**Planovik Setup**

1. Setup Main database schema instance “planovik\_main” on port 3306.
2. Run DB scripts to create all tables and stored procedures.
3. No tables other than “users”, “users\_roles”, plnvk\_tenant\_master should contain any data and all auto increment columns should be set to 1.
4. Table “users\_roles” should already contain 3 entries.
5. Table “users” should contain one entry for “Planovik Superadmin”. It’s password to set to “plnvkadmin$123#” and bcrypt hashed in the users table.
6. Table plnvk\_tenant\_master should contain 2 rows one for tenant “www” which is the main planovik website to allow companies to signup as tenants. Other is “corp” which is planovik corporate account used for general administration, billing and planovik application testing.
7. The URL for Planovik home page should be set to: [www.planovik.com](http://www.planovik.com) and references such as planovik.com should be redirected to [www.planovik.com](http://www.planovik.com)
8. Corporate URL is: corp.planovik.com/app. At onset the only user available is “superadmin” with the password mentioned in Step 5. This should be safely guarded and regularly changed. This user can create more accounts for corp.
9. Companies wishing to subscribe to Planovik services should visit the main site at [www.planovik.com](http://www.planovik.com) and click on Signup.
10. Follow the instructions on the Signup panel. After initial registration, a temporary password will be sent to the user email as part of welcome package. They will have to complete Step 2 of the registration process.
11. At onset, 2 plans will be offered: Free and Business (Monthly, Annual), subsequently Enterprise
12. Free plan will have limited access to the application:

* Maximum of 1 active itinerary
* Single login account
* Limit of 3 itineraries every 30 day cycle.
* All data for free users will be placed in one DB schema labeled as “planovik\_trial\_\*” (1,2,3…) and each row will contain “tenantid” to establish ownership of data for a tenant.
* Free users would be ready to use the system right away

1. All Business users will have following features:

* Own DB schema, no table containing tenant data is ever shared with any other tenant
* 1 Admin and 4 User accounts permitted.
* No limit on number of itineraries
* No limit on number of active itineraries within the last 30 days
* Access to reporting, dashboard, alerts, emails
* Monthly fee is set to INR 2,000/PM and localized for other countries
* Free users should be ready to use the system instantly

1. All Enterprise users will have following features:

* Own DB instance, no sharing of DB with any other tenant ever
* Multiple admin and no limit on user accounts
* No limit on active itineraries created or running ever
* Monthly fee is set to INR 25,000/PM
* Priority customer service with quick resolution times.

**Scaling Considerations**

1. At launch, all Database instances and their corresponding schemas will be on one physical box (Database Instance) (planovik\_main@3306, planovik\_trial\_1@3307, planovik\_pro\_1@3307) as illustrated by following table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Physical ID (IP)** | **DB Instance** | **DB Schema** | **Tenant ID** |
| 127.0.0.1 | 127.0.0.1:3306 | planovik\_main | www and corp |
| 127.0.0.1 | 127.0.0.1:3307 | planovik\_trial\_1  planovik\_trial\_N  planovik\_pro\_1  planovik\_pro\_N | trialtenantid1 .. trialtenantidN, protenant1.. protenantN |
| 127.0.0.1 | 127.0.0.1:3308 | planovik\_ent\_1 | enttenant1 |
| 127.0.0.1 | 127.0.0.1:3309 | planovik\_ent\_N | enttenantN |

Given this scheme, a minimum of 4 DB instances running multiple schemas will be maintained at onset subject to 2V (Volume and Velocity) which can easily constrain memory and IO.

To accommodate scale-out following intermediate schemes may be deployed. Relocate instances and host schemas based on ODD-EVEN tenant id. Following table illustrates this scheme:

|  |  |  |  |
| --- | --- | --- | --- |
| **Physical ID (IP)** | **DB Instance** | **DB Schema** | **Tenant ID** |
| 127.0.0.1 | 127.0.0.1:3306 | planovik\_main | www and corp |
| 127.0.0.1 | 127.0.0.1:3307 | planovik\_trial\_1  planovik\_trial\_3,  …  planovik\_pro\_1  planovik\_pro\_3,  … | trialtenantid1, trialtenantid3,  …  protenant1, protenant3,  … |
| 127.0.0.1 | 127.0.0.1:3308 | planovik\_ent\_1 | enttenant1 |
| 127.0.0.1 | 127.0.0.1:3309 | planovik\_ent\_3 | enttenant3 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Physical ID (IP)** | **DB Instance** | **DB Schema** | **Tenant ID** |
| 127.0.0.2 | 127.0.0.2:3306 | planovik\_trial\_2  planovik\_trial\_4,  …  planovik\_pro\_2  planovik\_pro\_4,  … | trialtenantid2, trialtenantid4,  …  protenant2, protenant4,  … |
| 127.0.0.2 | 127.0.0.2:3307 | planovik\_ent\_2 | enttenant2 |
| 127.0.0.2 | 127.0.0.2:3308 | planovik\_ent\_4 | enttenant4 |

This should easily provide 2X scale.

The next and final scale out that may be implemented would be MOD10 scale-out along with separating Trial, Pro and Enterprise tenants to their own boxes while giving priority to Enterprise, Pro and Trial in that respective order.

To match this scheme, Application containers running Tomcat 7 need to have predefined JNDI mapping’s in web.xml and context.xml which would be updated as new DB instances come about to facilitate scale-out.

Though this solution is not ideal as is the case with NoSQL auto-scale DB stores, it compensates with extremely low cost of hosting and limited System Administration activity.