



Informatica® RulePoint
6.1.2

Business Process Management Use Case Example

Informatica RulePoint Business Process Management Use Case Example

6.1.2

April 2015

© Copyright Informatica LLC 1998, 2018

This software and documentation contain proprietary information of Informatica Corporation and are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright law. Reverse engineering of the software is prohibited. No part of this document may be reproduced or transmitted in any form, by any means (electronic, photocopying, recording or otherwise) without prior consent of Informatica Corporation. This Software may be protected by U.S. and/or international Patents and other Patents Pending.

Use, duplication, or disclosure of the Software by the U.S. Government is subject to the restrictions set forth in the applicable software license agreement and as provided in DFARS 227.7202-1(a) and 227.7702-3(a) (1995), DFARS 252.227-7013(1)(ii) (OCT 1988), FAR 12.212(a) (1995), FAR 52.227-19, or FAR 52.227-14 (ALT III), as applicable.

The information in this product or documentation is subject to change without notice. If you find any problems in this product or documentation, please report them to us in writing.

Informatica, Informatica Platform, Informatica Data Services, PowerCenter, PowerCenterRT, PowerCenter Connect, PowerCenter Data Analyzer, PowerExchange, PowerMart, Metadata Manager, Informatica Data Quality, Informatica Data Explorer, Informatica B2B Data Transformation, Informatica B2B Data Exchange Informatica On Demand, Informatica Identity Resolution, Informatica Application Information Lifecycle Management, Informatica Complex Event Processing, Ultra Messaging and Informatica Master Data Management are trademarks or registered trademarks of Informatica Corporation in the United States and in jurisdictions throughout the world. All other company and product names may be trade names or trademarks of their respective owners.

Portions of this software and/or documentation are subject to copyright held by third parties, including without limitation: Copyright DataDirect Technologies. All rights reserved. Copyright © Sun Microsystems. All rights reserved. Copyright © RSA Security Inc. All Rights Reserved. Copyright © Ordinal Technology Corp. All rights reserved. Copyright © Aandacht c.v. All rights reserved. Copyright Genivia, Inc. All rights reserved. Copyright Isomorphic Software. All rights reserved. Copyright © Meta Integration Technology, Inc. All rights reserved. Copyright © Intalio. All rights reserved. Copyright © Oracle. All rights reserved. Copyright © Adobe Systems Incorporated. All rights reserved. Copyright © DataArt, Inc. All rights reserved. Copyright © ComponentSource. All rights reserved. Copyright © Microsoft Corporation. All rights reserved. Copyright © Rogue Wave Software, Inc. All rights reserved. Copyright © Teradata Corporation. All rights reserved. Copyright © Yahoo! Inc. All rights reserved. Copyright © Glyph & Cog, LLC. All rights reserved. Copyright © Thinkmap, Inc. All rights reserved. Copyright © Clearpace Software Limited. All rights reserved. Copyright © Information Builders, Inc. All rights reserved. Copyright © OSS Nokalva, Inc. All rights reserved. Copyright Edifecs, Inc. All rights reserved. Copyright Cleo Communications, Inc. All rights reserved. Copyright © International Organization for Standardization 1986. All rights reserved. Copyright © ej-technologies GmbH. All rights reserved. Copyright © Jaspersoft Corporation. All rights reserved. Copyright © International Business Machines Corporation. All rights reserved. Copyright © yWorks GmbH. All rights reserved. Copyright © Lucent Technologies. All rights reserved. Copyright (c) University of Toronto. All rights reserved. Copyright © Daniel Veillard. All rights reserved. Copyright © Unicode, Inc. Copyright IBM Corp. All rights reserved. Copyright © MicroQuill Software Publishing, Inc. All rights reserved. Copyright © PassMark Software Pty Ltd. All rights reserved. Copyright © LogiXML, Inc. All rights reserved. Copyright © 2003-2010 Lorenzi Davide, All rights reserved. Copyright © Red Hat, Inc. All rights reserved. Copyright © The Board of Trustees of the Leland Stanford Junior University. All rights reserved. Copyright © EMC Corporation. All rights reserved. Copyright © Flexera Software. All rights reserved. Copyright © Jinfonet Software. All rights reserved. Copyright © Apple Inc. All rights reserved. Copyright © Telerik Inc. All rights reserved. Copyright © BEA Systems. All rights reserved. Copyright © PDFlib GmbH. All rights reserved. Copyright © Orientation in Objects GmbH. All rights reserved. Copyright © Tanuki Software, Ltd. All rights reserved. Copyright © Ricebridge. All rights reserved. Copyright © Sencha, Inc. All rights reserved. Copyright © Scalable Systems, Inc. All rights reserved. Copyright © jqWidgets. All rights reserved. Copyright © Tableau Software, Inc. All rights reserved. Copyright © MaxMind, Inc. All Rights Reserved. Copyright © TMate Software s.r.o. All rights reserved.

This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>), and/or other software which is licensed under various versions of the Apache License (the "License"). You may obtain a copy of these Licenses at <http://www.apache.org/licenses/>. Unless required by applicable law or agreed to in writing, software distributed under these Licenses is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the Licenses for the specific language governing permissions and limitations under the Licenses.

This product includes software which was developed by Mozilla (<http://www.mozilla.org/>), software copyright The JBoss Group, LLC, all rights reserved; software copyright © 1999-2006 by Bruno Lowagie and Paulo Soares and other software which is licensed under various versions of the GNU Lesser General Public License Agreement, which may be found at <http://www.gnu.org/licenses/lgpl.html>. The materials are provided free of charge by Informatica, "as-is", without warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

The product includes ACE(TM) and TAO(TM) software copyrighted by Douglas C. Schmidt and his research group at Washington University, University of California, Irvine, and Vanderbilt University, Copyright (©) 1993-2006, all rights reserved.

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (copyright The OpenSSL Project. All Rights Reserved) and redistribution of this software is subject to terms available at <http://www.openssl.org> and <http://www.openssl.org/source/license.html>.

This product includes Curl software which is Copyright 1996-2013, Daniel Stenberg, <daniel@haxx.se>. All Rights Reserved. Permissions and limitations regarding this software are subject to terms available at <http://curl.haxx.se/docs/copyright.html>. Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

The product includes software copyright 2001-2005 (©) MetaStuff, Ltd. All Rights Reserved. Permissions and limitations regarding this software are subject to terms available at <http://www.dom4j.org/license.html>.

The product includes software copyright © 2004-2007, The Dojo Foundation. All Rights Reserved. Permissions and limitations regarding this software are subject to terms available at <http://dojotoolkit.org/license>.

This product includes ICU software which is copyright International Business Machines Corporation and others. All rights reserved. Permissions and limitations regarding this software are subject to terms available at <http://source.icu-project.org/repos/icu/icu/trunk/license.html>.

This product includes software copyright © 1996-2006 Per Bothner. All rights reserved. Your right to use such materials is set forth in the license which may be found at <http://www.gnu.org/software/kawa/Software-License.html>.

This product includes OSSP UUID software which is Copyright © 2002 Ralf S. Engelschall, Copyright © 2002 The OSSP Project Copyright © 2002 Cable & Wireless Deutschland. Permissions and limitations regarding this software are subject to terms available at <http://www.opensource.org/licenses/mit-license.php>.

This product includes software developed by Boost (<http://www.boost.org/>) or under the Boost software license. Permissions and limitations regarding this software are subject to terms available at http://www.boost.org/LICENSE_1_0.txt.

This product includes software copyright © 1997-2007 University of Cambridge. Permissions and limitations regarding this software are subject to terms available at <http://www.pcre.org/license.txt>.

This product includes software copyright © 2007 The Eclipse Foundation. All Rights Reserved. Permissions and limitations regarding this software are subject to terms available at <http://www.eclipse.org/org/documents/epl-v10.php> and at <http://www.eclipse.org/org/documents/edl-v10.php>.

This product includes software licensed under the terms at <http://www.tcl.tk/software/tcltk/license.html>, <http://www.bosrup.com/web/overlib/?License>, <http://www.stlport.org/doc/license.html>, <http://asm.ow2.org/license.html>, <http://www.cryptix.org/LICENSE.TXT>, <http://hsqldb.org/web/hsqLicense.html>, <http://>

<http://unit.sourceforge.net/doc/license.html>, <http://jung.sourceforge.net/license.txt>, http://www.gzip.org/zlib/zlib_license.html, <http://www.openldap.org/software/release/license.html>, <http://www.libssh2.org>, <http://slf4j.org/license.html>, <http://www.sente.ch/software/OpenSourceLicense.html>, <http://fusesource.com/downloads/license-agreements/fuse-message-broker-v-5-3-license-agreement>, <http://antlr.org/license.html>, <http://aopalliance.sourceforge.net/>, <http://www.bouncycastle.org/licence.html>, <http://www.jgraph.com/jgraphdownload.html>, <http://www.jcraft.com/jsch/LICENSE.txt>, http://jotm.objectweb.org/bsd_license.html, <http://www.w3.org/Consortium/Legal/2002/copyright-software-20021231>, <http://www.slf4j.org/license.html>, <http://nanoxml.sourceforge.net/orig/copyright.html>, <http://www.json.org/license.html>, <http://forge.ow2.org/projects/javaservice/>, <http://www.postgresql.org/about/licence.html>, <http://www.sqlite.org/copyright.html>, <http://www.tcl.tk/software/tcltk/license.html>, <http://www.jaxen.org/faq.html>, <http://www.jdom.org/docs/faq.html>, <http://www.slf4j.org/license.html>, <http://www.iodbc.org/dataspace/iodbc/wiki/IODBC/License>, <http://www.keplerproject.org/md5/license.html>, <http://www.toedter.com/en/jcalendar/license.html>, <http://www.edankert.com/bounce/index.html>, <http://www.net-snmp.org/about/license.html>, <http://www.openmdx.org/#FAQ>, http://www.php.net/license/3_01.txt, <http://srp.stanford.edu/license.txt>, <http://www.schneier.com/blowfish.html>, <http://www.jmock.org/license.html>, <http://xsom.java.net>, <http://benalman.com/about/license/>, <https://github.com/CreateJS/EaselJS/blob/master/src/easeljs/display/Bitmap.js>, <http://www.h2database.com/html/license.html#summary>, <http://jsoncpp.sourceforge.net/LICENSE>, <http://jdbc.postgresql.org/license.html>, <http://protobuf.googlecode.com/svn/trunk/src/google/protobuf/descriptor.proto>, <https://github.com/rantav/hector/blob/master/LICENSE>, <http://web.mit.edu/Kerberos/krb5-current/doc/mitK5license.html>, <http://jibx.sourceforge.net/jibx-license.html>, <https://github.com/lyokato/libgeohash/blob/master/LICENSE>, <https://github.com/hjiang/jsonxx/blob/master/LICENSE>, <https://code.google.com/p/lz4/>, <https://github.com/jedisct1/libsodium/blob/master/LICENSE>, <http://one-jar.sourceforge.net/index.php?page=documents&file=license>, <https://github.com/EsotericSoftware/kryo/blob/master/license.txt>, <http://www.scala-lang.org/license.html>, <https://github.com/tinkerpop/blueprints/blob/master/LICENSE.txt>, and <http://gee.cs.oswego.edu/dl/classes/EDU/oswego/cs/dl/util/concurrent/intro.html>.

This product includes software licensed under the Academic Free License (<http://www.opensource.org/licenses/afl-3.0.php>), the Common Development and Distribution License (<http://www.opensource.org/licenses/cddl1.php>), the Common Public License (<http://www.opensource.org/licenses/cpl1.0.php>), the Sun Binary Code License Agreement Supplemental License Terms, the BSD License (<http://www.opensource.org/licenses/bsd-license.php>), the new BSD License (<http://opensource.org/licenses/BSD-3-Clause>), the MIT License (<http://www.opensource.org/licenses/mit-license.php>), the Artistic License (<http://www.opensource.org/licenses/artistic-license-1.0>) and the Initial Developer's Public License Version 1.0 (<http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/>).

This product includes software copyright © 2003-2006 Joe Walnes, 2006-2007 XStream Committers. All rights reserved. Permissions and limitations regarding this software are subject to terms available at <http://xstream.codehaus.org/license.html>. This product includes software developed by the Indiana University Extreme! Lab. For further information please visit <http://www.extreme.indiana.edu/>.

This product includes software Copyright (c) 2013 Frank Balluffi and Markus Moeller. All rights reserved. Permissions and limitations regarding this software are subject to terms of the MIT license.

This Software is protected by U.S. Patent Numbers 5,794,246; 6,014,670; 6,016,501; 6,029,178; 6,032,158; 6,035,307; 6,044,374; 6,092,086; 6,208,990; 6,339,775; 6,640,226; 6,789,096; 6,823,373; 6,850,947; 6,895,471; 7,117,215; 7,162,643; 7,243,110; 7,254,590; 7,281,001; 7,421,458; 7,496,588; 7,523,121; 7,584,422; 7,676,516; 7,720,842; 7,721,270; 7,774,791; 8,065,266; 8,150,803; 8,166,048; 8,166,071; 8,200,622; 8,224,873; 8,271,477; 8,327,419; 8,386,435; 8,392,460; 8,453,159; 8,458,230; 8,707,336; 8,886,617 and RE44,478, International Patents and other Patents Pending.

DISCLAIMER: Informatica Corporation provides this documentation "as is" without warranty of any kind, either express or implied, including, but not limited to, the implied warranties of noninfringement, merchantability, or use for a particular purpose. Informatica Corporation does not warrant that this software or documentation is error free. The information provided in this software or documentation may include technical inaccuracies or typographical errors. The information in this software and documentation is subject to change at any time without notice.

NOTICES

This Informatica product (the "Software") includes certain drivers (the "DataDirect Drivers") from DataDirect Technologies, an operating company of Progress Software Corporation ("DataDirect") which are subject to the following terms and conditions:

1. THE DATADIRECT DRIVERS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.
2. IN NO EVENT WILL DATADIRECT OR ITS THIRD PARTY SUPPLIERS BE LIABLE TO THE END-USER CUSTOMER FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES ARISING OUT OF THE USE OF THE ODBC DRIVERS, WHETHER OR NOT INFORMED OF THE POSSIBILITIES OF DAMAGES IN ADVANCE. THESE LIMITATIONS APPLY TO ALL CAUSES OF ACTION, INCLUDING, WITHOUT LIMITATION, BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, MISREPRESENTATION AND OTHER TORTS.

Publication Date: 2018-07-19

Table of Contents

Preface	5
Informatica Resources.	5
Informatica My Support Portal.	5
Informatica Documentation.	5
Informatica Product Availability Matrixes.	5
Informatica Web Site.	5
Informatica How-To Library.	6
Informatica Knowledge Base.	6
Informatica Support YouTube Channel.	6
Informatica Marketplace.	6
Informatica Velocity.	6
Informatica Global Customer Support.	6
 Chapter 1: Business Process Management Use Case.....	 7
Business Process Management Use Case Overview.	7
Determining the Loan Eligibility Criteria.	7
RulePoint Solution in Loan Processing System.	8
Proposed Algorithms.	9
Business Process Modeling Using RulePoint.	10
Schemas Used for Evaluation.	12
RulePoint Implementation.	13
 Chapter 2: RulePoint Design and Implementation.....	 14
RulePoint Design and Implementation Overview.	14
Before You Begin.	14
Use Case 1. Decide Loan Eligibility based on Applicant Salary and All Aailed Loans.	15
Process Workflow.	15
Use Case 2. Decide Loan Eligibility based on Applicant Age and Repayment Tenure	16
Process Workflow.	16
Use Case 3. Decide Loan Eligibility based on Applicant Salary and Collateral Security.	16
Process Workflow.	16
Use Case 4. Decide Loan Eligibility based on the Net Salaried Income of a Couple	17
Process Workflow.	17
 Index.....	 18

Preface

This guide describes how financial firms can use RulePoint to make their business process management more effective, taking loan processing as an example.

The guide provides an understanding of how RulePoint fits into the overall business process management to create an effective loan processing solution. You understand the type of rules that you can configure to evaluate the loan eligibility criteria for an applicant. This guide assumes that you have an understanding of RulePoint and are familiar with the RulePoint concepts.

Informatica Resources

Informatica My Support Portal

As an Informatica customer, you can access the Informatica My Support Portal at <http://mysupport.informatica.com>.

The site contains product information, user group information, newsletters, access to the Informatica customer support case management system (ATLAS), the Informatica How-To Library, the Informatica Knowledge Base, Informatica Product Documentation, and access to the Informatica user community.

Informatica Documentation

The Informatica Documentation team makes every effort to create accurate, usable documentation. If you have questions, comments, or ideas about this documentation, contact the Informatica Documentation team through email at infa_documentation@informatica.com. We will use your feedback to improve our documentation. Let us know if we can contact you regarding your comments.

The Documentation team updates documentation as needed. To get the latest documentation for your product, navigate to Product Documentation from <http://mysupport.informatica.com>.

Informatica Product Availability Matrixes

Product Availability Matrixes (PAMs) indicate the versions of operating systems, databases, and other types of data sources and targets that a product release supports. You can access the PAMs on the Informatica My Support Portal at <https://mysupport.informatica.com/community/my-support/product-availability-matrices>.

Informatica Web Site

You can access the Informatica corporate web site at <http://www.informatica.com>. The site contains information about Informatica, its background, upcoming events, and sales offices. You will also find product

and partner information. The services area of the site includes important information about technical support, training and education, and implementation services.

Informatica How-To Library

As an Informatica customer, you can access the Informatica How-To Library at <http://mysupport.informatica.com>. The How-To Library is a collection of resources to help you learn more about Informatica products and features. It includes articles and interactive demonstrations that provide solutions to common problems, compare features and behaviors, and guide you through performing specific real-world tasks.

Informatica Knowledge Base

As an Informatica customer, you can access the Informatica Knowledge Base at <http://mysupport.informatica.com>. Use the Knowledge Base to search for documented solutions to known technical issues about Informatica products. You can also find answers to frequently asked questions, technical white papers, and technical tips. If you have questions, comments, or ideas about the Knowledge Base, contact the Informatica Knowledge Base team through email at KB_Feedback@informatica.com.

Informatica Support YouTube Channel

You can access the Informatica Support YouTube channel at <http://www.youtube.com/user/INFASupport>. The Informatica Support YouTube channel includes videos about solutions that guide you through performing specific tasks. If you have questions, comments, or ideas about the Informatica Support YouTube channel, contact the Support YouTube team through email at supportvideos@informatica.com or send a tweet to @INFASupport.

Informatica Marketplace

The Informatica Marketplace is a forum where developers and partners can share solutions that augment, extend, or enhance data integration implementations. By leveraging any of the hundreds of solutions available on the Marketplace, you can improve your productivity and speed up time to implementation on your projects. You can access Informatica Marketplace at <http://www.informaticamarketplace.com>.

Informatica Velocity

You can access Informatica Velocity at <http://mysupport.informatica.com>. Developed from the real-world experience of hundreds of data management projects, Informatica Velocity represents the collective knowledge of our consultants who have worked with organizations from around the world to plan, develop, deploy, and maintain successful data management solutions. If you have questions, comments, or ideas about Informatica Velocity, contact Informatica Professional Services at ips@informatica.com.

Informatica Global Customer Support

You can contact a Customer Support Center by telephone or through the Online Support.

Online Support requires a user name and password. You can request a user name and password at <http://mysupport.informatica.com>.

The telephone numbers for Informatica Global Customer Support are available from the Informatica web site at <http://www.informatica.com/us/services-and-training/support-services/global-support-centers/>.

CHAPTER 1

Business Process Management Use Case

This chapter includes the following topics:

- [Business Process Management Use Case Overview, 7](#)
- [Determining the Loan Eligibility Criteria, 7](#)
- [RulePoint Solution in Loan Processing System, 8](#)
- [Business Process Modeling Using RulePoint, 10](#)

Business Process Management Use Case Overview

Business Process Management (BPM) is an approach to identify, evaluate, and manage processes as a means to drive business results, create value, and enable an organization to meet its business objectives. A loan processing system in BPM is a complicated multi-step system, which evaluates multiple parameters before granting personal loans to customers.

The BPM use case deals with loan processing as an example to explain the business process management. You learn how you can implement RulePoint to improve the loan processing system to help banks make better decisions when deciding the eligibility criteria for loans.

Determining the Loan Eligibility Criteria

Banks collect information from applicants, credit rating agencies, and other sources to check the loan eligibility criteria before sanctioning a loan to the applicant.

To determine whether a customer qualifies for the loan can be a complicated preposition for banks. The amount of information that banks need to procure from multiple sources creates logistical issues. Banks need to determine whether a customer qualifies for the loan based on the collected information. Failure to appreciate the information given, override and suppression of bad information due to sales target pressures, and human errors while handling the data or managing the process can be some concerns that affect the evaluation process.

The bank adds weightage for parameters collected from sources, such as customers and credit rating agencies, to understand their impact in the final decision making process. Banks use this information to create rules to check if an applicant is eligible for the loan.

The following table lists some parameters that a bank collects, in their order of priority, along with the granted weightage:

Parameters	Weightage
Loan amount request	10
Number of months to pay back the loan	8
Take home salary	8
Any existing insurance, home loan, car loan, former family payment, insurance payment details, and other loans	8
Net assets	8
Years in the same marriage, working spouse, combined salary	7
Credit rating	6
Criminal record	5
Number of dependents	4
History of paying back other loans	4
Medical history, including physical and psychological of the customer	3
Years in present job	3
Age	3

RulePoint Solution in Loan Processing System

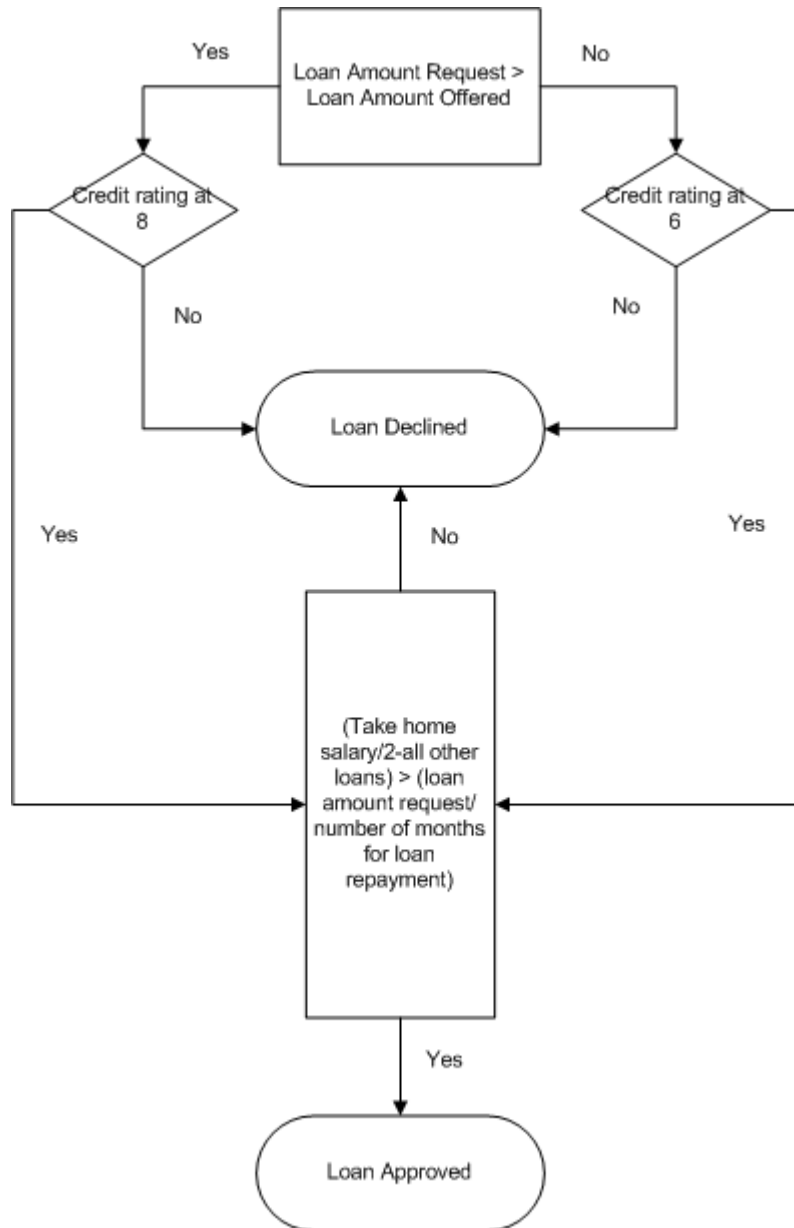
RulePoint evaluates all parameters based on configured rules and provides an evaluation that is error free.

You can use RulePoint to retrieve information from multiple sources that are relevant for a specific workflow and process rules configured for a particular evaluation. RulePoint can manage thousands of rules per second.

Proposed Algorithms

You can use the algorithms presented in the BPM use case during the loan processing. You can include additional steps or eliminate steps to the algorithm depending on the outcome of a process.

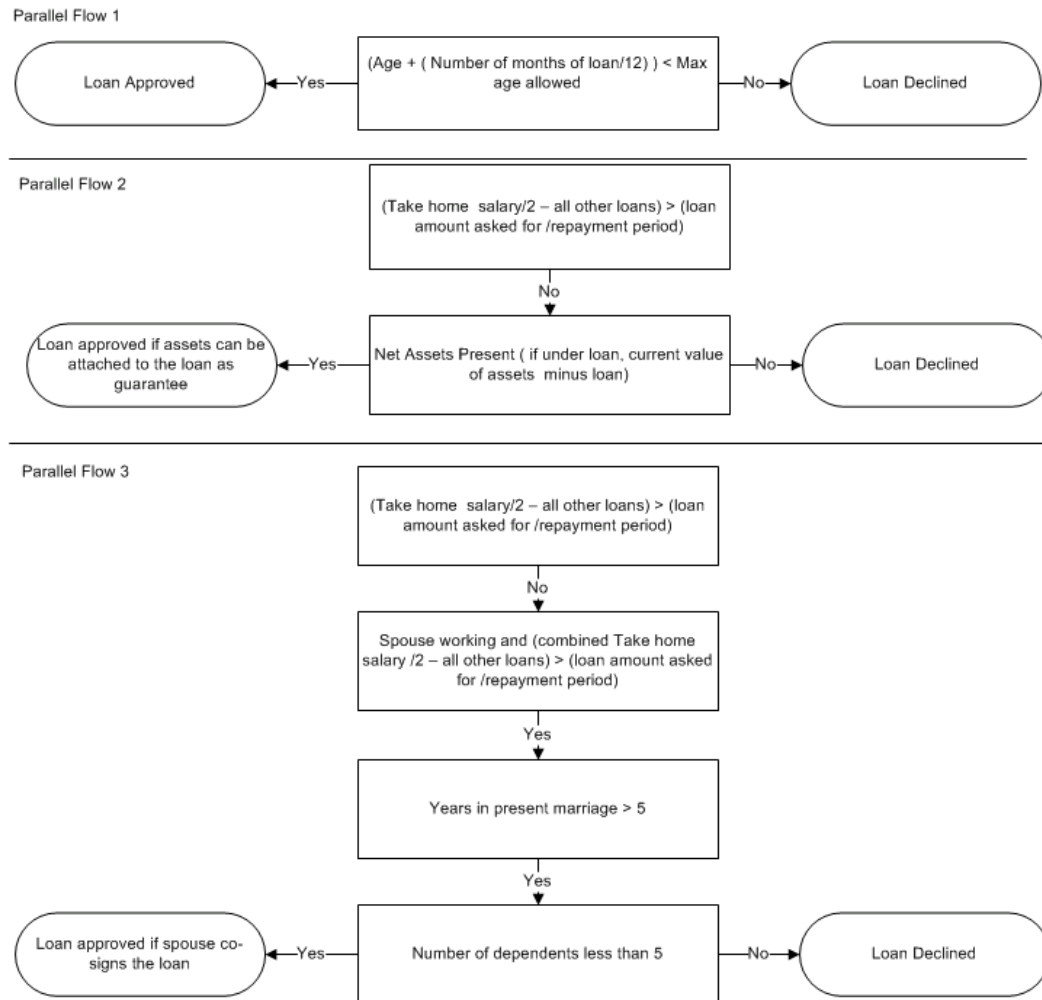
The following figure depicts the process flow in a loan processing system:



The eligibility criteria for a loan in the figure is based on the credit rating for that applicant, the total salary, all the availed loans, and the repayment term.

You can add parallel workflows within RulePoint to evaluate the loan eligibility.

The following figure depicts some of the workflows that you can use in RulePoint to evaluate the data:



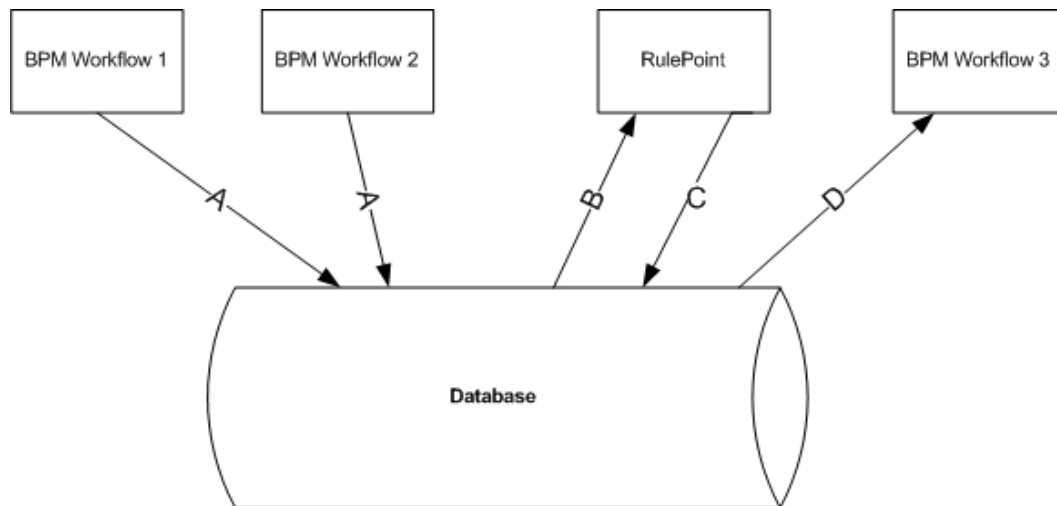
The workflows show the various rules you can use to evaluate the loan eligibility for an applicant. In workflow 1, age of the applicant and the loan payment term decide whether an applicant is eligible for the loan. Workflow 2 includes additional conditions, such as the salary, all availed loans, attached net assets against the loan amount request to decide the loan eligibility. Workflow 3 includes the salary, all availed loans, salary of the spouse, repayment period, years in marriage, and number of dependents that decide the loan eligibility.

Business Process Modeling Using RulePoint

RulePoint effectively enhances the BPM workflow while processing a loan.

The BPM workflows update the database tables when it completes a task. The source services in RulePoint use the database table as the source. The source services in RulePoint pick data from the tables, evaluate the data, and send an SQL response back to the database tables. The BPM workflow picks up the data and continues to process the loan.

The following figure shows the BPM workflow:



A: BPM workflows update data in the database.

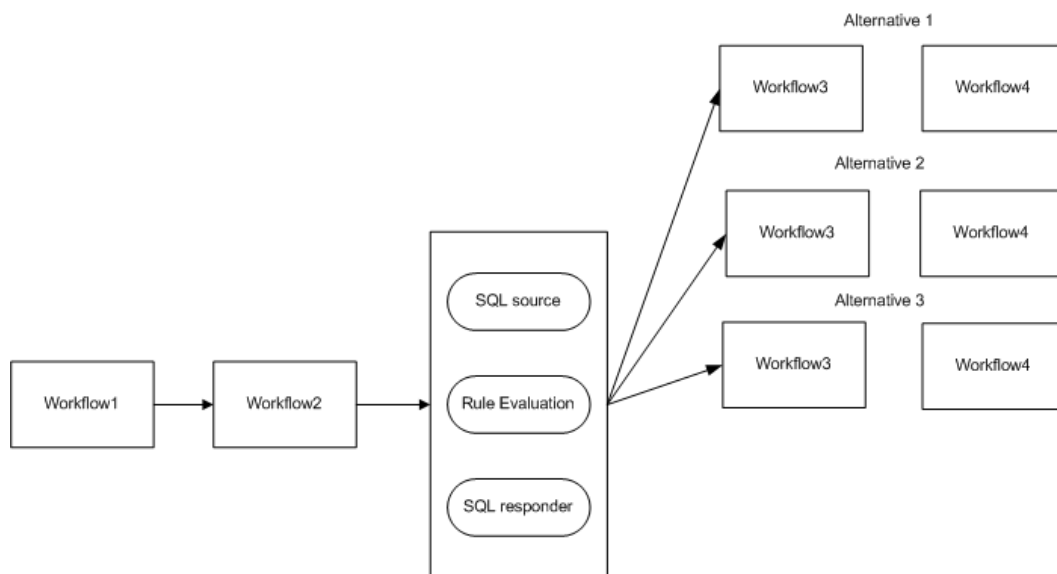
B: Source services in RulePoint pick up data from the database.

C: The responder services in RulePoint update the database with the response.

D: BPM workflow picks up data from the database.

The workflow might reach a point in which you might need to take decisions. You might need to choose among multiple alternatives based on the outcome of a rule.

The following figure shows the BPM workflows that use RulePoint at a particular instance of the workflow:



Workflows 1 and 2 are BPM processes configured to get third-party credit scores of customers, and other customer and loan information. Source services in RulePoint retrieve data from the tables, the rules process the data based on the conditions and make decisions when the conditions are met. Based on the decision, BPM can choose an option from different alternatives provided. For example, if the conditions specified in the rule determine that an applicant is eligible for the loan if the applicant has net assets, the BMP workflow picks this information, enquires the applicant for net assets, and processes data based on that. On the other hand, if the conditions determine that an applicant is eligible for the loan if the spouse salary is attached, BPM starts another workflow to get more information about the spouse's net salary along with the proof.

Schemas Used for Evaluation

The information that banks collect from customers and credit rating services are updated in the database tables. The database tables are the source for RulePoint services to pick the data and start processing.

The following table provides the properties of the proposed schemas for the BPM loan processing use case:

Schemas	Properties
Customer Personal information	Customer ID Name Age Address Home phone number Office address Office phone number Company name Company address Years in present job
Customer financial Information	Customer ID Net take home salary per month Net assets Total loan EMI payment per month
Customer credit Information	Customer ID Credit rating (1-10) History of paying back loan (1-10)
Customer family Information	Customer ID Married Number of dependents Spouse's net salary per month Years in same marriage
Customer Criminal Information	Customer ID Criminal record (1-10)
Customer medical history	Customer ID Medical history of customer (1-10)
Customer loan request Information	Customer ID Loan amount requested Number of months to pay back

RulePoint Implementation

The BPM firm requires a complex event processing product as RulePoint to process real-time data and send in required alerts.

The alerts can be in the form of email, RTAM, or database updates. The use case covers the basic usage of RulePoint objects and a high-level flow based on the proposed rules.

The use cases employ the following objects to implement a solution for evaluating the loan eligibility criteria:

- SQL Source. Connects to a database and executes SQL queries or commands to create RulePoint events. The SQL source publishes an event for each row returned from an SQL query.
- SQL Responder. Responds to events by connecting to a database and executing SQL commands.
- SQL Analytic. Runs an SQL query or command against a target database to enrich the data to provide additional information during rule processing that is not available in the event data.
- Custom Analytic. Analyzes data within a system and implements a data processing function. The custom analytic takes data in day format and returns the data in years format.
- Advanced Rules. The Detect and Respond Query Language (DRQL) syntax of RulePoint that consists of the WHEN, WITH, and THEN clauses that define the rule.
- Topics. Categorizes events and their properties. When RulePoint receives an event, RulePoint identifies its properties and values and categorizes it under a specific topic.

The following loan processing use cases are represented in this document:

- Decide loan eligibility based on applicant salary and all availed loans
- Decide loan eligibility based on applicant age and repayment tenure
- Decide loan eligibility based on applicant salary and collateral security
- Decide loan eligibility based on the net salaried income of a couple

The high-level workflow for each of the use case involves the SQL sources that retrieve data from the SQL tables of a database and store it as RulePoint topics. The use cases represented in this document use different SQL sources, such as `customer_financial_info_source`, `customer_personal_info_source`, `customer_family_info_source`, and `customer_loan_request_info_source` to send information to the corresponding RulePoint topics. The RulePoint topics identify the event properties and values and group them under a specific topic. The value of each field in the table corresponds to the value in the property.

Based on the type of evaluation configured, the advanced rules pick the information from the topics and process them. The processing is based on the proposed rules. Rules evaluate whether the customer is eligible for the loan, and sends this information to the corresponding tables using the SQL responders. BPM picks up the data from the tables for further processing.

CHAPTER 2

RulePoint Design and Implementation

This chapter includes the following topics:

- [RulePoint Design and Implementation Overview, 14](#)
- [Before You Begin, 14](#)
- [Use Case 1. Decide Loan Eligibility based on Applicant Salary and All Aailed Loans, 15](#)
- [Use Case 2. Decide Loan Eligibility based on Applicant Age and Repayment Tenure , 16](#)
- [Use Case 3. Decide Loan Eligibility based on Applicant Salary and Collateral Security, 16](#)
- [Use Case 4. Decide Loan Eligibility based on the Net Salaried Income of a Couple , 17](#)

RulePoint Design and Implementation Overview

This chapter provides information on the various rule types necessary to create a solution for the trading functionality.

The use cases presented in this lesson represent common loan processing scenarios.

Before You Begin

It is important that you complete the banking use case lessons before you understand how to create RulePoint objects to execute the BPM use cases. The Banking Use Case Tutorial provides a detailed understanding to create, execute, deploy, process, and view different RulePoint objects.

For more information, see the *Banking Use Case Tutorial*. Complete the following tasks before you begin working with the use cases:

1. Run the script to create the required tables and populate the data for the use case located at `<RulePoint installation Directory>\samples\BPM\db\<database>`.
2. Copy the custom jar `bpm-loanprocessing.jar` from `<RulePoint installation Directory>/samples/BPM/build` to the `<RulePoint installation Directory>/custom directory`.
3. Create a project named `BPM_Loan_Processing`.

4. Import the BPM_Loan_Management.xml file from <RulePoint installation Directory>/samples/BPM/db.
5. Edit the SQL connection properties to point to the database where you run the database scripts.
6. Run sample_customer_load_data.txt in the database to load the sample data.

The following data is a sample of the collected customer information:

```
INSERT INTO
Loan_Processing."CUSTOMER_PERSONAL_INFO" (Customer_ID, Customer_Name, Customer_Age, Customer_Address, Customer_Home_Phone_Number, Customer_Office_Address, Customer_Office_Phone_Number, Customer_Company_Name, Customer_Company_Address, Customer_Years_In_Present_Job) VALUES (1, 'Michael Crichton', 32, '7, Broadway Drive, New York, USA', 87325426, '8, Passway Road, New York USA', 8792432, 'Ginge', '2321, Pathway Drive, USA', 5);

INSERT INTO Loan_Processing."CUSTOMER_FINANCIAL_INFO" (Customer_ID, Net_Take_Home_Salary_per_Month, Customer_Net_Assets, Loan_EMI_payment_per_month, Total_loans) VALUES (1, 80000, 2000000, 10000, 11000);

INSERT INTO Loan_Processing."CUSTOMER_CREDIT_INFO" (Customer_ID, Customer_Credit_Rating, History_of_Paying_back_loan) VALUES (1, 2, 2);

INSERT INTO Loan_Processing."CUSTOMER_FAMILY_INFO" (Customer_ID, Customer_Married, Customer_Number_Of_Dependents, Spouse_Net_Salary, Years_In_Same_Marriage) VALUES (1, 1, 2, 0, 7);

INSERT INTO Loan_Processing."CUSTOMER_CRIMINAL_INFO" (Customer_ID, Customer_Criminal_Record) VALUES (1, 1);

INSERT INTO Loan_Processing."CUSTOMER_MEDICAL_HISTORY" (Customer_ID, Medical_History_Of_Customer) VALUES (1, 3);

INSERT INTO Loan_Processing."CUSTOMER_LOAN_REQUEST_INFO" (Customer_ID, Customer_Loan_Amount_Requested, Number_Of_Months_To_Pay_Back) VALUES (1, 100000, 60);
```

Use Case 1. Decide Loan Eligibility based on Applicant Salary and All Aailed Loans

If the salary and the total Equated Monthly Installment (EMI) for all loans availed by the applicant satisfy the conditions stated in the rule, send an SQL response to the salaryResponse table, indicating that the loan is "Approved." If the parameters do not satisfy the rule, send "Not approved" to the table. In this case, the response sends a value of 1 or 0 to a table field.

Process Workflow

1. Deploy the following objects:
 - SQL sources: Customer Financial Information Source, Customer Loan Request Information Source
 - Rules: Salary Rule, Salary Rule2
 - SQL Responder: Salary Responder
2. In the dashboard, select the event processor where you deployed the rule, and verify that you can view activations for the rule.

3. In the database, view the Loan_Aproved_Common field in the Loan_Processing.LOAN_APPROVAL_INFO_Common table.

A return value of 1 indicates that the loan is approved, and a return value of 0 indicates that the loan is declined.

Use Case 2. Decide Loan Eligibility based on Applicant Age and Repayment Tenure

If the applicant's age and the repayment term for the loan criteria are greater or lesser than the cut-off limits, the SQL response indicates whether the applicant is eligible for the loan. RulePoint sends a value of 1 or 0 to the AgeResponse table field. The rule uses a custom analytic to round off the derived age in the rule.

Process Workflow

1. Deploy the following objects:
 - SQL sources: Customer Personal Information Source, Customer Loan Request Information Source
 - Rules: Age rule, Age Rule2
 - SQL Responder: Age Responder
2. In the dashboard, select the event processor where you deployed the rule, and verify that you can view activations for the rule.
3. In the database, view the Loan_Aproved_Age field in the Loan_Processing.LOAN_APPROVAL_INFO_Age table.

A return value of 1 indicates that the loan is approved, and a return value of 0 indicates that the loan is declined.

Use Case 3. Decide Loan Eligibility based on Applicant Salary and Collateral Security

If the net salary is less than the loan eligibility criteria, and the person can provide collateral security, the applicant is eligible for the loan. If the applicant is not eligible, RulePoint sends a value of 1 or 0 to the NetAssetResponse table field.

Process Workflow

1. Deploy the following objects:
 - SQL sources: Customer Financial Information Source, Customer Loan Request Information Source
 - Rules: Net Asset rule, Asset Rule2
 - SQL Responder: Net Asset Responder
2. In the dashboard, select the event processor where you deployed the rule, and verify that you can view activations for the rule.

3. In the database, view the Loan_Approved_Assets field of the Loan_Processing.LOAN_APPROVAL_INFO_Assets table.

A return value of 1 indicates that the loan is approved, and a return value of 0 indicates that the loan is declined.

Use Case 4. Decide Loan Eligibility based on the Net Salaried Income of a Couple

If the net salary is less than the loan eligibility criteria, but the applicant has a salaried spouse who co-signs the loan, and the net salary of the couple meets the loan eligibility criteria, the applicant becomes eligible for the loan. If not, RulePoint responds with a value of 1 or 0 to the SpouseResponse table field.

Process Workflow

1. Deploy the following objects:
 - SQL sources: Customer Financial Information Source, Customer Loan Request Information Source, Customer Family Information Source
 - Rules: Spouse Rule, Spouse Rule2
 - SQL Responder: Spouse Responder
2. In the dashboard, select the event processor where you deployed the rule, and verify that you can view activations for the rule.
3. In the database, view the Loan_Approved_Spouse field of the Loan_Processing.LOAN_APPROVAL_INFO_Spouse table.

A return value of 1 indicates that the loan is approved, and a return value of 0 indicates that the loan is declined.

INDEX

B

before you begin
tasks [14](#)
Business Process Management See *BPM*
business process modeling
using RulePoint [10](#)

D

decide loan eligibility
age and EMI term [16](#)
net salary of couple [17](#)
salary and EMI term [15](#)
salary and security [16](#)

L

loan eligibility criteria
determining [7](#)
loan parameters
weightage [7](#)

P

proposed algorithms
loan eligibility evaluation [9](#)
proposed schemas
loan eligibility evaluation [12](#)

R

RelePoint design
implementation [14](#)
RulePoint implementation
required objects [13](#)

U

use case overview [14](#)