**Workforce Scheduling - Optimization Demo**

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# Demo Overview

*This demo highlights the use of IBM’s Decision Optimization and Planning Analytics for effective Staff Scheduling. The use case highlighted in the demo is for a hospital setting with two departments – Emergency and Consultation, which require nurse’s assignments to all the shifts during a week.*

*The problem statement can be summarized as follows:*

***- Hospital Administration to assign Nurses work schedule***

*- Resources: 32 Nurses with different pay rate, skills set*

*- Demand: 36 shifts, 2 departments, require certain skill set and minimum headcount*

***- Goal / Objective:***

*- Primary: Reduce operation cost*

*- Maintain shift allocation balance*

***- Business Rules / Constraints:***

*- Match competencies, restrict max number of hours, account for vacation schedules etc*

***- Data:***

*- Nurses: Skill set, seniority, salary, vacation*

*- Departments and Shifts: Minimum and Maximum requirements, Skill set requirement…. etc*

*Hospital administration can utilize the power of mathematical optimization (IBM Decision Optimization / CPLEX algorithms) through this solution to quickly and effectively assign resources to shifts to meet demand while trying to balance multiple objectives, business rules and preferences of employees and administration. Planning Analytics provides a seamless interface to view and edit data, build scenarios, run optimization and finally view / compare solution quality for various scenarios allowing effective decision making. It not only speeds up the planning process, but also provides optimal solution which probably could not be found by manual effort. Such automation can allow the planners to take more constraints and employee preferences into account which can result in more employee satisfaction and improved service levels. This solution can also help administrator plan for new skills training and/or hiring based on increased demand.*

*The solution and story can be used by IBMers and Business Partners to not only explain what optimization can do, but also use this asset/demo to accelerate opportunities related to workforce management / scheduling / planning solutions.*

# Setting up the Demo Environment

## Setting up the environment

Provision a FOPM Planning Analytics v2.0 image on Cloud Concierge:

<https://demo.ibmcloud.com/>

Login Cloud Concierge using your IBM ID and filter on Planning Analytics to find it easily.

Once the image is provisioned, RDP into the image using username administrator and the password indicated in the notification email, and start Staff Allocation TM1 service from Administrative Tools > Services.

PAW book can be found in Shared> Industry Showcase > Health > Hospital

## Solution credentials

|  |  |  |
| --- | --- | --- |
| Product | URL/Location | Log-in Credentials |
| Planning Analytics | http://ibmdemo.demos.ibm.com/ | pm/IBMDem0s |
|  |  |  |



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