

Talend Trial RBAC Simulation – Final Guide

This guide walks through the complete setup for simulating Role-Based Access Control (RBAC) in Talend Trial Edition.

It uses .properties files, context variables, and Talend components to create a data pipeline that behaves differently based on role-specific permissions.

1. Roles & Permissions

Three roles are defined via .properties files:

- DataEngineer: full access
- DataSteward: partial access
- Auditor: read-only access to logs

Example properties file (DataEngineer.properties):

```
role=DataEngineer
can_read_orders=true
can_write_snowflake=true
can_log_errors=true
can_read_logs=false
```

2. Context Variables

Create a context group (e.g., rbacContext) with the following variables:

- role (String)
- can_read_orders (Boolean)
- can_write_snowflake (Boolean)
- can_log_errors (Boolean)
- can_read_logs (Boolean)

3. Talend Job Flow

Each role's subjob contains:

- tFileInputProperties → tContextLoad → tJava (print permissions)
- tFileInputDelimited (orders.csv) → tFilterRow → tJavaRow (error logic) → tLogRow
- tFileInputDelimited (log.csv) → tFilterRow → tLogRow
- tLogRow (simulate Snowflake write)

4. tFileInputDelimited Configuration

- File name: path to orders.csv or log.csv
- Field separator: ,
- Row separator: \n
- Header: 1
- Schema: Define columns as per your CSV

5. tFilterRow Configuration

- Add condition: context.can_read_orders == true
- Connect 'Filter' output to downstream logic
- Connect 'Reject' output to optional error logger

6. tJavaRow Logic (for error logging)

```
if (Double.parseDouble(input_row.amount) <= 0 && context.can_log_errors) {  
    System.out.println("❌Invalid Order: " + input_row.order_id);  
}  
output_row.order_id = input_row.order_id;  
output_row.customer_id = input_row.customer_id;  
output_row.amount = input_row.amount;
```

7. Testing Roles

Enable one role flow at a time:

- Run with DataEngineer.properties → full flow executes
- Run with DataSteward.properties → logs and error checks only
- Run with Auditor.properties → only log.csv is accessed

8. Conclusion

This setup simulates dynamic, context-driven ETL pipelines in Talend Trial using only supported components.

It demonstrates how RBAC-style controls can be built without enterprise features.