The company’s development environment considers two roles: the DBA who is involved in designing and maintaining the database including its security, policies, users, roles and profiles. And the Developer who is responsible for building the database, enforcing its security and policies according to the design requirements. The following include the names in the database of the roles, users and profiles created for the environment.

|  |  |  |
| --- | --- | --- |
|  | **DBA** | **Developer** |
| **ROLE** | store\_dba | store\_dev |
| **PROFILE** | store\_dba\_profile | store\_dev\_profile |
| **USER** | xjw9075\_dba | xjw9075\_dev |

**User policies**

The company requires strict user policies particularly for those who handle their data directly to ensure security of their data. The following are the user policies in place in the environment.

* Both DBA and developer users are required to have password where they are given a password on creation and required to change it when first logging in.
* DBA users are allowed 2 login attempts and Developers 4 attempts before an account lockout of 30 minutes occurs.
* Developer accounts are locked after 30 minutes of inactivity and DBA accounts locked after 15 minutes of inactivity.
* DBA users are required to change their password every 10 days and Developers every 30 days where a 3 day grace period is given for developers
* Developers may not use the same password within 60 days while DBA’s may not use the same password at all.
* Developers are permitted to 2 concurrent sessions while developers are restricted to 1 session.
* During development Developers and DBA’s are not restricted in resources

**DBA privileges**

The store has one level of DBA users and consequently, DBA users are provided all privileges. This includes all system and object privileges where DBA users are able to modify, insert, delete and read all tables in the stores database.

**Developer privileges**

Developers are not permitted any privileges involving management of table spaces, roles, profiles and users. The following system privileges are permitted and are regularly exercised by developers.

|  |  |
| --- | --- |
| **System privilege** | **Reasoning** |
| Create, change, delete tables | Developers need to be able to mutate and create tables in development frequently both for testing and because they are responsible for building the database. |
| Create, change, delete triggers | Triggers are necessary in the Cable City database in order to capture some of the features they request so the developer will be required to create and manipulate triggers |
| Create, change sessions | Developers are limited to two concurrent sessions and consequently they may create and change sessions. |
| Create, change, delete index | Similarly to create/mutating tables, developers may create and manipulate indexes in the database for tuning. |
| Create, change, delete procedures | Programming in the database will be frequent to achieve some of the client’s features as well as the need to make efficient and useful functions that can be re-used in production therefore the developer will need to create and manipulate procedures in the database. |

**Object privileges**

Developers may have object/table specific permissions in updating, delete, inserting and selecting records in a table. During development permissions on objects will be higher than in a production scenario to allow for population of data, testing and tuning. Below are the object specific privileges for the Developer user.

**Sales**

|  |  |  |
| --- | --- | --- |
| **Privilege** | **Allow** | **Reasoning** |
| Select | YES | Sales data may need to be queried by applications for analysis or testing during development |
| Insert | YES | Sales will need to be recorded by the developer in development for the stores migration as well as during production. |
| Delete | YES | Sales records may need to be removed during testing or for achieving at the end of the 13 week cycles |
| Update | YES | Sales records may need to be corrected in the event of an error. |

**Customers**

|  |  |  |
| --- | --- | --- |
| **Privilege** | **Allow** | **Reasoning** |
| Select | YES | Lookups of customer details will be necessary and frequent for testing and in the database procedures. |
| Insert | YES | Developers and their applications in both development and production will need to add new customers. |
| Delete | YES | During development developers may delete customers for both their applications and for testing but this will be logged and monitored. |
| Update | YES | Customer details may need to be changed such as a password reset and adding points, however all changes are logged to deter tampering with customer data. |

**Products**

|  |  |  |
| --- | --- | --- |
| **Privilege** | **Allow** | **Reasoning** |
| Select | YES | Lookups of product details will be necessary in procedures and applications |
| Insert | YES | During the stores migration products will need to be added and similarly new and testing products will need to be added. |
| Delete | YES | Products may be created for tests in development and consequently need to be deleted when testing has finished. This will be logged as the decision to remove a product needs to come from a manager |
| Update | YES | Products will need to be regularly updated particularly in their stock which will be a frequent application of the procedures. |

**Despatch**

|  |  |  |
| --- | --- | --- |
| **Privilege** | **Allow** | **Reasoning** |
| Select | YES | Applications will need to do lookups during sales transactions to ensure enough stock quantity as well as lookup of shelf location. |
| Insert | YES | Products when dispatched will need to be inserted into dispatch and the developers applications should handle this |
| Delete | YES | During testing, developers may need to bulk delete dispatched items |
| Update | YES | Dispatch quantities need to be updated after a sale transaction and the developers applications should handle this |