REVATURE

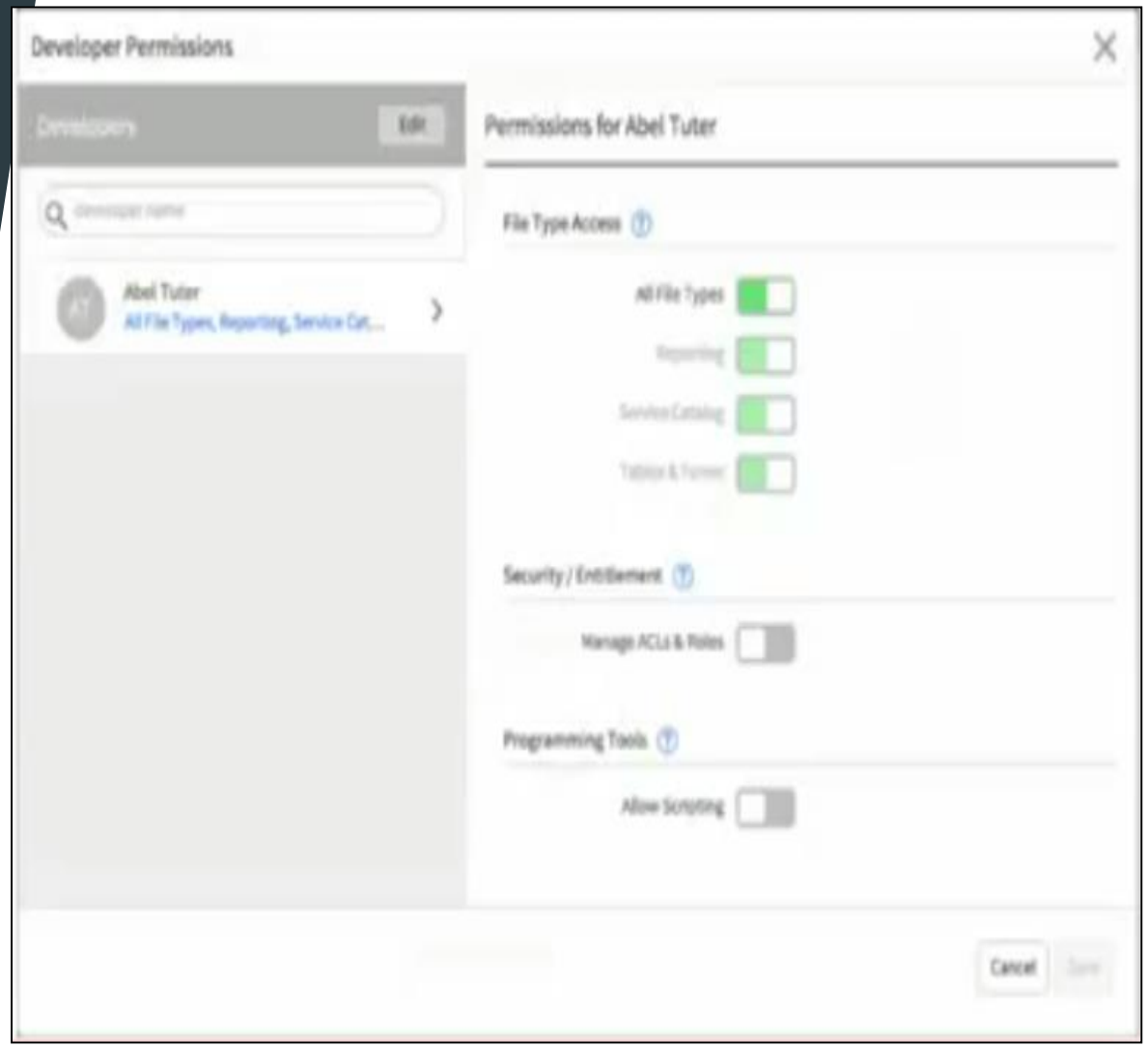
SERVICENOW OVERVIEW

REVATURE

ServiceNow – ITOM

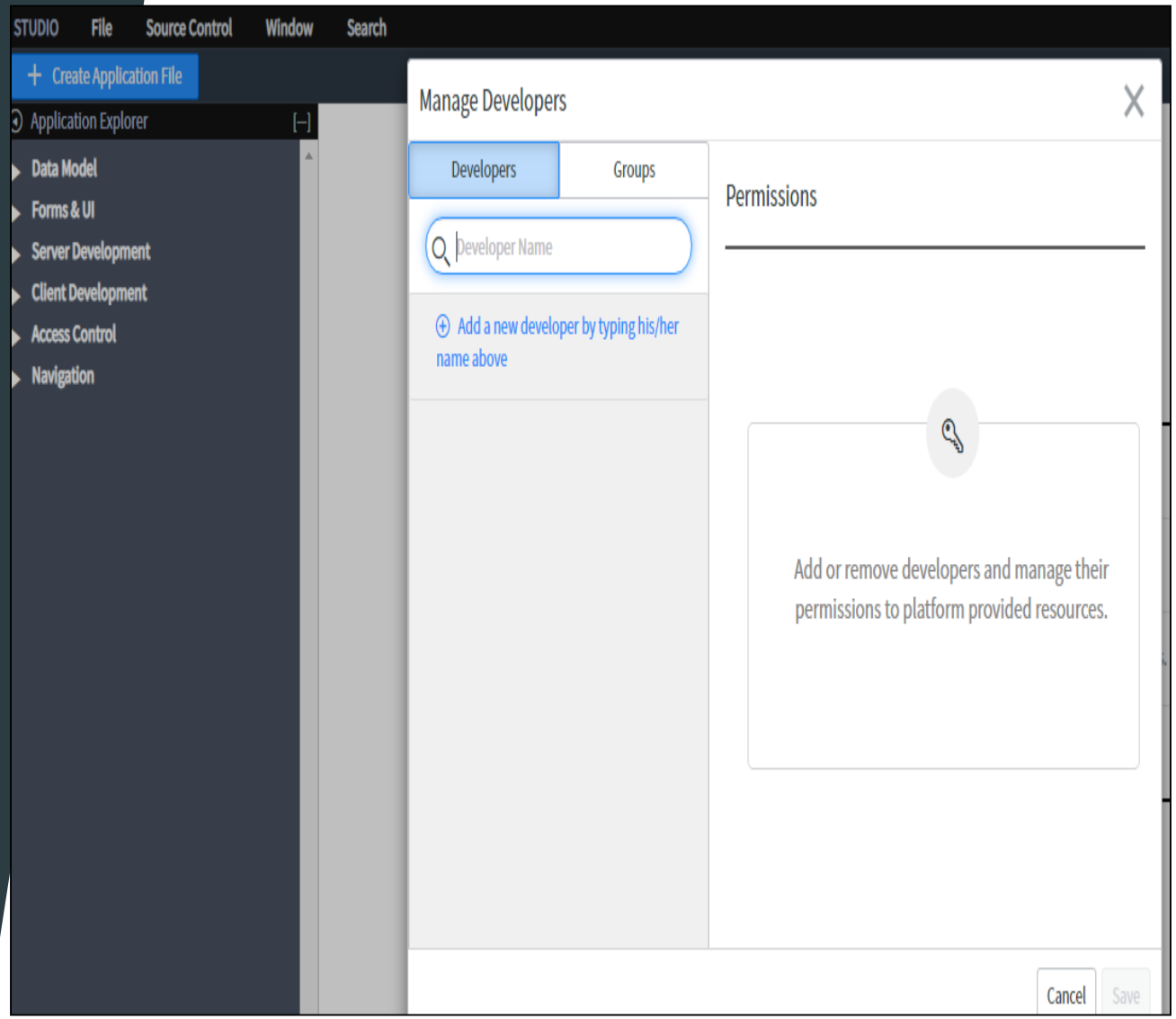
Delegated Development

- Delegated development entitles non development administrators to develop applications on ServiceNow platform
- Administrators can use Studio to manage development users and application content they can access.
- Delegated role basically is providing access to application to users for development activities
- Role : delegated_developer,roles starting with sn_dd
- Only admin can give delegated role and delegated developer cannot add admin



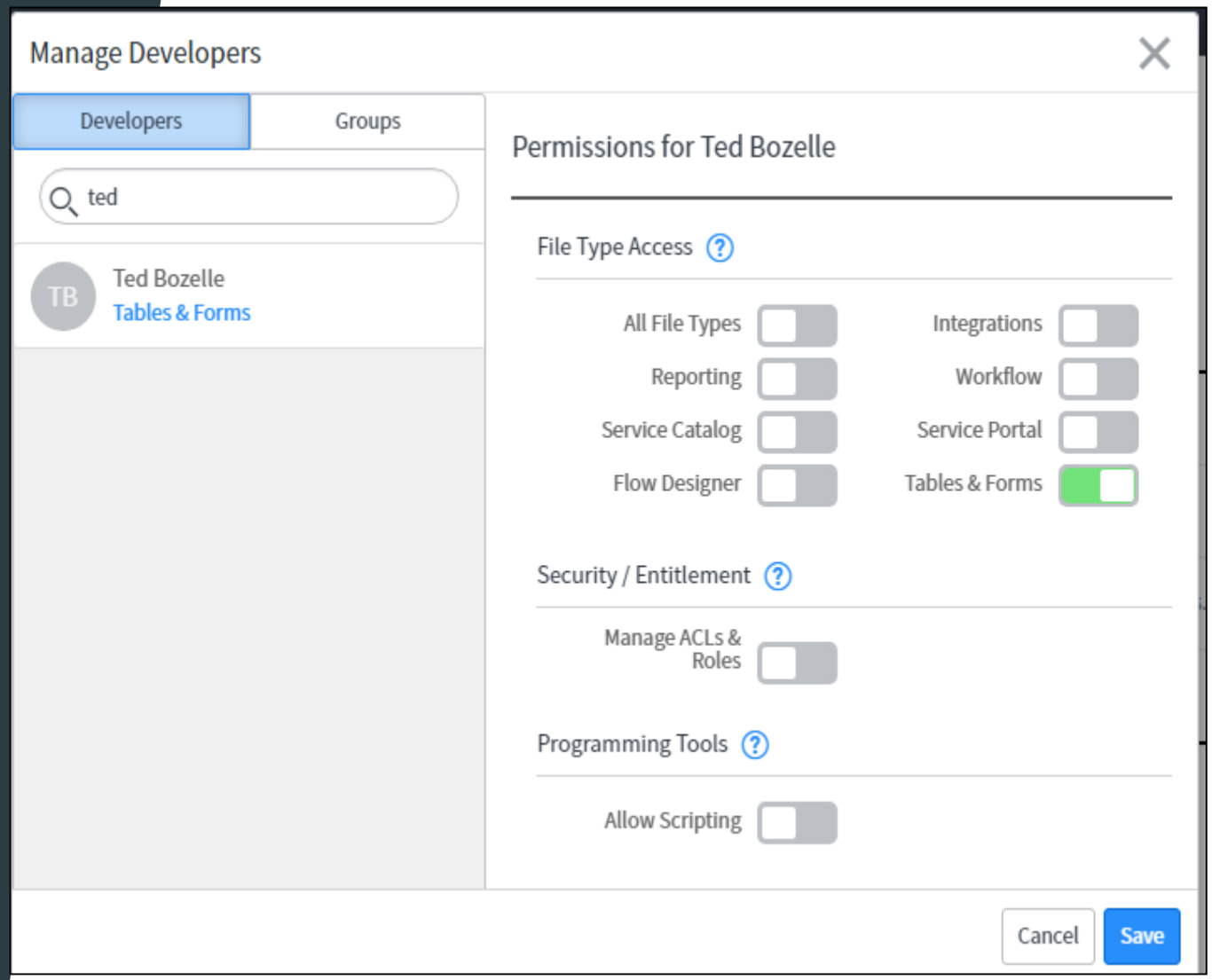
Delegated Development

- Navigate to Studio and Load Needit application
- Go to File→Manage Developers



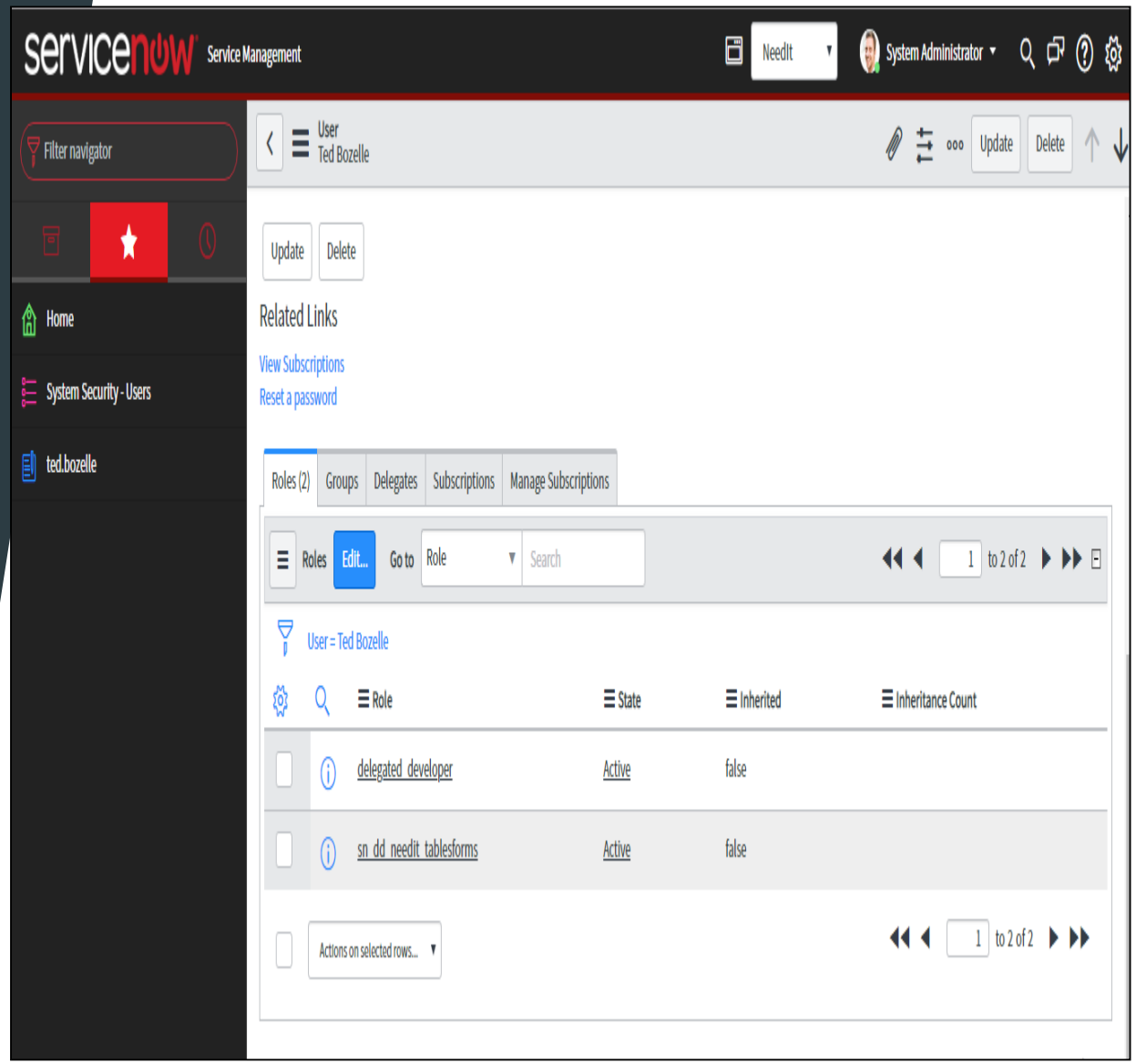
Delegated Development

- Search for Ted Bozelle and assign him File Type Access → Tables & Forms.
- He is IT manager but has not written a piece of code and would not want him to mess around with business rules,Script includes or client scripts.Thats the permission he would deserve.
- Save it



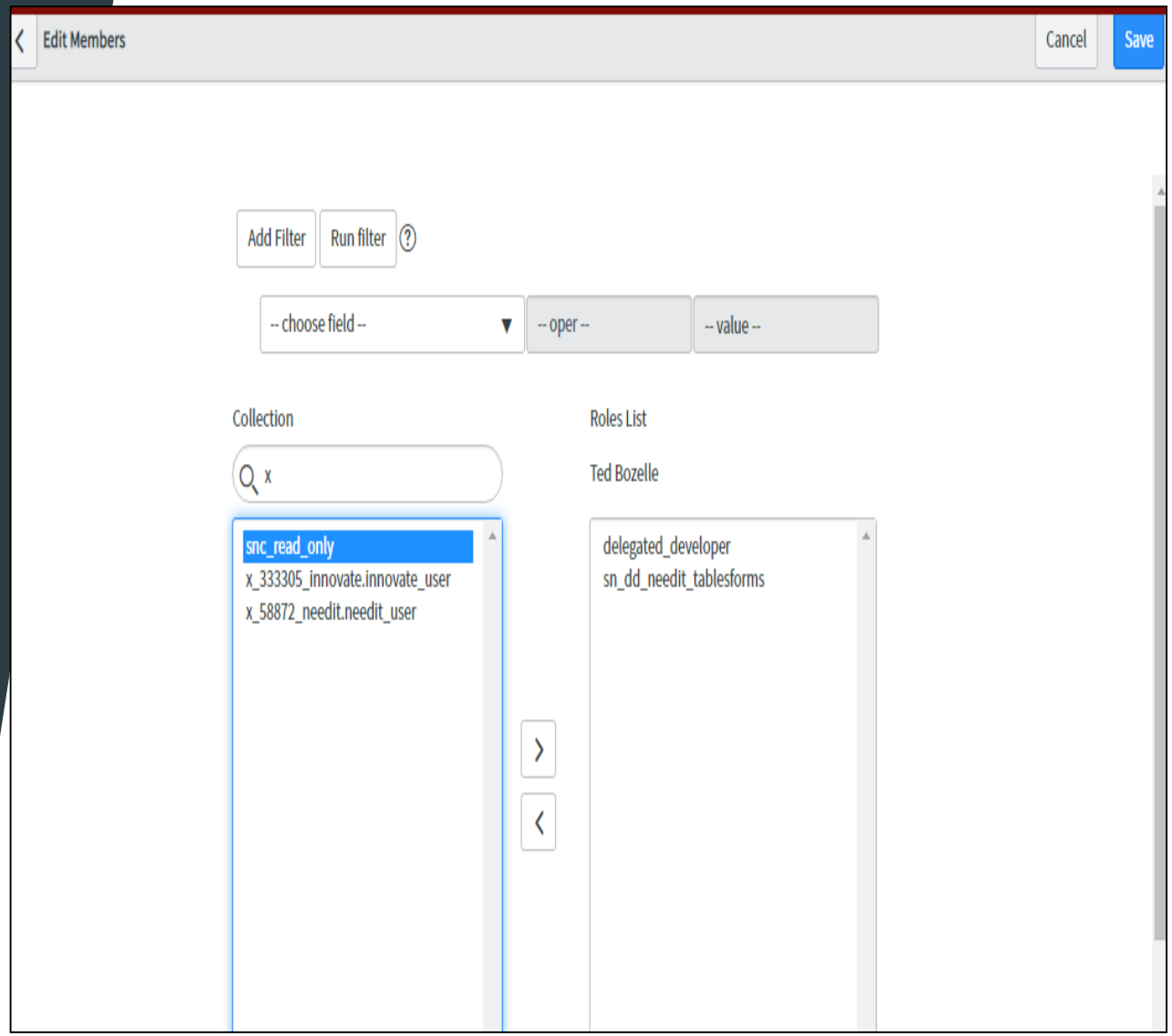
Delegated Development

- Navigating to users ,putting Ted and making him favourites.
- We can observe roles being assigned to the particular user
- If we try to impersonate we will not be able get scoped application access data i.e he cannot test his changes done to the record as he would not have read access.Hence we need to provide him another role.



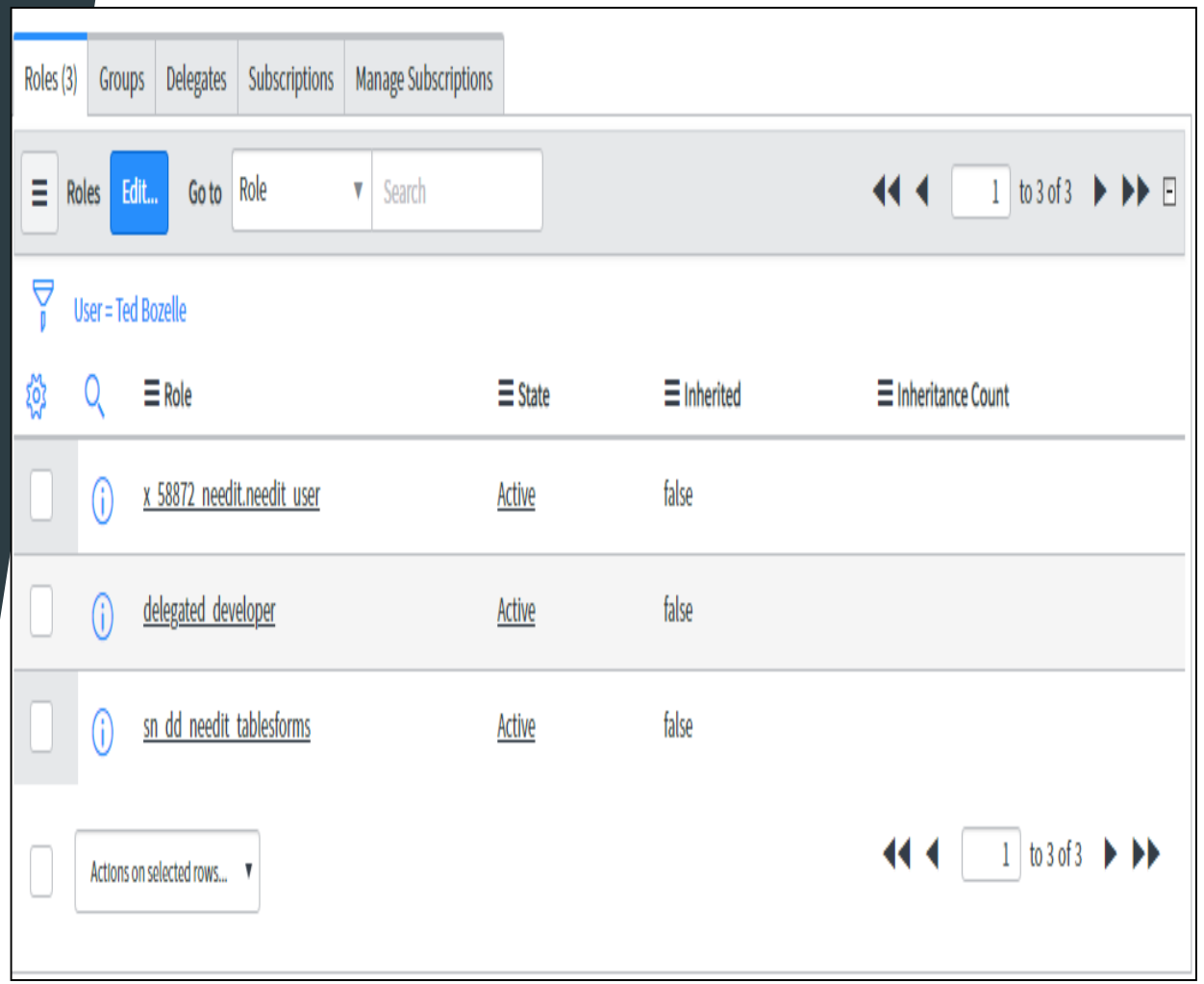
Delegated Development

- Hence grant him role to app user itself to give application and data access



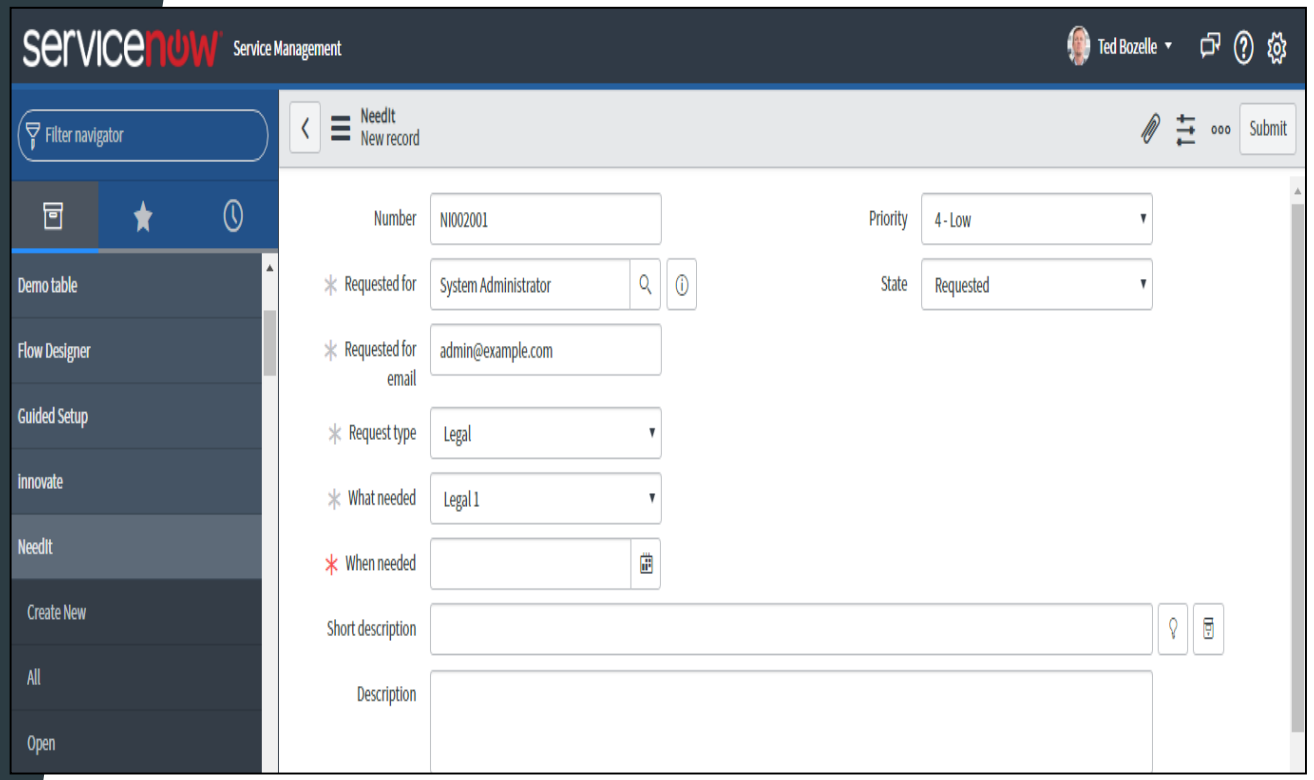
Delegated Development

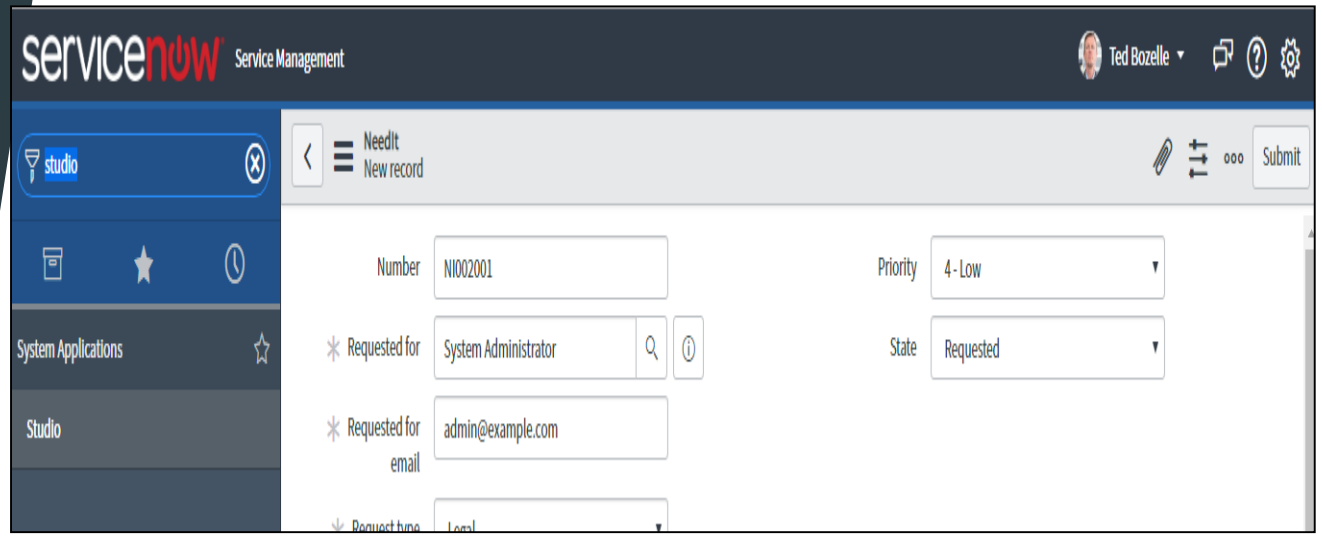
- Thus the user will have 2 delegated developer roles and application & data access role.



Delegated Development

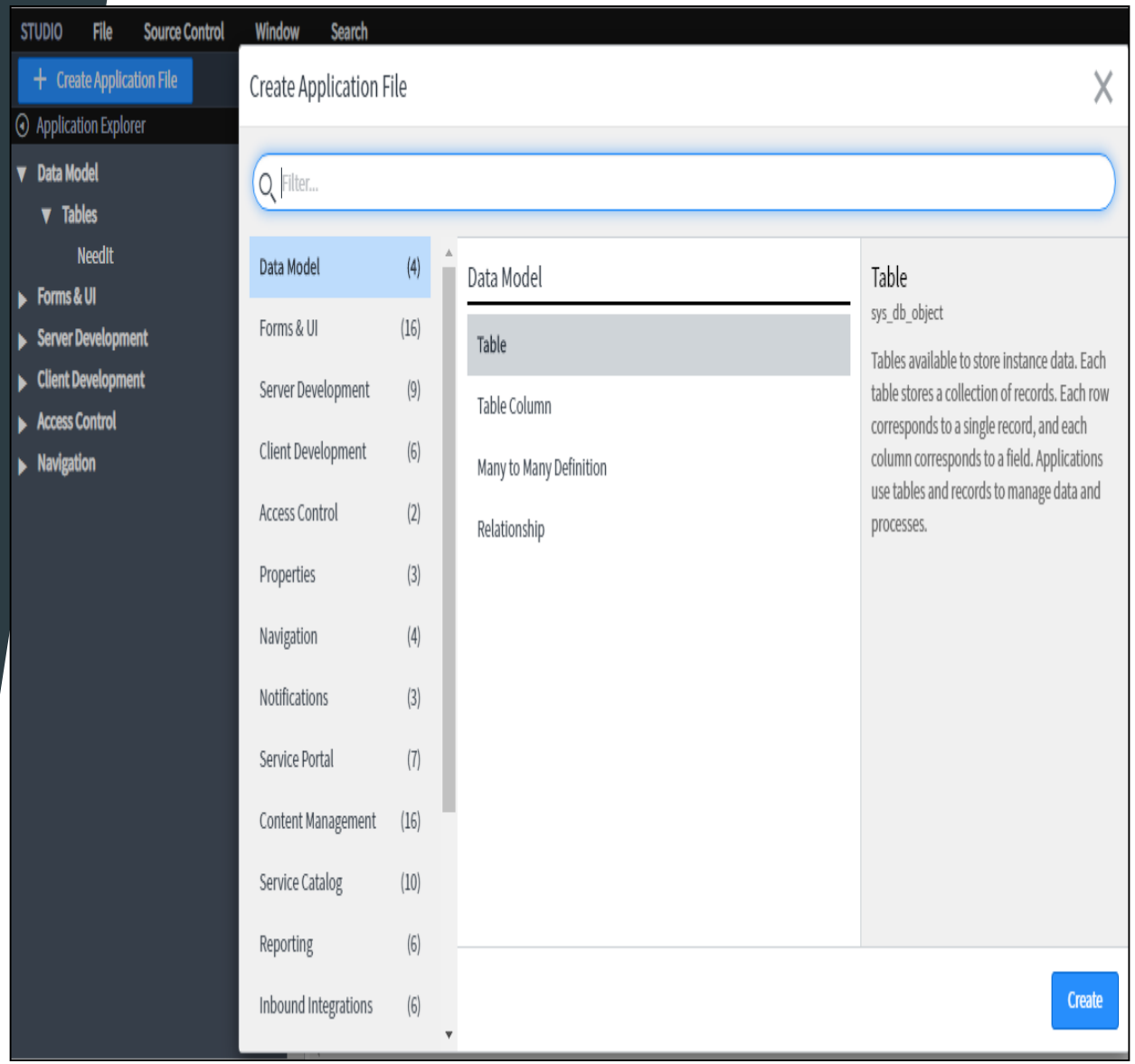
- Now impersonate user to Ted.
- Ted now has access to Needit application where he can read records.
- He would also get access to Studio where he has access to only that application.





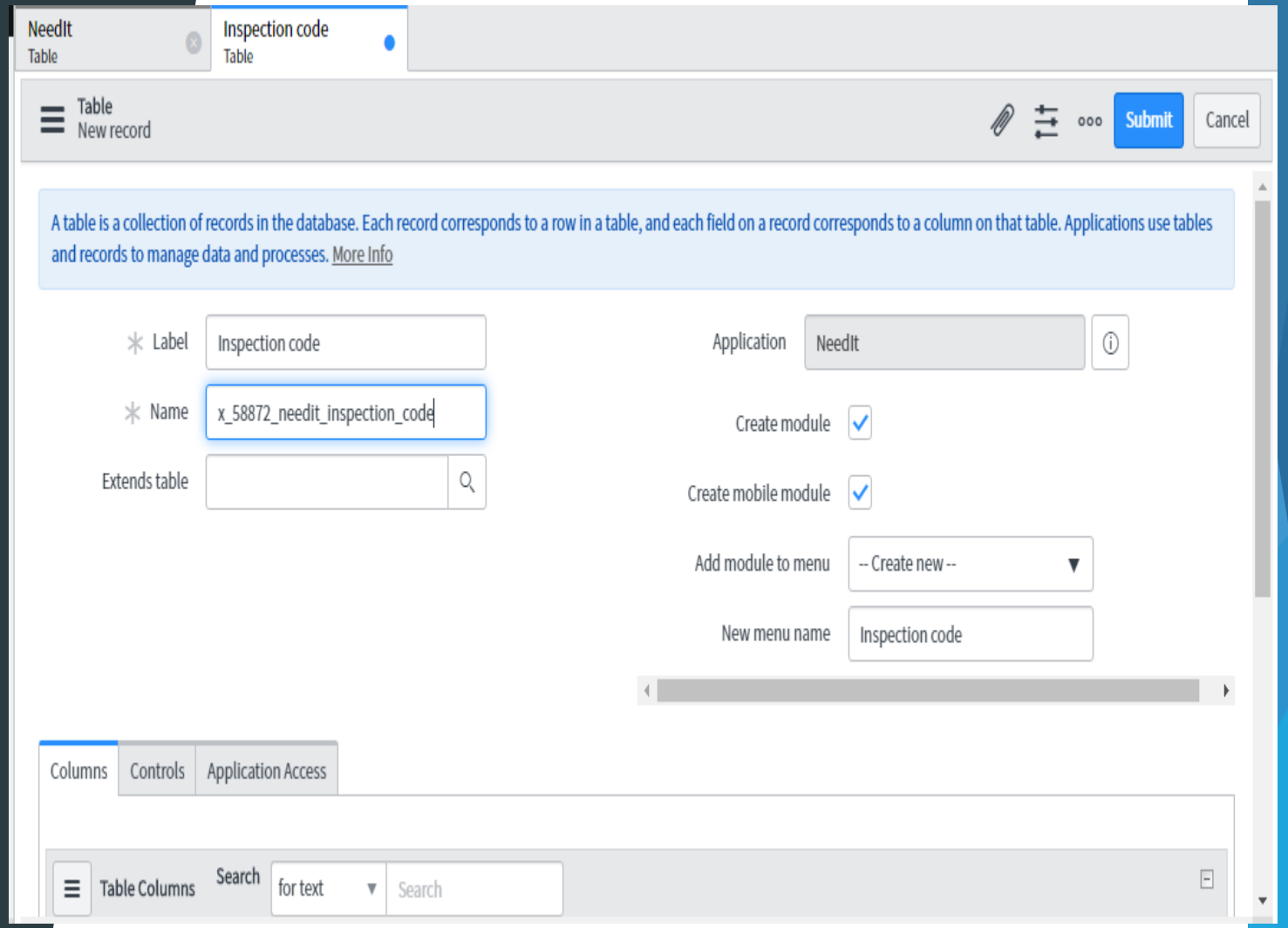
Delegated Development

- Ted can now create a new Table and lets name it



Delegated Development

- Label: Inspection code
- Application scope is created .Copy it

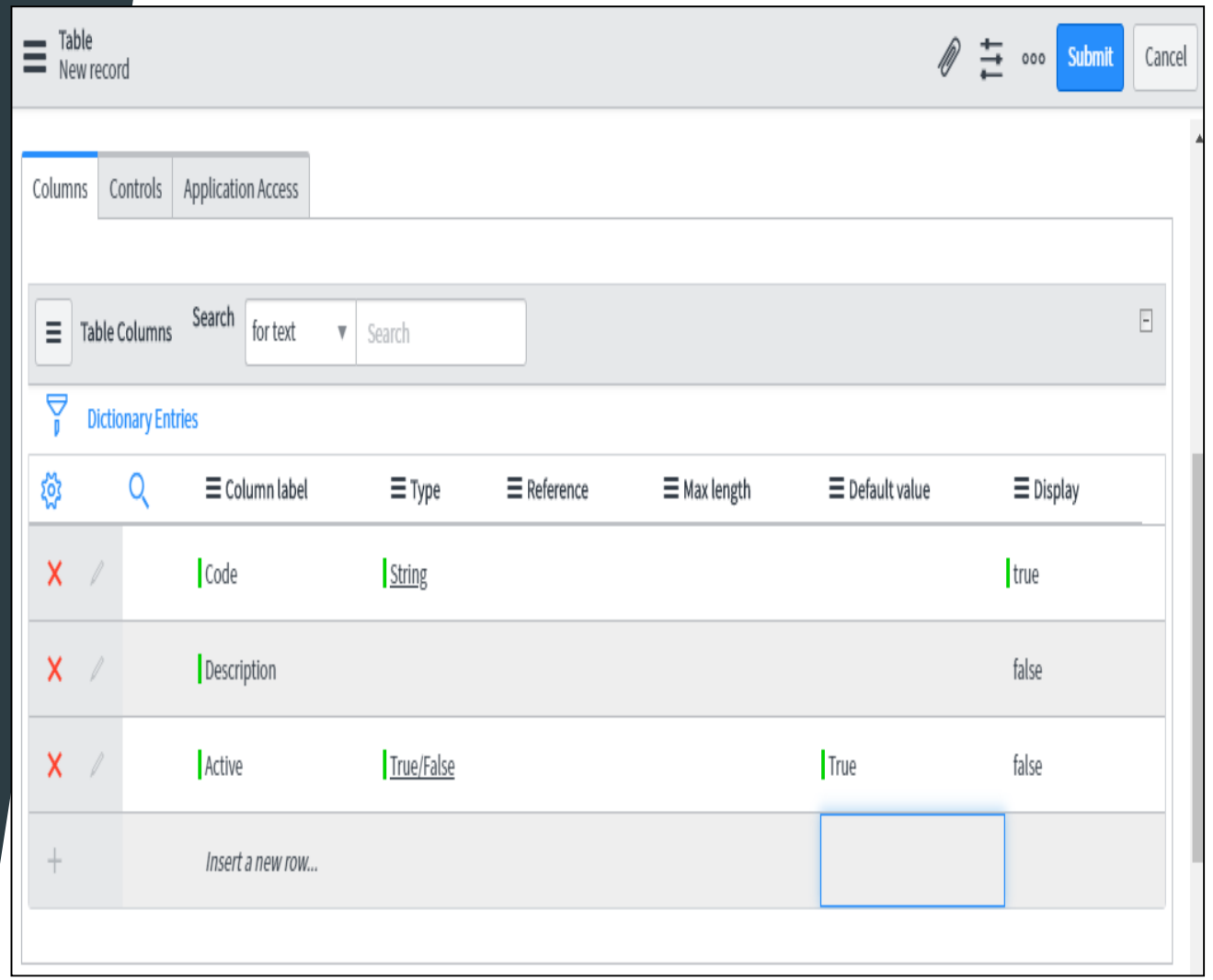


Delegated Development

- Create 3 simple fields on table Code,Description and Active.
- Code : String ,Display :True

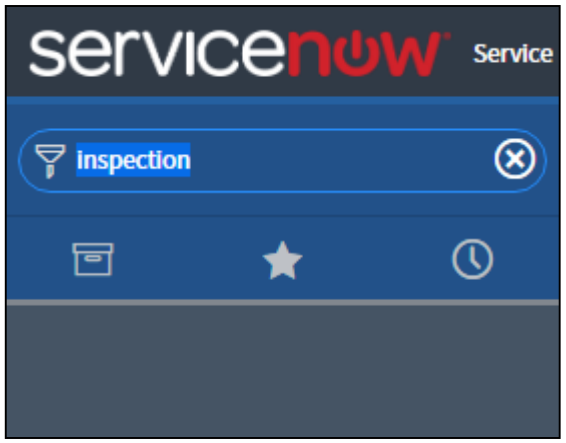
  Description

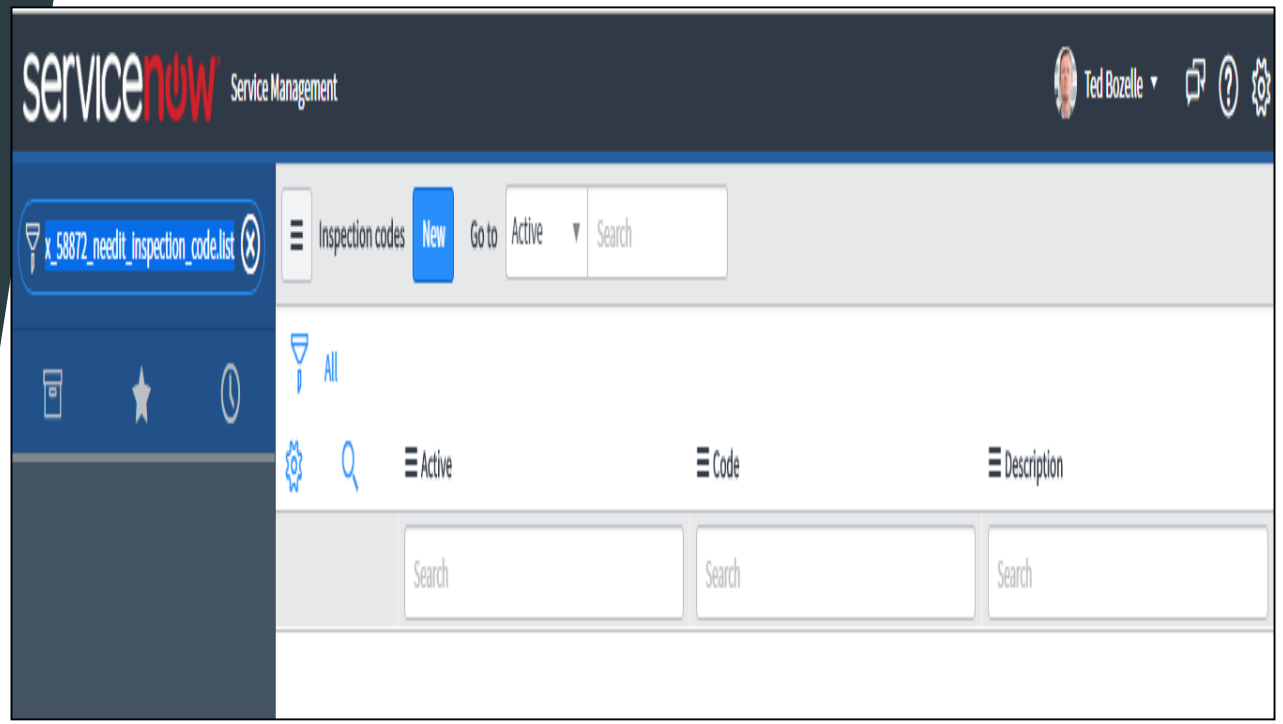
  Active : True/False,Default value:True
- Submit it



Delegated Development

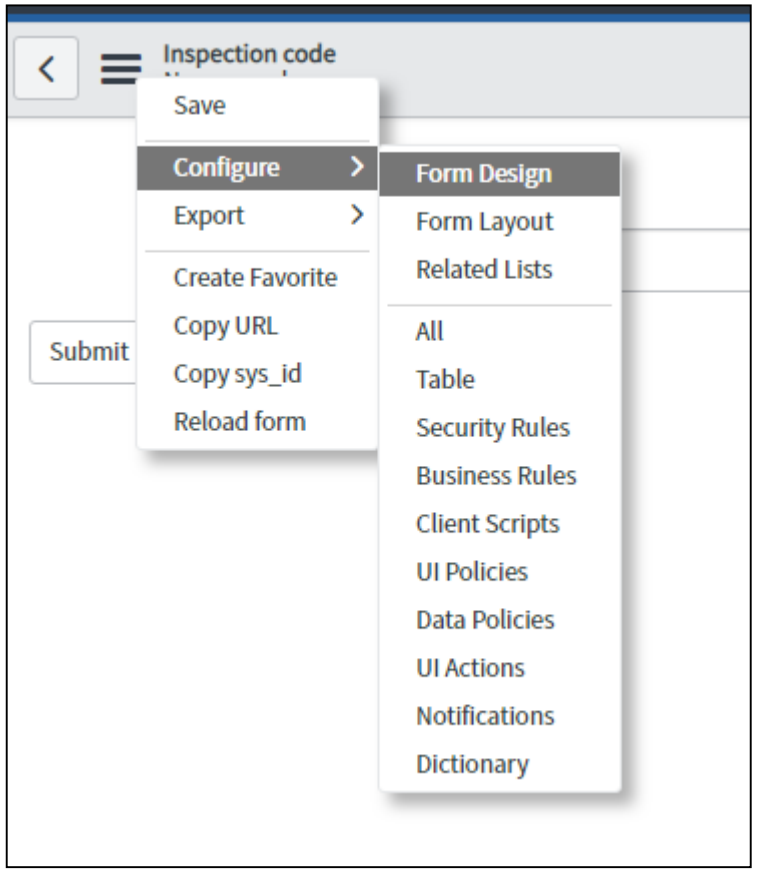
- If we observe Ted would not have access to view the table from Navigator.
- Now go to x_58872_needit_inspection_code.list
- Create new Inspection code





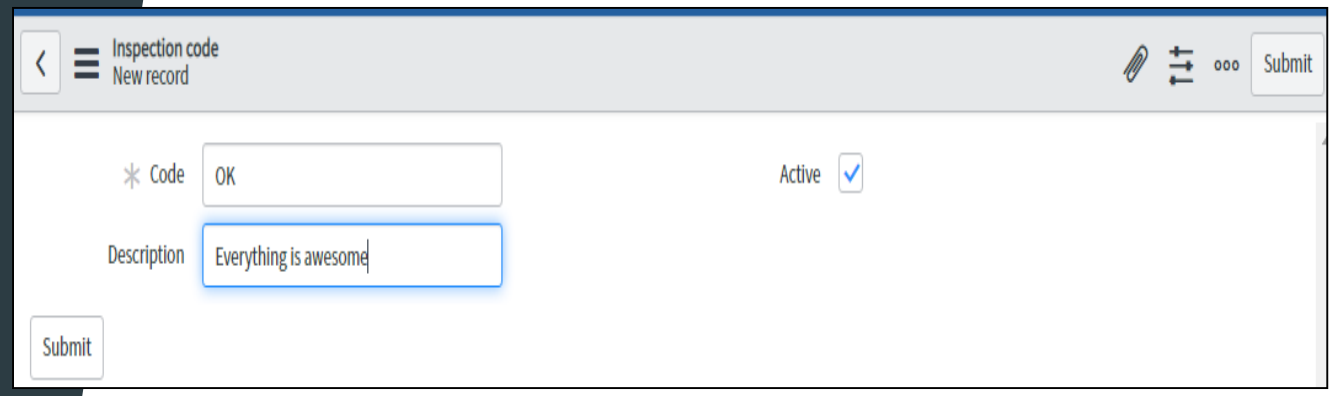
Delegated Development

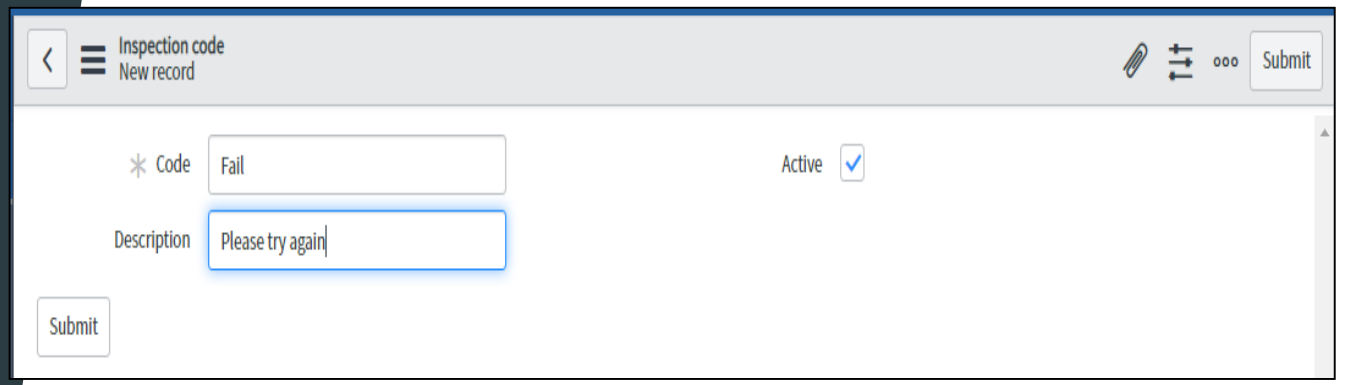
- Configure the form design
- Rearrange the fields and make Code mandatory field

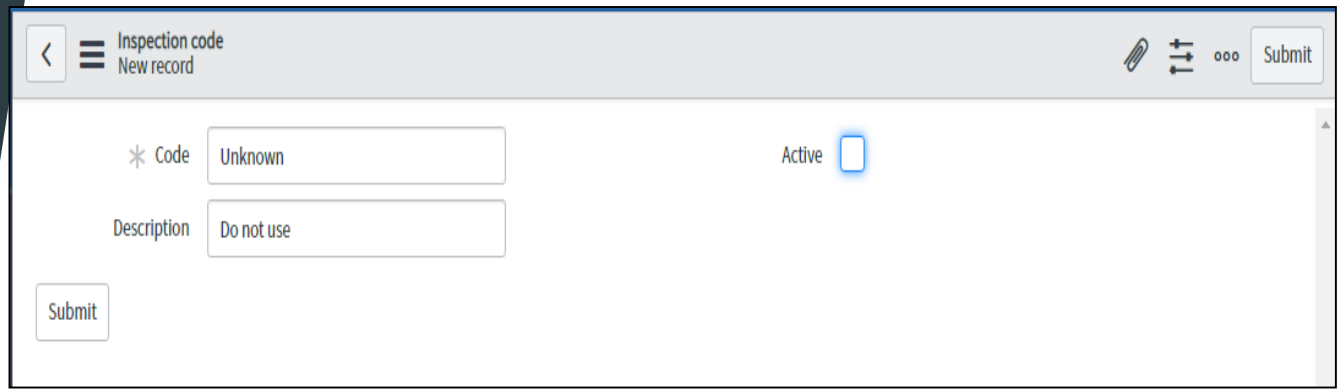


Delegated Development

- In the configured form add records





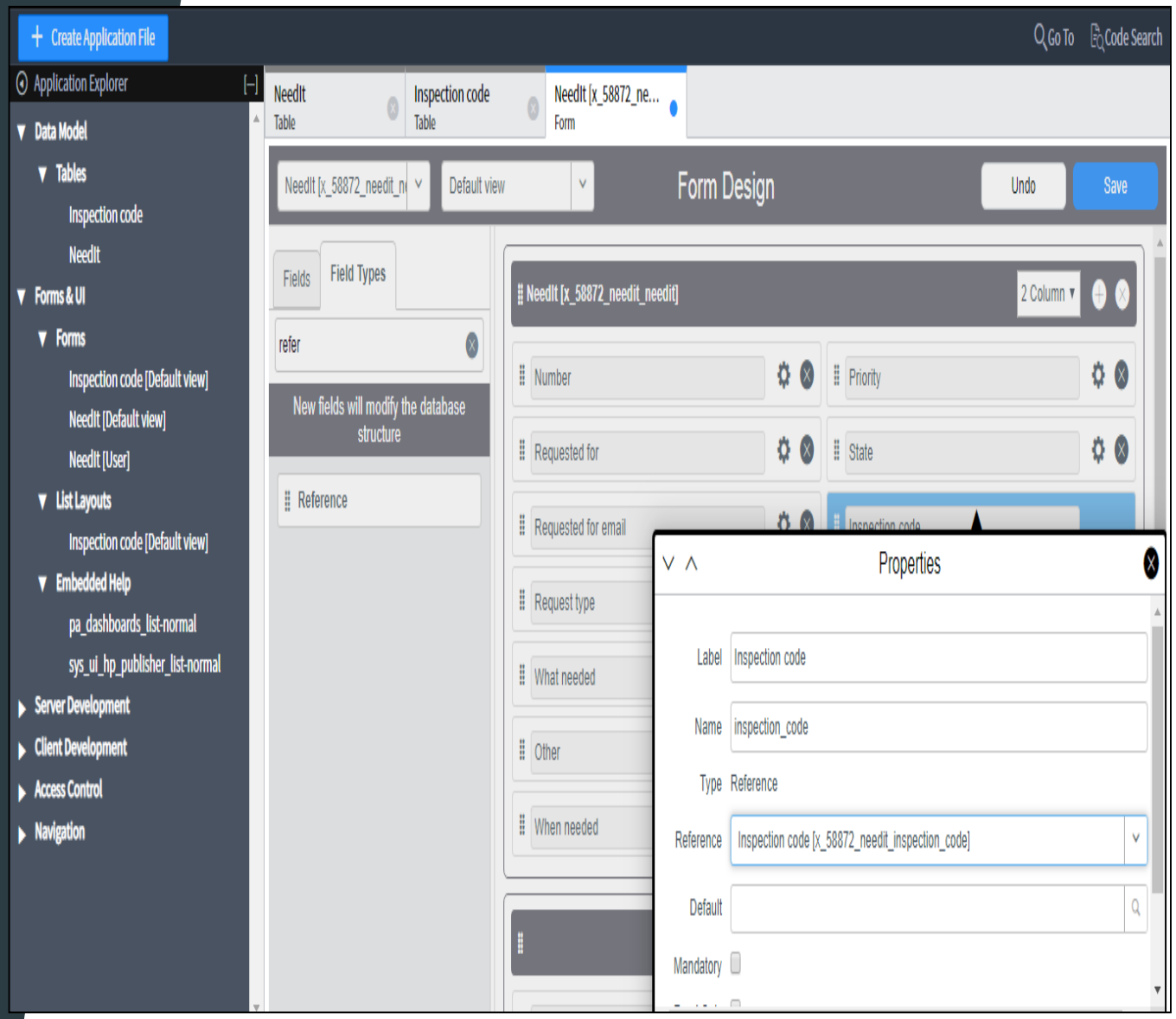


Delegated Development

- Now lets reference the field from the Needit form
- In studio navigate to Forms →Needit[Default view]
- Create a reference field with Label:inspection code

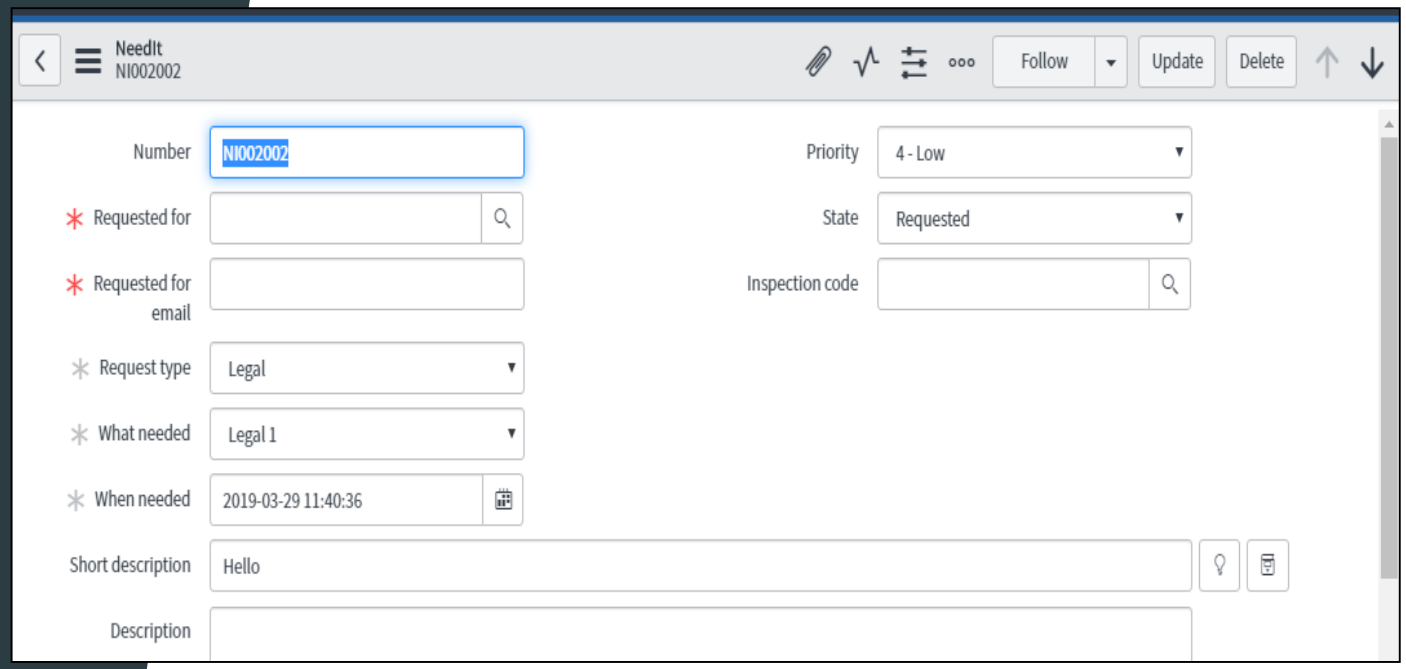
  Name:inspection_code

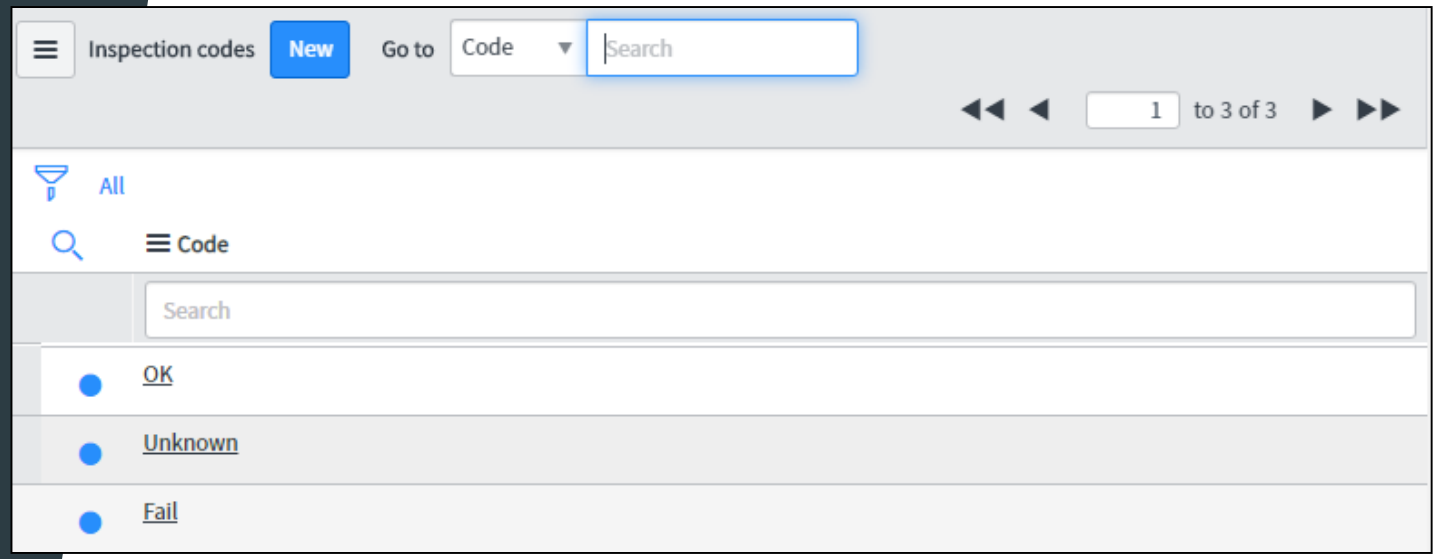
  Reference : Inspection code
- Save the Form



Delegated Development

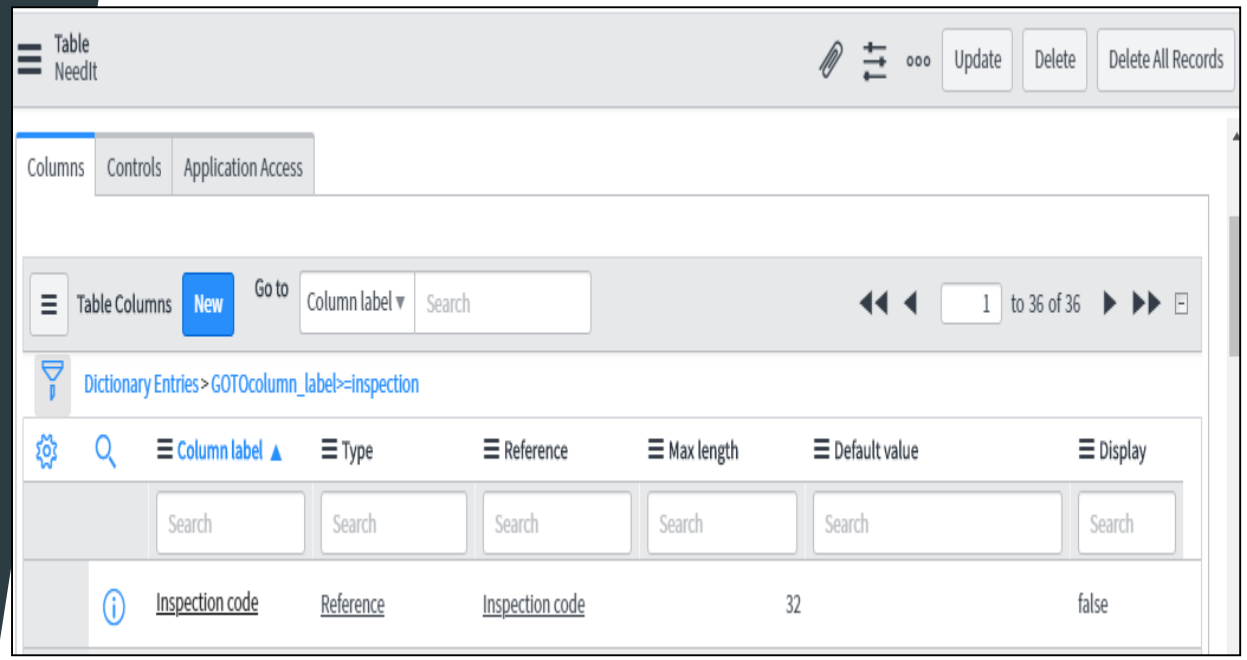
- Reload the needit form and we can observe Inspection code field referenced.
- We see all fields referenced
- We will now include reference qualifier

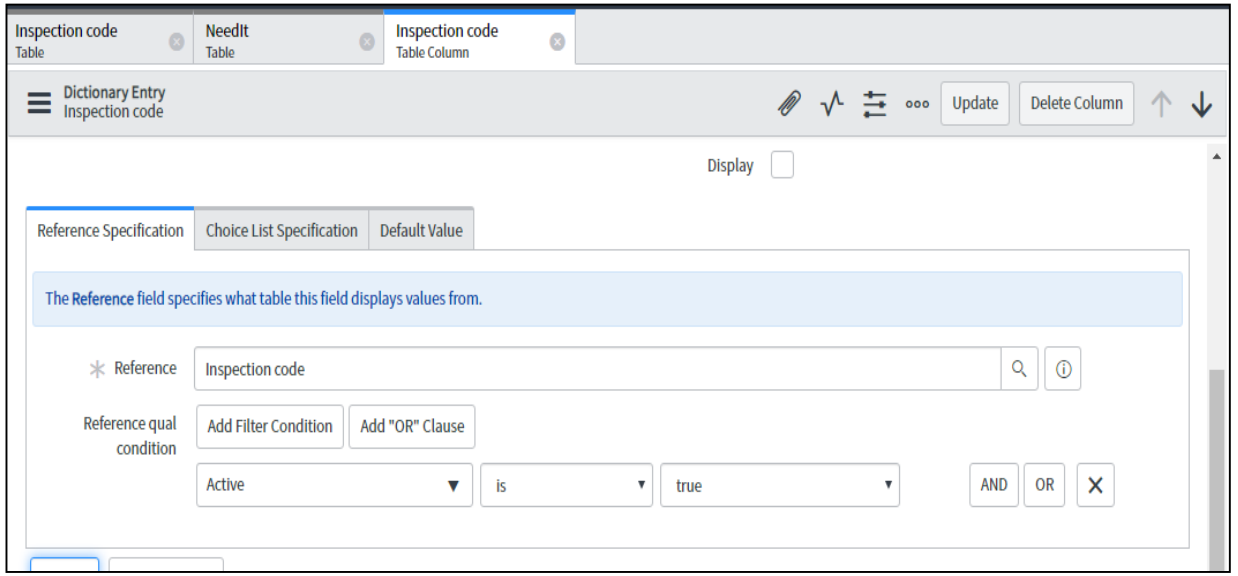




Delegated Development

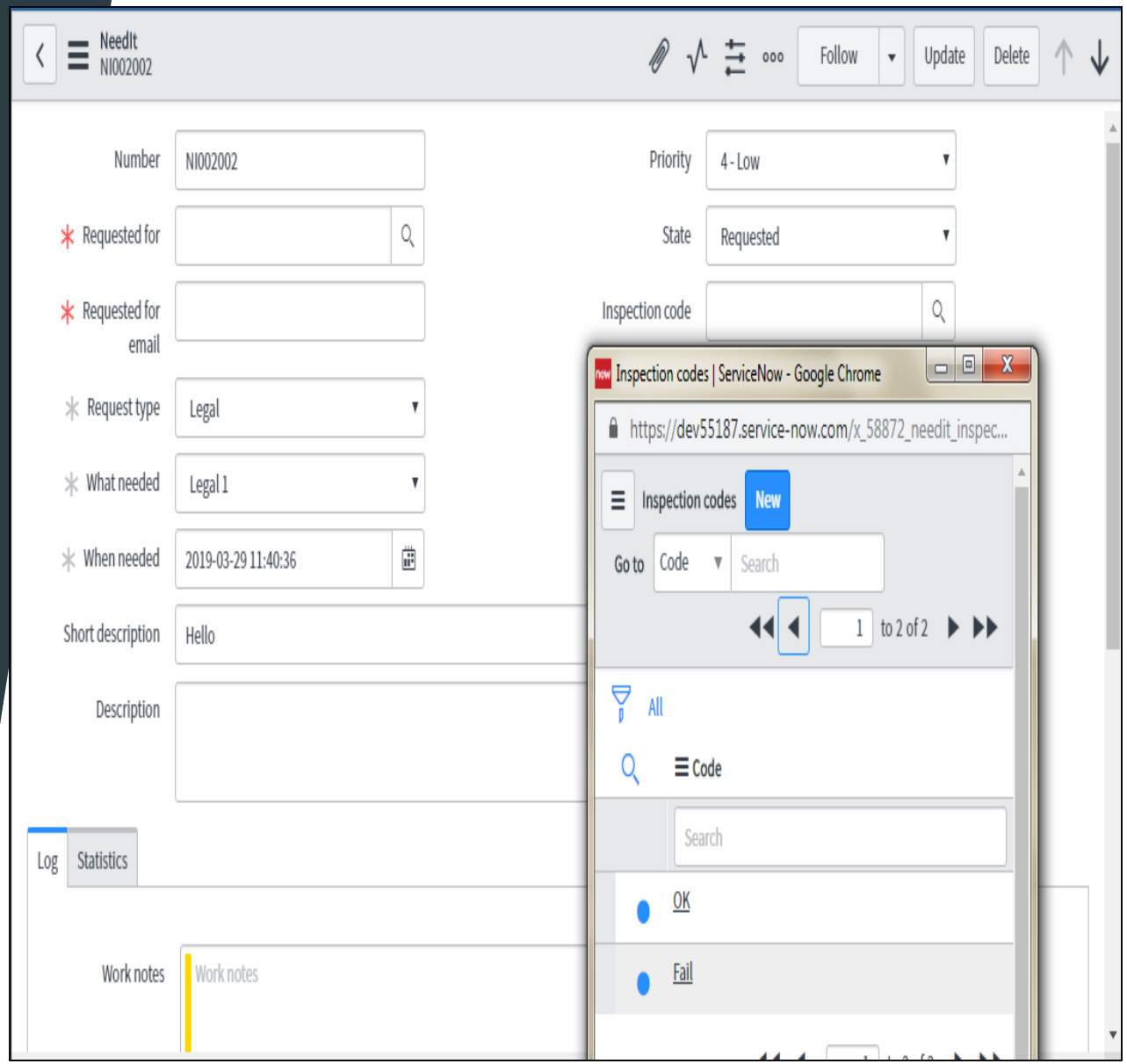
- Go back to Studio→Tables→Needit and add reference specification to field inspection code
- Add a filter in the dictionary entry of Inspection code with Active → True
- Update the dictionary entry.





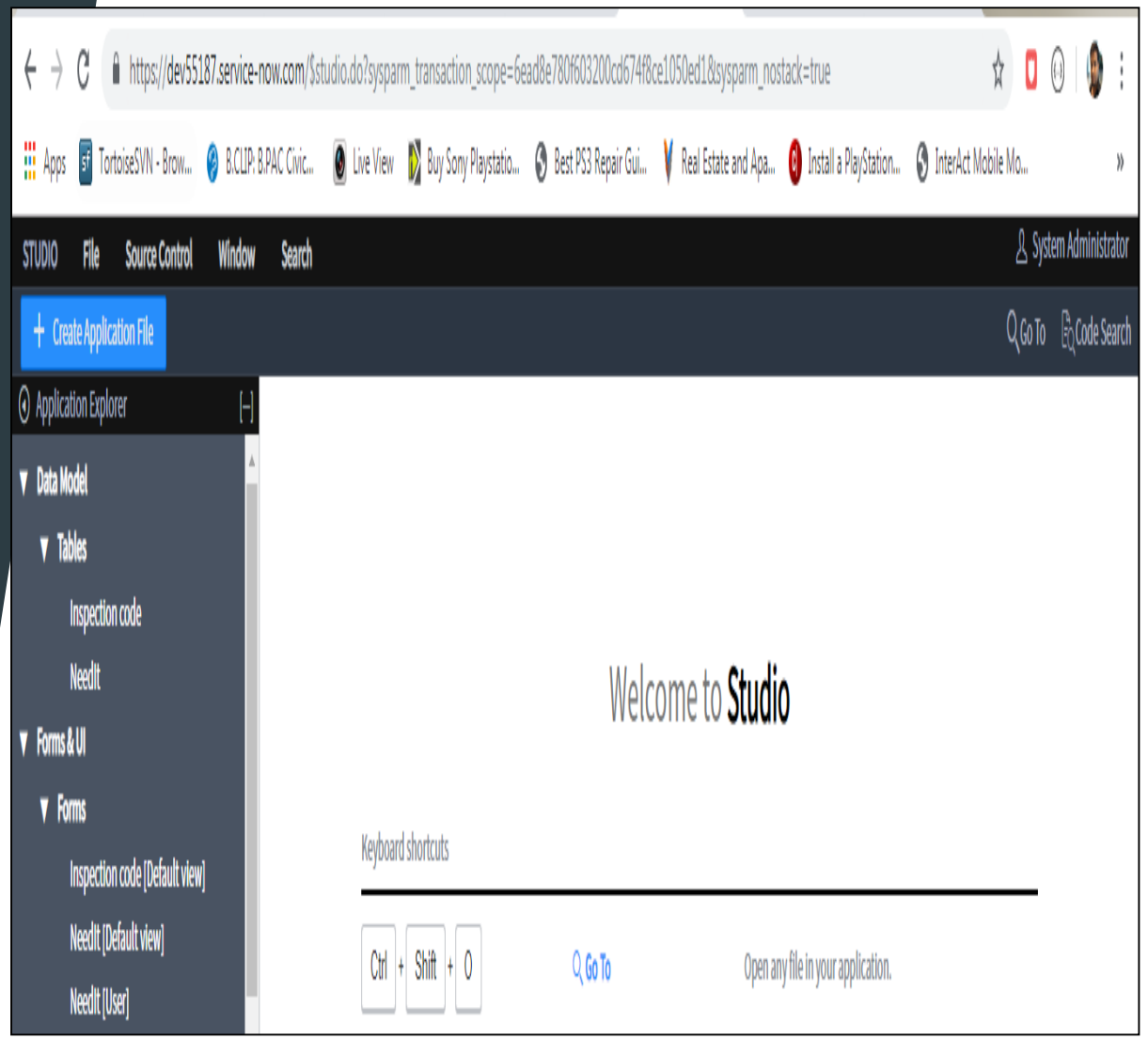
Delegated Development

- Now reload the form we will be able to see Inspection code for active records only.
- Hence Delegated developer would be given role of field access and development in particular application



Delegated Development

- We can go back and login as admin and check fields created as part of delegated developer access we will be able to see all the tables and forms having inspection code reference.
- Hence we can give prescriptive access to delegated developers like just modifying forms and fields without giving them access to scripting

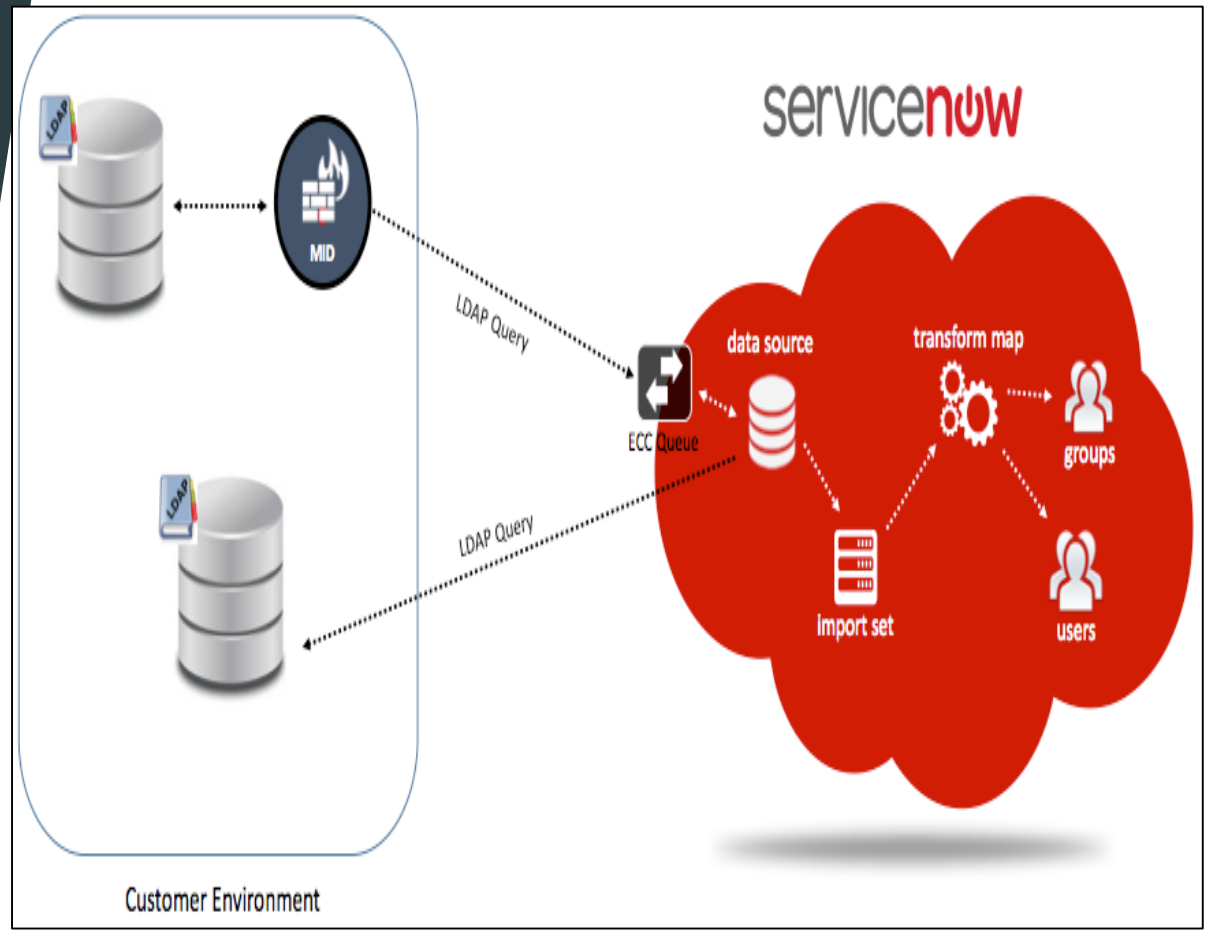


ITOM

- ITOM –IT operations management provides visibility to Business services and resources allowing to manage Operations estate and proactively eliminate service outages.
- Modules/Applications include CMDB, Discovery,MID SERVER,CLOUD management,Orchestration, LDAP,Event Management,Service Mapping and Operational Intelligence

ITOM

- Midservers(MID - Management,Instrumentation and Discovery are setup for communication to move data between external systems and ServiceNow ITOM applications.
- Midservers are java applications that run on Enterprise network behind a firewall or on the cloud(AWS,Azure).
- Midservers help setup and run ITOM applications

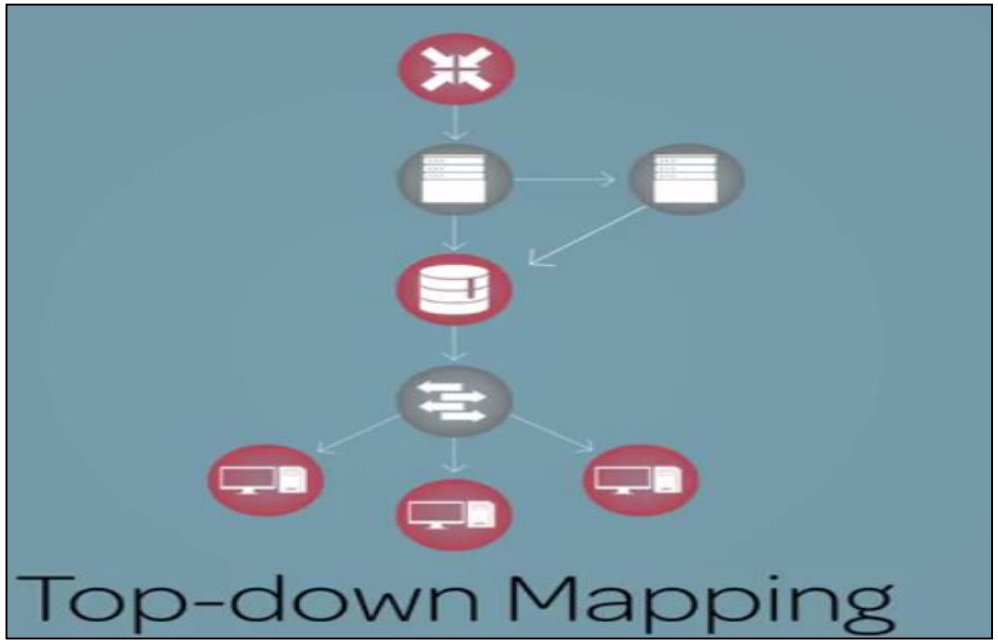


ITOM

- Discovery – It finds applications and devices on the network and important attributes of those devices such as OS,Software,Memory and others and updates.
- It then updates Configuration Management Database with the information it finds.

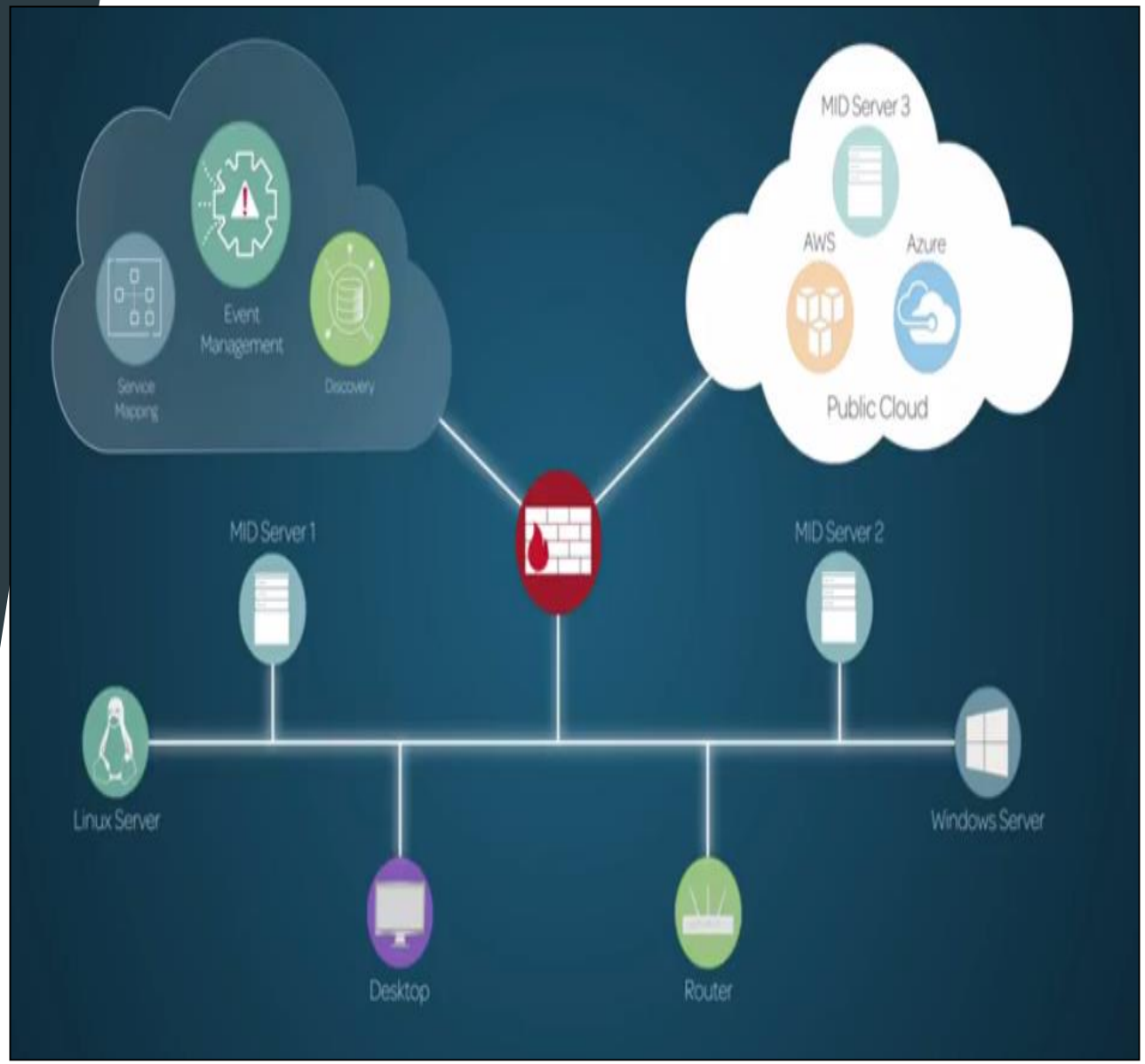
ITOM

- Discovery provides Horizontal discovery as it finds devices on the network but does not draw relationship between configuration item (Cis) that are part of specific business service.
- Service Mapping provides complementary capability where it uses Top Down mapping to map CI that are part of business services such as Email service.It helps visualize all Cis used to deliver a service.



ITOM

- Event Management - If anything goes wrong with Cis associated it is captured as Events which are basically notification araised in the IT system like failure or warning.It collects and analyzes the events to monitor the health of IT system and helps anticipate and prevent outages and resolve issues quickly with minimal impact on the operations

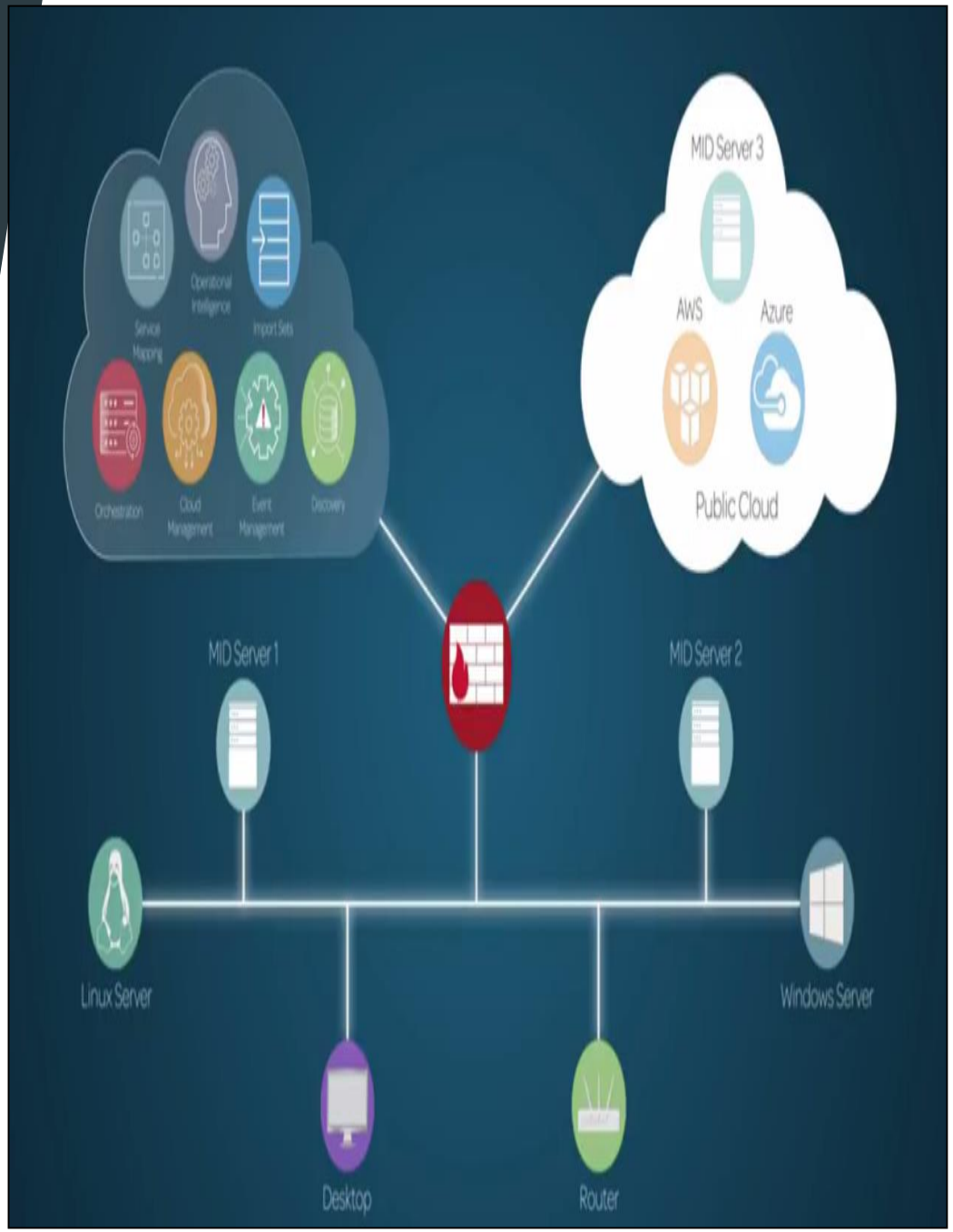


ITOM

- Cloud Management – Using cloud mgt we can create and import blueprints for provisioning cloud infrastructure and resources from any Cloud service provider which users can request from catalog items via the Cloud user portal.
- Users can also manage lifecycle of the resources on Cloud service provider

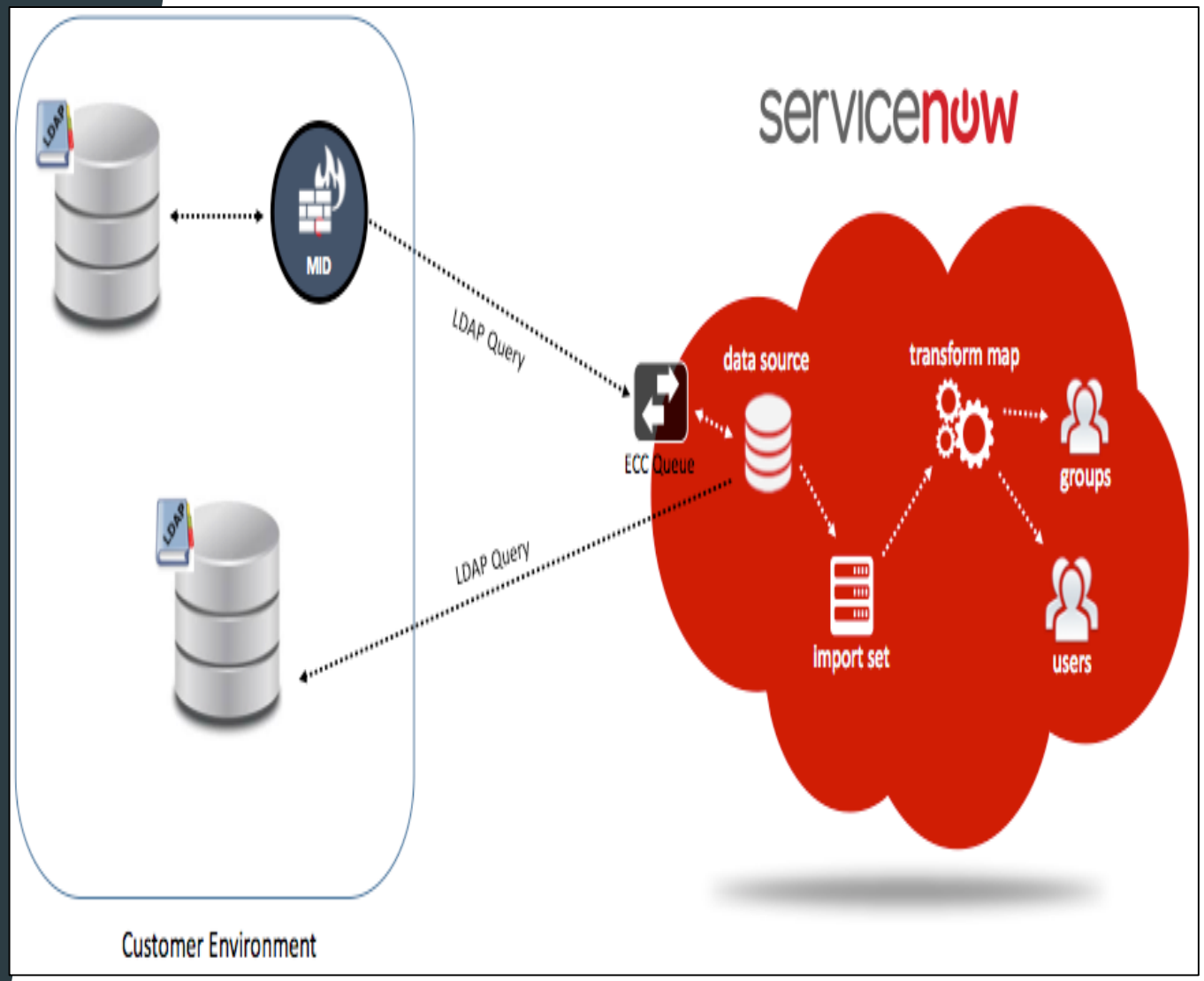
ITOM

- From the ITOM portal we can also track utilization and track costs to enforce usage limitation on available resources as well as setup capacity limits on the data centers and usage quota for users and groups



ITOM - LDAP

- **LDAP Integration -** LDAP(Lightweight Active Directory Protocol) is a good way to have your user provisioning in ServiceNow. This helps you to maintain user data in one source where it can be accessed by multiple applications. To transfer the user data securely, ServiceNow supports LDAP via the MID Server. LDAPS is also supported if it is directly into the customers' network.



ITOM

- Steps to create LDAP Integration

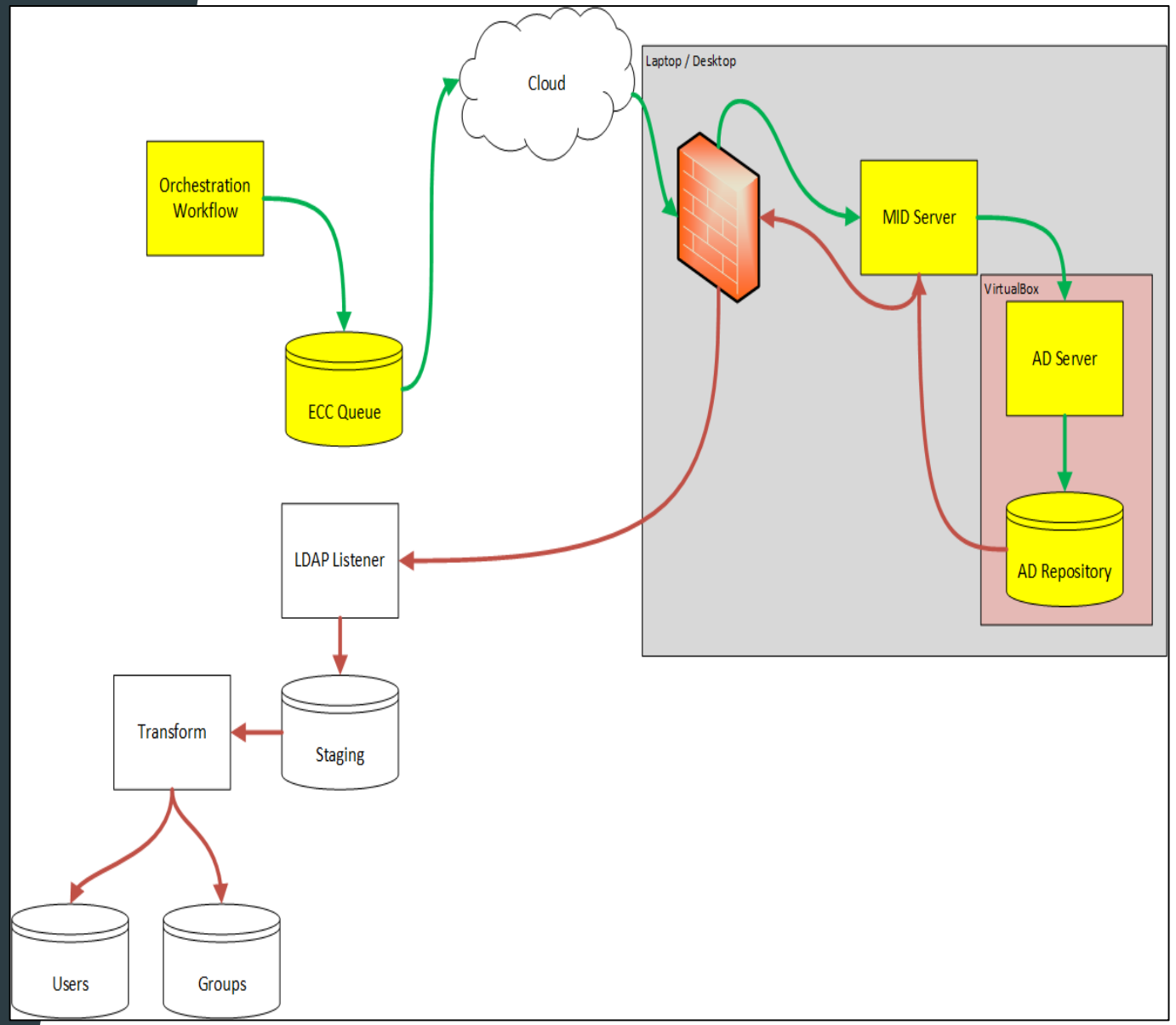
  - Create a new LDAP server in SNOW instance

  - Create Organizational units (OU)

  - Create Datasource (Transform Map/Transform script)

  - Create Scheduled Job

  - Enable Single Sign-on



ITOM - LDAP

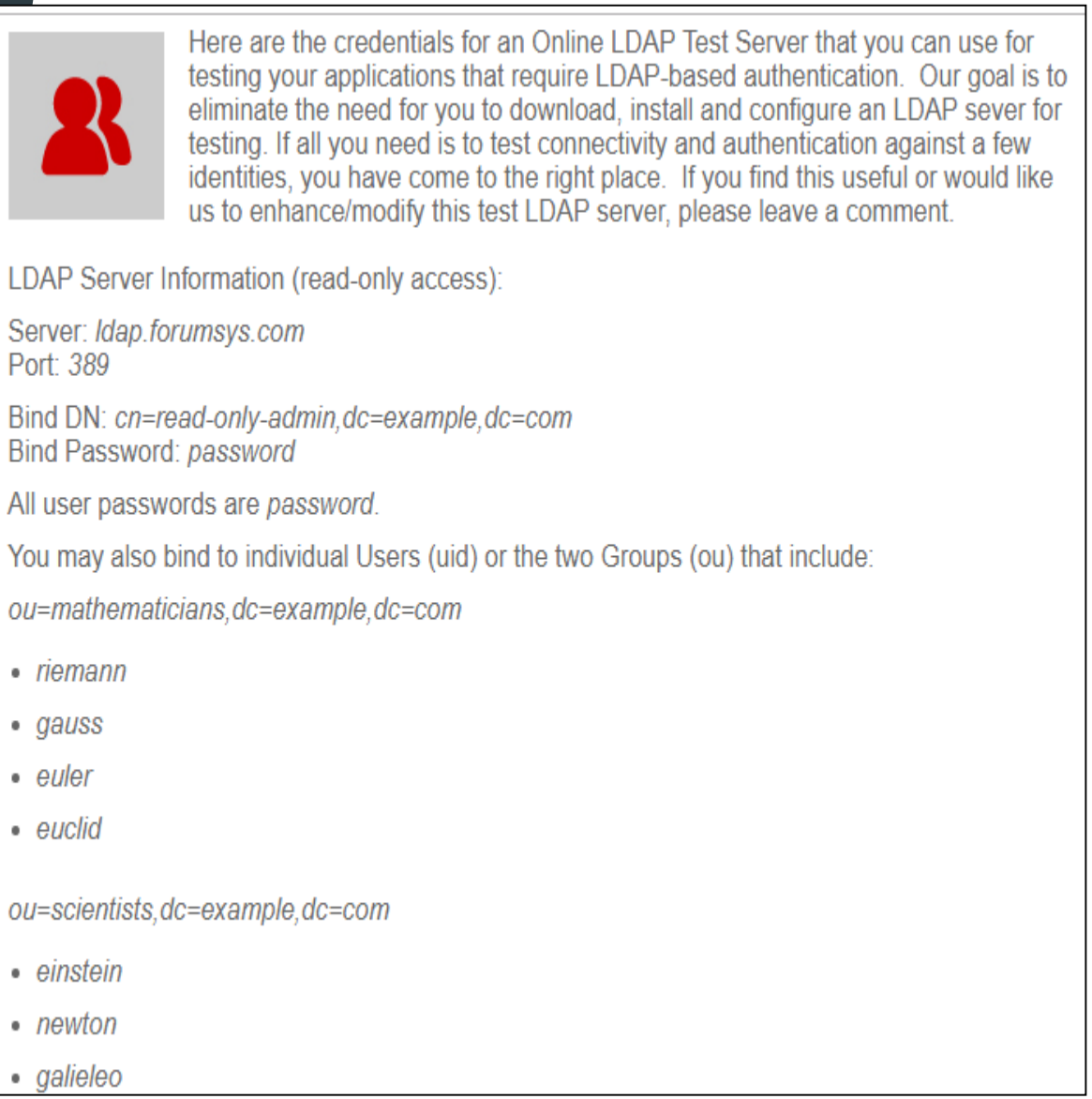
- **Pre-requisites of LDAP servers**

  -LDAP server/Active Directory

  -External IP Address or Domain name of LDAP Server

  - Login credentials to access Server

- **Lets use online free LDAP server** http://www.forumsys.com/tutorials/integration-how-to/ldap/online-ldap-test-server/



Here are the credentials for an Online LDAP Test Server that you can use for testing your applications that require LDAP-based authentication. Our goal is to eliminate the need for you to download, install and configure an LDAP sever for testing. If all you need is to test connectivity and authentication against a few identities, you have come to the right place. If you find this useful or would like us to enhance/modify this test LDAP server, please leave a comment.

LDAP Server Information (read-only access):

Server: *ldap.forumsys.com*
Port: *389*

Bind DN: *cn=read-only-admin,dc=example,dc=com*
Bind Password: *password*

All user passwords are *password*.

You may also bind to individual Users (uid) or the two Groups (ou) that include:

ou=mathematicians,dc=example,dc=com

- *riemann*
- *gauss*
- *euler*
- *euclid*

ou=scientists,dc=example,dc=com

- *einstein*
- *newton*
- *galieleo*

ITOM - LDAP

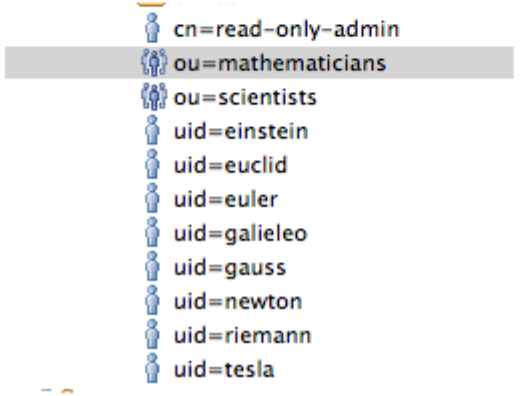
- **LDAP URL is the server URL and the format for applying URL is as follows**
- Schema+ Address+ Port+ Base Entry+ attributes+ Subtree Scope+ filter.
- Ex:ldap://snow.in.edu.com:389/OU=EDU,DC=in?empID,Name,company?sub?(uid=john.doe)

ou=mathematicians,dc=example,dc=com

- *riemann*
- *gauss*
- *euler*
- *euclid*

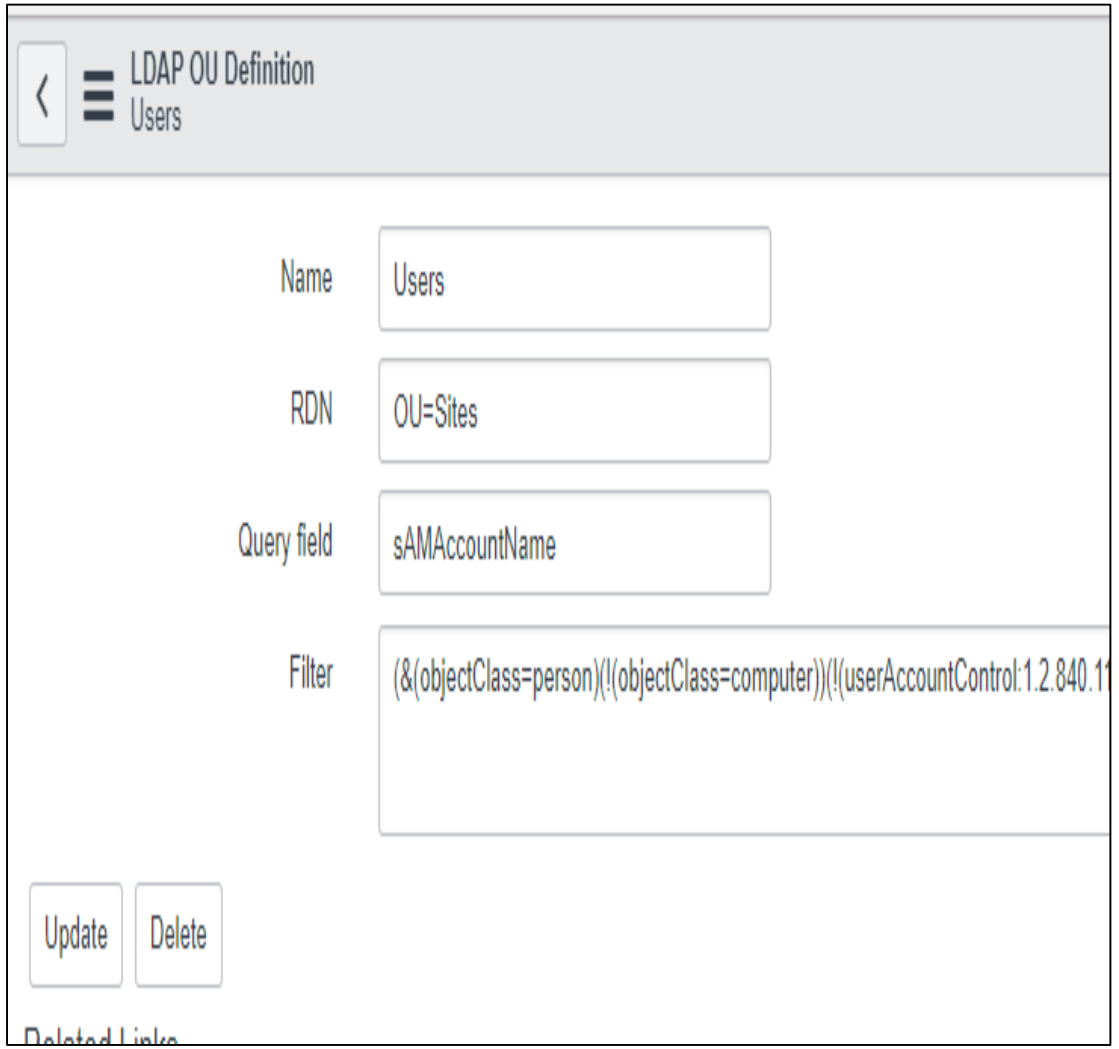
ou=scientists,dc=example,dc=com

- *einstein*
- *newton*
- *galieleo*
- *tesla*



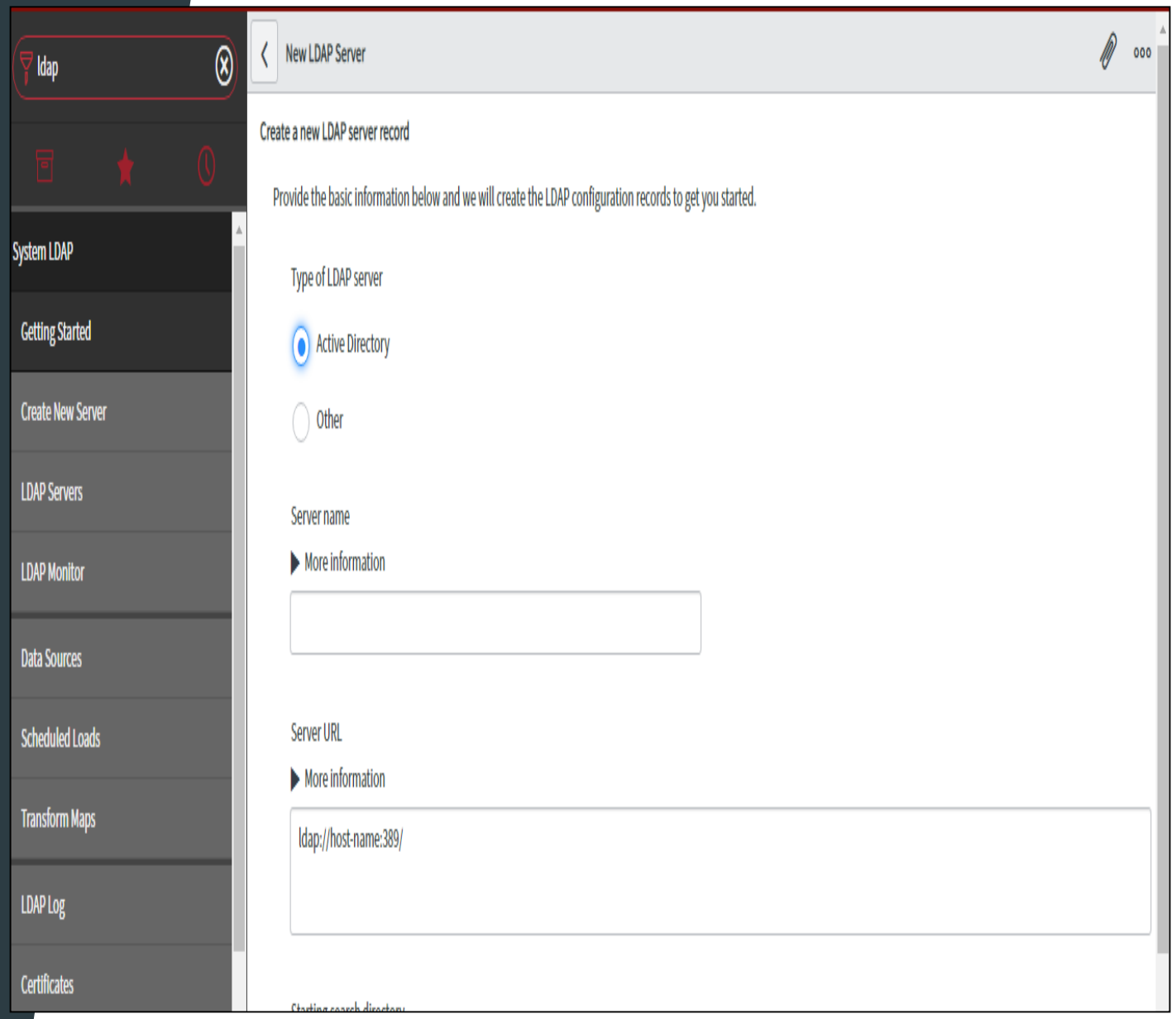
ITOM - LDAP

- Creation of Organization Units



ITOM - LDAP

- LDAP connection is Read only i.e SNOW can fetch data as well as update data inside SNOW but it cannot update Active directory record.
- Lets see how we can ensure we can create LDAP record using LDAP integration in SNOW instance.
- Lets create update set to capture all the upates
- In Navigator → LDAP→Create New server



ITOM - LDAP

- Select Type : Active directory

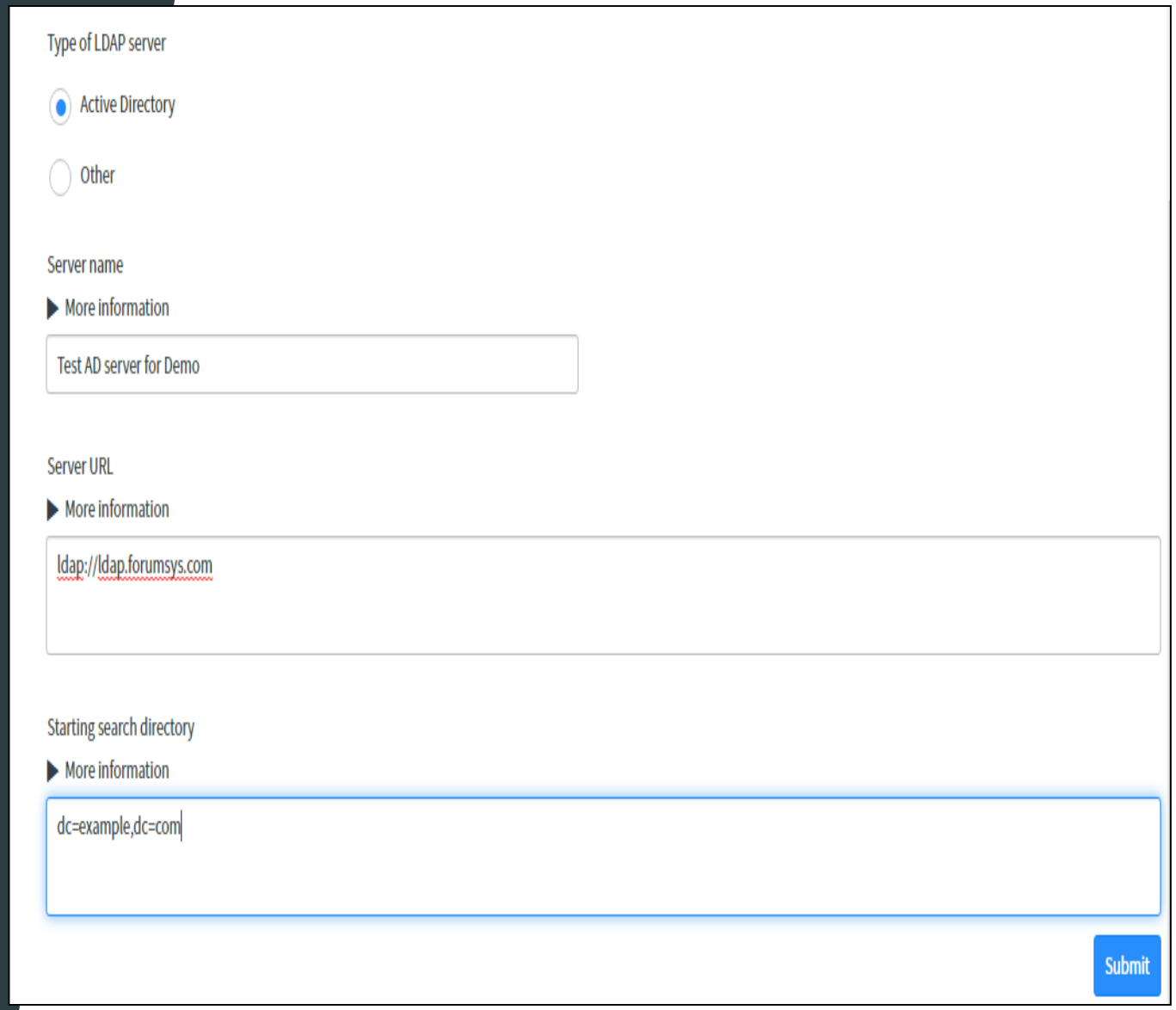
  - Server name :Test AD server for Demo

  - Server URL: ldap://ldap.forumsys.com

  (This URL will show LDAP will connect instance and LDAP via LDAP port 389)

  Start directory: dc=example,dc=com

- Click submit



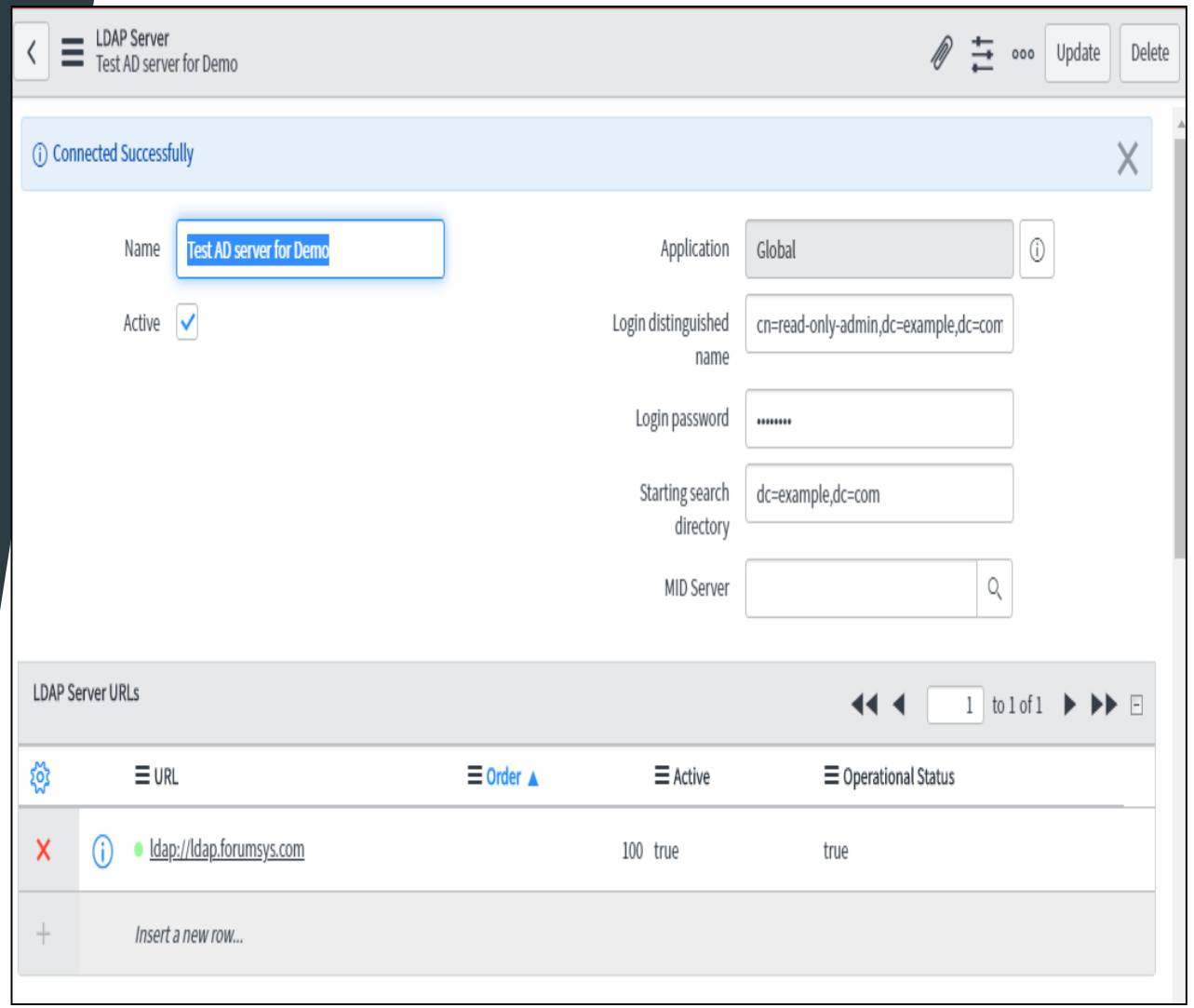
ITOM - LDAP

- This will create a LDAP server record and the form is displayed where we need to enter

- login distinguished name : cn=read-only-admin,dc=example,dc=com

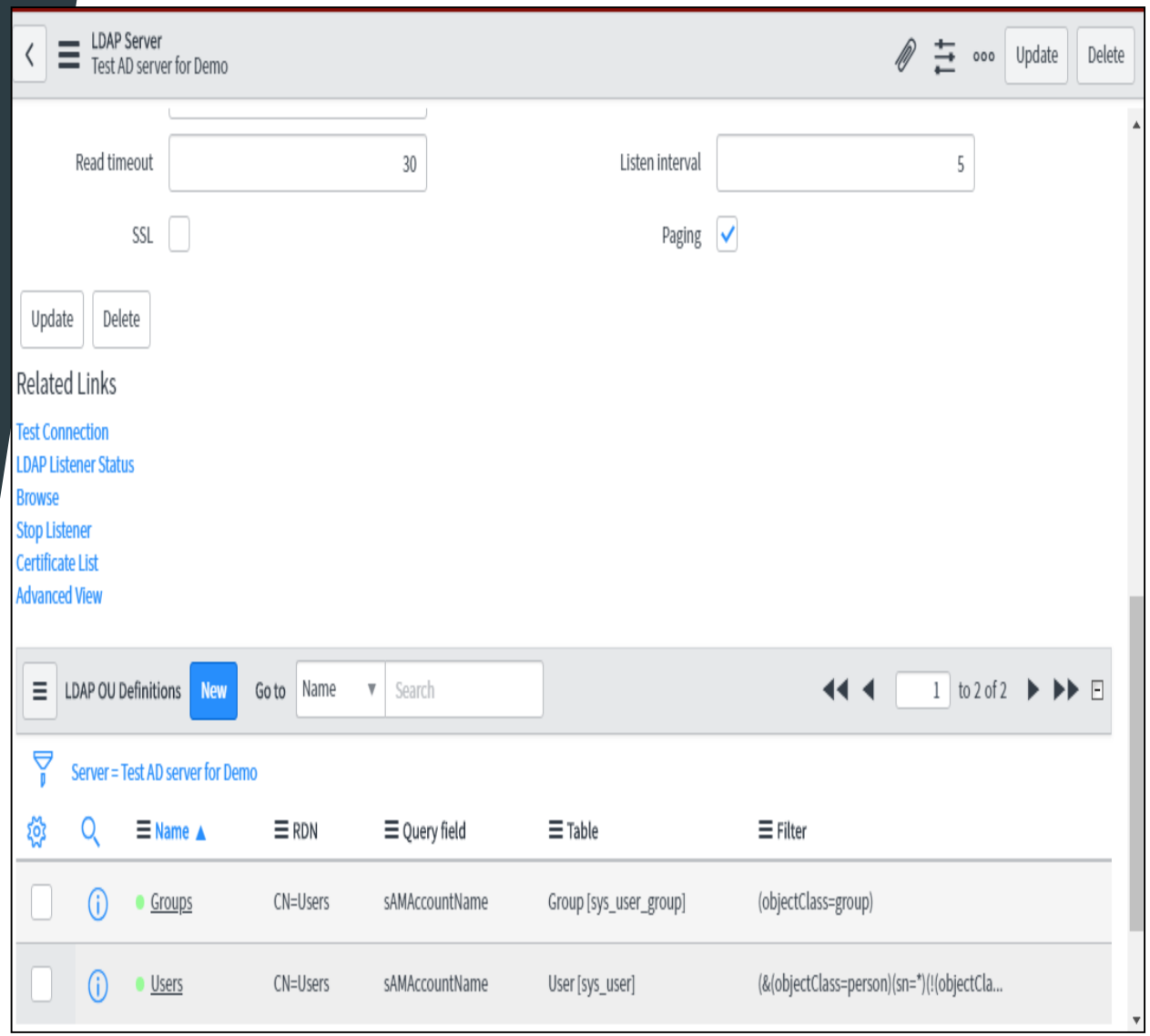
- Login password : password

- Save the record
- Automatically we can see the connection is established successfully
- We can also test the connection in related links



ITOM - LDAP

- We can observe connection timeout,Read timeout,SSL and Listener interval etc being configured.
- LDAP can import lot of fields for user record.In attributes we can mention those fields which we would import as part of LDAP integration
- It has also created LDAP OU definitions for groups and users



ITOM - LDAP

- We can observe there are 2 groups OU created with domain controllers and users created under each Organization units.
- Lets now check if those users are created in ServiceNow navigating to users in related link and opening the record of LDAP OU definition

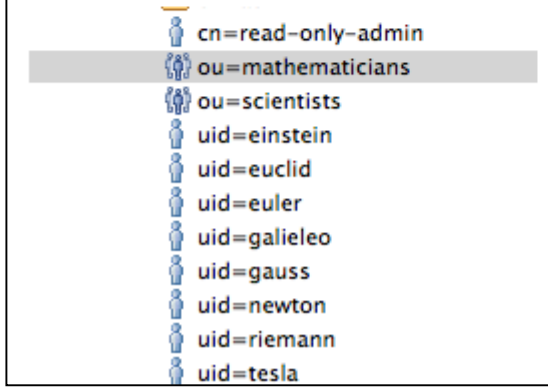
You may also bind to individual Users (uid) or the two Groups (ou) that include:

ou=mathematicians,dc=example,dc=com

- *riemann*
- *gauss*
- *euler*
- *euclid*

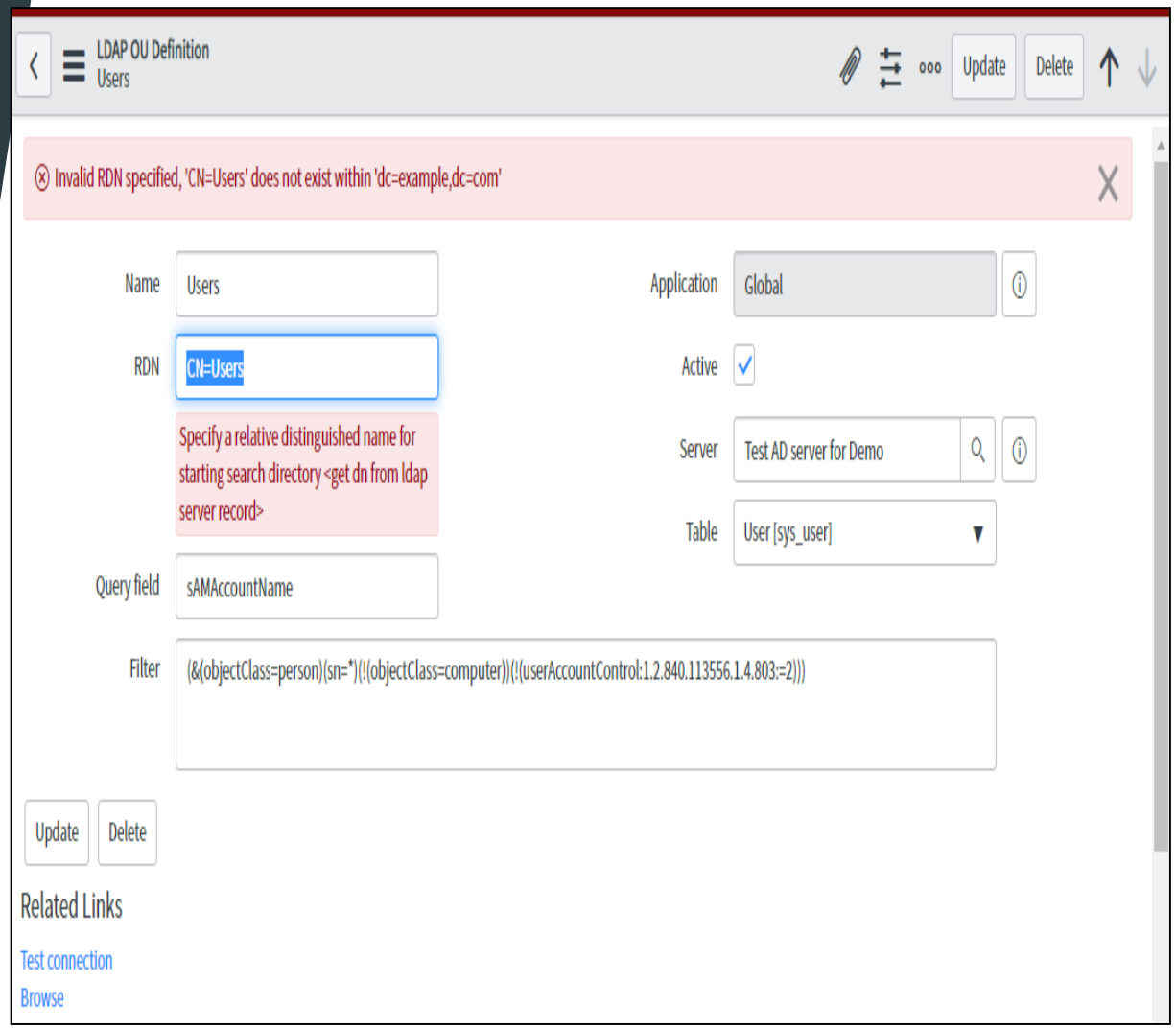
ou=scientists,dc=example,dc=com

- *einstein*
- *newton*
- *galieleo*
- *tesla*



ITOM - LDAP

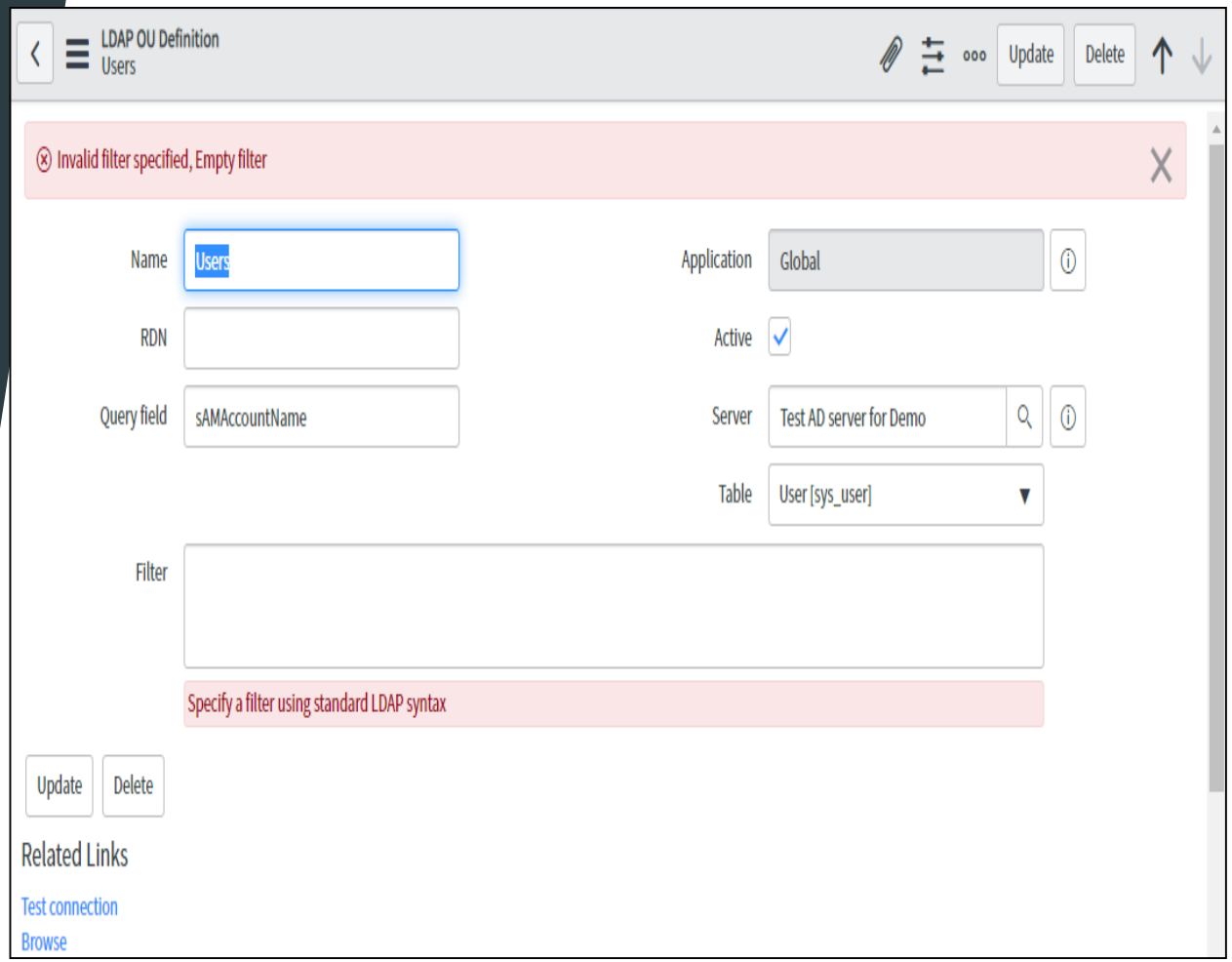
- When we test the connection on LDAP OU definition for user we encounter error for RDN specified.
- For now remove the RDN specified
- Filters are specified to eliminate unwanted bogus records like getting person details,having surnames,eliminating/filtering out computer records
- Remove the filter and test connection.



ITOM - LDAP

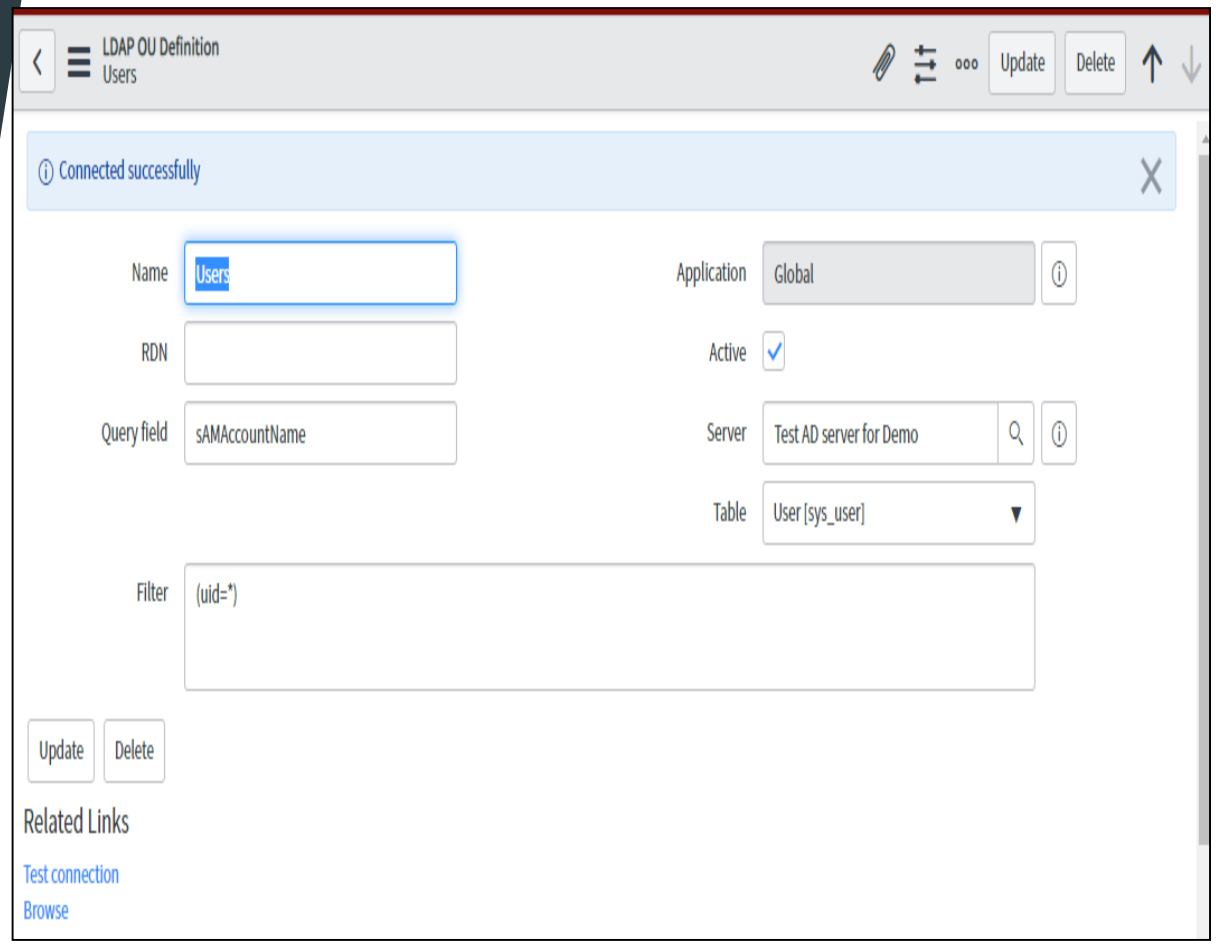
- It now mentions empty filter.
- Now we will specify the filter

  (uid=*) which means there must be uid mentioned as part of OU definition.
- Test the connection



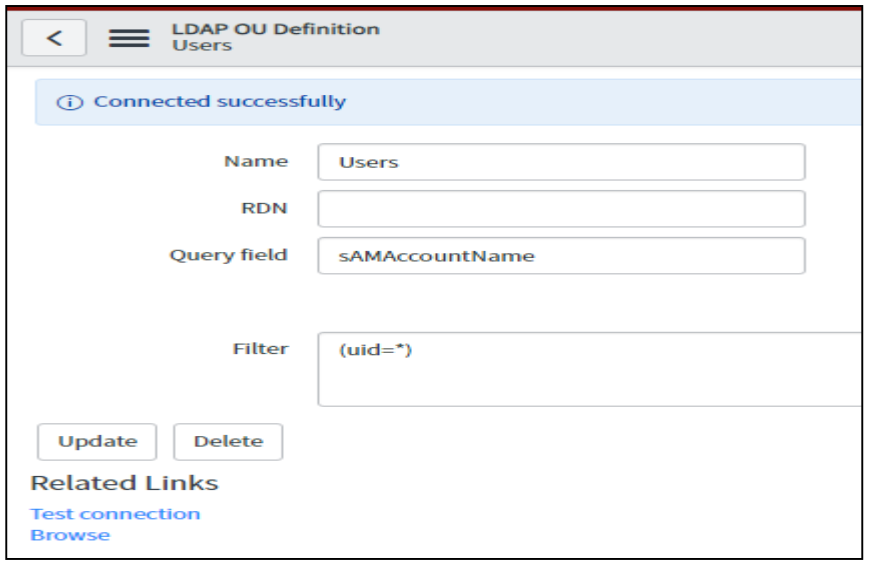
ITOM - LDAP

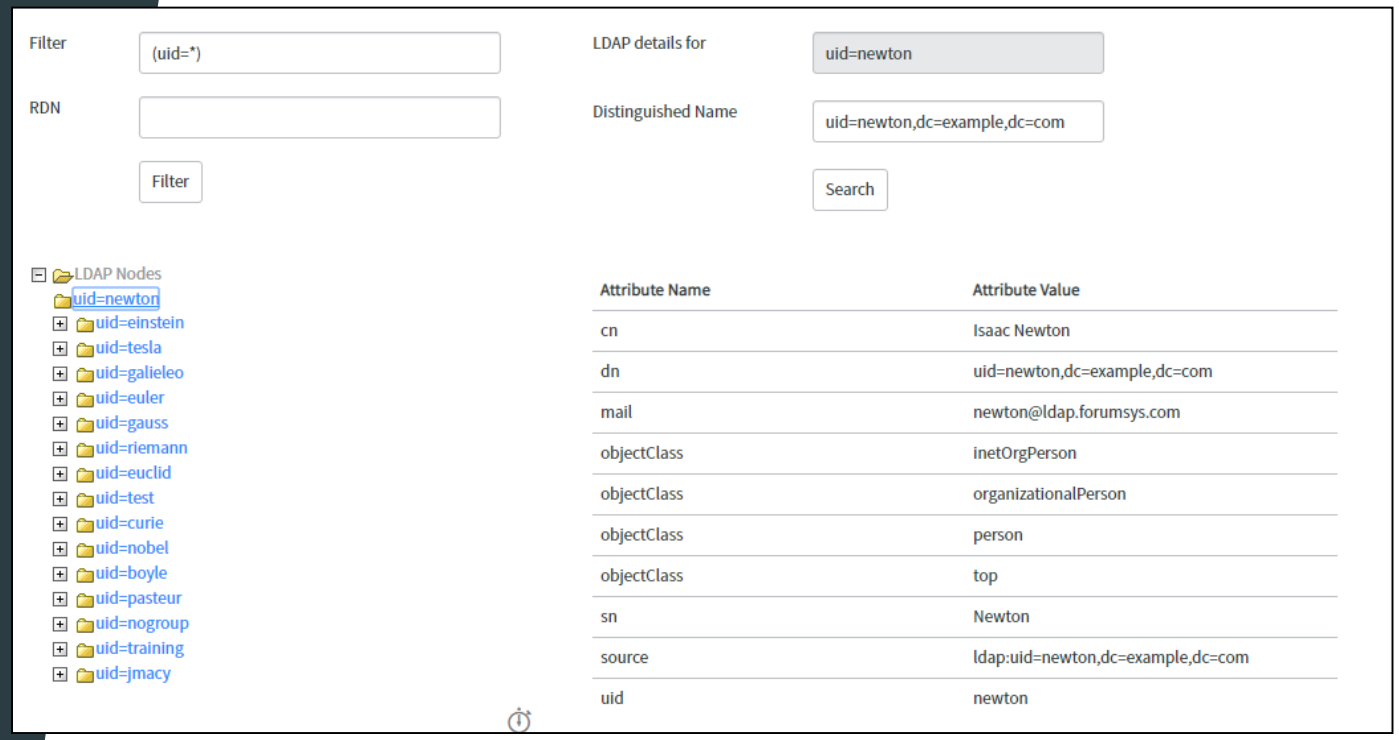
- We should be able to connect to the LDAP OU definition for users.
- We observe our filter is working,Relative distinct name is working for specified OU definition.



ITOM - LDAP

- Troubleshooting LDAP - Click on browse which helps to troubleshoot if particular users are not imported into SNOW tables



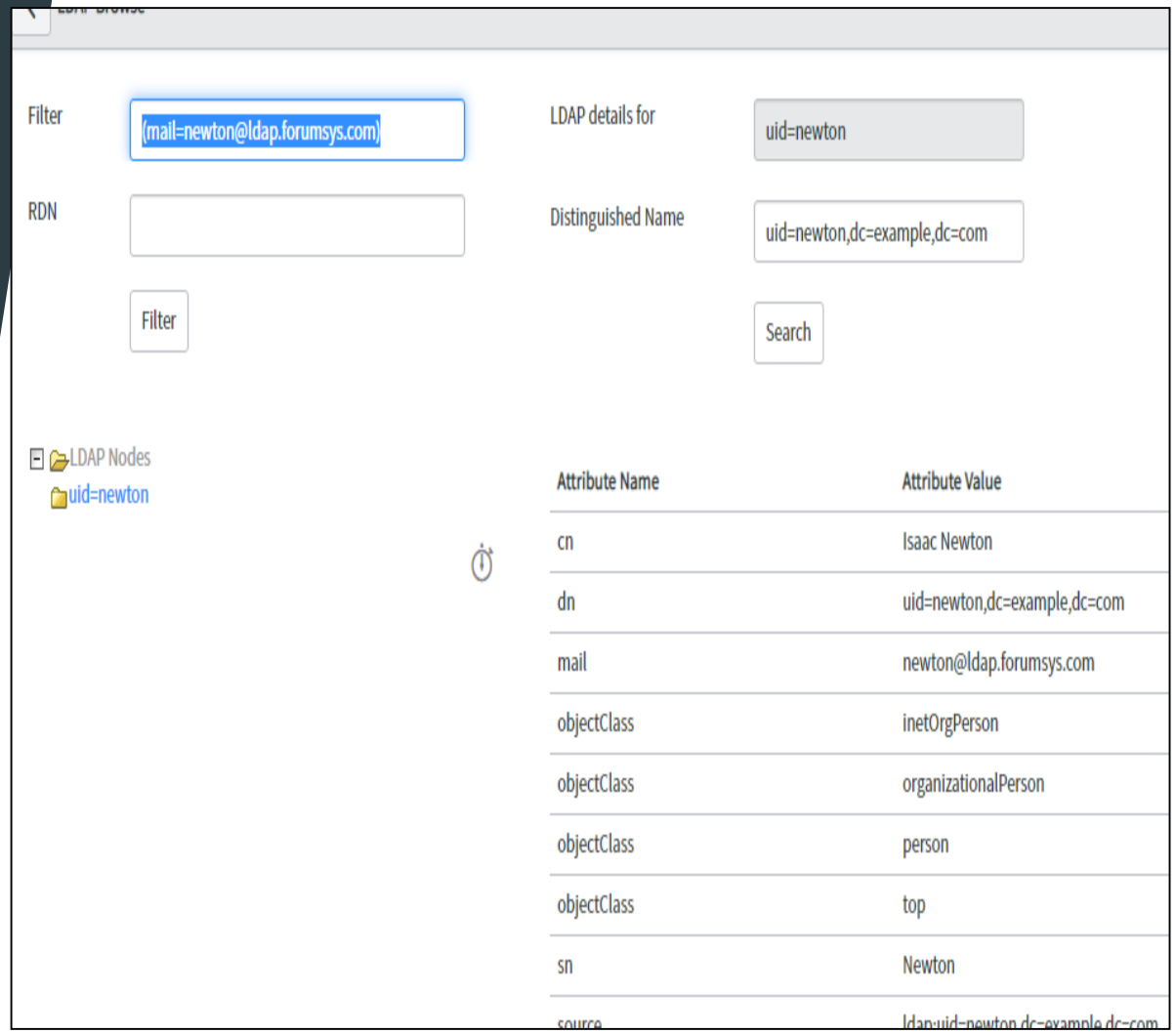


ITOM - LDAP

- Inorder to troubleshoot pick the email id and apply filter

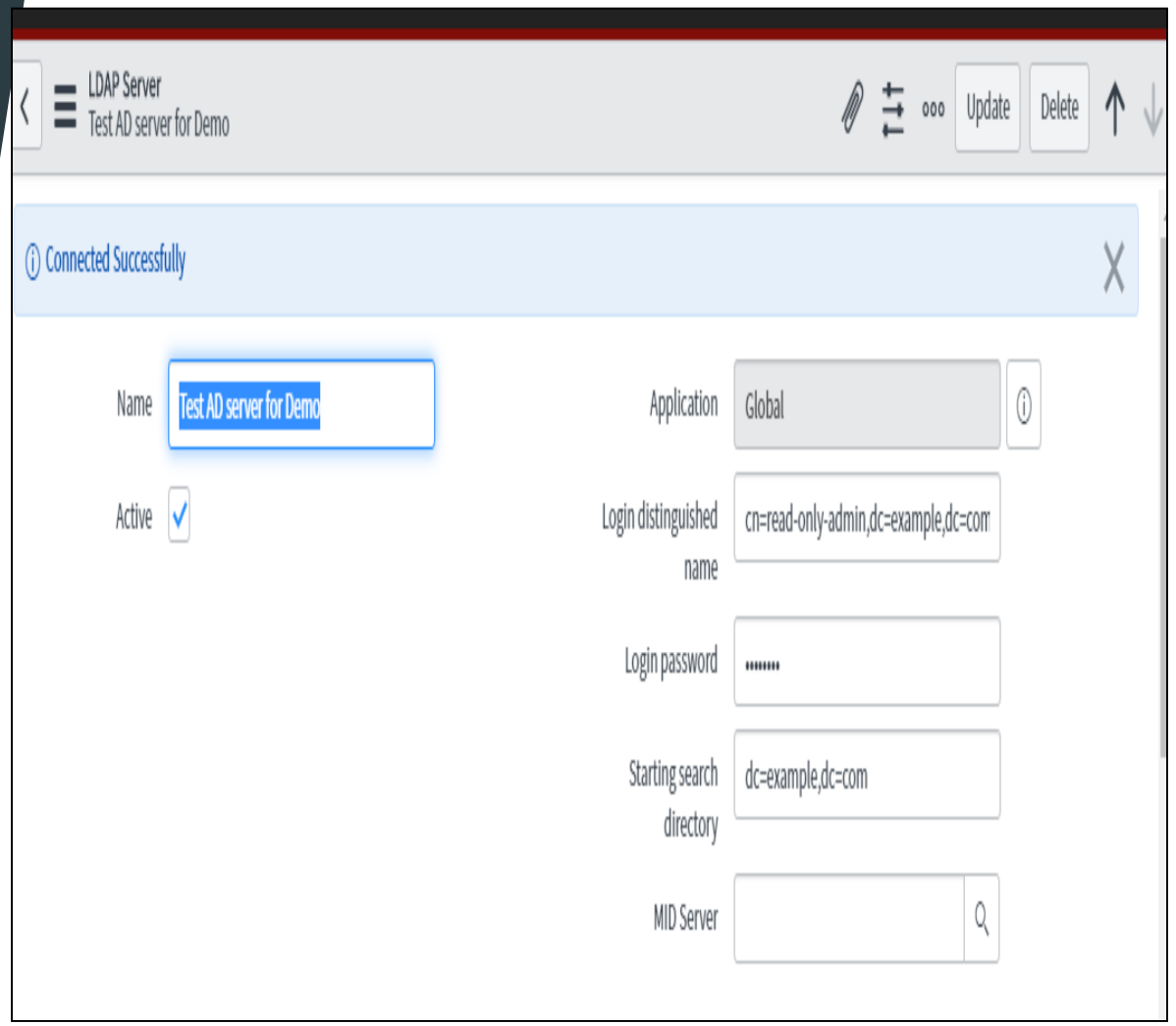
(mail=newton@ldap.forumsys.com)

- We can observe for attribute name mail we find filter applied fetching particular record



ITOM - LDAP

- Lets go to LDAP server again and open the Test AD server for Demo
- Test the listener connection and configure Midserver if required.
- Hence this is the way connection to LDAP server



ITOM - Midserver

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Thankyou