

ABSTRAK

Salah satu cara untuk menganalisis data bervolume besar dapat dilakukan dengan memodelkan data ke dalam bentuk multidimensional. Pemodelan data multidimensional dikenal dengan istilah *data cube*. Pembangunan aplikasi ini bertujuan untuk membantu pengguna dalam melakukan analisis terhadap data dengan memanfaatkan model multidimensional. Operator-operator *data cube*, seperti *roll-up*, *drill-down*, *slice*, *dice* dan *rotate/pivot* yang terdapat dalam aplikasi, dapat membantu pengguna dalam menganalisis data secara fleksibel. Aplikasi ini dibangun menggunakan bahasa pemrograman Java yang berjalan di atas *platform* sistem operasi *Windows*, dengan *database PostgreSQL*. Data yang digunakan untuk mengujicoba aplikasi ini merupakan studi kasus dari data transaksi pembelian dan penjualan obat rumah sakit “X” periode tahun 2002 sampai tahun 2008. Hasil pengujian menunjukkan bahwa aplikasi ini dapat berjalan dengan *database* yang berbeda namun dalam format *PostgreSQL*, operator *roll-up*, *drill-down*, dan *rotate* dapat dikombinasikan penggunaannya, namun ada dua operator yang tidak dapat dikombinasikan penggunaannya yaitu *slice* dan *dice*. Aplikasi ini masih belum memiliki beberapa fitur selengkap aplikasi *Oracle 10g Analytic Workspace*, seperti fitur grafik *data cube* serta elemen *data warehouse* yang dapat diubah.

Kata Kunci : *Data Cube, Pemodelan Multidimensional, Operator Data Cube*

ABSTRACT

One of another way to analyze data in a large volume, can be done with multi-dimensional data modelling. This modelling method called data cube. The goal of this application is to help users to analyze data with multidimensional model. Data cube operators, like roll-up, drill-down, slice, dice and pivot/rotate in this application, may help users to analyze data in in flexible way. This application was build with Java that running on Windows platform. This application use PostgreSQL database and already tested with sales medicine transactional data study case at “X” hospital. The testing result indicate that this application can be running with two different PostgreSQL databases. Roll-up, drill-down and rotate operators can be combine each other, but there is two operators that cannot be combine, there is slice and dice operators. This application in comparison with another application, Oracle 10g Analytic Workspace Manager have more features than this application like data cube graphic feature and editable data warehouse schema element.

Keywords : Data Cube, Multi-dimensional Modelling, Data Cube Operators

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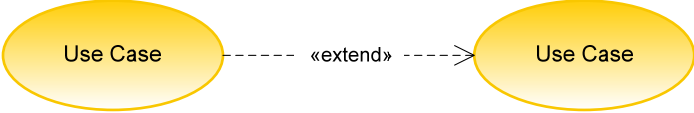
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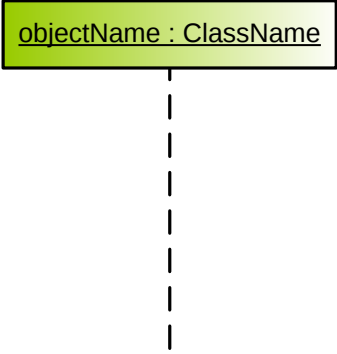
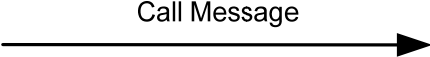
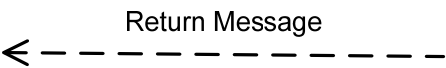
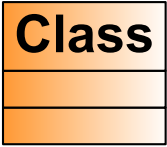
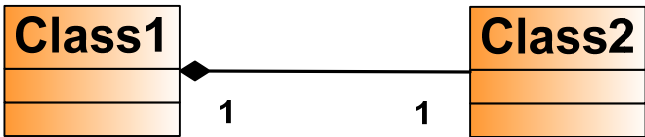
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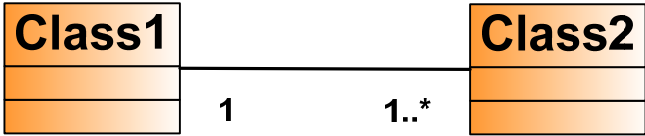
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DAFTAR SIMBOL

Simbol	Nama Simbol
 Actor	<i>Actor</i>
 Use Case	<i>Use Case</i>
	<i>Include</i>
	<i>Extend</i>
 <i>Initial</i>	<i>Initial</i>
 <i>Final</i>	<i>Final</i>
 Activity	<i>Activity</i>
	<i>Decision</i>

Simbol	Nama Simbol
	<i>Object Lifeline</i>
	<i>Activation</i>
	<i>Call Message</i>
	<i>Return Message</i>
	<i>Lifeline</i>
	<i>Class</i>
	<i>Composition</i>

Simbol	Nama Simbol
 <pre>classDiagram class Class1 class Class2 Class1 "1" -- "1..*" Class2</pre>	<i>Association</i>
 <pre>classDiagram class Class1 class Class2 Class1 < -- Class2</pre>	<i>Inheritance</i>