

3.1 Generating Dynamic Snapshot Views

The general method for creating a snapshot 'view' for a specified SnapshotTime is as follows:

1. Exclude all [Component](#) versions with an [effectiveTime](#) greater than the SnapshotTime.

Note: In theory the most recent [snapshot view](#) step could be omitted. However, a release will often be distributed before its [effectiveTime](#) . Therefore, this approach is not recommended as a general approach in a live system.

1. From each set of [Component](#) versions with the same id select the [Component](#) version with the highest (most recent) [effectiveTime](#) .

The most flexible approach is to apply this method dynamically so that a different snapshot time can be configured as needed to meet new requirements. The following example code illustrates an implementable approach to this.

```
SELECT `c`.* FROM `sct2_concept` AS `c`
WHERE `c`.`effectiveTime` = (SELECT MAX(`c2`.`effectiveTime`)
FROM `sct2_concept` `c2`
WHERE `c2`.`id` = `c`.`id`
AND `c2`.`effectiveTime` <= `snapshotTime`())
```

Figure 24. General form of SQL to create a snapshot view

In this sample code ``snapshotTime`()` is a function that returns the time to be applied to this snapshot. For the most recent [snapshot view](#) this can be omitted as shown below:

```
SELECT `c`.* FROM `sct2_concept` AS `c`
WHERE `c`.`effectiveTime` = (SELECT MAX(`c2`.`effectiveTime`)
FROM `sct2_concept` `c2`
WHERE `c2`.`id` = `c`.`id`)
```

Figure 25. SQL to create the latest snapshot view

Similar views can be created for each of the [Component](#) tables by simply replacing the table name in both the outer and nested queries.

Note: The SQL queries in this and the following section assume applicability of a common versioning view for all [modules](#). In some case, where a [module](#) that is being used depends on an earlier version of another [module](#), more complex queries and optimizations may be needed. For further information about how dependencies between [module](#) are represented see details of the [Module dependency reference set](#) .