# 11.3 Expected Persistent Class Sizes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **Employee** | **\*EmpID[[1]](#endnote-1)** | INT | 4 |  |
| supervisorID | INT | 4 |
| givenName | VARCHAR(70) | 72 |
| familyName | VARCHAR(70) | 72 |
| birthDate | DATE | 3 |
| email | VARCHAR(50) | 52 |
| username | VARCHAR(20) | 22 |
| password | VARCHAR(8) | 10 |
| prefPosition | VARCHAR(45) | 47 |
| prefLocation | VARCHAR(45) | 47 |
| plevel | INT | 4 |
| active | BOOLEAN | 1 |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **Schedule** | **\*schedID** | INT | 4 |  |
| startDate | DATE | 3 |
| endDate | DATE | 3 |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **PermissionSet** | **\*plevel** | INT | 4 | 29 |
| canReadSched | BOOLEAN | 1 |
| canReadOldSched | BOOLEAN | 1 |
| canEditSched | BOOLEAN | 1 |
| canViewResources | BOOLEAN | 1 |
| canChangePermissions | BOOLEAN | 1 |
| canReadLogs | BOOLEAN | 1 |
| canAccessReports | BOOLEAN | 1 |
| canRequestDayesOff | BOOLEAN | 1 |
| maxDaysOff | INT | 4 |
| canTakeVacations | BOOLEAN | 1 |
| maxVacationDays | INT | 4 |
| canTakeEmergencyDays | BOOLEAN | 1 |
| canViewInactiveEmps | BOOLEAN | 1 |
| canSendNotifications | BOOLEAN | 1 |
| trusted | BOOLEAN | 1 |
| preferredRank | INT | 4 |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **Notification** | **\*notificationID** | INT | 4 | 227 |
| senderID | INT | 4 |
| recipientID | INT | 4 |
| viewed | BOOLEAN | 1 |
| message | VARCHAR(300) | 202 |
| type | VARCHAR(20) | 12 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **WorkingShift** | **\*workShiftID** | INT | 4 |  |
| scheduleID | INT | 4 |
| startTime | TIME | 3 |
| endTime | TIME | 3 |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **Skill** | **\*skillName** | VARCHAR(45) | 46 |  |
| skillDescreption | VARCHAR(200) | 202 |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **Shift** | **\*shiftID** | INT | 4 | 80 |
| empID | INT | 4 |
| mon\_start | TIME | 3 |
| mon\_end | TIME | 3 |
| tue\_start | TIME | 3 |
| tue\_end | TIME | 3 |
| wed\_start | TIME | 3 |
| wed\_end | TIME | 3 |
| thu\_start | TIME | 3 |
| thu\_end | TIME | 3 |
| fri\_start | TIME | 3 |
| fri\_end | TIME | 3 |
| sat\_start | TIME | 3 |
| sat\_end | TIME | 3 |
| sun\_start | TIME | 3 |
| sun\_end | TIME | 3 |
| location | VARCHAR(20) | 22 |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **ShiftSched** | **\*shiftID** | INT | 4 | 8 |
| **\*schedID** | INT | 4 |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **Location** | \***location** | VARCHAR(20) | 22 |  |
|  | locDesc | VARCHAR(200) | 202 |
| **Table** | **Attributes** | **Attribute type** | **Data size(Bytes)** | **Total** |
| **WorkgroupRelation** | wkgpID | INT | 4 | 8 |
| childWkgpID | INT | 4 |

## Expected Data Size

Expected max number of object is derived from Deerfoot Inn and Casino captured requirements:

### Expected max number of stored objects

* **Employee**- Expected to hold 500 active employees. But since disabled employees are not deleted, our system is expected to store disabled employees who have been replaced. On average the total is 800 active and disabled employees. According to the requirements analysis employees are expected to increase on an average of 50 annually.
* **Schedule-** Expected to hold3 schedules per workgroup. Therefore, a total of 450 schedules at any given time. Schedules will include current, past and future schedules.
* **PermissionSet-** Expected to hold a maximum of 20 different permission sets.
* **Notification-** Expected to hold around 50 notifications per active employee at any given time. Therefore, the total at any given time would be 25, 000 notifications.
* **Event-** Expected to hold 150 events.
* **Workgroup-**Expected to hold 150 workgroups.
* **WorkgroupRelation-** Three times the workgroup. 450 workgroupRelations.
* **JobType-** Expected to hold 40 job types.
* **Shift-** The maximumnumber of shifts that an employee could be assigned to is 7(1 shift per day). Therefore the system woud hold a maximum of 3500 shifts.
* **ShiftSched-** A maximum of 1575000.
* **ShiftLocation –** A maximum of 50 locations. This inlcudes 9 restaurants, 2 hotels, casino floor, customer service …etc

### Expected data size of stored objects

The following equation had been used to calculate the size:

Expected data size (data size for each persistent class \* expected max number of stored objects of each class)

Each object will approximately have the following data sizes in bytes:

* **Employee-** 196, 000
* **Schedule-** 50850
* **PermissionSet-** 580
* **Notification-** 5675000
* **Event-** 51300
* **Workgroup-** 5700
* **WorkgroupRelation-** 3600
* **JobType-** 22320
* **Shift-** 280 000
* **ShiftSched-** 12 600 000
* **ShiftLocation-** 1100

1. Bolded attributes with an aterisk next to them represent primary keys. [↑](#endnote-ref-1)