# Structure Concepts, Developer's Perspective

> ✅ This article provides an introduction to the main concepts used in Structure. Before starting your work on integration with Structure, please familiarize yourself with these concepts.

## 1. Basic Concepts Overview

| Concept | Short Definition | API Classes to Check |
|---|---|---|
| Structure | A named container for a hierarchical list. | `Structure, StructureManager` |
| Forest | A hierarchical list. | `Forest, ForestService` |
| Row | A row is a unique, atomic element of a forest. | `StructureRow, RowManager` |
| Item | An item is a user-level object (like Issue) that is displayed in a row. | `ItemIdentity, CoreIdentities` |
| Attribute | An attribute provides values of a certain type and meaning for forest rows. | `AttributeSpec, StructureAttributeService` |
| Column | A column loads one or more attributes and displays information about forest rows. | `ViewSpecification` |
| View | A view is a named collection of columns. | `StructureView, StructureViewManager` |

Important points:

- **Structures** are the main entities provided by Structure add-on. A structure has name and other attributes, like description, and it also has content, represented by a **forest***.*
- A forest represents a structure's content. But it can also represent a result of a query or a hierarchical list received or stored somewhere else.
- Forest contains **rows**. Forest content is actually a list of pairs (`row ID, depth`).
- A row has a numeric ID that uniquely identifies it in a forest. A forest may not contain the same row twice. (Although a row may be present in different forests.)
- When users look at a structure, they see a grid – each row in that grid is represented by a Structure's row.
- A row refers to an **item**. An item is an abstraction for everything that can be placed into a forest – issues, folders, projects, users are all items, from Structure's perspective.
- An item has **item identity** – something that uniquely identifies that item on a JIRA instance.
- An item also has **attributes** – some values with associated meaning, which Structure and its extensions can provide and that can be shown to the user.

## 2. A Note on Extensibility

Structure is built with extensibility in mind. It is possible for a separate add-on to add new item types, attributes, columns and other extensible elements to Structure, at runtime.