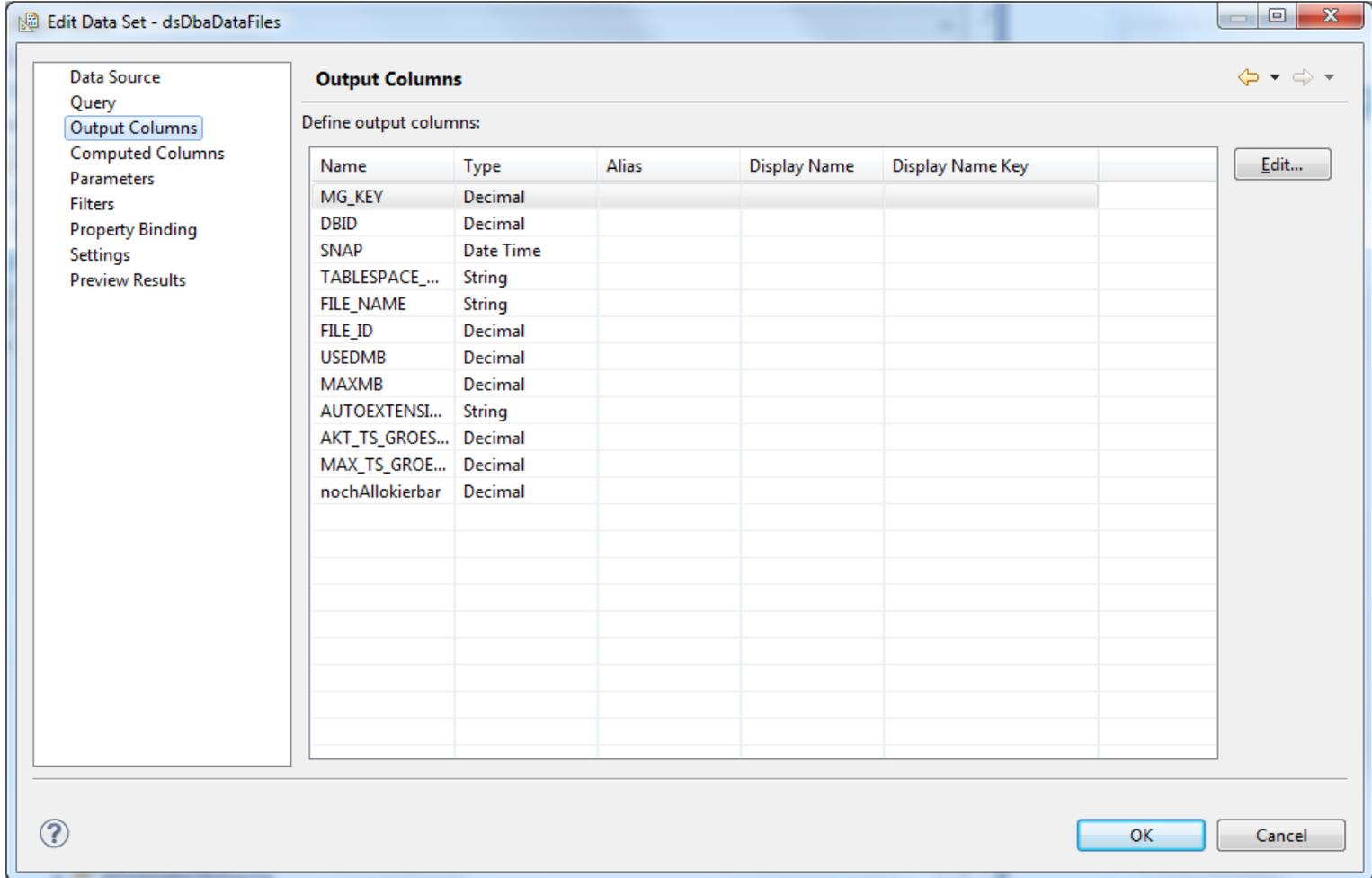
Query Text:

```
1 select a.mg_key, a.dbid, a.snap, b.tablespace_name, b.file_name,  
2       sum(b.user_bytes) over (partition by b.tablespace_name) ak  
3       sum(decode(b.maxbytes,0, b.user_bytes, b.maxbytes)) over (  
4 from kunde_gruppe_db_snap_v a,  
5       oradb_dba_data_files b  
6 where a.mg_key = :P_MG_KEY  
7 and   a.dbid = b.dbid  
8 and   a.snap = to_date(:P_SNAP, 'dd.mm.yyyy hh24:mi:ss')  
9 and   a.snap = b.snap  
10 order by b.tablespace_name, b.file_id
```

Schema: -All-
Filter:
Type: -All-
 Show system tables
 Show alias

When adding selected items to SQL
 Quote all identifiers
 Include schema in item name

Data Sets:



Edit Data Set - dsDbaDataFiles

Data Source
Query
Output Columns
Computed Columns
Parameters
Filters
Property Binding
Settings
Preview Results

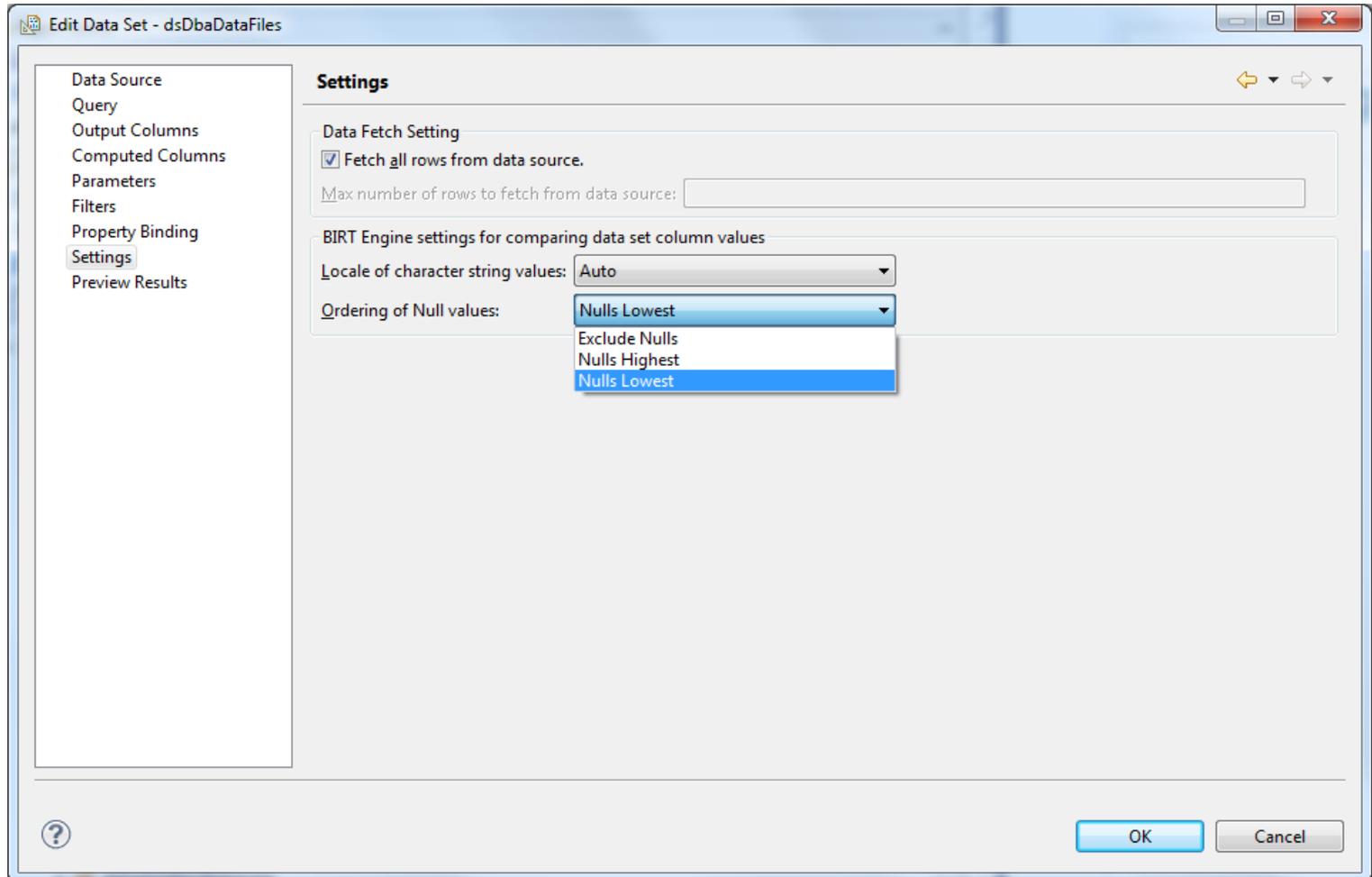
Output Columns

Define output columns:

Name	Type	Alias	Display Name	Display Name Key
MG_KEY	Decimal			
DBID	Decimal			
SNAP	Date Time			
TABLESPACE_...	String			
FILE_NAME	String			
FILE_ID	Decimal			
USEDMB	Decimal			
MAXMB	Decimal			
AUTOEXTENSI...	String			
AKT_TS_GROES...	Decimal			
MAX_TS_GROE...	Decimal			
nochAllokierbar	Decimal			

Buttons: Edit..., OK, Cancel

Data Sets:



Data Sets:

Edit Data Set - dsDbaDataFiles

Data Source

Query

Output Columns

Computed Columns

Parameters

Filters

Property Binding

Settings

Preview Results

Preview Results

MG_KEY	DBID	SNAP	TABLESPACE_NAME	FILE_NAME	FILE_ID	USEDMB	MAXMB
1	1366643868	16.11.2013 00:10	APEX_2605817348144545	/opt/oracle/product/...	14	5	50.0625
1	319297866	16.11.2013 00:10	APEX_454861238298087...	/opt/oracle/product/...	9	9.0625	50.0625
1	319297866	16.11.2013 00:10	APEX_457942272573280...	/opt/oracle/product/...	10	2.0625	10.0625
1	319297866	16.11.2013 00:10	APEX_5179015805078393	/opt/oracle/product/...	12	9.0625	0
1	866094240	16.11.2013 00:10	APEX_7196728589794973	/opt/oracle/product/...	8	49.0625	100.0625
1	319297866	16.11.2013 00:10	BEWERBERPORTAL	/opt/oracle/product/...	8	99	32767.984375
1	1366643868	16.11.2013 00:10	BEWERBERPORTAL	/opt/oracle/product/...	15	99	32767.984375
1	1366643868	16.11.2013 00:10	BOSINTRA	/opt/oracle/product/...	12	49.9375	32767.984375
1	1366643868	16.11.2013 00:10	FLOW_1	/opt/oracle/product/...	6	1.9375	32767.984375
1	1366643868	16.11.2013 00:10	FLOW_2	/opt/oracle/product/...	7	9.9375	0
1	1366643868	16.11.2013 00:10	FLOW_3	/opt/oracle/product/...	2	50	0
1	319297866	16.11.2013 00:10	KASSENBUCH	/opt/oracle/product/...	11	99	32767.984375
1	866094240	16.11.2013 00:10	MERLIN	/opt/oracle/product/...	6	5699.9375	32767.984375
1	319297866	16.11.2013 00:10	MERLIN	/opt/oracle/product/...	6	3899.9375	32767.984375
1	1366643868	16.11.2013 00:10	MERLIN	/opt/oracle/product/...	9	1439.9375	32767.984375
1	319297866	16.11.2013 00:10	M2CIS	/opt/oracle/product/...	4	4.9375	32767.984375
1	866094240	16.11.2013 00:10	M2CIS	/opt/oracle/product/...	4	4.9375	32767.984375
1	1366643868	16.11.2013 00:10	M2CIS	/opt/oracle/product/...	10	4.9375	32767.984375
1	866094240	16.11.2013 00:10	M2ITRACKER	/opt/oracle/product/...	5	239.9375	32767.984375
1	319297866	16.11.2013 00:10	M2ITRACKER	/opt/oracle/product/...	5	219.9375	32767.984375

Total 39 record(s) shown.

?
OK
Cancel

Data Sets:

The screenshot displays the SAP Crystal Reports interface. On the left is the Outline pane showing a hierarchical tree of report objects. The main area shows a report titled 'Überblick Datafiles' with a table containing data on tablespaces and datafiles. Below the report, the Property Editor for the table is open, showing the 'Data Set' property set to 'dsDbaDataFiles' and a 'Data Column Binding' table.

Tablespace	Datafilename	Aktuell MB	Max. MB	Autoext.
[TABLESPACE_NAME]	[FILE_NAME]	[USEDMB]	[MAXMB]	[AUTOEXT]
Summe	[cbSumDataFiles]	[cbSumA]	[cbSumM]	

Name	Display Name ID	Display Name	Data Type	Expression	Function	Filter	Aggregate On
AKT_TS_GROESSE		AKT_TS_GROESSE	Decimal	dataSetRow["AK...			N/A
AUTOEXTENSIBLE		AUTOEXTENSIBLE	String	dataSetRow["AU...			N/A
DBID		DBID	Decimal	dataSetRow["DB...			N/A
FILE_NAME		FILE_NAME	String	dataSetRow["FIL...			N/A
MAXMB		MAXMB	Decimal	dataSetRow["M...			N/A

Beispiele

- Überblick über BIRT
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- Demo
- **Stärken und Schwächen**
- BIRT vs. Oracle Reports / BI Publisher / Jasper Reports
- Zusammenfassung

■ Stärken:

- ◆ Einfach zu erlernen (HTML-ähnlich)
- ◆ Vielzahl von Ausgabeformaten
- ◆ HTML-Formatierung der Ausgabetexte
- ◆ Kann direkt in Java-Projekte eingebunden werden
- ◆ Verschiedenste Datenquellen innerhalb eines Reports
- ◆ Einfache Charterstellung
- ◆ Einfache Skriptsprache (JavaScript)
- ◆ Flexible Layouts
- ◆ Hoch / Querformat von Seite zu Seite änderbar
- ◆ Einfache, schnelle Installation (Design + Runtime)

■ Weitere Stärken:

- ◆ Geschwindigkeit
- ◆ Templates
- ◆ Libraries
- ◆ Master-Detail-Detail
- ◆ Matrix-Report
- ◆ Parametermaske mit LOV aus der Datenbank

■ Schwächen:

- ◆ Keinerlei Grafikelemente
- ◆ Seitennummerierung gewöhnungsbedürftig
- ◆ Schlechte Dokumentation
- ◆ Bedingte Background Images auf Seitenebene
- ◆ Schrift lässt sich nicht drehen
- ◆ Witwen und Waisen Kinder
- ◆ Kein Pixelgenaues Layout (WYSIWYHTG)
- ◆ Unsinnige Defaults

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- Stärken und Schwächen
- BIRT vs. Oracle Reports / BI Publisher / Jasper Reports
- **Zusammenfassung**

- Sehr mächtiges Tool zur Reporterstellung
- Kann sich durchaus mit Oracle Reports messen
- Bestehende Oracle Reports können mit überschaubarem Aufwand migriert werden
- Schwächen im Detail
- Wir erstellen inzwischen alle Reports mit BIRT

Homepage:

<http://www.eclipse.org/birt>



Haben Sie noch Fragen?



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Ob einfache oder anspruchsvolle IT-Aufgaben:
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Wir kümmern uns!

Versprochen.

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<http://www.merlin-zwo.de>