Security/ Access Control/ User Location binding

# Overview

ESimSol is a web application and served as online web application services. Users of ESimSol can access to the application from anywhere via Internet connection. There are few business discomforts and threads generated described in the below:

1. User access outside the office premises is lack of office documents confidentiality
2. Management don’t want to see their users log into the application outside of their office
3. There are chances of to log-in at some competitors premises
4. Price sensitive records can be disclosed
5. Lefty employees have the chance to access the application from outside, etc.

Solution is: there are two types of users; type one: they are permitted to log-in from any location. Type two: they are permitted to access from office only or any other permitted location.



**Use Cases:**

1. **Global location binding flag:** this feature will be in company setup window as global setup. If a company has location binding flag true then system will check which users are under this policy.
2. **User sorting:** individual user to user location dependency flagging. If a particular user is not permitted to login from unknown location, then a true flag raises for that user.
3. **Location-classifying:** according to user login request an unknown location list will be prepared. A system admin will classify a location as known-location.
4. **User-Location mapping:** a location bound user need to be map with one or more classified location(s). In this mapping list only location-bound user and classified locations will be appear.
5. **Location-User mapping:** same as number 4 but vice-versa.

**Basic location tracing facts:**

**Technical:** (1) IP, (2) Decimal, (3) ISPName, (4) NetDistributor, (5) IPHostName, (6)StaticOrDynamic

**GeoLocation:** (1) Country, (2) RegionState (3) City, (4) Latitude, (5) Longitude (6) AreaCode

Data Dictionary

Add a field at CompanyInformation table, field name: ‘ApplyLocationBinding’

Add a field at Users table, field name: ‘ApplyLocationBinding’

LB\_Location (LB stands for Location Binding)

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| --- | --- | --- | --- |
| **SL** | **Field name** | **Data Type** | **Description** |
| 1 | LB\_LocationID | int | PK |
| 2 | LB\_IPV4 | Varchar(15) | Unique/ no duplicate |
| 3 | LB\_KnownName | Nvarchar(63) | Descriptive name of requested location |
| 4 | LB\_LocationNote | Nvarchar(127) |  |
| 5 | LB\_Is\_Classified | Bit |  |
| 6 | LB\_ClassificationDate | Datetime |  |
| 7 | LB\_ClasifiedBy | Int | Users.UserId |
| 8 | LB\_FirstHitDate | Datetime |  |
| 9 | LB\_FirstHitBy | Int | Users.UserID |
|  |  |  |  |

LB\_UserLocationMap (LB stands for Location Binding)

|  |  |  |  |
| --- | --- | --- | --- |
| **SL** | **Field name** | **Data Type** | **Description** |
| 1 | LB\_UserLocationMapID | Int | PK |
| 2 | LB\_UserID | Int | Users.UserID |
| 3 | LB\_LB\_LocationID | Int | LB\_Location.LB\_LocationID |
| 4 | LB\_ExpireDateTime | Datetime | Null=perpetual |
| 5 | LB\_DBServerDateTime | Datetime |  |
| 6 | LB\_DBServerUserID | Int | Users.UserID |