● Any implementation changes that you made to your design and how they continue to support the
requirements I have made few implements change from the design document initially. Please see
changes listed below:
Added Visitor pattern to the Role, User, Service, and Permission class to iterate over
respective objects. The original design document did not have the visitor pattern.
No more design changes

● Did the design document make the implementation easier?
The design document helped in the previous assignment more than it did in this assignment.
Since this assignment is more a carry over from the previous assignment, the domain was already
familiar and the need for design document was not as badly felt like the previous assignment.

● How could the design have been better, clearer, or made the implementation easier?
I had to make couple of passed in code and go back and change design document. I would have
liked to add more operations and other details early on, but failed to see the bigger picture
initially.

● Did the design review help improve your design?
Yes Certainly. It helps to have a reference while code. With so many classes and associations
between classes it quickly gets overwhelming with a design document.
Comments from peer design review and functional review
Though I did not have a formal design review session with my assigned partner I had a 30 mins
phone conversation with my Old peer, Felix Gonda, about design discussion on implementing
AuthenticationService. It helped in putting thoughts together. Some things that came out of
discussion were, how to implement authToken check in individual methods, where to store
authentication tokens in the AuthenticationService API, how would the AuthenticationAPI know
which method is requesting an Authentication check request? and etc ..

Sample run output:
Script started on Thu Nov 20 23:28:58 2014
bash-3.2$ sh -x run.sh
+ unzip Vinod_Halaharvi_SquareDesk.zip
Archive: Vinod_Halaharvi_SquareDesk.zip
 extracting: SquareDesk/TODO.txt
   creating: SquareDesk/bin/
 extracting: SquareDesk/bin/.gitignore
   creating: SquareDesk/bin/cscie97/
   creating: SquareDesk/bin/cscie97/asn4/
   creating: SquareDesk/bin/cscie97/asn4/squaredesk/
   creating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/AccessException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/AccessToken.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/AccessTokenException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/
AuthenticationDataImporter.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/
AuthenticationException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/AuthenticationService.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/Entitlement.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/package-info.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/package.html
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/Permission.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/
PermissionAlreadyExistException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/PermissionFactory.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/PermissionVisitor.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/Role.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/
RoleAlreadyExistException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/RoleFactory.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/RoleNotFoundException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/RoleVisitor.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/Service.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/
ServiceAlreadyExistException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/ServiceFactory.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/ServiceVisitor.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/User.class

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  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/
UserAlreadyExistException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/UserFactory.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/UserNotFoundException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/authentication/UserVisitor.class
   creating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Capacity.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Category.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/ContactInfo.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/EntitlementNotFoundException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Facility.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/FacilityType.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Feature.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Image.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/ImportExecption.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Location.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/OfficeSpace.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/OfficeSpaceNotFoundException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/package-info.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Provider.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/
ProviderAlreadyExistException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/ProviderNotFoundException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/ProviderService.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Rate.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/Rating.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/provider/RatingNotFoundException.class
   creating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/Account.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/Booking.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/BookingAlreadyExistException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/BookingNotFoundException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/BookingService.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/Criteria.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/KnowledgeGraph.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/Node.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/package-info.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/Predicate.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/Profile.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/ProfileFactory.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/QueryEngine.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/QueryEngineException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/Renter.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/RenterAlreadyExistException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/RenterNotFoundException.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/RenterService.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/Triple.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/renter/TripleNotFoundException.class
   creating: SquareDesk/bin/cscie97/asn4/squaredesk/test/
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/AuthenticationTestDriver.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/Context.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/ContextProvider.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/ContextRenter.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/OfficeSpaceTestDriver.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/package-info.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/ProviderServiceTestDriver.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/ProviderTestDriver.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/RenterServiceTestDriver.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/RenterTestDriver.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/TestDriver$1.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/TestDriver$2.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/TestDriver.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/TestDriverBase.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/YamlImporterProvider.class
  inflating: SquareDesk/bin/cscie97/asn4/squaredesk/test/YamlImporterRenter.class
   creating: SquareDesk/doc/
  inflating: SquareDesk/doc/allclasses-frame.html
  inflating: SquareDesk/doc/allclasses-noframe.html
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  inflating: SquareDesk/doc/constant-values.html
   creating: SquareDesk/doc/cscie97/
   creating: SquareDesk/doc/cscie97/asn3/
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/authentication/
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/authentication/AccessTokenException.html
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/authentication/class-use/
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/authentication/class-use/
AccessTokenException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/authentication/package-frame.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/authentication/package-summary.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/authentication/package-tree.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/authentication/package-use.html
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/AccessException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Capacity.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Category.html
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/AccessException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Capacity.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Category.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/ContactInfo.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Facility.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/FacilityType.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Feature.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Image.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/ImportExecption.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Location.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/OfficeSpace.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/
OfficeSpaceNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Provider.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/
ProviderAlreadyExistException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/
ProviderNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/ProviderService.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Rate.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/Rating.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/class-use/
RatingNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/ContactInfo.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Facility.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/FacilityType.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Feature.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Image.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/ImportExecption.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Location.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/OfficeSpace.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/OfficeSpaceNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/package-frame.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/package-summary.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/package-tree.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/package-use.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Provider.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/ProviderAlreadyExistException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/ProviderNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/ProviderService.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Rate.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/Rating.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/provider/RatingNotFoundException.html
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/Account.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/Booking.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/BookingAlreadyExistException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/BookingNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/BookingService.html
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/
```

```
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/Account.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/Booking.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/
BookingAlreadyExistException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/
BookingNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/BookingService.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/Criteria.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/KnowledgeGraph.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/Node.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/Predicate.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/Profile.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/ProfileFactory.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/QueryEngine.html
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  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/Renter.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/
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  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/
RenterNotFoundException.html
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  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/Triple.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/class-use/
TripleNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/Criteria.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/KnowledgeGraph.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/Node.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/package-frame.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/package-summary.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/package-tree.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/package-use.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/Predicate.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/Profile.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/ProfileFactory.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/QueryEngine.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/QueryEngineException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/Renter.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/RenterAlreadyExistException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/RenterNotFoundException.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/RenterService.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/Triple.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/renter/TripleNotFoundException.html
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/test/
   creating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/Context.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/ContextProvider.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/ContextRenter.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/OfficeSpaceTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/
ProviderServiceTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/ProviderTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/RenterServiceTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/RenterTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/TestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/TestDriverBase.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/YamlImporterProvider.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/class-use/YamlImporterRenter.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/Context.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/ContextProvider.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/ContextRenter.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/OfficeSpaceTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/package-frame.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/package-summary.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/package-tree.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/package-use.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/ProviderServiceTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/ProviderTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/RenterServiceTestDriver.html
```

```
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/RenterTestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/TestDriver.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/TestDriverBase.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/YamlImporterProvider.html
  inflating: SquareDesk/doc/cscie97/asn3/squaredesk/test/YamlImporterRenter.html
  inflating: SquareDesk/doc/deprecated-list.html
  inflating: SquareDesk/doc/help-doc.html
   creating: SquareDesk/doc/index-files/
  inflating: SquareDesk/doc/index-files/index-1.html
  inflating: SquareDesk/doc/index-files/index-10.html
  inflating: SquareDesk/doc/index-files/index-11.html
  inflating: SquareDesk/doc/index-files/index-12.html
  inflating: SquareDesk/doc/index-files/index-13.html
  inflating: SquareDesk/doc/index-files/index-14.html
  inflating: SquareDesk/doc/index-files/index-15.html
  inflating: SquareDesk/doc/index-files/index-16.html
  inflating: SquareDesk/doc/index-files/index-17.html
  inflating: SquareDesk/doc/index-files/index-18.html
  inflating: SquareDesk/doc/index-files/index-19.html
  inflating: SquareDesk/doc/index-files/index-2.html
  inflating: SquareDesk/doc/index-files/index-20.html
  inflating: SquareDesk/doc/index-files/index-21.html
  inflating: SquareDesk/doc/index-files/index-22.html
  inflating: SquareDesk/doc/index-files/index-3.html
  inflating: SquareDesk/doc/index-files/index-4.html
  inflating: SquareDesk/doc/index-files/index-5.html
  inflating: SquareDesk/doc/index-files/index-6.html
  inflating: SquareDesk/doc/index-files/index-7.html
  inflating: SquareDesk/doc/index-files/index-8.html
  inflating: SquareDesk/doc/index-files/index-9.html
  inflating: SquareDesk/doc/index.html
  inflating: SquareDesk/doc/overview-frame.html
  inflating: SquareDesk/doc/overview-summary.html
  inflating: SquareDesk/doc/overview-tree.html
 extracting: SquareDesk/doc/package-list
   creating: SquareDesk/doc/resources/
 extracting: SquareDesk/doc/resources/background.gif
  inflating: SquareDesk/doc/resources/tab.gif
  inflating: SquareDesk/doc/resources/titlebar.gif
  inflating: SquareDesk/doc/resources/titlebar_end.gif
  inflating: SquareDesk/doc/serialized-form.html
  inflating: SquareDesk/doc/stylesheet.css
  inflating: SquareDesk/provider.yaml
  inflating: SquareDesk/renter.yaml
  inflating: SquareDesk/snakeyaml-1.11.jar
   creating: SquareDesk/src/
   creating: SquareDesk/src/cscie97/
   creating: SquareDesk/src/cscie97/asn4/
   creating: SquareDesk/src/cscie97/asn4/squaredesk/
   creating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/AccessException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/AccessToken.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/AccessTokenException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/
AuthenticationDataImporter.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/AuthenticationException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/AuthenticationService.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/Entitlement.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/package-info.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/package.html
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/Permission.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/
PermissionAlreadyExistException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/PermissionFactory.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/PermissionVisitor.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/Role.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/
RoleAlreadyExistException.java
```

```
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/RoleFactory.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/RoleNotFoundException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/RoleVisitor.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/Service.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/
ServiceAlreadyExistException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/ServiceFactory.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/ServiceVisitor.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/User.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/
UserAlreadyExistException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/UserFactory.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/UserNotFoundException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/authentication/UserVisitor.java
   creating: SquareDesk/src/cscie97/asn4/squaredesk/provider/
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Capacity.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Category.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/ContactInfo.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/EntitlementNotFoundException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Facility.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/FacilityType.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Feature.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Image.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/ImportExecption.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Location.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/OfficeSpace.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/OfficeSpaceNotFoundException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/package-info.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Provider.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/ProviderAlreadyExistException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/ProviderNotFoundException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/ProviderService.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Rate.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/Rating.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/provider/RatingNotFoundException.java
   creating: SquareDesk/src/cscie97/asn4/squaredesk/renter/
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/Account.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/Booking.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/BookingAlreadyExistException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/BookingNotFoundException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/BookingService.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/Criteria.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/KnowledgeGraph.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/Node.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/package-info.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/Predicate.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/Profile.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/ProfileFactory.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/QueryEngine.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/QueryEngineException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/Renter.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/RenterAlreadyExistException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/RenterNotFoundException.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/RenterService.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/Triple.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/renter/TripleNotFoundException.java
   creating: SquareDesk/src/cscie97/asn4/squaredesk/test/
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/AuthenticationTestDriver.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/Context.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/ContextProvider.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/ContextRenter.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/OfficeSpaceTestDriver.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/package-info.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/ProviderServiceTestDriver.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/ProviderTestDriver.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/RenterServiceTestDriver.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/RenterTestDriver.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/TestDriver.java
```

```
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/TestDriverBase.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/YamlImporterProvider.java
  inflating: SquareDesk/src/cscie97/asn4/squaredesk/test/YamlImporterRenter.java
+ cd SquareDesk
+ javac -cp ./snakeyaml-1.11.jar: src/cscie97/asn4/squaredesk/provider/Capacity.java src/
cscie97/asn4/squaredesk/provider/Category.java src/cscie97/asn4/squaredesk/provider/
ContactInfo.java src/cscie97/asn4/squaredesk/provider/EntitlementNotFoundException.java src/
cscie97/asn4/squaredesk/provider/Facility.java src/cscie97/asn4/squaredesk/provider/
FacilityType.java src/cscie97/asn4/squaredesk/provider/Feature.java src/cscie97/asn4/
squaredesk/provider/Image.java src/cscie97/asn4/squaredesk/provider/ImportExecption.java src/
cscie97/asn4/squaredesk/provider/Location.java src/cscie97/asn4/squaredesk/provider/
OfficeSpace.java src/cscie97/asn4/squaredesk/provider/OfficeSpaceNotFoundException.java src/
cscie97/asn4/squaredesk/provider/Provider.java src/cscie97/asn4/squaredesk/provider/
ProviderAlreadyExistException.java src/cscie97/asn4/squaredesk/provider/
ProviderNotFoundException.java src/cscie97/asn4/squaredesk/provider/ProviderService.java src/
cscie97/asn4/squaredesk/provider/Rate.java src/cscie97/asn4/squaredesk/provider/Rating.java
src/cscie97/asn4/squaredesk/provider/RatingNotFoundException.java src/cscie97/asn4/squaredesk/
provider/package-info.java src/cscie97/asn4/squaredesk/renter/Account.java src/cscie97/asn4/
squaredesk/renter/Booking.java src/cscie97/asn4/squaredesk/renter/
BookingAlreadyExistException.java src/cscie97/asn4/squaredesk/renter/
BookingNotFoundException.java src/cscie97/asn4/squaredesk/renter/BookingService.java src/
cscie97/asn4/squaredesk/renter/Criteria.java src/cscie97/asn4/squaredesk/renter/
KnowledgeGraph.java src/cscie97/asn4/squaredesk/renter/Node.java src/cscie97/asn4/squaredesk/
renter/Predicate.java src/cscie97/asn4/squaredesk/renter/Profile.java src/cscie97/asn4/
squaredesk/renter/ProfileFactory.java src/cscie97/asn4/squaredesk/renter/QueryEngine.java src/
cscie97/asn4/squaredesk/renter/QueryEngineException.java src/cscie97/asn4/squaredesk/renter/
Renter.java src/cscie97/asn4/squaredesk/renter/RenterAlreadyExistException.java src/cscie97/
asn4/squaredesk/renter/RenterNotFoundException.java src/cscie97/asn4/squaredesk/renter/
RenterService.java src/cscie97/asn4/squaredesk/renter/Triple.java src/cscie97/asn4/squaredesk/
renter/TripleNotFoundException.java src/cscie97/asn4/squaredesk/renter/package-info.java src/
cscie97/asn4/squaredesk/authentication/AccessException.java src/cscie97/asn4/squaredesk/
authentication/AccessToken.java src/cscie97/asn4/squaredesk/authentication/
AccessTokenException.java src/cscie97/asn4/squaredesk/authentication/
AuthenticationDataImporter.java src/cscie97/asn4/squaredesk/authentication/
AuthenticationException.java src/cscie97/asn4/squaredesk/authentication/
AuthenticationService.java src/cscie97/asn4/squaredesk/authentication/Entitlement.java src/
cscie97/asn4/squaredesk/authentication/Permission.java src/cscie97/asn4/squaredesk/
authentication/PermissionAlreadyExistException.java src/cscie97/asn4/squaredesk/authentication/
PermissionFactory.java src/cscie97/asn4/squaredesk/authentication/PermissionVisitor.java src/
cscie97/asn4/squaredesk/authentication/Role.java src/cscie97/asn4/squaredesk/authentication/
RoleAlreadyExistException.java src/cscie97/asn4/squaredesk/authentication/RoleFactory.java src/
cscie97/asn4/squaredesk/authentication/RoleNotFoundException.java src/cscie97/asn4/squaredesk/
authentication/RoleVisitor.java src/cscie97/asn4/squaredesk/authentication/Service.java src/
cscie97/asn4/squaredesk/authentication/ServiceAlreadyExistException.java src/cscie97/asn4/
squaredesk/authentication/ServiceFactory.java src/cscie97/asn4/squaredesk/authentication/
ServiceVisitor.java src/cscie97/asn4/squaredesk/authentication/User.java src/cscie97/asn4/
squaredesk/authentication/UserAlreadyExistException.java src/cscie97/asn4/squaredesk/
authentication/UserFactory.java src/cscie97/asn4/squaredesk/authentication/
UserNotFoundException.java src/cscie97/asn4/squaredesk/authentication/UserVisitor.java src/
cscie97/asn4/squaredesk/authentication/package-info.java src/cscie97/asn4/squaredesk/test/
AuthenticationTestDriver.java src/cscie97/asn4/squaredesk/test/Context.java src/cscie97/asn4/
squaredesk/test/ContextProvider.java src/cscie97/asn4/squaredesk/test/ContextRenter.java src/
cscie97/asn4/squaredesk/test/OfficeSpaceTestDriver.java src/cscie97/asn4/squaredesk/test/
ProviderServiceTestDriver.java src/cscie97/asn4/squaredesk/test/ProviderTestDriver.java src/
cscie97/asn4/squaredesk/test/RenterServiceTestDriver.java src/cscie97/asn4/squaredesk/test/
RenterTestDriver.java src/cscie97/asn4/squaredesk/test/TestDriver.java src/cscie97/asn4/
squaredesk/test/TestDriverBase.java src/cscie97/asn4/squaredesk/test/YamlImporterProvider.java
src/cscie97/asn4/squaredesk/test/YamlImporterRenter.java src/cscie97/asn4/squaredesk/test/
package-info.java
+ java -cp ./snakeyaml-1.11.jar:./src cscie97/asn4/squaredesk/test/TestDriver ./
provider.yaml ./renter.yaml

Defining service, permission/roles and users in the system
Adding permisions to role
Adding role to the user

logging in user .. testUser1
        User attributes after login
```

```
        getUserId :8a29591f-5ba0-42aa-aaf1-091764ede960
        cscie97.asn4.squaredesk.authentication.AccessToken@cd5a02c5 : active
        getUserDescription :test user in the system
        User logged in

Successfully created the provider using valid token from User testUser1

Providing invalid token to createProvider: wrongToken
Successfully captured the Access Denied Exception, where the token value is invalid
ADDING office space
befe6d06-3e43-4241-97d5-2f89d9770531

Search using features..!!
Query was: ? has_feature Whiteboard
Query was: ? has_feature WIFI
Query was: ? has_feature Windows
Query was: ? has_feature Parking
Query was: ? has_feature Free Coffee
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531

Search using location..!!
Query was: ? has_lat_long 27_78
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531

Search using facility..!!
Query was: ? has_facility_type_category home_kitchen_table
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531

Search using Average Rating..!!
Query was: ? has_rating 5
Query was: ? has_rating 4
Query was: ? has_rating 3
Query was: ? has_rating 2
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531

Search using Dates..!!
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531

Search using Criteria object..!!
Query was: ? has_feature Whiteboard
Query was: ? has_feature WIFI
Query was: ? has_feature Windows
Query was: ? has_feature Parking
Query was: ? has_feature Free Coffee
Query was: ? has_lat_long 27_78
Query was: ? has_facility_type_category home_kitchen_table
Query was: ? has_rating 5
Query was: ? has_rating 4
Query was: ? has_rating 3
Query was: ? has_rating 2
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531
SEARCH FOUND: befe6d06-3e43-4241-97d5-2f89d9770531

Successfully caught RenterAlreadyExistException exception

Successfully caught RenterNotFoundException exception

Beginning user Visit.. testUser1
At user visit.. testUser1

        getLoginName :testUser1
        getPassword :XXXXXXXXXX
        getUserId :8a29591f-5ba0-42aa-aaf1-091764ede960
```

```
        getAuthToken :df1a280a-0a68-406f-8612-e41acde8dcd4
        getUserDescription :test user in the system
Ending user Visit.. testUser1

Beginning role Visit.. ProviderRole
At role visit.. ProviderRole

        getRoleId :ProviderRole
        getRoleId :Provider Role
        getRoleDescription :The amazing role of a provider ..
Ending role Visit.. ProviderRole

Beginning role Visit.. AuthenticationRole
At role visit.. AuthenticationRole

        getRoleId :AuthenticationRole
        getRoleId :Authentication Role
        getRoleDescription :The amazing role of a Authentication ..
Ending role Visit.. AuthenticationRole

Beginning role Visit.. RenterRole
At role visit.. RenterRole

        getRoleId :RenterRole
        getRoleId :Renter Role
        getRoleDescription :The amazing role of a Renter ..
Ending role Visit.. RenterRole


Logging user out and then trying to createProvider
Successfully captured the Access Denied Exception, where the user was already logged out
bash-3.2$ exit

Script done on Thu Nov 20 23:29:05 2014
```