

1 End-2-End Purchase Order Processing

1.1	Introduction.....	2
1.2	Description of the application.....	2
1.2.1	SOA Components	3
1.3	Prerequisites.....	4
1.4	Project Files.....	4
1.4.1	File Conventions	4
1.4.2	Installing the database schema	4

1.1 Introduction

In this sample we will build a SOA composite application to process and approve purchase orders. The purchase order details can come in from any source (in our case a testing page), the credit card status for the customer is validated and if the credit card is good, the order continues. An order for a large purchase price requires a manual approval step. Finally, the order is written to a text file to be processed by the fulfillment house.

This SOA composite application will contain a database adapter, web services binding, Mediator ESB routing service, BPEL process and human task. The complete application will be built in 4 steps.

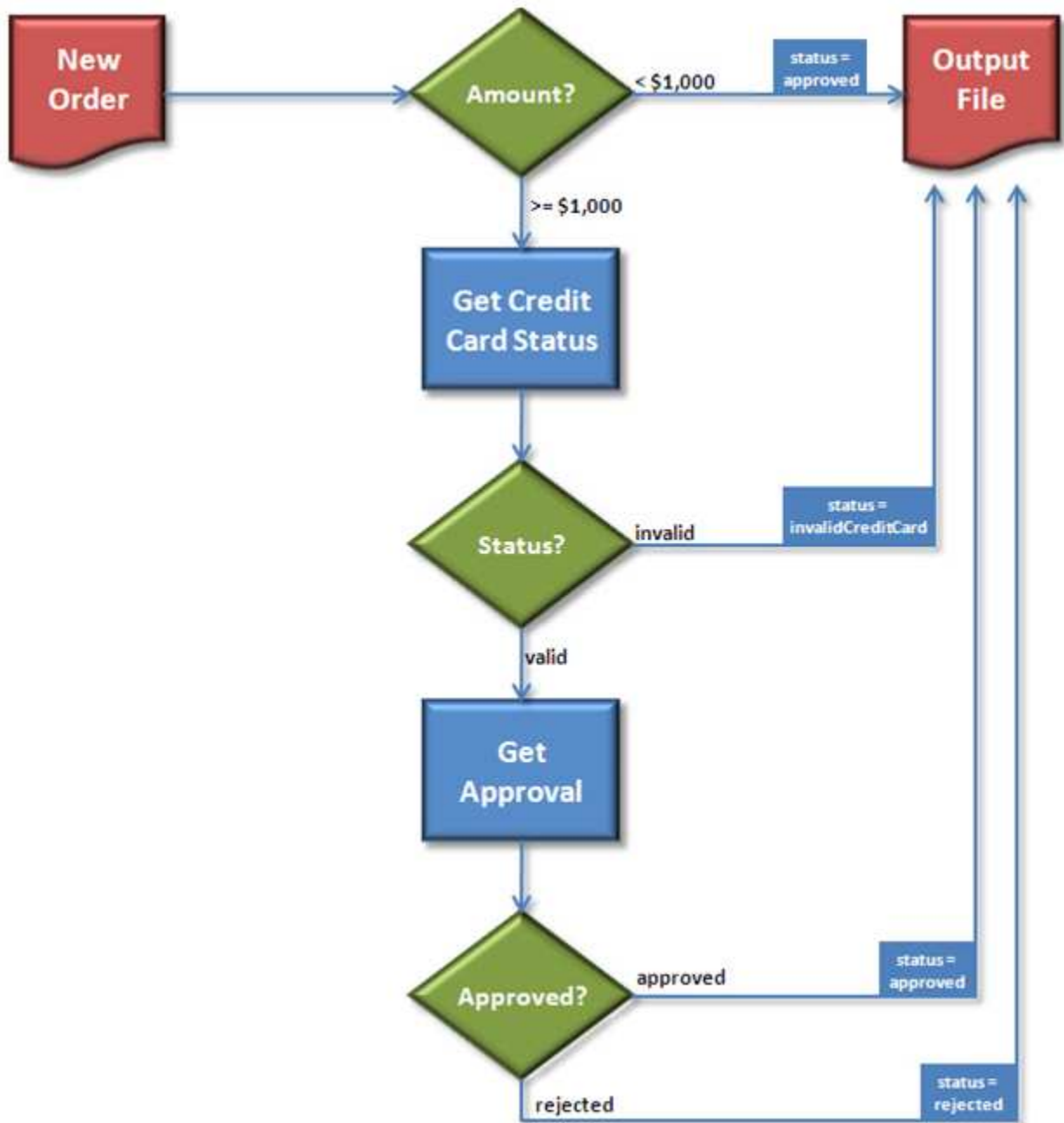
1.2 Description of the application

The application you will build is the back-end processing of a new order. The business process to be implemented is as follows.

- All orders will be written to a text file to be processed by the fulfillment house.
- Small orders (defined as those under \$1,000) are to be automatically approved.
- Large orders (those greater than or equal to \$1,000) go through a validation and approval process.
 - The customer's credit card must be validated.
 - A customer service representative must manually approve the order.
- Approved orders shall have the status "approved".
- Large orders with an invalid credit card shall have the status "invalidCreditCard".
- Large orders rejected by the customer service representative shall have the status "rejected".

Figure 1 shows a visual representation of the business process.

Figure 1 Visual view of the business process



1.2.1 SOA Components

In terms of the SOA application you will create the following

- A service that accepts new orders in XML format.
- A File Adapter service that can write XML messages (such as orders) out to a file.
- A content-based Mediator service to route small orders to the file adapter and large orders to a BPEL process.

- A BPEL process that validates the credit card by calling a service, and seeks human approval using a Human Task component.
- The credit card validation service used by the BPEL process to validate a given credit card.
- A Database Adapter service to retrieve the status of a given credit card from the database.

1.3 Prerequisites

This document assumes you have already installed the following:

- An Oracle database
- Oracle SOA Suite 11
- Oracle JDeveloper 11

1.4 Project Files

The ZIP file for this sample came with several directories and files:

- `doc` – contains the instructions for creating and running the demo
- `input` – a few xml files with sample input data
- `sql` – two database scripts used during setup
- `schemas` – xsd files used throughout sample when defining services
- `ch2` – `ch6` – a solution project for each chapter

1.4.1 File Conventions

After unzipping the file for this sample, move or copy it to `c:\po`. This document assumes that path. If you unzipped somewhere else then adjust accordingly when `c:\po` is referenced through this document. If you already created `c:\po` for the 105 quickstart or an addendum, you can safely copy this directory into it.

1.4.2 Installing the database schema

This demo requires a table in the database.

1. Create the `soademo` user. It is ok to run this script even if the `soademo` user already exists. From a command line, cd to the `c:\po\sql` directory and run the following replacing `pw` with your own system user's password:

```
cd c:\po\sql
sqlplus system/pw @create_soademo_user.sql
```

2. Create the credit card info table. It is ok to run this script even if the table already exists.

```
sqlplus soademo/soademo @create_creditrating_table.sql
```