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# Cassandra Installation and Configuration Guide

[Overview](#)

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# Overview

**Apache Cassandra** is an open source, eventually consistent, distributed database system used by Orchestration Server to store customer **session** information. It is designed to be highly scalable and decentralized (such that there is no single point of failure).

## Data Model

The Cassandra data model is divided into four basic elements. They are:

- Columns
- Column Families
- Rows
- Keyspaces

### Columns

A column is the smallest element of the Cassandra data structure. It is a tuple which consists of a name, value, and timestamp.

### Column Families

A column family is to Cassandra what a table is to SQL (RDBMS). Column families store rows, and every row is referenced by a key.

### Rows

A row groups related columns together. Every row is given a key and the key determines which Cassandra node the data will be stored to.

### Keyspaces

A keyspace is roughly the equivalent of a schema or a database in SQL (RDBMS). Keyspaces contain collections of column families. The name of the keyspace is a first dimension of a Cassandra hash.

### **Example:**

```
{
  "Genesys" : { // Keyspace
    "Services" : { // Column Family
      "ORS" : { // Row
        "Name" : "Orchestration", // Column
        "Version" : "8.1.2" }, // Column
      "GVP" : {
        "Name" : "Genesys Voice Platform",
        "Version" : "8.1.1" },
    }
  }
}
```

```
"URS" : {  
  "Name" : "Universal Routing Server",  
  "Version" : "8.1.2" }  
}  
}
```