

USER GUIDE

PANL

Desk Manager



Bridgetek
BRIDGING TECHNOLOGY



PANL

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Table of Contents

I. Preface	7
A. About this Guide	7
B. Intended Audience	7
II. Safety Guidelines	8
III. Welcome to PanL Desk Manager	11
A. Overview	11
B. Features	12
IV. Installation & Configuration	14
A. Exchange 2016 / 2013 Setup	14
1. <i>Using Exchange Management PowerShell Command Prompt</i>	15
1.1 Start Exchange Management PowerShell Command Prompt	15
1.2 Create User Account	16
1.3 Create Desk / Resource Account	16
1.4 Create Distribution Group	16
1.5 Create Impersonation User/ Service Account & Grant Impersonation Rights	17
1.5.1 Create User / Service Account	17
1.5.2 Granting Service Account Impersonation Rights	18
1.6 Discovery Management	18
2. <i>Using Exchange Admin Center Console</i>	19
2.1 Log in to Exchange Admin Center Console	19
2.2 Create User Account	19
2.3 Create Desk / Resource Account	21
2.4 Create Distribution Group	22
2.5 Create Impersonation User/ Service Account & Grant Impersonation Rights	22
2.5.1 Create User / Service Account	23
2.5.2 Granting Service Account Impersonation Rights	25
2.6 Discovery Management	28
B. Office 365 Setup	32
1. <i>Using Windows PowerShell Command Prompt</i>	33
1.1 Start Windows PowerShell Command Prompt	33
1.2 Create User Account	34
1.3 Create Desk / Resource Account	35
1.4 Create Distribution Group	35
1.5 Create Impersonation User / Service Account & Grant Impersonation Rights	35
1.6 Discovery Management	35
2. <i>Using Office 365 Admin Center Console</i>	36
2.1 Log in to Office 365 Admin Center Console	36
2.2 Create User Account	36
2.3 Create Desk / Resource Account	40
2.4 Create Distribution Group	41
2.5 Create Impersonation User / Service Account & Grant Impersonation Rights	42
2.5.1 Create User / Service Account	42
2.5.2 Granting Service Account Impersonation Rights	45
2.6 Discovery Management	46
C. PDM Server Installation Pre-requisites	50
1. <i>System Requirements</i>	50
2. <i>OS (Ubuntu / RHEL / Centos / Susie)</i>	50

2.1 Installing PDM on Ubuntu / RHEL Server	50
2.2 Update PDM Server Software Package	59
2.3 Uninstall PDM Server Software Package	60
D. Domain Configuration for PDM Server Software Installation	61
1. <i>Configure Local Host File</i>	61
2. <i>Browser (With BRT SSL)</i>	62
V. Getting Started with PDM Console	67
A. Logging In	67
1. <i>Generate License</i>	67
2. <i>Update System Configuration</i>	70
B. Change Password	73
C. Forgot Password	74
D. PDM Console Overview	78
E. Dashboard	79
F. Resource Management	83
1. <i>Building Management</i>	83
1.1 Add Building	83
1.2 Edit Building	84
1.3 Delete Building	85
2. <i>Locations Management</i>	86
2.1 Add Location	86
2.2 Edit Location	86
2.3 View Location Map	86
2.4 Assign Desk	87
2.5 Update Desk	88
2.6 Un-assign Desk	89
2.7 Delete Location	89
3. <i>Desk Management</i>	90
3.1 Assign Desk Name & Panel to a Desk	90
3.2 Un-Assign Device	91
3.3 Assign QR Code Type	92
3.4 Export All / Filtered	92
3.5 Export	93
3.6 Update Desk Information	94
4. <i>Device Management</i>	95
4.1 Assign Desk to a Device	95
4.2 Un-Assign Desk	96
4.3 Configure Desk Panel Device	96
4.4 Delete Device Information	97
5. <i>Firmware Management</i>	98
5.1 Add / Upload Firmware Package	98
5.2 Auto Update	99
5.3 Manual Update	99
5.4 View Firmware Update Log	100
5.5 Delete Firmware	101
6. <i>Amenities Management</i>	102
6.1 Add Amenities	102
6.2 Edit Amenities	102
6.3 Delete Amenities	102
7. <i>Desk Groups</i>	102

7.1 Create Desk Group	102
7.2 Edit Desk Group	106
G. User & Role Management	108
1. <i>User Management</i>	108
1.1 Sync from Server	108
1.2 Edit User Information	108
2. <i>User Groups</i>	109
2.1 Create User Group	109
H. Feedback	112
1. <i>Feedback Management</i>	112
2. <i>User Feedback</i>	113
I. Configuration	114
1. <i>Dashboard Settings</i>	114
2. <i>System Configuration</i>	115
3. <i>Policy Settings</i>	116
3.1 Update Policy Settings	116
4. <i>Email Template</i>	118
4.1 Add Email Template	118
4.2 Edit / Delete Email Template	119
5. <i>Import / Export Configuration</i>	120
6. <i>License</i>	120
J. Log	121
1. <i>System Log</i>	121
2. <i>User Log</i>	122
K. About	123
L. Log Out	124
M. Desk Viewer GUI Overview	125
VI. Getting Started with Outlook Add-In	129
A. Installing Outlook Add-In	129
B. Configure Outlook Add-In	130
C. Profile	132
D. Find a Person	133
E. Desk Booking	135
1. <i>Booking Desk using Maps View</i>	136
2. <i>Booking Desk using List View</i>	141
3. <i>Other Booking Functions</i>	144
3.1 View and Edit Booking	144
3.2 Cancel Booking	145
3.3 Claim Booking	146
3.4 Extend Booking	147
3.5 End Booking	148
F. My Bookings	149
G. Feedback	150
H. About	151
VII. PanL Desk Manager Mobile App for Android Users	153
A. Hardware / Software Requirements	153
B. Download / Installation of PDM Mobile App from Play Store	153

C. Starting the PDM Mobile App	155
D. Log in	157
E. Menu Overview	158
F. Home	159
G. My Bookings	160
H. On-board Desk Panel Device (PanL35L)*	161
I. Book a Desk	163
1. Other Booking Functions	173
1.1 Edit Booking	173
1.2 Cancel Booking	174
1.3 Claim Booking	175
1.4 Extend Booking	176
1.5 End Booking	177
J. Profile	178
K. Settings	180
L. Device Control	182
M. Feedback	183
N. About	184
O. Log out	185
VIII. PanL Desk Manager Mobile App for iOS Users	186
A. Hardware / Software Requirements	186
B. Download / Installation of PDM Mobile App from App Store	186
C. On-board Desk Panel Device (PanL35L)*	188
IX. Getting Started with PanL35L Desk Panel Device Display	191
A. PanL35L (PD35L) Device Display Overview	191
B. PanL35L Product Specifications	192
C. PanL35L (PD35L) Desk Panel Display Setup	193
D. On-Boarding	194
E. Accessing Device Control Menu	194
1. Settings	195
2. About	195
3. Factory Reset	196
4. AP Mode	197
5. Shutdown	198
X. Appendix	199
A. Acronyms & Abbreviations	199
B. List of Figures	199
C. List of Tables	199
XI. Revision History	200

Introduction

I. Preface

A. About this Guide

This document provides a guide to PanL Desk Manager (PDM) hardware and software installation, configuration and operating information consisting of the following –

- Exchange Server Setup, PDM Server Software Setup and Installation
- PDM Console
- Desk Viewer & Microsoft Outlook Add-In
- Mobile App (for Android / iOS users)
- Wi-Fi enabled PanL35L(PD35L) Desk Panel Device

The guide also provides configuration guidelines for supported calendars such as Microsoft Exchange 2013/2016/2019 or Office 365 to work seamlessly with PDM Server Software.


B. Intended Audience

The guide is meant to aid End Users, System Integrators, IT or Administrative Users to realize the functions and the full benefits of the product.

II. Safety Guidelines


Important Safety Instructions:

WARNINGS:

- This symbol, , when used on the product, is intended to alert the user of the presence on uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.
- If the product is damaged and any internal components can be seen through the damaged area; unusual odours or unusual noises are detected; disconnect the device from the electric outlet and contact our [support](#).

- Avoid attachments- Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous and they may void the warranty.
- Avoid water - Do not use this or other electrical equipment near water or objects filled with water. Clean the device with dry cloth only.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this equipment during lightning storms or when unused for long periods of time.

ATTENTION:

-  - This symbol, when used on the product, is intended to alert the user of important operating and maintenance (Servicing) instruction in the literature provided with equipment.

WARNING: To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.

General Guidelines:

Follow these sensible guidelines:

- Read instructions- Read and understand all safety and operating instructions before installing or using the equipment.
- Retain instructions- Keep the safety instructions for further reference.
- Follow warnings- Follow all warnings and instructions marked on the equipment or in the user information.
- Comply with codes- Install all products in accordance with international, national, and local electrical and building safety codes. Some example for reference are as follows:
 - In the United States of America, refer to ANSI/NFPA 70, US National Electrical Code (NEC).
 - In Canada. Consult the Canadian Electrical Code, Part I, CSA C22.1.
 - Elsewhere, refer to International Electro technical Commission (IEC) guideline 60364, parts 1-7.

- This equipment shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the equipment.
- Refer all servicing to qualified service personnel. Servicing is required when the equipment has been damaged in any way, such as when power supply cord or plug is damaged, liquid has been spilled, or objects have fallen into the equipment, the equipment has been exposed to rain or moisture, does not operate normally, or has been dropped.

Grounding (Earthing):

- Grounding faceplates- For products with metal faceplates, ground the faceplates to the product ground, and tie all the products in a system to a common ground. This prevents electrostatic discharge and can prevent video ground loops.
- Do not defeat the safety purpose of the polarized or grounding -type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and third grounding prong. The wide blade or the third prong is provided for user's safety. If the provided plug does not fit into the outlet, consult an electrician for replacement of the obsolete outlet.

Power and Electrical Supply:

- **Appropriate power supply**
 - Use only provided power supplies and power sources with our products. Use of unauthorized power supplies may harm the equipment, may void the warranty, and will void the regulatory compliance status.
 - For power adapters with detachable DC cords, consult the Manufacturer for guidance.
 - Power supplies are intended for continuous operation.
 - Our power supplies are universal input voltage supplies that operate from 100-240 VAC and are intended to function at 50 to 60 Hz. The ambient temperature shall not exceed 50oC and the altitude shall not exceed 2000m. Consult the Manufacturer if the input power supply being used is not provided by us. Make sure to use the appropriate power supply for corresponding models. If use an LPS or Class2 type, and that it is marked as "LPS" or "Class 2".
- **Location of power supplies**
 - External power supplies with either plastic enclosures or metal enclosures with vents must not be located within environmental air handling spaces or a wall cavity.
 - Our power supplies are intended for indoor use only.
 - The power supply must not be permanently fixed to the building or similar structure.

Power Sources:

- This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with main power system with a grounded_Neutral_conductor or Line to Line. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

WARNING for Class I Products:

Class I products must be connected only to a mains socket outlet with a protective Earthing (Grounding) connection.

- Power and IT system- Consult us before installation if the product will be connected to an IT power distribution system.

WARNING: Disconnect the equipment from the AC main before performing any service to the equipment.

- There are no user serviceable parts inside our equipment.
- Refer all servicing to qualified service personnel. To prevent the risk of shock, do not attempt to service this equipment by yourself because opening or removing covers may expose users to dangerous voltage or other hazards and may void the warranty

Ventilation, Mounting and Temperature:

- Ventilation slots and opening- If the equipment has slots or holes in the enclosure do not block any ventilation opening, as this may cause the product to malfunction. Install the device in accordance with the manufacturer's instructions
- Temperature – Do not install electronic devices near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat. If possible, do not expose the product to direct sunlight. Also see "Rack mounting guidelines" below for temperature guidelines.

Placement Guidelines:

The following guidelines pertain to the safe installation of our device on a desk.

- Ensure that the device is not placed on the desk edges.
- Ensure that the placement is visible to the user.
- If using a glass or slippery desk, ensure that the rubber feet are in place. Use the rubber feet to stick to the bottom of the device. The rubber feet are provided as part of the package.
- The placement desk should be flat (Horizontal to ground), should not be in a slanting position.
- Please do not mount the device on a vertical wall / table.

FCC Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a building installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference, and
- 2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.

NOTE: This unit was tested with shielded cables. Using shielded cables, ensure that users maintain the appropriate EMC classification for the intended environment.

III. Welcome to PanL Desk Manager

A. Overview

The management of shared spaces particularly working desks, either in traditional corporate offices or the fast growing co-space providers is increasingly important as real estate costs have climbed steadily over the years especially in land scarce city-states. A 1:1 desk to head ratio may no longer be cost effective or a good use of shared space when desks are under-utilized. Other use case applications such as libraries, cyber cafes or community centres also face similar challenges in managing desk bookings. **PanL Desk Manager (PDM)** addresses the problem by providing a complete solution ecosystem as illustrated in Figure 1 – PanL Desk Manager Ecosystem, enabling organizations to automatically manage desk bookings and increase the number of users per desk without compromising user experience. By continuous re-conditioning of the workspace based on statistical data collected, substantial cost and space savings can be realized.

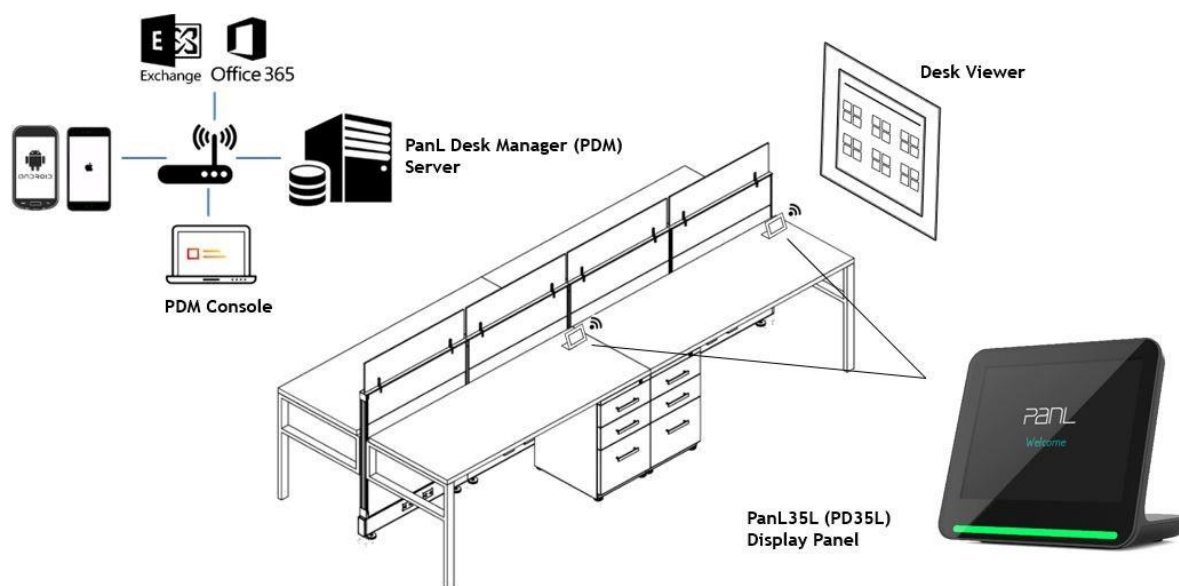


Figure 1 – PanL Desk Manager Ecosystem

PDM Server Software installed on on-premise server can be configured via a simple web console interface (PDM Console) to connect to supported Microsoft Exchange or Office 365 calendars. The PDM console also allows system administrators to assign desk layouts across local or multi-site locations, setup PanL35L display panels remotely and configure a variety of desk booking policies to suit administrator's preference such as maximum desk booking hours per day or desk claim time limit to ensure desks are in good use. A dashboard which displays booking statistical data provides valuable insights to management to understand and manage user behaviour to further improve desks utilization.

Users can book desks via Outlook Add-In, mobile devices and right from the desk panels. On spot desk booking through the panel is as easy as scanning the QR code through the mobile app and setting the desired booking time slot. The panel comes with a bright LED indicator to provide at-a-glance desk availability status from a distance. One or more desk panels are added to the network as clients through on-boarding (see Getting started with PanL PD35L Device). PDM enables the panels, mobile apps and the calendars to integrate seamlessly, synchronizing all scheduling data across all platforms on the same network. All communications in between are encrypted to ensure data security. The [Desk Viewer](#) interface provides an overall view of desks availability across different locations of a building spanning across different locations. This can be displayed on any network enabled screen placed at public access areas.

B. Features

The following are some key features offered by PanL Desk Manager (PDM) -

- ❖ Make on spot desk reservations right from the desk panel (QR Code) or advance booking through outlook or mobile app. Integrate seamlessly with supported calendars such as Microsoft Exchange and Office 365
- ❖ Book by desk or time options. Easy access to all booking information and status through My Booking feature
- ❖ PanL Desk Panel Display availability status light indicators allow users to locate a vacant space from afar - LED color code: Green (Available), Yellow (Pending Claim), Red (In-Progress)
- ❖ Claim and automatic release feature reduces no show time ensuring unused desks are available for the next user. Frequent ghost booking offenders can be identified
- ❖ One glance desks occupancy status and navigation through Desk Viewer. Search building/location/desks function enables users to book neighbouring desk to work on the same project
- ❖ Outlook Add-In and Mobile App feature enable users or admin to book and assign desks on behalf of other users
- ❖ Number of devices and users can be scaled accordingly and settings can be centrally managed and synchronized across multi-site locations
- ❖ Booking statistical data dashboard provides insights on desk/user utilization and booking behaviours to better optimize user experience and desk to head ratio
- ❖ A single admin console (PDM Console) interface provides a one stop management of resource assignment, desk booking policies, display panel and calendar configurations etc.
- ❖ Remote desk panel firmware OTA updates, activation, brightness control through Wi-Fi
- ❖ Easy desk panel power up with 5V micro-USB cable
- ❖ Secure communications between the clients and server over https. Database encryption over user account credentials and passcodes
- ❖ Customizable desk notification email template
- ❖ User feedback through mobile app/Outlook Add-In/Desk Viewer
- ❖ Static / Dynamic QR Code

Installation & Configuration *(Exchange Server Setup)*

IV. Installation & Configuration

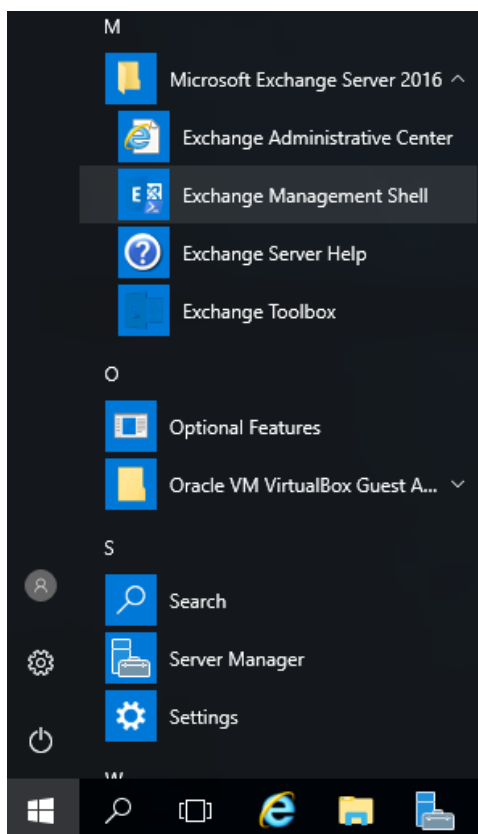
A. Exchange 2016 / 2013 Setup

Account Reference	Account Type	Number of Accounts	Description
User Account	User Mail box	1	This account will be used by the normal end users to perform desk booking related activities.
Desk Account	Desk Mailbox	X	<p>This account's email addresses will be used –</p> <ul style="list-style-type: none"> To book the desks. The desk account has to be granted "Send on behalf" and "Full access" permissions (by the impersonation user) to its belonging Desk accounts in order to synchronize booking data. This account will be part of the distribution group.
Distribution Group	Group (Room List)	1	<p>This group of desks are only allowed to access the following PDM components –</p> <ul style="list-style-type: none"> PDM Console Outlook Add Ins PanL35L On spot booking
Impersonation User / Service Account	User	1	<p>This user will be able to access multiple mailboxes and act as the mailbox owner. Impersonation is the best choice while dealing with multiple mailboxes because one can easily grant service account access to every mailbox in a database. This account will be used –</p> <ul style="list-style-type: none"> To communicate between PDM and Exchange Server. All the PDM server / Desk Booking related emails will be sent by this user Upon installation of PDM server, this user account details must be added in the "config.json" file and uploaded to PDM server. <p>Since large a number of emails are processed through this account, a dedicated account for this purpose is recommended.</p>

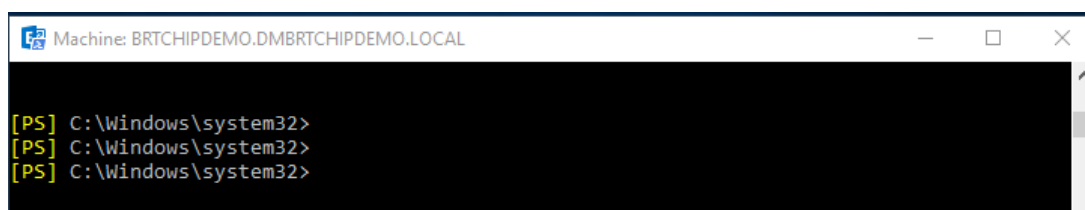
1. Using Exchange Management PowerShell Command Prompt

1.1 Start Exchange Management PowerShell Command Prompt

- a. From the exchange server, click **Start** → **Microsoft Exchange Server** → **Exchange Management Shell**.



- b. The **Exchange Management Shell** is opened.



1.2 Create User Account

- c. Create user account using the following command –

```
New-Mailbox -Name "User1" -DisplayName "User1" -UserPrincipalName
"user1@bridgetek.com" -OrganizationalUnit Users -Password (ConvertTo-
SecureString "P@ssw0rd" -AsPlainText -force)
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>New-Mailbox -Name "User1" -DisplayName "User1" -UserPrincipalName "User1@bridgetek.com"
-OrganizationalUnit Users -Password (ConvertTo-SecureString "P@ssw0rd" -AsPlainText -Force)

Name                Alias                ServerName            ProhibitSendQuota
----                -
User1               User1               brtchipdemo          Unlimited

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

The user account will be created.

1.3 Create Desk / Resource Account

- d. Create resource account using the following command –

```
New-Mailbox -Name "Desk1" -DisplayName "Desk1" -Room
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>New-Mailbox -Name "Desk1" -DisplayName "Desk1" -Room

Name                Alias                ServerName            ProhibitSendQuota
----                -
Desk1               Desk1               brtchipdemo          Unlimited

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

1.4 Create Distribution Group

The distribution group is required to identify the resources (for example – Desk) in PDM. The RoomList parameter is mandatory.

- e. Create a new room list named "Bridgetek Desks" –

```
New-DistributionGroup -Name "Bridgetek Desks" -RoomList
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>New-DistributionGroup -Name "Bridgetek Desks" -RoomList

Name                DisplayName          GroupType PrimarySmtptAddress
----                -
Bridgetek Desks    Bridgetek Desks    Universal BridgetekDesks@bridgetek.com

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

- f. Add a resource account (desk1@bridgetek.com) to an existing desk list (Bridgetek desks) -

```
Add-DistributionGroupMember -Identity "Bridgetek Desks" -Member
desk1@bridgetek.com
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>New-DistributionGroup -Name "Bridgetek Desks" -RoomList

Name            DisplayName      GroupType PrimarySmtpAddress
-----
Bridgetek Desks Bridgetek Desks Universal BridgetekDesks@bridgetek.com

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>Add-DistributionGroupMember -Identity "Bridgetek Desks" -Member desk1@bridgetek.com
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

- g. Display the list of desk added to a particular distribution group -

```
Get-DistributionGroupMember -Identity "Bridgetek Desks"
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>New-DistributionGroup -Name "Bridgetek Desks" -RoomList

Name            DisplayName      GroupType PrimarySmtpAddress
-----
Bridgetek Desks Bridgetek Desks Universal BridgetekDesks@bridgetek.com

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>Add-DistributionGroupMember -Identity "Bridgetek Desks" -Member desk1@bridgetek.com
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>Get-DistributionGroupMember -Identity "Bridgetek Desks"

Name RecipientType
-----
Desk1 UserMailbox

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

1.5 Create Impersonation User/ Service Account & Grant Impersonation Rights

1.5.1 Create User / Service Account

- h. Create Service Account using the following command -

```
New-Mailbox -Name "service-account" -DisplayName "service-account" -
UserPrincipalName "service-account@bridgetek.com" -OrganizationalUnit
Users -Password (ConvertTo-SecureString "P@ssw0rd" -AsPlainText -force)
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>New-Mailbox -Name "service-account" -DisplayName "service-account" -UserPrincipalName
"service-account@bridgetek.com" -OrganizationalUnit Users -Password (ConvertTo-SecureString "P@ssw0rd" -AsPlainText -force)

Name            Alias            ServerName    ProhibitSendQuota
-----
service-account service-account brtchipdemo  Unlimited

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

1.5.2 Granting Service Account Impersonation Rights

- i. Create Admin Role Group and Grant Service Account Impersonation Rights using the following command –

```
New-RoleGroup -Name "Application Impersonation Role" -Roles
"ApplicationImpersonation" -Members service-account@bridgetek.com
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>New-RoleGroup -Name "Application Impersonation Role" -Roles "ApplicationImpersonation"
-Members service-account@bridgetek.com

Name                               AssignedRoles                      RoleAssignments                    ManagedBy
----                               -
Application Impersonation Role {ApplicationImpersonation} {ApplicationImpersonation-Application Impersonation Role} {DMBRTCHIPDEMO.LOCAL
/Microsoft Exchange
Security
Groups/Organization
Management, DMBRTCHI
PDEMO.LOCAL/Users/Ad
ministrator}
```

- j. To view the application impersonation data use the following command –

```
Get-ManagementRoleAssignment -Role "ApplicationImpersonation" -
GetEffectiveUsers
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>Get-ManagementRoleAssignment -Role "ApplicationImpersonation" -GetEffectiveUsers

Name                               Role                               RoleAssigneeName                   RoleAssigneeType  AssignmentMethod  EffectiveUserName
----                               -
ApplicationImpersonation-Hy... ApplicationImperso... Hygiene Management                 RoleGroup          Direct            All Group Members
ApplicationImpersonation-Or... ApplicationImperso... Organization Manag... RoleGroup          Direct            All Group Members
ApplicationImpersonation-Or... ApplicationImperso... Organization Manag... RoleGroup          Direct            Administrator
ApplicationImpersonation-Ap... ApplicationImperso... Application Impers... RoleGroup          Direct            All Group Members
ApplicationImpersonation-Ap... ApplicationImperso... Application Impers... RoleGroup          RoleGroup         service-account
```

1.6 Discovery Management

- k. Using the following command, add the service account into Discovery Management Role.

```
Add-RoleGroupMember -Identity "Discovery Management" -Member service-account@bridgetek.com
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>Add-RoleGroupMember -Identity "Discovery Management" -Member service-account@bridgetek.com
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

- l. Using the following command, view the list of members in the Discovery Management Role –

```
Get-RoleGroupMember -Identity "Discovery Management"
```

```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>Get-RoleGroupMember -Identity "Discovery Management"

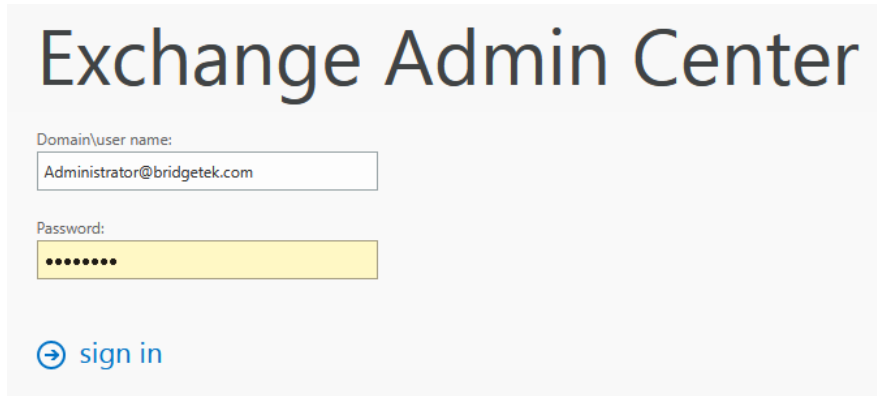
Name          RecipientType
----          -
Administrator UserMailbox
service-account UserMailbox

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

2. Using Exchange Admin Center Console

2.1 Log in to Exchange Admin Center Console

- a. Go to **https://<exchange servername>/ecp** and log in with your Exchange Admin account.



Exchange Admin Center

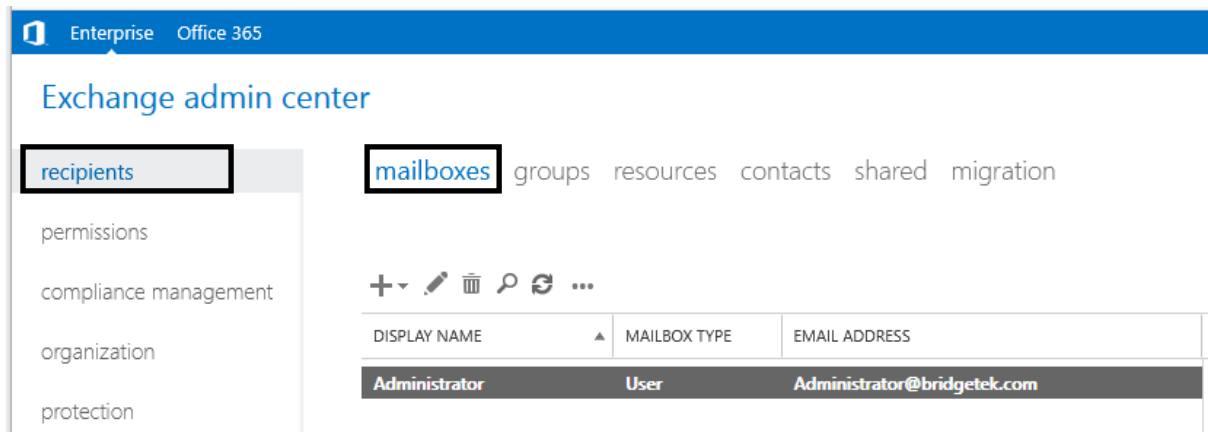
Domain\user name:
Administrator@bridgetek.com

Password:
.....

[sign in](#)

2.2 Create User Account

- b. Go to **"Recipients" → "Mailboxes"**.



Enterprise Office 365

Exchange admin center

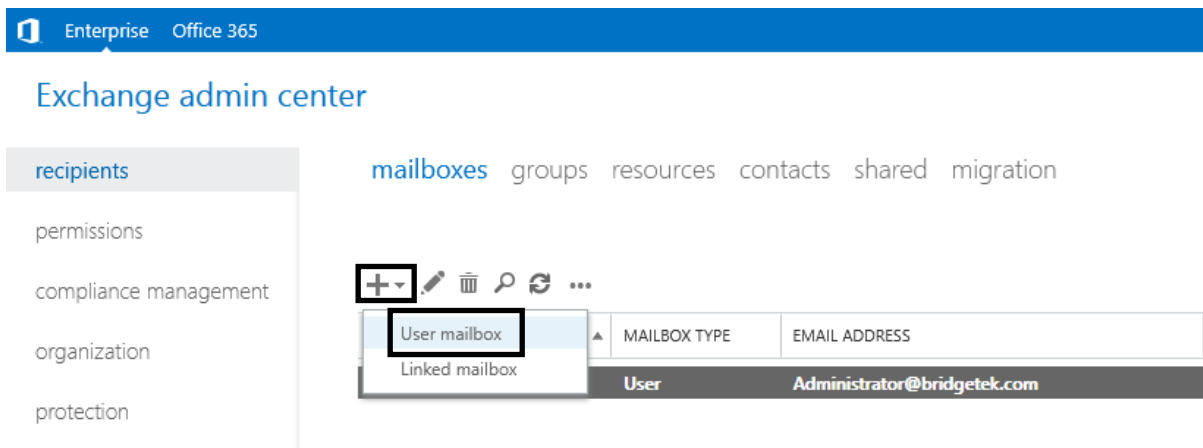
recipients **mailboxes** groups resources contacts shared migration

permissions
compliance management
organization
protection

+ - ✎ 🗑️ 🔍 ↺ ...

DISPLAY NAME	MAILBOX TYPE	EMAIL ADDRESS
Administrator	User	Administrator@bridgetek.com

- c. Click **"+"** and select **"User mailbox"**.



Enterprise Office 365

Exchange admin center

recipients **mailboxes** groups resources contacts shared migration

permissions
compliance management
organization
protection

+ - ✎ 🗑️ 🔍 ↺ ...

User mailbox
Linked mailbox

MAILBOX TYPE	EMAIL ADDRESS
User	Administrator@bridgetek.com

- d. Enter the user account details and click **[Save]**.

new user mailbox

Alias:

☐ Existing user

☒ New user

First name:

Initials:

Last name:

*Display name:

*Name:

Organizational unit:

*User logon name:
 @

*New password:

- e. The newly created User account will be displayed under the list of mailboxes.

Enterprise Office 365

Exchange admin center

recipients
permissions
compliance management
organization
protection

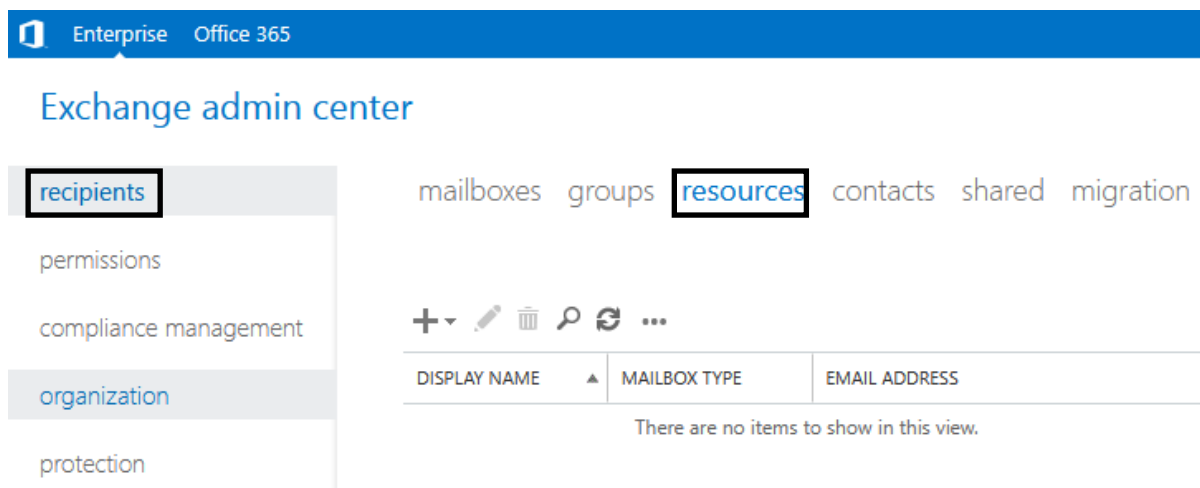
mailboxes groups resources contacts shared migration

+ -
edit
delete
refresh
...

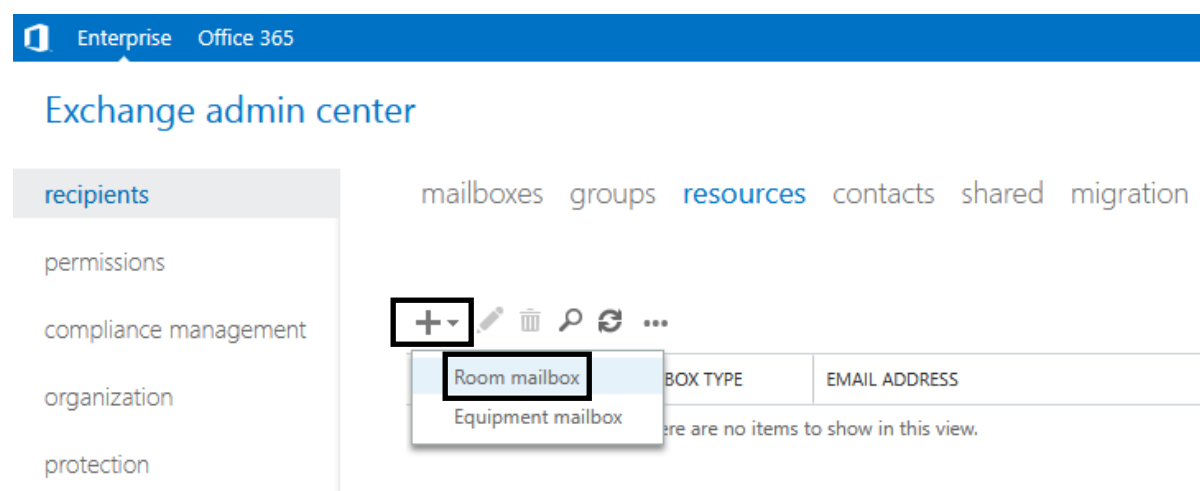
DISPLAY NAME	MAILBOX TYPE	EMAIL ADDRESS
Administrator	User	Administrator@bridgetek.com
User1	User	User1@bridgetek.com

2.3 Create Desk / Resource Account

- f. In the Exchange admin centre go to **"Recipients" → "Resources"**.



- g. Click **"+"** and select **"Room mailbox"**.



- h. Enter the Desk account details and click **[Save]**.

new room mailbox

A room mailbox is a resource mailbox that's assigned to a physical location. Users can easily reserve rooms by including room mailboxes in meeting requests. Just select the room mailbox from the list and edit properties, such as booking requests or mailbox delegation. [Learn more](#)

*Room name:

Desk1

*Alias:

Desk1

Organizational unit:

Browse...

Location:

SG-07-03

Phone:

Capacity:

1

Save

Cancel

- i. The newly created desk account will be displayed under the list of resources.

Exchange admin center

recipients

permissions

compliance management

organization

mailboxes groups **resources** contacts shared migration

+ - ✎ 🗑️ 🔍 ↺ ...

DISPLAY NAME	MAILBOX TYPE	EMAIL ADDRESS
Desk1	Room	Desk1@bridgetek.com

2.4 Create Distribution Group

The distribution group RoomList can be created **only** using the Exchange PowerShell.

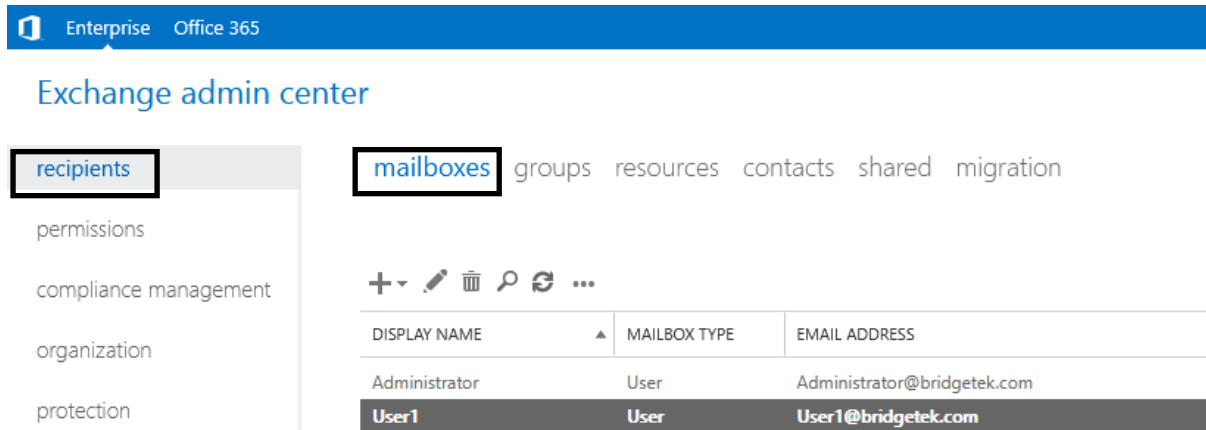
Refer to the steps given under the topic [A. Exchange 2016/2013 Setup → 1. Using Exchange Management PowerShell Command Prompt → 1.3 Create Distribution Group](#) for details.

2.5 Create Impersonation User/ Service Account & Grant Impersonation Rights

This account will be used for authentication and carrying out requests between the PDM software and Exchange 2019/2016/2013 via EWS (Exchange Web Services).

2.5.1 Create User / Service Account

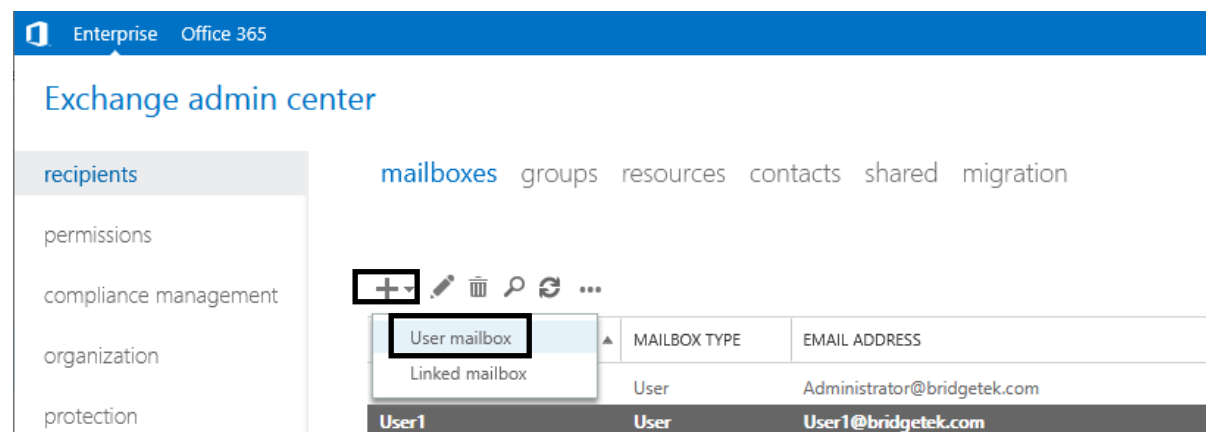
j. Go to “Recipients” → “Mailboxes”.



The screenshot shows the Exchange Admin Center interface. The left sidebar has 'recipients' selected. The main area shows the 'mailboxes' tab, with a table listing existing mailboxes.

DISPLAY NAME	MAILBOX TYPE	EMAIL ADDRESS
Administrator	User	Administrator@bridgetek.com
User1	User	User1@bridgetek.com

k. Click + and select **User mailbox**.



The screenshot shows the Exchange Admin Center interface. The left sidebar has 'recipients' selected. The main area shows the 'mailboxes' tab. A dropdown menu is open from the '+ -' icon, showing 'User mailbox' and 'Linked mailbox' options. The 'User mailbox' option is highlighted.

DISPLAY NAME	MAILBOX TYPE	EMAIL ADDRESS
Administrator	User	Administrator@bridgetek.com
User1	User	User1@bridgetek.com

- I. Enter the Service Account details and click **[Save]**.

new user mailbox

Alias:

☐ Existing user

☒ New user

First name:

Initials:

Last name:

*Display name:

*Name:

Organizational unit:

*User logon name:
 @

*New password:

*Confirm password:

The Service account will appear in the list of mailboxes.

Enterprise

Office 365

Exchange admin center

recipients

permissions

compliance management

organization

protection

mail flow

mailboxes groups resources contacts shared migration

+

-

✎

🗑

🔍

🔄

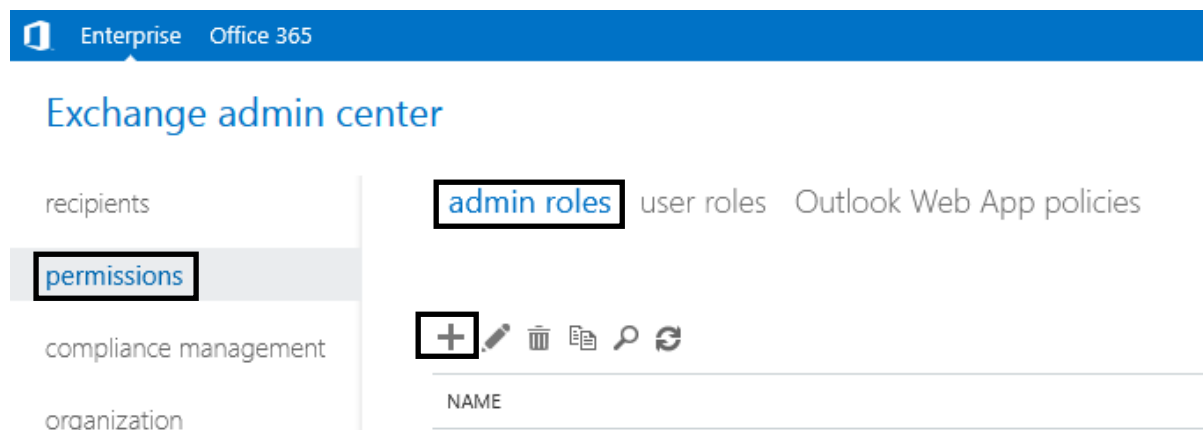
⋮

DISPLAY NAME	MAILBOX TYPE	EMAIL ADDRESS
Administrator	User	Administrator@bridgetek.com
User1	User	User1@bridgetek.com
service-account	User	service-account@bridgetek.com

2.5.2 Granting Service Account Impersonation Rights

The following steps will guide to grant the service account with impersonation permission for **all accounts** -

- m. In the Exchange admin centre, navigate to **"permissions"** → **"admin roles"**. Click **"+"**.



- n. Input the role group related details. Set the "Write scope" field as **Default** (for all accounts).

new role group

*Name:

Application Impersonation Role

Description:

Write scope:



Default

- o. Click **"+"** under **"Roles"**.

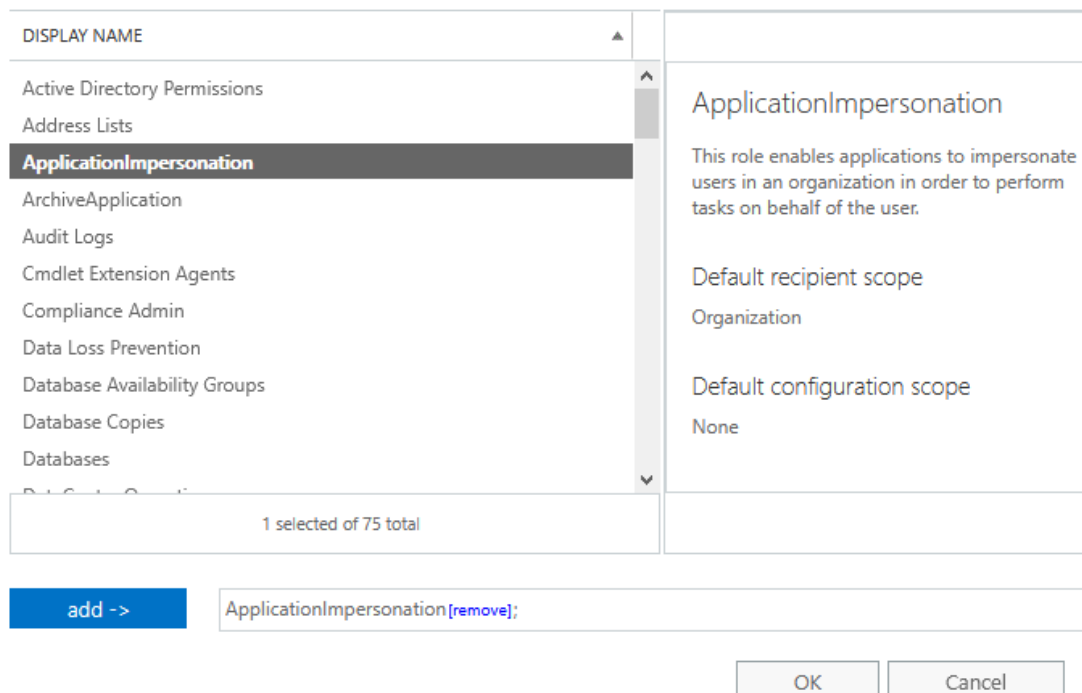
Roles:



—

NAME

- p. Add the admin role **"ApplicationImpersonation"**. Click **[OK]**.



DISPLAY NAME ▲

- Active Directory Permissions
- Address Lists
- ApplicationImpersonation**
- ArchiveApplication
- Audit Logs
- Cmdlet Extension Agents
- Compliance Admin
- Data Loss Prevention
- Database Availability Groups
- Database Copies
- Databases

1 selected of 75 total

add ->

ApplicationImpersonation[remove];

ApplicationImpersonation

This role enables applications to impersonate users in an organization in order to perform tasks on behalf of the user.

Default recipient scope

Organization

Default configuration scope

None

OK Cancel

The newly added admin role will be displayed under **"Roles"**.

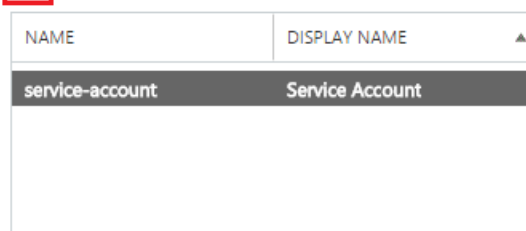
Roles:




NAME ▲
ApplicationImpersonation

- q. Similarly, click **"+"** under **"Members"** and add the service account and click **[OK]**. Service account will be added and displayed. Click **[Save]**.

Members:

NAME	DISPLAY NAME ▲
service-account	Service Account



Save Cancel

The newly added role is displayed under the “**admin roles**”.

[admin roles](#) [user roles](#) [Outlook Web App policies](#)



NAME

Application Impersonation Role

Compliance Management
Delegated Setup
Discovery Management
Help Desk
Hygiene Management
Organization Management
Public Folder Management
Recipient Management
Records Management
Security Administrator
Security Reader
Server Management
UM Management
View-Only Organization Management

Application Impersonation Role

Assigned Roles

ApplicationImpersonation

Members

service-account

Managed By

DMBRTCHIPDEMO.LOCAL/Microsoft Exchange Security Groups/Organization Management
DMBRTCHIPDEMO.LOCAL/Users/Administrator

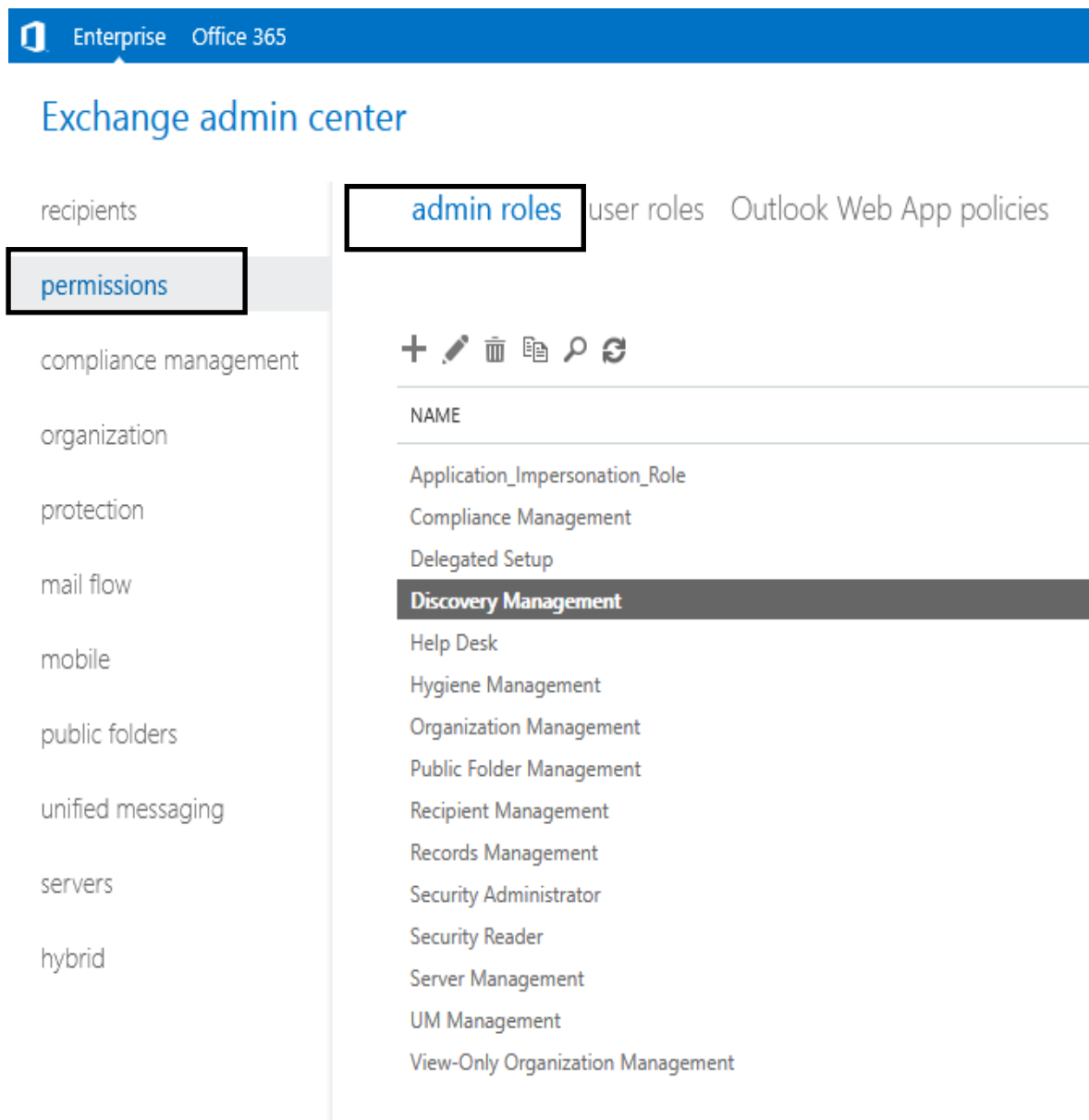
Write scope

Default

2.6 Discovery Management

Members of this management role group can perform mailbox search in the Exchange organization for data that meets specific criteria.

- r. In the Exchange admin centre, navigate to **"permissions" → "admin roles"**. Click and select **"Discovery Management"**.



The screenshot shows the Exchange Admin Center (EAC) interface. At the top, there is a blue header bar with the Office 365 logo and the text "Enterprise Office 365". Below the header, the main title "Exchange admin center" is displayed. On the left side, there is a navigation pane with several categories: "recipients", "permissions", "compliance management", "organization", "protection", "mail flow", "mobile", "public folders", "unified messaging", "servers", and "hybrid". The "permissions" category is selected and highlighted. Within the "permissions" category, the "admin roles" sub-category is selected and highlighted. On the right side, the "admin roles" page is displayed, showing a list of roles. The roles listed are: Application_Impersonation_Role, Compliance Management, Delegated Setup, **Discovery Management** (highlighted), Help Desk, Hygiene Management, Organization Management, Public Folder Management, Recipient Management, Records Management, Security Administrator, Security Reader, Server Management, UM Management, and View-Only Organization Management. Above the list, there are icons for adding, editing, deleting, and other actions.

- s. In the **"Discovery Management"** interface, enter the Name, Under **Rules**, select **"Legal Hold"**; select the **"Service Account"** under **Members**.

Discovery Management

*Name:

Discovery Management

Description:

Members of this management role group can perform searches of mailboxes in the Exchange organization for data that meets specific criteria.

Write scope:

☒ Default

Organizational unit:

☐

Roles:

+ -

NAME
Legal Hold
Mailbox Search
MailboxSearchApplication

Members:

+ -

NAME	DISPLAY NAME
prm-admin0	prm-admin0
prm-admin7	prm-admin7
prm-admin8	prm-admin8
prm-admin9	prm-admin9
service-account	service-account

Save

Cancel

- t. Similarly, click “+” under “**Members**” and add the service account and click [OK]. Service account will be added and displayed. Click [Save].

Members:

+

–

NAME	DISPLAY NAME ▲
service-account	Service Account

Save

Cancel

Installation & Configuration *(Office 365 Server Setup)*

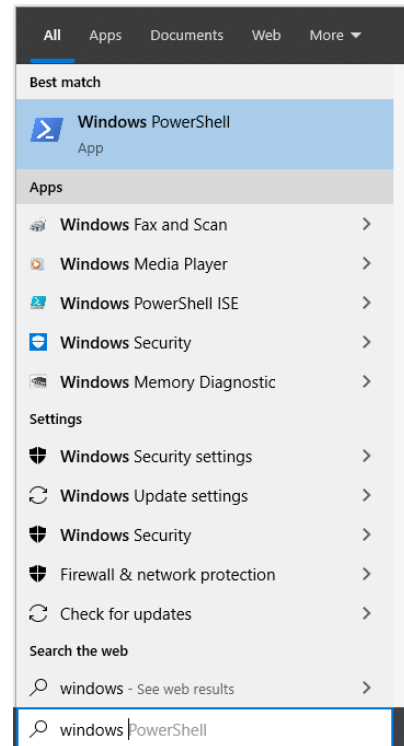
B. Office 365 Setup

Account Reference	Account Type	Number of Accounts	Description
User Account	User Mail box	1	This account will be used by the normal end users to perform booking related activities.
Desk Account	Desk Mailbox	X	<p>This account's email addresses will be used –</p> <ul style="list-style-type: none"> To book the desks. The desk account has to be granted "Send on behalf" and "Full access" permissions (by the impersonation user) to its belonging Desk accounts in order to synchronize meeting data. This account will be part of the distribution group.
Distribution Group	Group (Room List)	1	<p>This group of desks are only allowed to access the following PDM components –</p> <ul style="list-style-type: none"> PDM Console Outlook Add Ins PanL35L On Spot booking
Impersonation User / Service Account	User	1	<p>This user will be able to access multiple mailboxes and act as the mailbox owner. Impersonation is the best choice while dealing with multiple mailboxes because one can easily grant service account access to every mailbox in a database. This account will be used –</p> <ul style="list-style-type: none"> To communicate between PDM and Office 365. All the PDM server / Desk Booking related emails will be sent by this user Upon installation of PDM server, this user account details must be added in the "config.json" file and uploaded to PDM server. <p>Since a large number of emails are processed through this account, a dedicated account for this purpose is recommended.</p>

1. Using Windows PowerShell Command Prompt

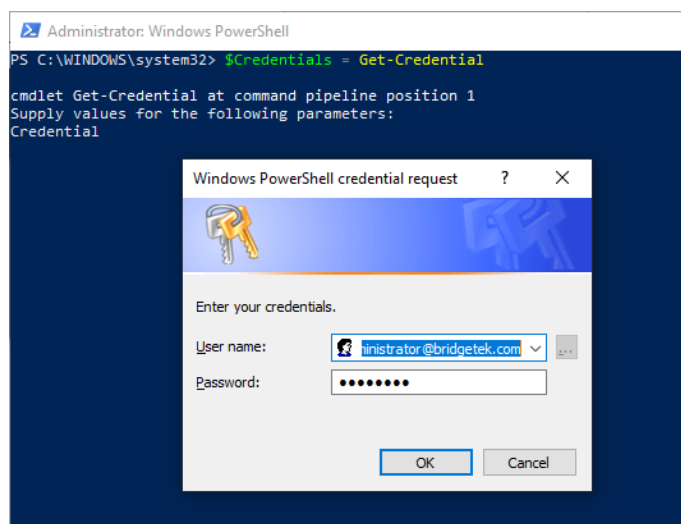
1.1 Start Windows PowerShell Command Prompt

- a. Start the PowerShell on the workstation. Click **Start** → **Windows PowerShell**.



- b. In the console, type the following command to get the credentials of Office 365.

```
$Credentials = Get-Credential
```



- c. In the resulting window, provide administrative credentials. After logging in, enter the following commands –

```
$Session = New-PSSession -ConfigurationName Microsoft.Exchange -
ConnectionUri https://outlook.office365.com/powershell-liveid/ -
Credential $UserCredential -Authentication Basic -AllowRedirection
```

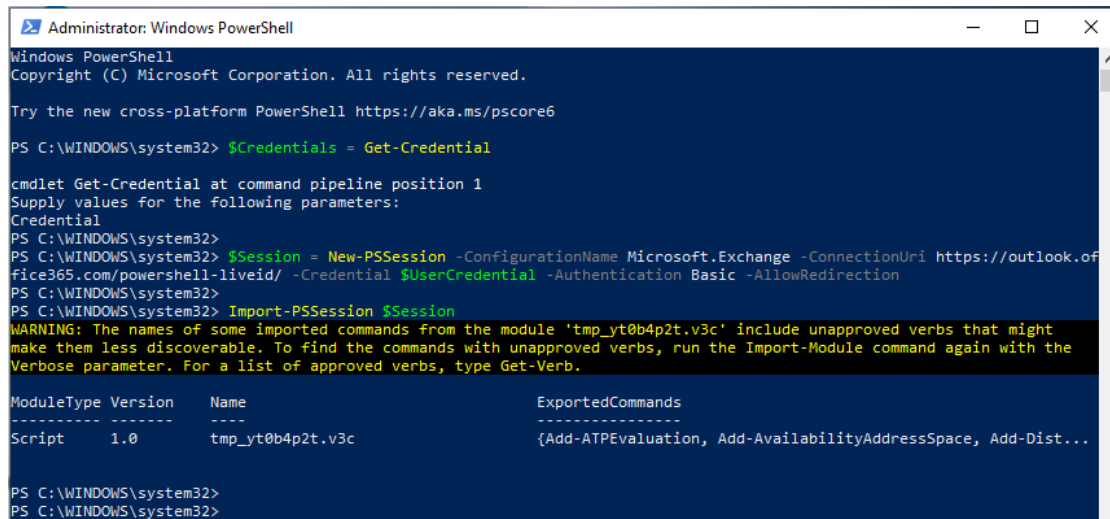
- d. Enter the following command to connect to the Office 365 and import all necessary administration cmdlets.

```
Import-PSSession $Session
```

If the above import command fails, then use the following command –

```
Set-ExecutionPolicy RemoteSigned
```

Now the Office 365 can be managed via PowerShell.



```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\WINDOWS\system32> $Credentials = Get-Credential

cmdlet Get-Credential at command pipeline position 1
Supply values for the following parameters:
Credential
PS C:\WINDOWS\system32>
PS C:\WINDOWS\system32> $Session = New-PSSession -ConfigurationName Microsoft.Exchange -ConnectionUri https://outlook.office365.com/powershell-liveid/ -Credential $UserCredential -Authentication Basic -AllowRedirection
PS C:\WINDOWS\system32>
PS C:\WINDOWS\system32> Import-PSSession $Session
WARNING: The names of some imported commands from the module 'tmp_yt0b4p2t.v3c' include unapproved verbs that might make them less discoverable. To find the commands with unapproved verbs, run the Import-Module command again with the Verbose parameter. For a list of approved verbs, type Get-Verb.

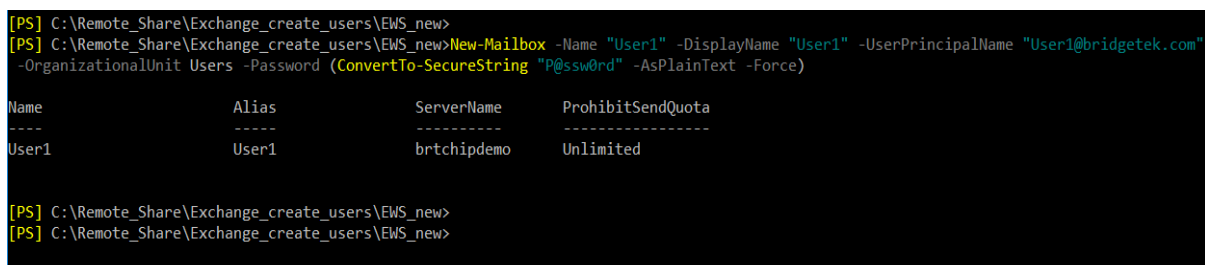
ModuleType Version      Name                               ExportedCommands
-----
Script      1.0          tmp_yt0b4p2t.v3c                  {Add-ATPEvaluation, Add-AvailabilityAddressSpace, Add-Dist...

PS C:\WINDOWS\system32>
PS C:\WINDOWS\system32>
```

1.2 Create User Account

- a. Create user account using the following command –

```
New-Mailbox -Name "User1" -DisplayName "User1" -UserPrincipalName "user1@bridgetek.com" -OrganizationalUnit Users -Password (ConvertTo-SecureString "P@ssw0rd" -AsPlainText -force)
```



```
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new> New-Mailbox -Name "User1" -DisplayName "User1" -UserPrincipalName "User1@bridgetek.com" -OrganizationalUnit Users -Password (ConvertTo-SecureString "P@ssw0rd" -AsPlainText -Force)

Name                Alias                ServerName            ProhibitSendQuota
-----
User1               User1               brtchipdemo          Unlimited

[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
[PS] C:\Remote_Share\Exchange_create_users\EWS_new>
```

The user account will be created.

1.3 Create Desk / Resource Account

Refer to the steps given under the topic [A. Exchange 2016/2013 Setup → 1. Using Exchange Management PowerShell Command Prompt → 1.3 Create Desk/Resource Account](#) for details.

1.4 Create Distribution Group

Refer to the steps given under the topic [A. Exchange 2016/2013 Setup → 1. Using Exchange Management PowerShell Command Prompt → 1.3 Create Distribution Group](#) for details.

1.5 Create Impersonation User / Service Account & Grant Impersonation Rights

Refer to the steps given under the topic [A. Exchange 2016/2013 Setup → 1. Using Exchange Management PowerShell Command Prompt → 1.3 Create Impersonation User / Service Account & Grant Impersonation Rights](#) for details.

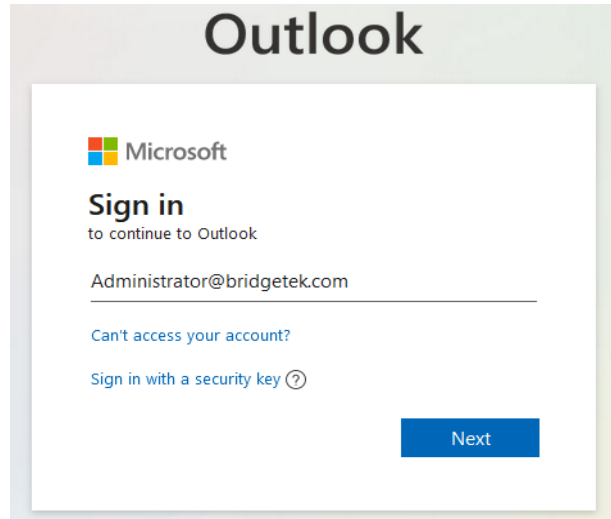
1.6 Discovery Management

Refer to the steps given under the topic [A. Exchange 2016/2013 Setup → 1. Using Exchange Management PowerShell Command Prompt → 1.5 Discovery Management](#) for details.

2. Using Office 365 Admin Center Console

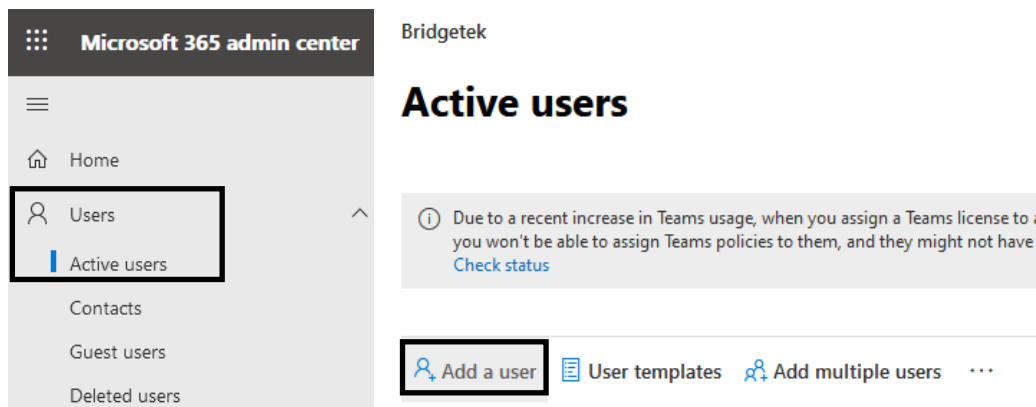
2.1 Log in to Office 365 Admin Center Console

- Go to the [Office 365 Admin center](#) and log in with Office 365 admin account.



2.2 Create User Account

- In the Microsoft 365 admin centre, click **"Users → Active Users → Add a user"**.



- Enter the basic information pertaining to User account. Click **[Next]**.

- Basics
- Product licenses
- Optional settings
- Finish

Set up the basics

To get started, fill out some basic information about who you're adding as a user.

First name

User1

Last name

Display name *

User1

Username *

user1

Domains

@ bridgetek .com

- d. Assign the “product licenses”. Click **[Next]**.

Add a user

✓ Basics

● **Product licenses**

○ Optional settings

○ Finish

Assign product licenses

Assign the licenses you'd like this user to have.

Select location *

Singapore

Licenses (1) *

☒ Assign user a product license

☒ **Microsoft 365 Business Standard**
24 of 25 licenses available

☐ Create user without product license (not recommended)
They may have limited or no access to Office 365 until you assign a product license.

- e. Go through the **Optional settings** and select as required. Click **[Next]**.

Add a user

✓ Basics

✓ Product licenses

● **Optional settings**

○ Finish

Optional settings

You can choose what role you'd like to assign for this user, and fill in additional profile information.

Roles (User: no administration access)

Admin roles give users permission to view data and complete tasks in admin centers. Give users only the access they need by assigning the least-permissive role.
[Learn more about admin roles](#)

☒ **User (no admin center access)**

☐ Admin center access

Global readers have read-only access to admin centers, while Global admins have unlimited access to edit all settings. Users assigned other roles are more limited in what they can see and do.

☐ Exchange admin ⓘ

☐ Global admin ⓘ

☐ Global reader ⓘ

☐ Helpdesk admin ⓘ

☐ Service support admin ⓘ

Back Next Cancel

f. Verify the user account details and click **[Finish Adding]**.

Add a user

Basics

Product licenses

Optional settings

Finish

Review and finish

Assigned Settings

Review all the info and settings for this user before you finish adding them.

Display and username

User1
user1@bridgetek.com

[Edit](#)

Password

Type: Custom password
Send To: Administrator@bridgetek.com

[Edit](#)

Product licenses

Location: Singapore
Licenses: Microsoft 365 Business Standard
Apps: Power Virtual Agents for Office 365, Common Data Service for Teams, Project for Office (Plan E3), 23 more

[Edit](#)

Roles (default)

User (no admin center access)

[Back](#)

Finish adding

[Cancel](#)

Add a user

Basics

Product licenses

Optional settings

Finish

✔ User1 added to active users

User1 will now appear in your list of active users.

User details

Display name: User1
Username: user1@bridgetek.com
Password: ***** [Show](#)
Sending to: Administrator@bridgetek.com

Licenses bought

None

Licenses assigned

Microsoft 365 Business Standard

Save these user settings as a template?

User templates allow you to quickly add similar users in the future by saving a set of shared settings such as domain, password, product licenses, and roles.

[Review settings for this user template](#)


Close







The user account details are added to active users list.

Bridgetek

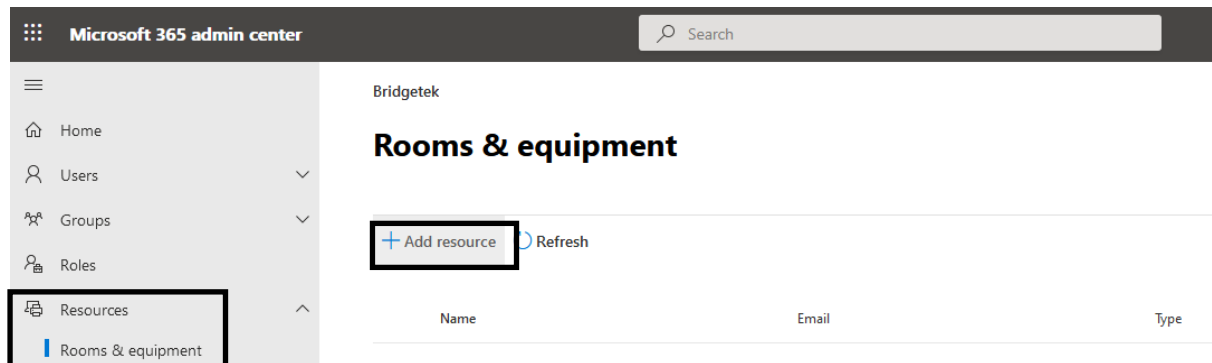
 Dark mode

Active users

 Due to a recent increase in Teams usage, when you assign a Teams license to a user it may take around 24 hours before they'll be fully set up. Until then, you won't be able to assign Teams policies to them, and they might not have access to some Teams features like calling and audio conferencing. [Check status](#)

 Add a user	 User templates	 Add multiple users	...	 Filter	 Search	
Display name ↑		Username		Licenses		
Administrator Bridgetek	⋮	Administrator@bridgetek:.com		Microsoft 365 Business Standard		
Room1	⋮	Room1@bridgetek .com		Unlicensed		
service_account	⋮	service_account@bridgetel .com		Microsoft 365 Business Standard		
User1	⋮	user1@bridgetek:.com		Microsoft 365 Business Standard		

2.3 Create Desk / Resource Account



- g. In the **Add resource** interface, enter the following resource related information – *Resource Type, Resource Name, Email address, Capacity & Phone number*. Click **[Save]**.

Add resource

Create a mailbox for things like a conference room, company car, or equipment that everyone needs to use, so that those resources are reservable.

[Learn more about resource types](#)

Resource type

Name *

The resource name appears in the address book, and in the To and From lines in meeting invitations and responses.

Email *

 @

The email address is used to send meeting invitations to the resource.

Capacity

The number of people who can fit in the room or use the equipment at the same time.

Location

h. A new resource (desk) account is added and displayed.

✓ Desk1 is ready

You've created a new mailbox for your Room and can now use the email address to book the resource.

Default booking options have been applied, such as allowing repeating meetings and automatically accepting meeting invites. You can change these at any time.

Next Steps

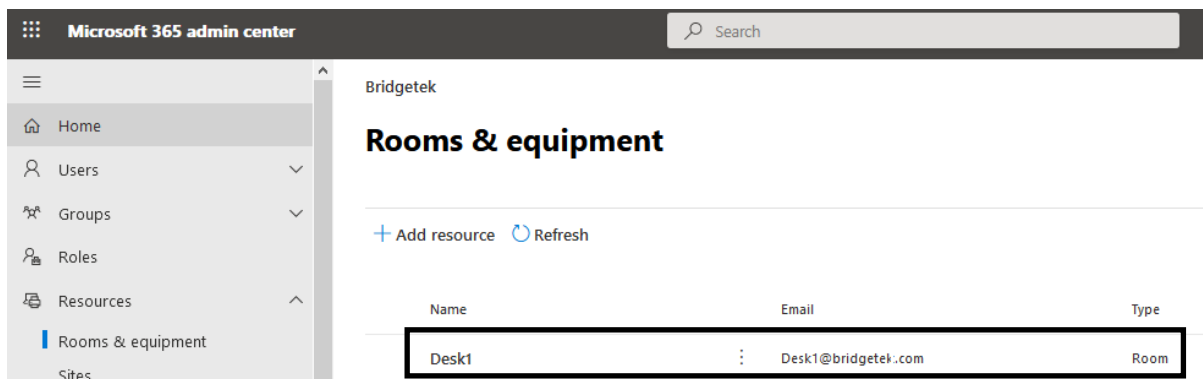
[Edit booking options](#)

[Add another resource](#)

Learn more

[Use the Scheduling Assistant in Outlook to add rooms to meetings](#)

[Working with rooms and equipment](#)



The screenshot shows the Microsoft 365 admin center interface. On the left is a navigation pane with options: Home, Users, Groups, Roles, Resources, Rooms & equipment (selected), and Sites. The main content area is titled 'Rooms & equipment' under the 'Bridgetek' tenant. It includes '+ Add resource' and 'Refresh' buttons. Below is a table with columns 'Name', 'Email', and 'Type'. A single row is highlighted with a red border, showing 'Desk1' as the name, 'Desk1@bridgetek.com' as the email, and 'Room' as the type.

Name	Email	Type
Desk1	Desk1@bridgetek.com	Room

2.4 Create Distribution Group

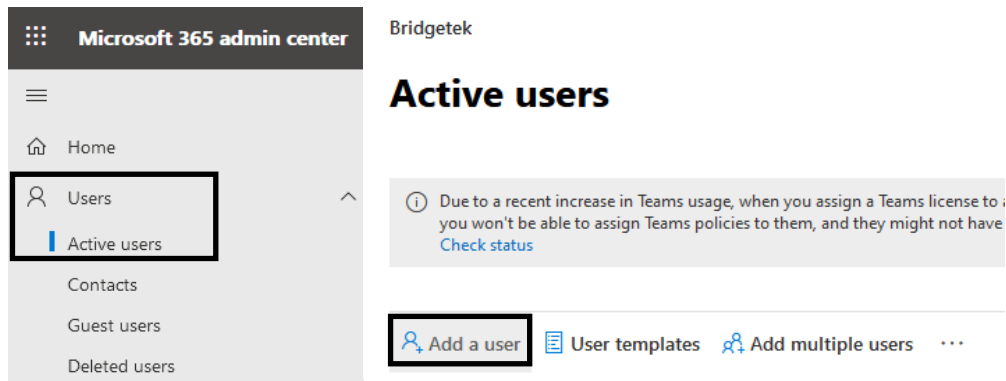
The distribution group RoomList can be created **only** using the Exchange PowerShell.

Refer to the steps given under the topic [A. Exchange 2019/2016/2013 Setup → 1. Using Exchange Management PowerShell Command Prompt → 1.3 Create Distribution Group](#) for details.

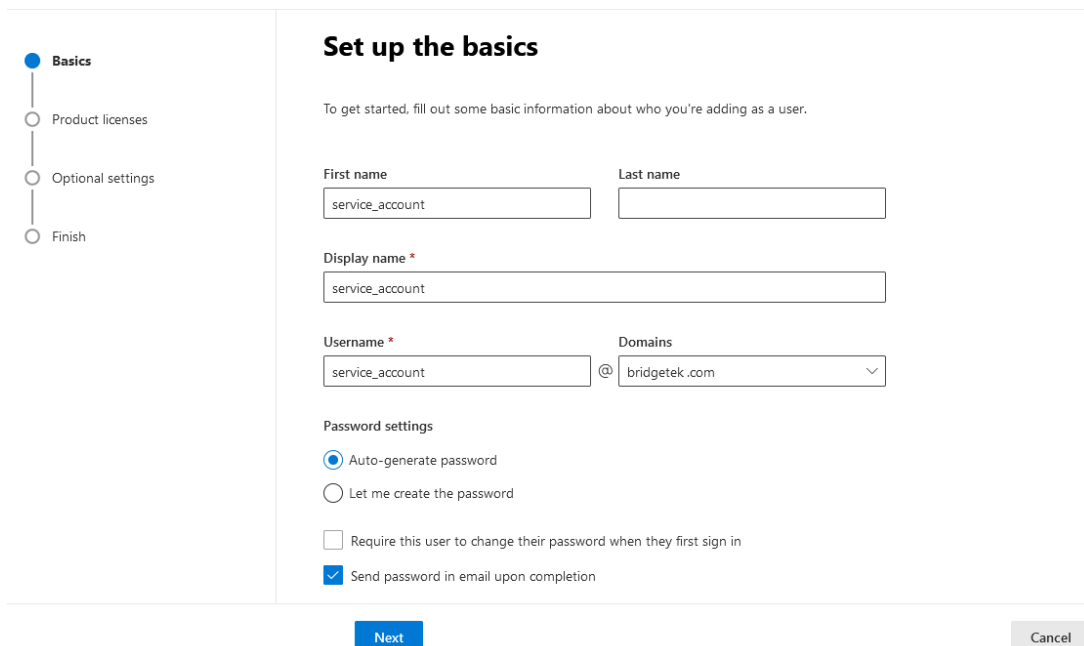
2.5 Create Impersonation User / Service Account & Grant Impersonation Rights

2.5.1 Create User / Service Account

- i. In the Microsoft 365 admin centre, click **"Users → Active Users → Add a user"**.



- j. Enter the basic information pertaining to Service Account. Click **[Next]**.



The screenshot shows the 'Set up the basics' form in the Microsoft 365 admin center. The form includes the following fields and options:

- First name:** service_account
- Last name:** (empty)
- Display name *:** service_account
- Username *:** service_account
- Domains:** @bridgetek.com
- Password settings:**
 - ☒ Auto-generate password
 - ☐ Let me create the password
 - ☐ Require this user to change their password when they first sign in
 - ☒ Send password in email upon completion

At the bottom of the form, there are two buttons: **Next** and **Cancel**.

- k. Assign the “**product licenses**”. Click **[Next]**.

Add a user

Basics

Product licenses

Optional settings

Finish

Assign product licenses

Assign the licenses you'd like this user to have.

Select location *

Singapore

Licenses (1) *

☒ Assign user a product license

☒ **Microsoft 365 Business Standard**
23 of 25 licenses available

☐ Create user without product license (not recommended)
They may have limited or no access to Office 365 until you assign a product license.

Apps (26)

Back Next Cancel

- l. Go through the **Optional settings** and select as required. Click **[Next]**.

Add a user

Basics

Product licenses

Optional settings

Finish

Optional settings

You can choose what role you'd like to assign for this user, and fill in additional profile information.

Roles (User: no administration access)

Admin roles give users permission to view data and complete tasks in admin centers. Give users only the access they need by assigning the least-permissive role.

[Learn more about admin roles](#)

☒ **User (no admin center access)**

☐ Admin center access

Global readers have read-only access to admin centers, while Global admins have unlimited access to edit all settings. Users assigned other roles are more limited in what they can see and do.

☐ Exchange admin ⓘ

☐ Global admin ⓘ

Back Next Cancel

m. Verify the details and click **[Finish Adding]**.

Add a user

- ✓ Basics
- ✓ Product licenses
- ✓ Optional settings
- **Finish**

Review and finish

Assigned Settings

Review all the info and settings for this user before you finish adding them.

Display and username

service_account
service_account@bridgetek .com
[Edit](#)

Password

Type: Auto-generated
Send To: Administrator@bridgetek .com
[Edit](#)

Product licenses

Location: Singapore
Licenses: Microsoft 365 Business Standard
Apps: Power Virtual Agents for Office 365, Common Data Service for Teams, Project for Office (Plan E3), 23 more

[Back](#)

[Finish adding](#)

[Cancel](#)

Add a user

- ✓ Basics
- ✓ Product licenses
- ✓ Optional settings
- ✓ **Finish**

✓ service_account added to active users

service_account will now appear in your list of active users.

User details

Display name: service_account
Username: service_account@bridgetek.com
Password: Moq62307
Sending to: Administrator@bridgetek.com

Licenses bought

None

Licenses assigned

Microsoft 365 Business Standard

[Save these user settings as a template?](#)

[Close](#)





The service account details are added to active users list.


Bridgetek

 Dark mode

Active users

① Due to a recent increase in Teams usage, when you assign a Teams license to a user it may take around 24 hours before they'll be fully set up. Until then, you won't be able to assign Teams policies to them, and they might not have access to some Teams features like calling and audio conferencing. [Check status](#)

 Add a user
  User templates
  Add multiple users
 ...
  Filter



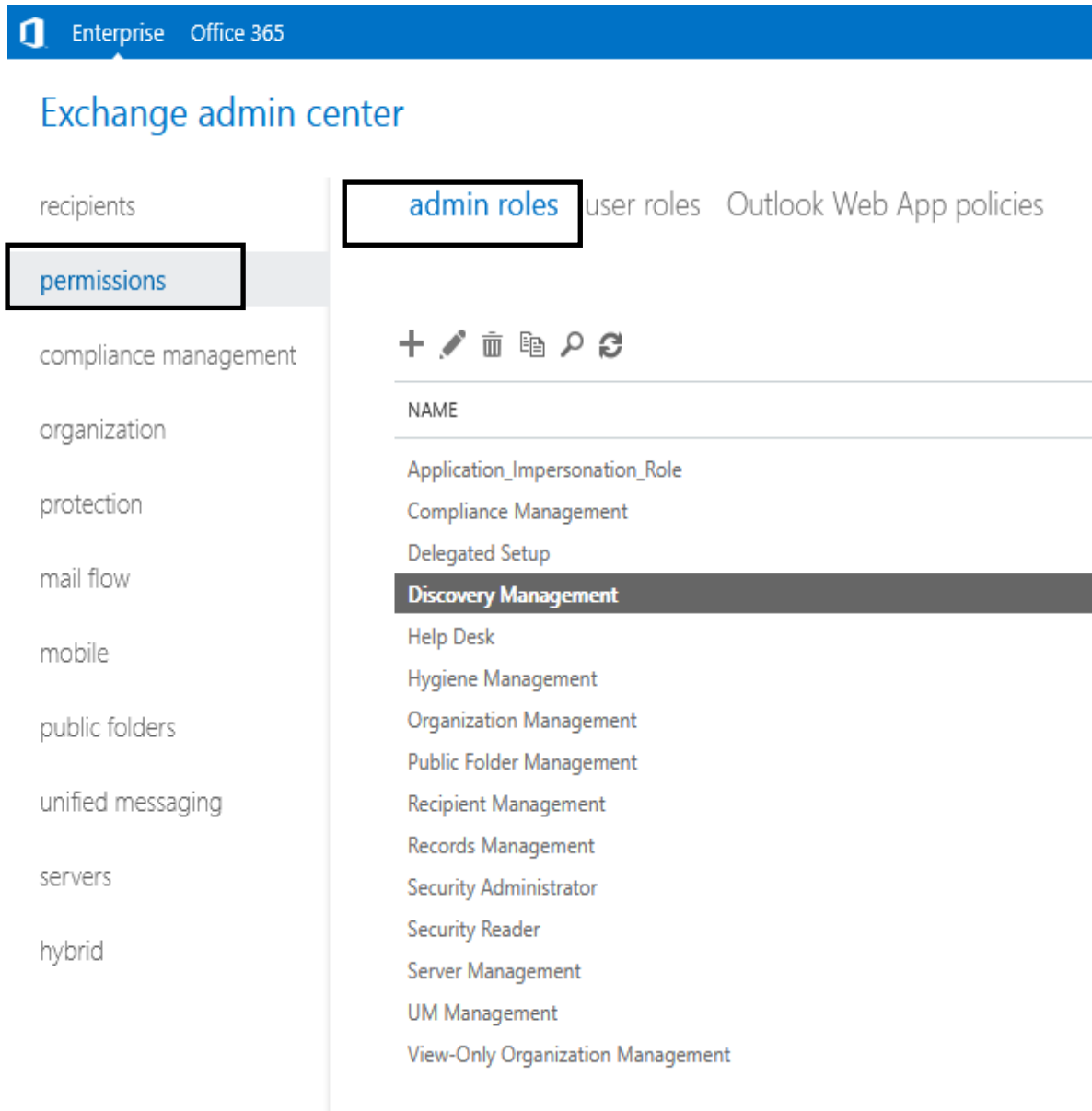
Display name ↑		Username	Licenses
Administrator Bridgetek	⋮	Administrator@bridgetek .com	Microsoft 365 Business Standard
Room1	⋮	Room1@bridgetek .com	Unlicensed
service_account	⋮	service_account@bridgetek .com	Microsoft 365 Business Standard

2.5.2 Granting Service Account Impersonation Rights

To grant the service account with impersonation permission for all accounts, refer to the steps given under section [Granting Service Account Impersonation Rights in Exchange](#).

2.6 Discovery Management

- n. In the Office 365 admin centre, navigate to **"permissions"** → **"admin roles"**. Click and select **"Discovery Management"**.



The screenshot shows the Office 365 Enterprise admin center. The left-hand navigation pane has 'permissions' selected. The main content area shows the 'admin roles' tab, which contains a list of roles. 'Discovery Management' is highlighted in the list.

NAME
Application_Impersonation_Role
Compliance Management
Delegated Setup
Discovery Management
Help Desk
Hygiene Management
Organization Management
Public Folder Management
Recipient Management
Records Management
Security Administrator
Security Reader
Server Management
UM Management
View-Only Organization Management

- o. In the **"Discovery Management"** interface, enter the Name, Under **Rules**, select **"Legal Hold"**; select the **"Service Account"** under **Members**.

Discovery Management

*Name:

Discovery Management

Description:

Members of this management role group can perform searches of mailboxes in the Exchange organization for data that meets specific criteria.

Write scope:

☒ Default

Organizational unit:

☐

Roles:

+ -

NAME
Legal Hold
Mailbox Search
MailboxSearchApplication

Members:

+ -

NAME	DISPLAY NAME
prm-admin0	prm-admin0
prm-admin7	prm-admin7
prm-admin8	prm-admin8
prm-admin9	prm-admin9
service-account	service-account

Save

Cancel

- p. Similarly, click “+” under “Members” and add the service account and click [OK]. Service account will be added and displayed. Click [Save].

Members:

+

–

NAME	DISPLAY NAME ▲
service-account	Service Account

Save

Cancel

Installation & Configuration *(PDM Server)*

C. PDM Server Installation Pre-requisites

1. System Requirements

Hardware / Software	Specifications		
Server Operating System	Ubuntu LTS 16.04+ / CentOS / SUSIE / RHEL		
Exchange Server	Microsoft Exchange 2013/2016/2019 & Office 365		
Database Software	Mongo 4.2.0		
Console Web Browser	Mozilla Firefox v69+/Chrome v65+/Safari		
Client Software	Outlook Add-In 2010/2013/2016/Outlook App Ensure that any of the above outlook versions are installed.		
Minimum Server Hardware Requirements	Processor –Intel Core 2 Duo		
	Hard disk – 50GB		
	RAM – 4GB RAM		
Calendar/Application Ports	Exchange Server	Port 443	Used for EWS connection
		Port 587	Used for SSMTTP
	PDM Server	Port 80 / Port 8881 / Port 9881	Used for PDM Console
		Port 3000 / Port 4430	Used for API
		Port 3002	Used for Socket Notification
		Port 5353	Used for mDNS
		Port 65533	Used for PanL35L Device
	Client (Outlook Add-Ins)	Port 5353	Used for mDNS
	PanL35L	Port 65533	Used for PDM API
	Mobile Client	Port 5353	Used for mDNS

2. OS (Ubuntu / RHEL / Centos / Susie)

2.1 Installing PDM on Ubuntu / RHEL Server

System Requirements

- **Ubuntu:** A server running a 64-bit Debian based distribution (Ubuntu Server 16.04 - 20.04 LTS recommended)
- **RHEL:** A server running a **64-bit** RHEL Server 8.2 (Ootpa)
- A static IPv4 address (pointing to PDM Server IP).
- A user account with sudo full permissions
- Access to the internet during installation to download dependencies. (optional)

Pre-Installation Procedure

This section provides the steps involved in installation and configuration of the PDM Server Software and its components. The screenshot and file names are for illustration purposes only.

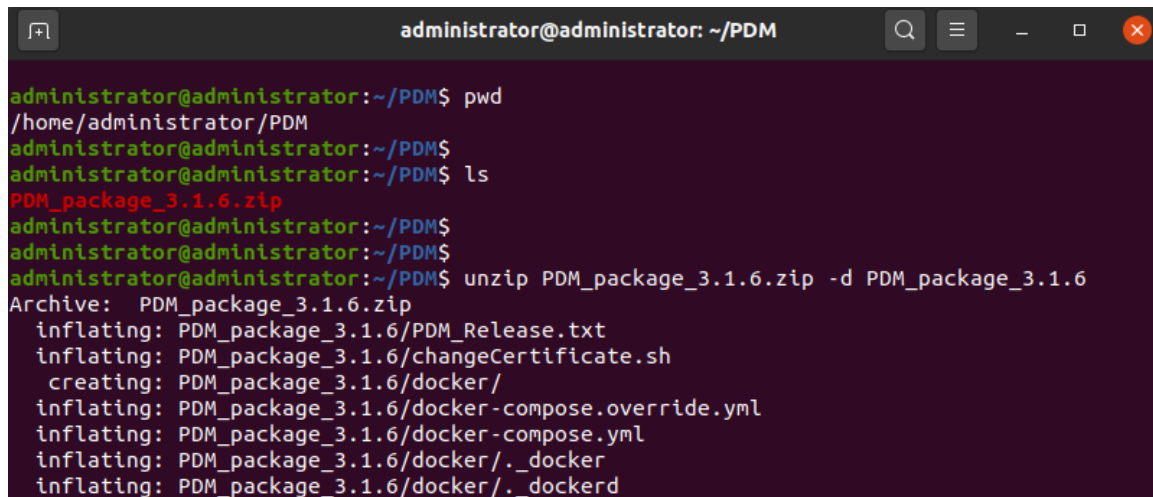
- Install net tools using the command -

```
sudo apt install net-tools
```

- Copy the PDM installation package zip file provided (for example – *PDM_Package_3.1.6*) to the PDM Server PC (for example: */home/administrator/PDM*)

- c. Unzip or extract the installation files using the following command -

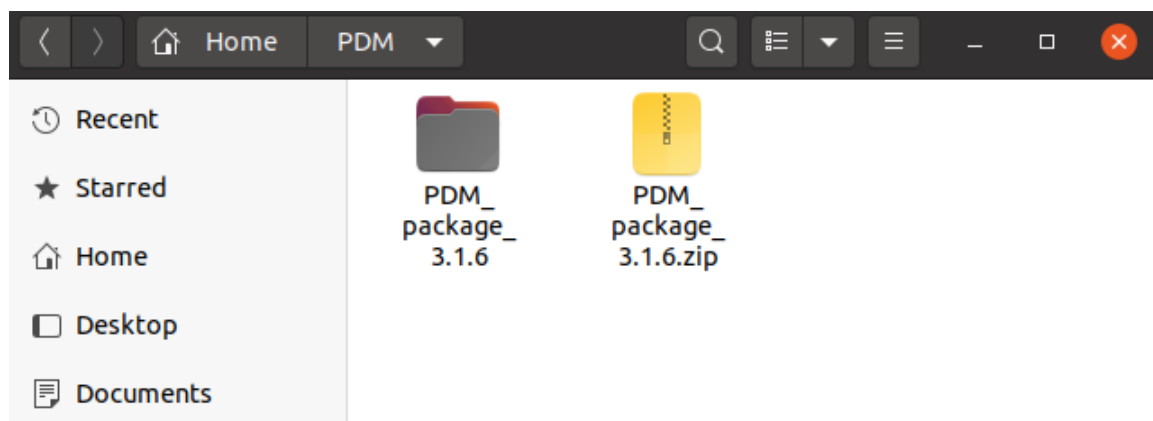
```
unzip PDM_package_3.1.6.zip -d PDM_package_3.1.6
```



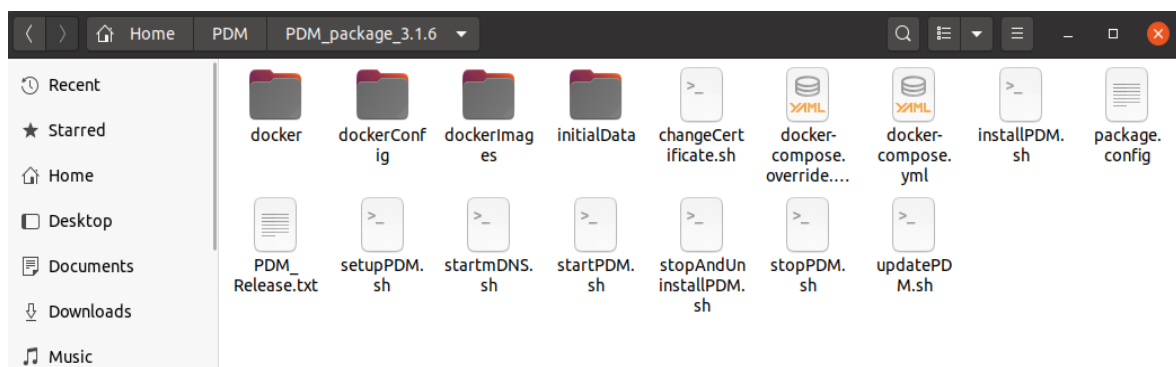
```

administrator@administrator: ~/PDM
administrator@administrator:~/PDM$ pwd
/home/administrator/PDM
administrator@administrator:~/PDM$
administrator@administrator:~/PDM$ ls
PDM_package_3.1.6.zip
administrator@administrator:~/PDM$
administrator@administrator:~/PDM$
administrator@administrator:~/PDM$ unzip PDM_package_3.1.6.zip -d PDM_package_3.1.6
Archive:  PDM_package_3.1.6.zip
  inflating: PDM_package_3.1.6/PDM_Release.txt
  inflating: PDM_package_3.1.6/changeCertificate.sh
   creating: PDM_package_3.1.6/docker/
  inflating: PDM_package_3.1.6/docker-compose.override.yml
  inflating: PDM_package_3.1.6/docker-compose.yml
  inflating: PDM_package_3.1.6/docker/.docker
  inflating: PDM_package_3.1.6/docker/.dockerd
  
```

- d. Upon extracting the package file, the PDM package folder is displayed -



- e. Double click to open the PDM package folder to view the list of folders and files -



- f. Open a terminal or command prompt from the package directory (for example: *PDM_Package_3.1.6*)

Note: If the PDM installation is performed for the first time, then the **Docker** will be automatically installed in the server.

- g. If installing PDM Server Software for the first time, please edit the configuration files of the various services below before installation-

Multi Cast DNS (mDNS) service

- a. Edit the MDNS related parameters in the "Config.json" file which is located under the path - "*PDM_Package_x.x.x/initialData/config/mdns/config.json*". Upon editing the parameters, save the configuration.

"ip": "10.55.0.20" ⇒ Replace this IP address with the PDM server IP address

"pdmServerAddress" : "<organization's domain name>"

Please do not change any other parameters except for "ip" and "pdmServerAddress"

Nginx service

- b. If there is a need to change the SSL certificate from the default Bridgetek SSL certificate, first copy the new certificates to path- "*PDM_Package_x.x.x/initialData/config/nginx/conf.d/ssl*" folder" and change the below highlighted parameters in the "default.config" file as per the new certificate file name and the domain/log credentials as per organization's domain/log credentials. By default, Bridgetek SSL certificate is used as shown below:

```
ssl_certificate      /etc/nginx/conf.d/ssl/PDM_nginx_cert.pem;
ssl_certificate_key  /etc/nginx/conf.d/ssl/PDM_nginx_key.pem;
ssl_protocols        TLSv1.2;
ssl_ciphers           HIGH:!aNULL:!MD5;

upstream backend {
    server pdm:3000 max_fails=20 fail_timeout=600s;
    keepalive 128;
}

server { # simple reverse-proxy
    listen      4430 ssl;
    listen      9881 ssl default_server;
    server_name app.<organization's domain name>;
    access_log  off;
    client_max_body_size 100m;
    # pass requests for dynamic content to rails/turbogears/zope,
et al
    location / {
        proxy_pass      https://wmc:8881;
    }
}

server { # simple reverse-proxy
    listen      56368;
```

```

server_name app.pes.local;
access_log off;
client_max_body_size 100m;

# pass requests for dynamic content to rails/turbogears/zope,
et al
location / {
    proxy_pass http://pes:56368;
}

server { # simple reverse-proxy
    listen 4430 ssl;
    listen 3002 ssl default_server;
    server_name socket.<organization's domain name>;
    access_log off;
    client_max_body_size 100m;
    # pass requests for dynamic content to rails/turbogears/zope,
et al
    location / {
        proxy_pass https://pdm:3002;
        proxy_http_version 1.1;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection "upgrade";
        proxy_set_header Host $host;
    }
}

server { # simple reverse-proxy
    listen 4430 ssl;
    listen 3000 ssl default_server;
    server_name api.<organization's domain name>;
    access_log off;
    error_log logs/pdmError.log error;

    client_max_body_size 100m;
    underscores_in_headers on;

    # pass requests for dynamic content to rails/turbogears/zope,
et al
    location / {
        proxy_pass https://pdm:3000;
        proxy_redirect off;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For
$proxy_add_x_forwarded_for;

        client_body_buffer_size 100M;
        client_max_body_size 100M;

        proxy_connect_timeout 1200;
        proxy_send_timeout 1200;
        proxy_read_timeout 1200;
        send_timeout 1200;
    }
}

```

```

server { # simple reverse-proxy
    listen      80;
    server_name app.<organization's domain name>;
    access_log  logs/app.<organization's domain name>.access.log
main;
    # pass requests for dynamic content to rails/turbogears/zope,
    et al
    location / {
        proxy_pass      https://wmc:8881;
    }
}

server { # simple reverse-proxy
    listen      80;
    server_name api.<organization's domain name>;
    underscores_in_headers on;
    client_max_body_size 100m;
    client_body_buffer_size 128k;

    access_log off;
    error_log /dev/null crit;
    # pass requests for dynamic content to rails/turbogears/zope,
    et al
    location / {
        proxy_set_header    X-Real-IP $remote_addr;
        proxy_set_header    Host      $http_host;
        proxy_http_version  1.1;
        proxy_set_header    Connection "";
        proxy_connect_timeout      10;
        proxy_send_timeout         10;
        proxy_read_timeout         10;
        send_timeout               10;
        proxy_buffer_size          4k;
        proxy_buffers              4 32k;
        proxy_busy_buffers_size    64k;
        proxy_temp_file_write_size 64k;
        proxy_pass_request_headers on;
        proxy_pass https://backend;
    }
}

```

Upon editing the configuration file, save the changes.

PDM Console (WMC Service)

- c. Edit the "environment.json" config file which is located under the path – "PDM_Package_2.0.7/initialData/config/wmc/environment.json" as given below. Upon editing, save the changes to the configuration.

```
{
  "production": true,
  "settings": {
    "endpoint": "https://api.<organization's domain name>/api/"
  }
}
```

Installation of PDM Server Software

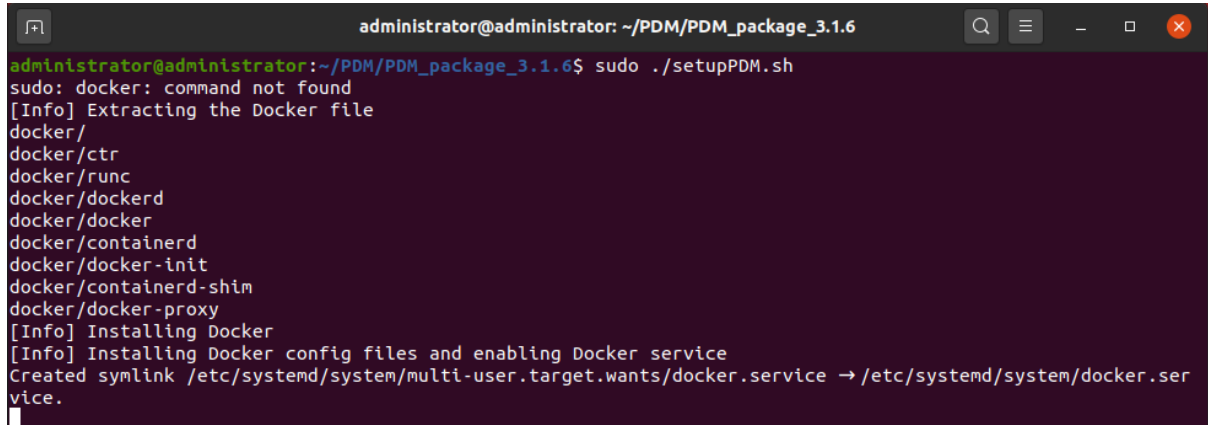
The steps to install the PDM Server Software are given below. The screenshots used here are for illustration purpose only.

- a. Open the command prompt and enter the following command to provide the execution permission for the script files –

```
$ sudo chmod 777 *.sh
```

- b. The setupPDM.sh should be run only once to install the docker. Here is the command to install docker –

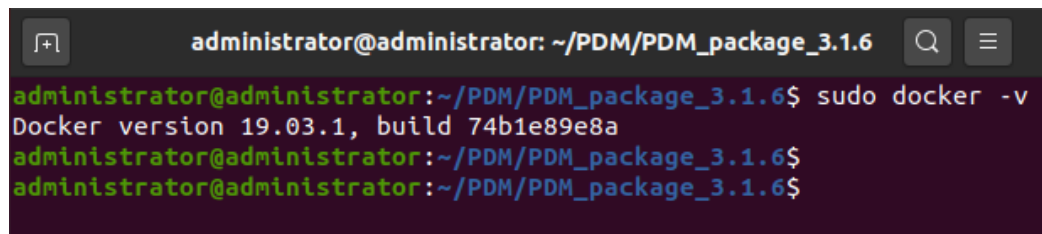
```
$ sudo ./setupPDM.sh
```



```
administrator@administrator: ~/PDM/PDM_package_3.1.6
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo ./setupPDM.sh
sudo: docker: command not found
[Info] Extracting the Docker file
docker/
docker/ctr
docker/runc
docker/dockerd
docker/docker
docker/containerd
docker/docker-init
docker/containerd-shim
docker/docker-proxy
[Info] Installing Docker
[Info] Installing Docker config files and enabling Docker service
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /etc/systemd/system/docker.service.
```

- c. Upon running PDM setup, the PDM Server PC will automatically restart. Verify the docker version being installed using the following command –

```
$ sudo docker -v
```



```
administrator@administrator: ~/PDM/PDM_package_3.1.6
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo docker -v
Docker version 19.03.1, build 74b1e89e8a
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$
```

- d. The following command will install the necessary PDM Server images into docker.

```
$ sudo ./installPDM.sh
```

A confirmation message to overwrite the existing version (if any) is displayed. Enter **Yes** to proceed or **No** to discard the installation. If **Yes** is selected, system will remove all the old docker images (if any) and add the new docker images.

```

administrator@administrator: ~/PDM/PDM_package_3.1.6
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo ./installPDM.sh
Installing the PDM package
[Info] Checking Prerequisites...
[Warning] This will create PDM server with new package,
          existing PDM data will be lost.
          Do you wish to install this program ? [Yes/No]: yes

```

If prompted, enter the PDM Server IP Address manually -

```

administrator@administrator: ~/PDM/PDM_package_3.1.6
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo ./installPDM.sh
Installing the PDM package
[Info] Checking Prerequisites...
[Warning] This will create PDM server with new package,
          existing PDM data will be lost.
          Do you wish to install this program ? [Yes/No]: yes
[Info] The config, storage, docker-compose.yml folder\files are copied from 'initialData' to the main directory
[Info] Check all the docker services are running
Error response from daemon: This node is not a swarm manager. Use "docker swarm init" or "docker swarm join" to connect
this node to swarm and try again.
1
[Info] <<< Create docker swarm >>>
Error response from daemon: could not choose an IP address to advertise since this system has multiple addresses on int
erface enp0s3 (fd00:aaab::f1d1:e668:9361:b2e9 and fd00:aaab::85a8:8e90:7b8f:6c98) - specify one with --advertise-addr
[Error] Could not choose an IP address,
Enter the Host(PDM) IP address to initialize the docker swarm or network interface manually
10.44.0.74

```

Upon entering the IP address, the installation will start and progress.

```

administrator@administrator: ~/PDM/PDM_package_3.1.6
5dfa5e9010a5: Loading layer [=====] 6.136MB/6.136MB
e88cfe394e0b: Loading layer [=====] 159.3MB/159.3MB
Loaded image: pdm/pesservices:0.19.9

2034fcfaee32: Loading layer [=====] 3.072kB/3.072kB
17b5757fc1f3: Loading layer [=====] 22.05MB/22.05MB
4e769cfb1260: Loading layer [=====] 847MB/847MB
Loaded image: pdm/wmc:3.2.7

2db44bce66cd: Loading layer [=====] 72.48MB/72.48MB
16d1b1dd2a23: Loading layer [=====] 57.33MB/57.33MB
ce3539cc1849: Loading layer [=====] 3.584kB/3.584kB
f650705a43eb: Loading layer [=====] 5.632kB/5.632kB
ff6e563d7474: Loading layer [=====] 9.216kB/9.216kB
Loaded image: pdm/nginx:0.1.1

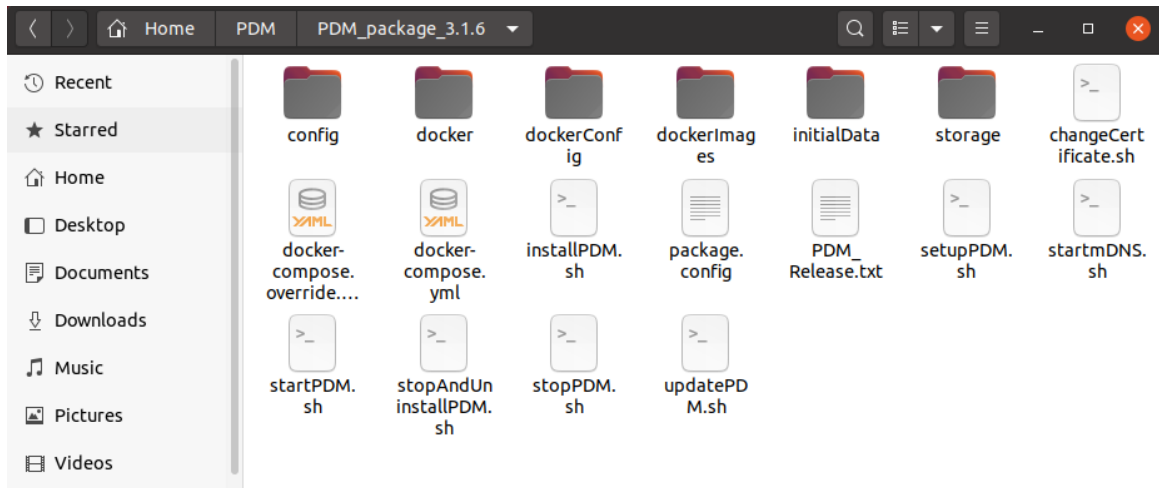
8fad67424c4e: Loading layer [=====] 129.3MB/129.3MB
86985c679800: Loading layer [=====] 45.45MB/45.45MB
6e5e20cbf4a7: Loading layer [=====] 126.9MB/126.9MB
ff57bdb79ac8: Loading layer [=====] 328.4MB/328.4MB
0e0b4ee1c6dc: Loading layer [=====] 352.8kB/352.8kB
33aed7748ee3: Loading layer [=====] 135.2kB/135.2kB
d4b3beaf4370: Loading layer [=====] 63.03MB/63.03MB
a5dfa5095fa0: Loading layer [=====] 4.462MB/4.462MB
b82e3b647750: Loading layer [=====] 7.68kB/7.68kB
3a78daee2228: Loading layer [=====] 45.28MB/45.28MB
1cafaac5946a: Loading layer [=====] 3.072kB/3.072kB
67574e5e21c2: Loading layer [=====] 3.584kB/3.584kB
7037a9cabd46: Loading layer [=====] 4.608kB/4.608kB
75e706f4a5ef: Loading layer [=====] 5.632kB/5.632kB
f5edbbcd4c06: Loading layer [=====] 7.276MB/7.276MB
Loaded image: pdm/mdns:0.1.2
[Info] PDM package is installed successfully
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$

```

During the PDM installation, the following folders and their contents are automatically copied from the **initialData** folder to the package / main directory (i.e. PDM_package_3.1.6)-

- **config,**
- **docker**
- **storage**

If any configuration changes are made to the above folder/files, ensure that PDM server stopped and started again. Click [here](#) for the command to stop the server / services.



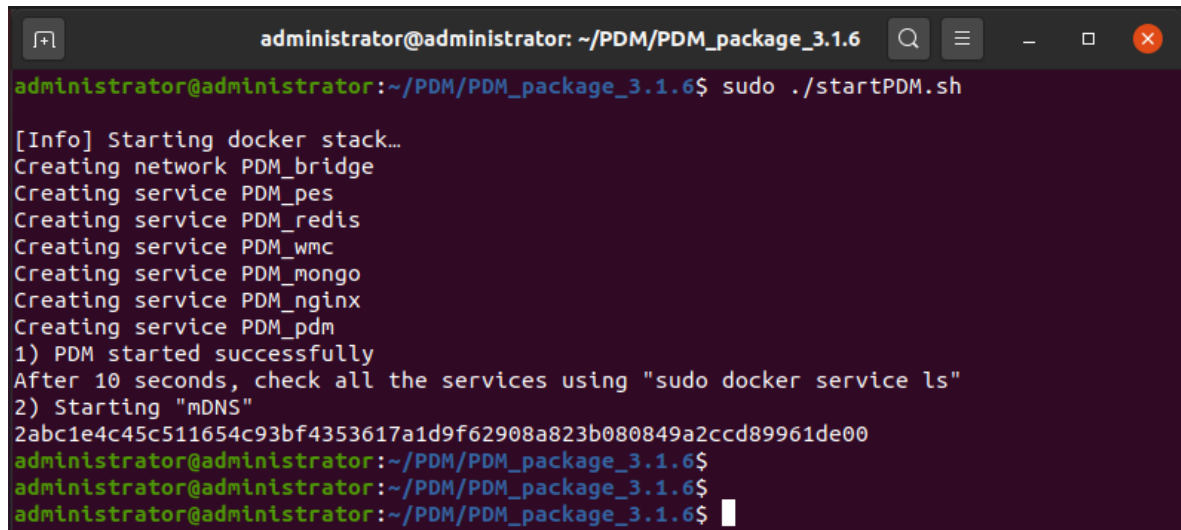
e. Check if the following new images are loaded, using the command -

```
$ sudo docker images
```

```
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
pdm/wmc              3.2.7              17f1cfec7a78       2 days ago         1.15GB
pdm/pdmservices      3.2.8              af414fbf2be7       2 days ago         748MB
pdm/pesservices      0.19.9             5e3837bc78a9       3 days ago         238MB
pdm/mdns             0.1.2              01df77c8cada       13 months ago      717MB
pdm/nginx            0.1.1              ddd0ae39cfef       14 months ago      126MB
pdm/mongo            0.1.1              806f33d8e70d       14 months ago      361MB
pdm/redis            0.1.0              128363065c49       15 months ago      106MB
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$
```

- f. Start the PDM Server using the following command –

```
$ sudo ./startPDM.sh
```



```

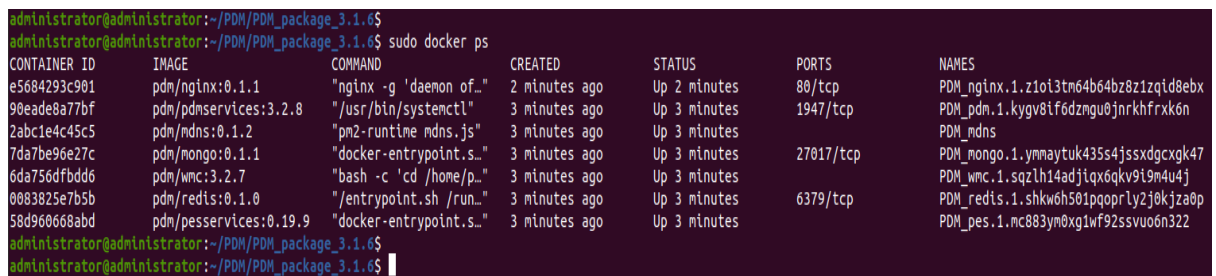
administrator@administrator: ~/PDM/PDM_package_3.1.6
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo ./startPDM.sh

[Info] Starting docker stack...
Creating network PDM_bridge
Creating service PDM_pes
Creating service PDM_redis
Creating service PDM_wmc
Creating service PDM_mongo
Creating service PDM_nginx
Creating service PDM_pdm
1) PDM started successfully
After 10 seconds, check all the services using "sudo docker service ls"
2) Starting "mDNS"
2abc1e4c45c511654c93bf4353617a1d9f62908a823b080849a2ccd89961de00
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$

```

- g. Ensure that all the PDM services are up and running using the following command –

```
$ sudo docker ps
```

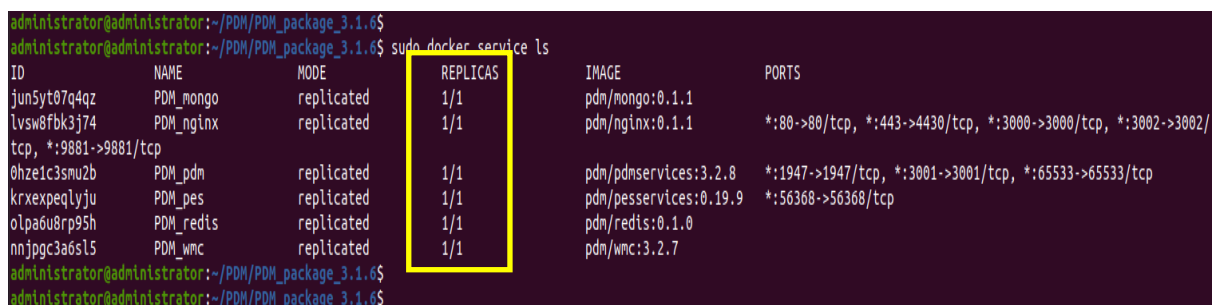


```

administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED              STATUS              PORTS              NAMES
e5684293c901       pdm/nginx:0.1.1    "nginx -g 'daemon of..." 2 minutes ago       Up 2 minutes       80/tcp             PDM_nginx.1.zioi3tm64b64bz8z1zq1d8ebx
90eade8a77bf       pdm/pdmservices:3.2.8 "/usr/bin/systemctl"    3 minutes ago       Up 3 minutes       1947/tcp           PDM_pdm.1.kygv8if6dzngu0jnrkhfrxk6n
2abc1e4c45c5       pdm/mdns:0.1.2     "pm2-runtime mdns.js"    3 minutes ago       Up 3 minutes                PDM_mdns
7da7be96e27c       pdm/mongo:0.1.1    "docker-entrypoint.s..." 3 minutes ago       Up 3 minutes       27017/tcp          PDM_mongo.1.ymmaytuk435s4jssxdgcxgk47
6da756dfbdd6       pdm/wmc:3.2.7      "bash -c 'cd /home/p..." 3 minutes ago       Up 3 minutes                PDM_wmc.1.sqzlh14adjlqx6qkv9i9m4u4j
0083825e7b5b       pdm/redis:0.1.0    "/entrypoint.sh /run..." 3 minutes ago       Up 3 minutes       6379/tcp           PDM_redis.1.shkw6h50ipqoprly2j0kjza0p
58d960668abd       pdm/pesservices:0.19.9 "docker-entrypoint.s..." 3 minutes ago       Up 3 minutes                PDM_pes.1.mc883ym0xg1wf92ssvu0n322
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$

```

```
$ sudo docker service ls
```



```

administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo docker service ls
ID                  NAME      MODE     REPLICAS        IMAGE              PORTS
jun5yt07q4qz       PDM_mongo replicated      1/1              pdm/mongo:0.1.1
lvsw0fbk3j74       PDM_nginx replicated      1/1              pdm/nginx:0.1.1    *:80->80/tcp, *:443->4430/tcp, *:3000->3000/tcp, *:3002->3002/tcp, *:9881->9881/tcp
0hze1c3smu2b       PDM_pdm   replicated      1/1              pdm/pdmservices:3.2.8 *:1947->1947/tcp, *:3001->3001/tcp, *:65533->65533/tcp
krxexpeqljyju      PDM_pes   replicated      1/1              pdm/pesservices:0.19.9 *:56368->56368/tcp
olpa6u8rp95h       PDM_redis replicated      1/1              pdm/redis:0.1.0
nnjjpgc3a6s15      PDM_wmc   replicated      1/1              pdm/wmc:3.2.7
administrator@administrator:~/PDM/PDM_package_3.1.6$
administrator@administrator:~/PDM/PDM_package_3.1.6$

```

The **replicas column 1/1** value, indicates that all the PDM services are up and running.

2.2 Update PDM Server Software Package

The steps to update the PDM Server Software are given below -

- a. To update the software package, go to the new package directory path and run the following command (Note: ensure the PDM is running before executing the command)

```
$ sudo ./updatePDM.sh
```

A confirmation message - "If you wish to use the previous version data and configuration? Yes / No" is displayed. Select **Yes (Recommended)** and enter the old software package directory path to retain all previous PDM server and console configuration data.



If **No** is selected, then the default configuration will be copied and the older version data is removed. (I.e. all the previous PDM Console information will be lost and all the service configuration files have to be re-edited).

```
freshmachine@freshmachine-VirtualBox:~/HDBS/PDM_package_2.0.24$ sudo ./updatePDM.sh
The PDM package will be upgraded to the latest version
[Warning] Please STOP the PDM server before upgrading the PDM package
NAME          SERVICES          ORCHESTRATOR
0
Ensure that you know the previous package version path in order to reuse the configuration files.

Yes: It will use the previous package data configuration
No: It will use the new package data configuration (previous data will be lost)
Manually: It will not make any changes
Do you wish to re-use the previous data (or) configure manually ? [Yes/No/Manually] Yes
Enter the previously installed package path:
/home/freshmachine/HDBS/PDM_package_2.0.23
[Info] The following folders/files are copied from the previous PDM package (config, storage, docker-compose.yml)
image:-pdm/pdmservices, Version:-2.0.14, NewVersion:-2.0.14
image:-pdm/wmc, Version:-2.0.16, NewVersion:-2.0.16
image:-pdm/mdns, Version:-0.1.2, NewVersion:-0.1.2
image:-pdm/nginx, Version:-0.1.1, NewVersion:-0.1.1
image:-pdm/mongo, Version:-0.1.1, NewVersion:-0.1.1
image:-pdm/redis, Version:-0.1.0, NewVersion:-0.1.0
[Info]
-----
|Image Name      | Installed Version | Re-Installed |
|pdm/pdmservices| 2.0.14           | No           |
|pdm/wmc         | 2.0.16           | No           |
|pdm/mdns        | 0.1.2            | No           |
|pdm/nginx       | 0.1.1            | No           |
|pdm/mongo       | 0.1.1            | No           |
|pdm/redis       | 0.1.0            | No           |
-----
```

- b. Start all the services using the following command -

```
$ sudo ./startPDM.sh
```

- c. Upon successfully updating the package, enter the following command to ensure that all the services are up and running -

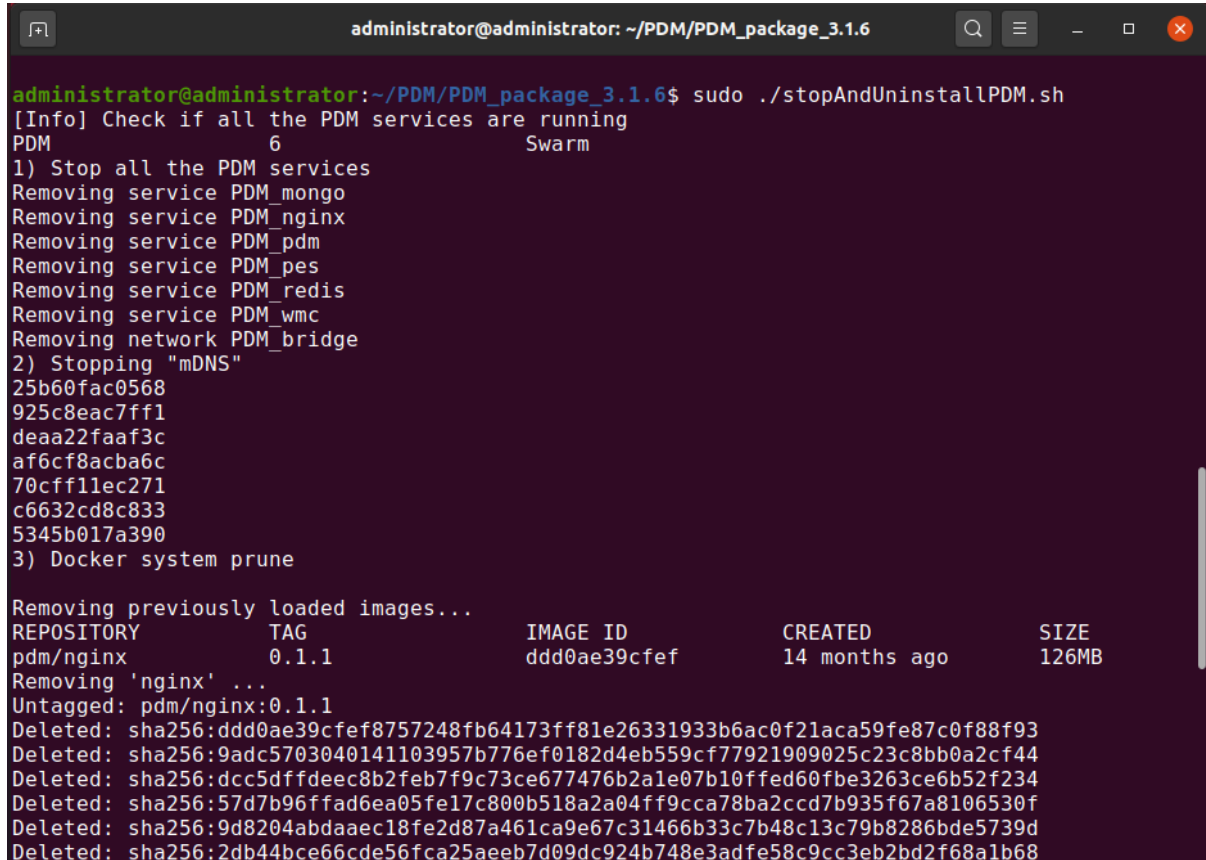
```
$ sudo docker ps
```

2.3 Uninstall PDM Server Software Package

To uninstall PDM,

- a. Run the following command –

```
$ sudo ./stopAndUninstallPDM.sh
```



```

administrator@administrator: ~/PDM/PDM_package_3.1.6
administrator@administrator:~/PDM/PDM_package_3.1.6$ sudo ./stopAndUninstallPDM.sh
[Info] Check if all the PDM services are running
PDM          6          Swarm
1) Stop all the PDM services
Removing service PDM_mongo
Removing service PDM_nginx
Removing service PDM_pdm
Removing service PDM_pes
Removing service PDM_redis
Removing service PDM_wmc
Removing network PDM_bridge
2) Stopping "mDNS"
25b60fac0568
925c8eac7ff1
deaa22faaf3c
af6cf8acba6c
70cff11ec271
c6632cd8c833
5345b017a390
3) Docker system prune

Removing previously loaded images...
REPOSITORY      TAG          IMAGE ID          CREATED          SIZE
pdm/nginx        0.1.1        ddd0ae39cfef     14 months ago   126MB
Removing 'nginx' ...
Untagged: pdm/nginx:0.1.1
Deleted: sha256:ddd0ae39cfef8757248fb64173ff81e26331933b6ac0f21aca59fe87c0f88f93
Deleted: sha256:9adc5703040141103957b776ef0182d4eb559cf77921909025c23c8bb0a2cf44
Deleted: sha256:ccc5dffdeec8b2feb7f9c73ce677476b2a1e07b10ffed60f3e3263ce6b52f234
Deleted: sha256:57d7b96ffad6ea05fe17c800b518a2a04ff9cca78ba2ccd7b935f67a8106530f
Deleted: sha256:9d8204abdaaec18fe2d87a461ca9e67c31466b33c7b48c13c79b8286bde5739d
Deleted: sha256:2db44bce66cde56fca25aeeb7d09dc924b748e3adfe58c9cc3eb2bd2f68a1b68
  
```


D. Domain Configuration for PDM Server Software Installation

After the PDM Server Software installation, the network administrator MUST resolve the following DNS Domains:

- ✓ app.domainname
- ✓ api.domainname
- ✓ socket.domainname

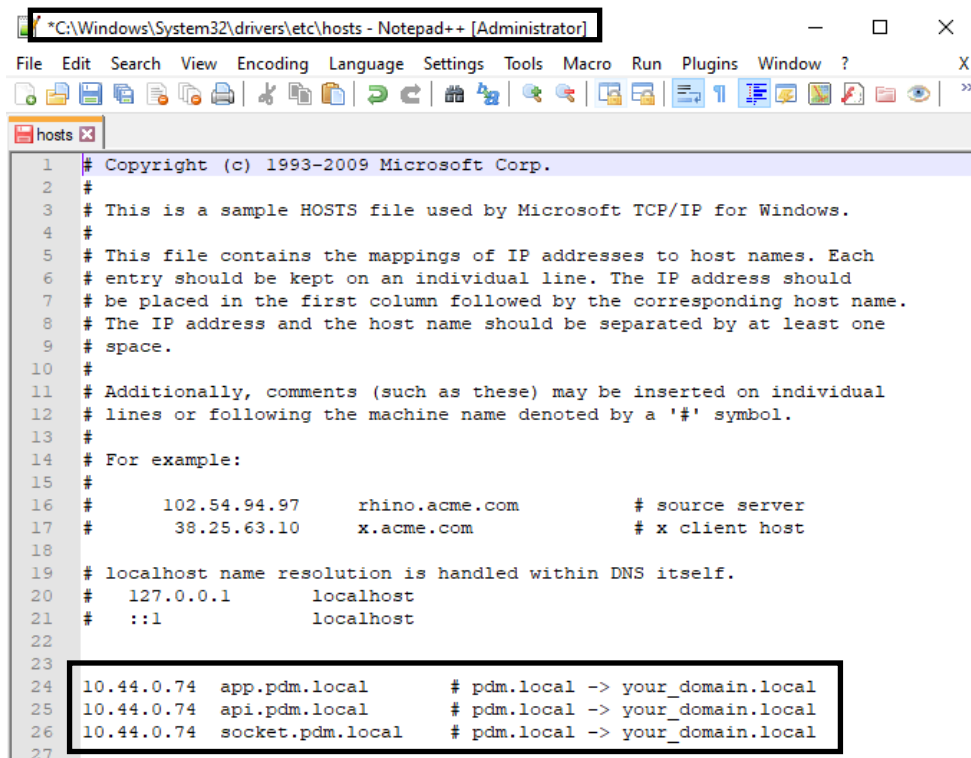
where in the *domain name* refers to the *organization's domain name*. For example, if the organization's name is ABC Pte Ltd, then the domain name can be abc.com or abc.local.

The DNS records can be created/added in the following ways –

- Local Host File
- Local DNS
- Global DNS

1. Configure Local Host File

To configure the domains on a server/client PC, open the client local host file which can be found in path **C:\Windows\System32\drivers\etc\hosts** and add the server IP address and the associated domain name as shown below:



```
*C:\Windows\System32\drivers\etc\hosts - Notepad++ [Administrator]
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ? X
hosts
1 # Copyright (c) 1993-2009 Microsoft Corp.
2 #
3 # This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
4 #
5 # This file contains the mappings of IP addresses to host names. Each
6 # entry should be kept on an individual line. The IP address should
7 # be placed in the first column followed by the corresponding host name.
8 # The IP address and the host name should be separated by at least one
9 # space.
10 #
11 # Additionally, comments (such as these) may be inserted on individual
12 # lines or following the machine name denoted by a '#' symbol.
13 #
14 # For example:
15 #
16 #      102.54.94.97      rhino.acme.com      # source server
17 #      38.25.63.10      x.acme.com        # x client host
18
19 # localhost name resolution is handled within DNS itself.
20 #   127.0.0.1          localhost
21 #       ::1            localhost
22
23
24 10.44.0.74 app.pdm.local      # pdm.local -> your_domain.local
25 10.44.0.74 api.pdm.local     # pdm.local -> your_domain.local
26 10.44.0.74 socket.pdm.local  # pdm.local -> your_domain.local
27
```

2. Browser (With BRT SSL)

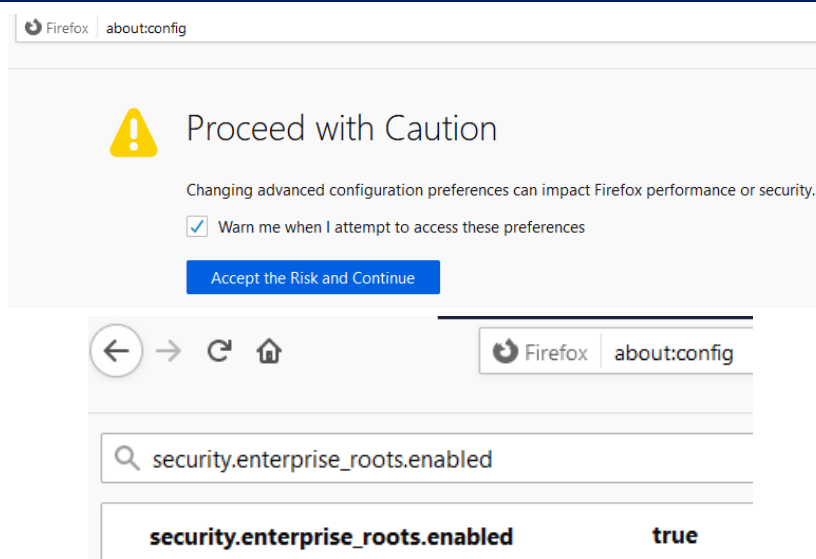
To run the PDM Console and Outlook Add-In on a client PC if default Bridgetek's certificate is installed-

Windows:

- Click **Start → Run**.
- Enter "**MMC**" to open Microsoft Management Console.
- Go to **File → Add/Remove Snap-in**.
- Click *Certificates*, and select **Add**.
- Select *Computer Account*, and click **[Next]**.
- Select *Local Computer* and click **[Finish]**.
- Click OK to go back to main MMC console window.
- Double-click *Certificates* (local computer) to expand its view.
- Right-click *Certificates* under **Trusted Root Certification Authorities** and select *All Tasks* then click **[Import]**.
- Complete the wizard to import the "**brtroot.pem**" file in the software package provided.
- Select "*Place all certificates in the following store*" and select the **Trusted Root Certification Authorities store**. Click **[Next]**, then click **[Finish]** to complete the wizard.

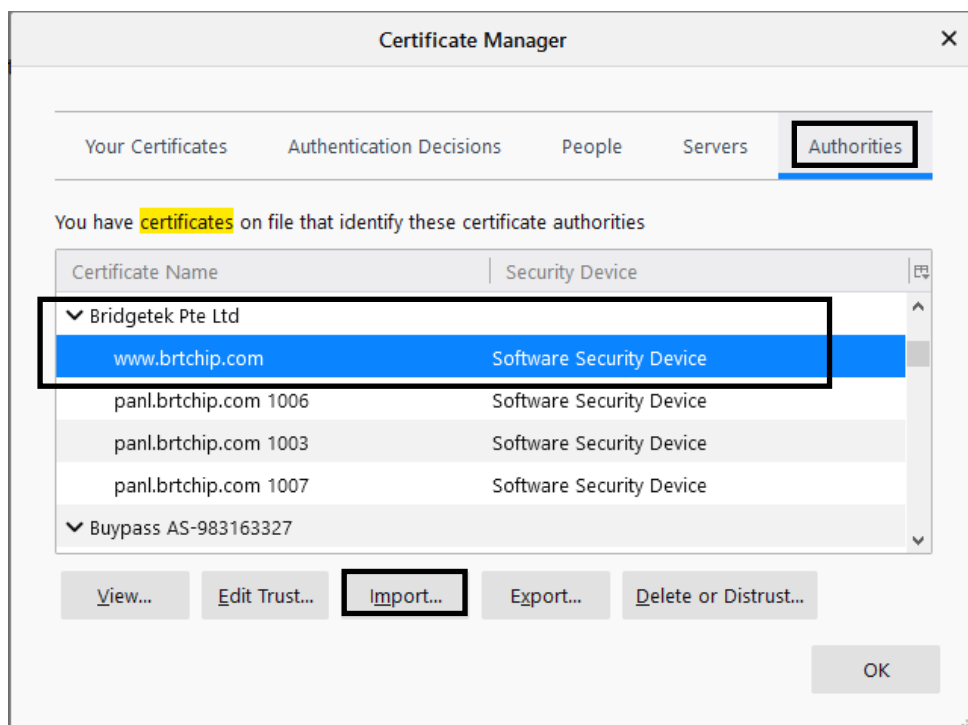
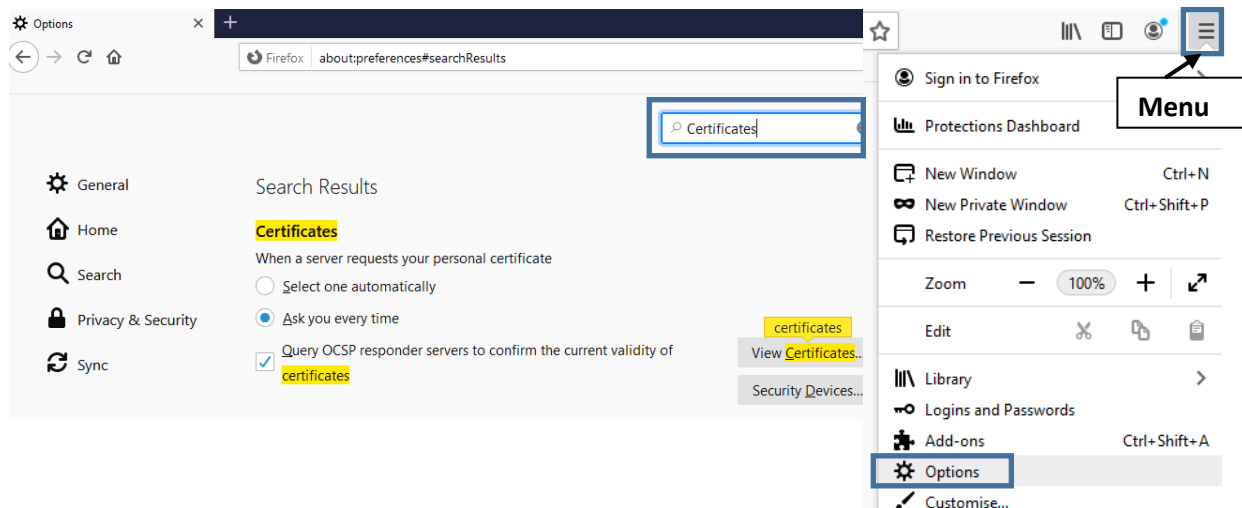
Once the certificate is successfully imported, the installed certificate authority (www.brtchip.com) will appear on the certificate pane.

NOTE1: If any warning is displayed while connecting to PDM web console, open FireFox browser and type – about:config and click <Enter>. Click [Accept the Risk and Continue]. In the search box, type security.enterprise_roots.enabled. If the value is "False", then double click and change the value to "True".



Importing certificate into Firefox browser

- Open **Firefox** browser.
- Navigate to **Menu → Options → Search Certificates → View Certificates → Authorities tab → Click Import** and import the certificate.



The uploaded certificate will be displayed under the **Authorities** tab under **Bridgetek Pte Ltd**.

Linux (Debian/Ubuntu):

To install root SSL certificate in Ubuntu, open the terminal and do the following.

- a. Convert the rootCA.pem file from .pem to .crt by using this command

```
openssl x509 -outform der -in <rootCA.pem> -out <rootCA.crt>
```

- b. Type the commands given below:

```
sudo mkdir /usr/local/share/ca-certificates/extra  
sudo cp rootCA.crt /usr/local/share/ca-certificates/extra/  
sudo update-ca-certificates
```

Once the root SSL certificate is installed, follow the steps given below to open the PDM console on client browser:

FireFox & Safari:

- a. Open browser -> enter **about:config** on url page
- b. Accept the risk
- c. Search **security.enterprise_roots.enabled** --> set to **True** (double click)
- d. Open the console URL: https://app.<domain_name>
- e. Enter the default admin username and password and log in.

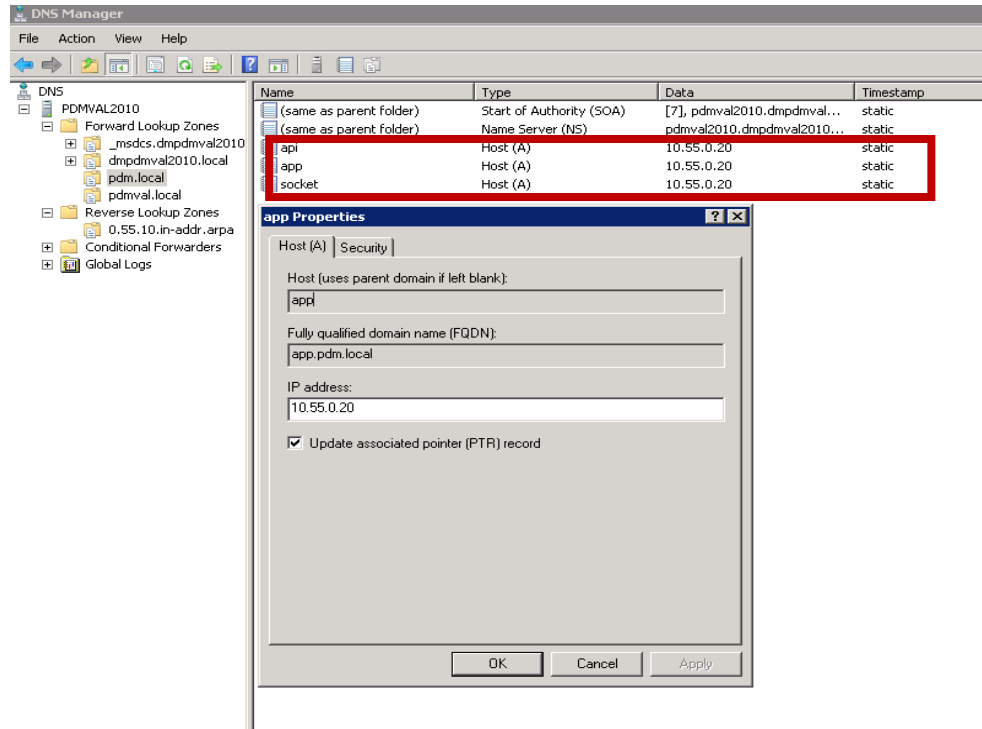
NOTE: If not working for Firefox: Go to Firefox browser → Enter about:preferences on url page → Certificates → Import → Import the “rootCA.pem” file under the software package.

Chrome Browser:

- a. Open the URL: https://api.<domain_name>
- b. Enter the default admin username and password
- c. Open the console URL: https://app.<domain_name>
- d. Enter the default admin username and password and log in.

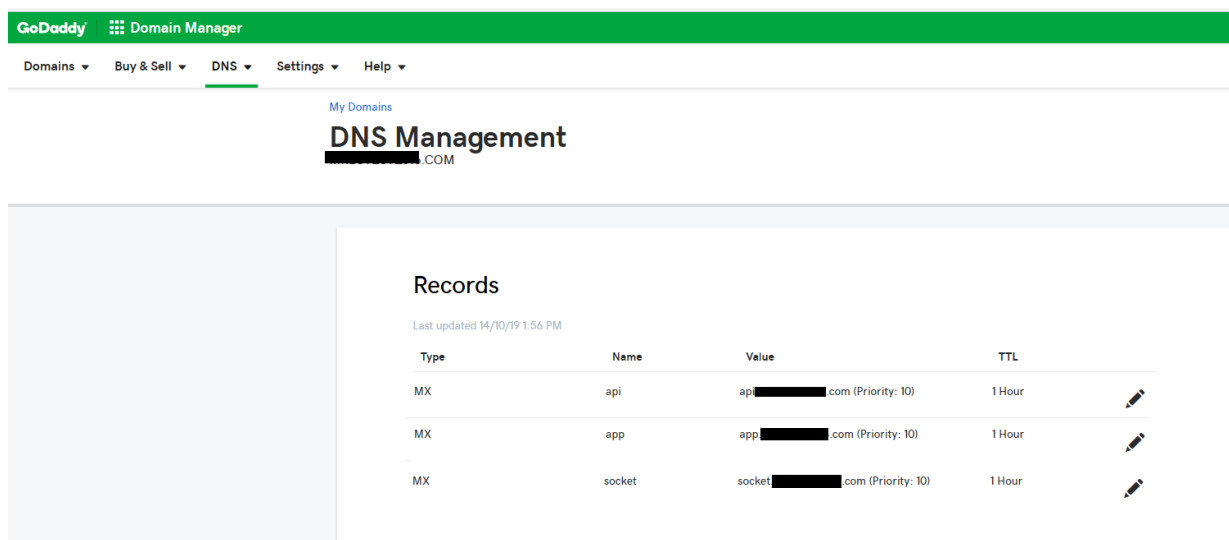
Local DNS

To configure the domains on a local DNS server, ensure the DNS records are created in the exchange server. For illustration purpose exchange server 2010 is used in the example below -



Global DNS

To configure a public domain on a purchased GLOBAL DNS host server (for example GODADDY), create the DNS records as shown in the picture below-



PDM Web Console

V. Getting Started with PDM Console

The PDM Console is a web browser based GUI application that serves as a one-stop management tool enabling administrators to configure the PDM Server Software such as to manage resource assignment, desk booking policies, display panel and calendar configurations. The PDM Console can be connected via a secure HTTPS connection using any one of the following web browsers – *Chrome, Mozilla Firefox, Microsoft Edge or Safari.*

A. Logging In

In order to access the PDM console, ensure that the PDM Server Software is up and running. The steps to access the PDM console are provided below. Open any supported web browser (*Chrome / Mozilla Firefox / Safari*) and enter the console URL <https://app.<organization's domain name>> for example - <https://app.brtchip.com>.

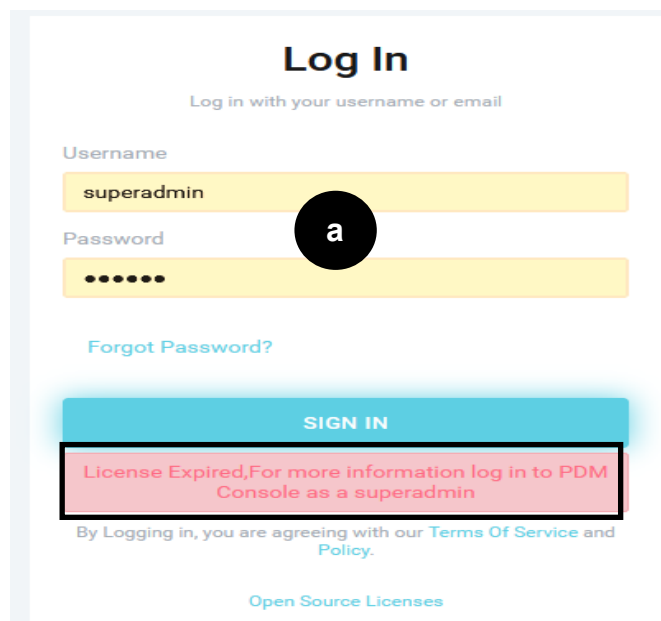
If opening console on a client PC using default Bridgetek's SSL certificate, please refer to the section [Browser \(with BRT SSL\)](#).

The PDM server must have a valid license to access all the PDM features. To obtain the license, the customer must *GENERATE FINGERPRINT* (using the license interface) and send the fingerprint file to the vendor (i.e. PDM Support). The vendor in turn will generate and send the license file to the customer's registered email address. Upon receiving the license file, customer must activate it using license interface. The license interface is available only for SUPER ADMIN USERS.

1. Generate License

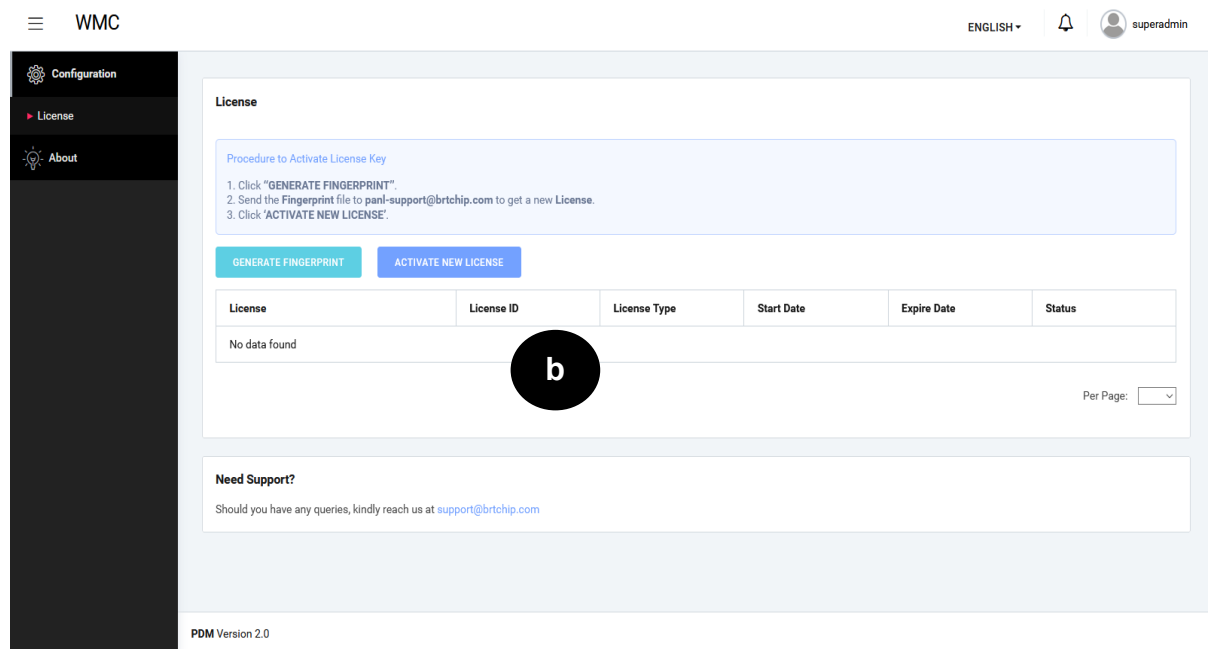
To access license interface and generate FINGERPRINT -

- a. Log in to PDM Console with **Username** and **Password**. Click **[SIGN IN]**. If PDM license is not valid or if the license has expired, an appropriate message indicating the same is displayed.



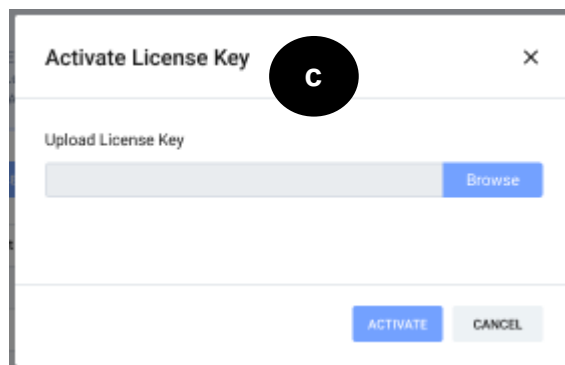
The screenshot shows the 'Log In' page of the PDM Console. The page has a title 'Log In' and a subtitle 'Log in with your username or email'. There are two input fields: 'Username' with the value 'superadmin' and 'Password' with masked characters. A 'Forgot Password?' link is below the password field. A large blue 'SIGN IN' button is centered. Below the button, a red error message box states: 'License Expired, For more information log in to PDM Console as a superadmin'. At the bottom, there is a link for 'Open Source Licenses' and a footer note: 'By Logging in, you are agreeing with our Terms Of Service and Policy.'

- b. Upon successful sign-in to the PDM Console, The License interface is displayed with the list of available license(s) if any. For the first time users, this **interface will be empty**.



Click **[GENERATE FINGERPRINT]**. A fingerprint file with extension **.c2v** (for example - Current_23-08-2020 12-39-36.c2v) will be generated and saved in the preferred location. Email the file to the vendor (i.e. PDM Support) to obtain the license key. The license key will be sent as a file with extension **.v2c** (for example - 72543085074299640.V2C) to the registered email address. Upon getting the license key, click **[ACTIVATE NEW LICENSE]**.

- c. Click **[Browse]** and select the license key to upload.



Upon selecting the license file, click **[ACTIVATE]** to upload the license file to the PDM Server and activate the license. Upon activating the license key, the user will be automatically signed out of PDM Console. Log in to PDM console. A list of menu functions (based on the user's access privileges) is displayed on the left side panel. To access License interface and verify license information, click **Configuration → License**.

WMC

107

superadmin

Dashboard

Resource Management

Buildings

Floors

Desks

Devices

Firmware

Amenities

Desk Groups

User and Role Management

Feedback

Configuration

License

Procedure to Activate License Key

1. Click "GENERATE FINGERPRINT".
2. Send the Fingerprint file to panl-support@brtchip.com to get a new License
3. Click 'ACTIVATE NEW LICENSE'.

GENERATE FINGERPRINT

ACTIVATE NEW LICENSE

License	License ID	License Type	Start Date	Expiry Date	Software Maintenance Expiry Date	Status	Software Maintenance Status
PDMServer	489213709617864557	Perpetual	-	-	4/27/2021	Active	Active

Per Page: 50

Upon expiry of license, an appropriate message indicating the same is displayed in *PanL35L Desk Display/Outlook Add Ins / Mobile App / Desk Viewer*.

License Notification

C

License Expired
License expired. Contact panl-support@brtchip.com for assistance

Please contact the Administrator for assistance!
For assistance contact

Outlook Add Ins

License Expired


License Expired
For more information log in to PDM Console as a superadmin
Contact panl-support@brtchip.com. for assistance

Desk Viewer

Upon generating / renewing the license, the next step is to update the Exchange Server using the PDM Console (WMC).

17:16

LICENSE EXPIRED



Please contact the Administrator for assistance!

PanL

PanL35L Desk Display

4:17

PanL

Username

superadmin

License expired. Contact panl-support@brtchip.com for assistance

OK

License expired

Change Server URL?

Log in

By Logging in, you are agreeing with our [Terms of Service](#) and [Privacy Policy](#)

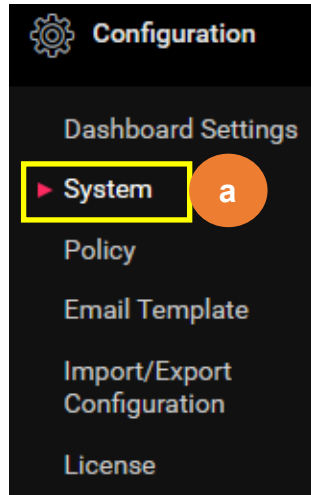
Open Source Licenses

Mobile App

2. Update System Configuration

To update calendar server and PDM server settings –

- a. Click on the **Configuration > System** menu.



- b. The system configuration interface is displayed with the following information -

System Configuration

Exchange Server/O365 Connection Test

Host

https://outlook.office365.com

Username

service_account1@bridgetek.com

Password

••••••••

Authentication

Basic

TEST CONNECTION

Exchange Server/O365

Host

https://outlook.office365.com

Username

service_account1@bridgetek.com

Password

••••••••

Authentication

Basic

Exchange Server/O365 Synchronization Schedule

SYNCHRONIZE DATA

b

Auto Synchronization ☐

Additional configuration of Exchange Server

Exchange 2010 ☐

PDM server

IP

Email

CANCEL
SAVE

Exchange / Office365 Server

- Click on **[TEST CONNECTION]** button to verify the connection between the Exchange/Office365 Server and PDM Server.
- **Host**
Refers to the Calendar Server IP Address.
- Exchange Server **Service Account Name / Password**
Refers to the Exchange/Office365 Server log in credentials.
- **Authentication**
 - *Basic* – Refers to the authentication for Office365
 - *NTLM (New Technology Lan Manager)* – Refers to the server based authentication. For example, Exchange Server 2010/2013/2016 and 2019

Exchange/Office365 Server Synchronization Schedule

- Click on the *Auto Synchronization* check box and select a time from the dropdown control to trigger automatic data synchronization of all users and desks data. If the check box is disabled then you have to perform a manual synchronization.
- Click on **[SYNCHRONIZE DATA]** button to manually synchronize the data from exchange/office365 server.

Additional Configuration of Exchange Server*

** Applicable only if the Exchange 2010 check box is selected / enabled*

Click on the *Exchange 2010* check box to input / update the following fields -

- **URL (LDAP)**
Refers to the LDAP IP address.
- **Bind Domain Name**
Refers to the Exchange Server User name
- **Bind Credentials**
Refers to the password
- **Search User Name Domain**
Refers to the domain controller credentials. For example, if the name is CN=USERS, DC=Bridgetek.LOCAL, the CN refers to the Common Name and indicates "Users"; DC refers to the Domain Component and the parameter indicates the Domain Name.

PDM Server

- **IP**
Refers to the PDM Server IP address. This IP address is mandatory and will be used to on-board the desk panel as well as update desk panel firmware through OTA.
- **Email**
Refers to the Service Account's email id. Whenever there is a change in the administrator's password credential or resource active status changes, an email will be sent to this email id communicating of the changes
- **Contact**
Refers to the Contact number of Administrator.


Upon editing these fields as required, click on **[SAVE]** to store the changes, if any.

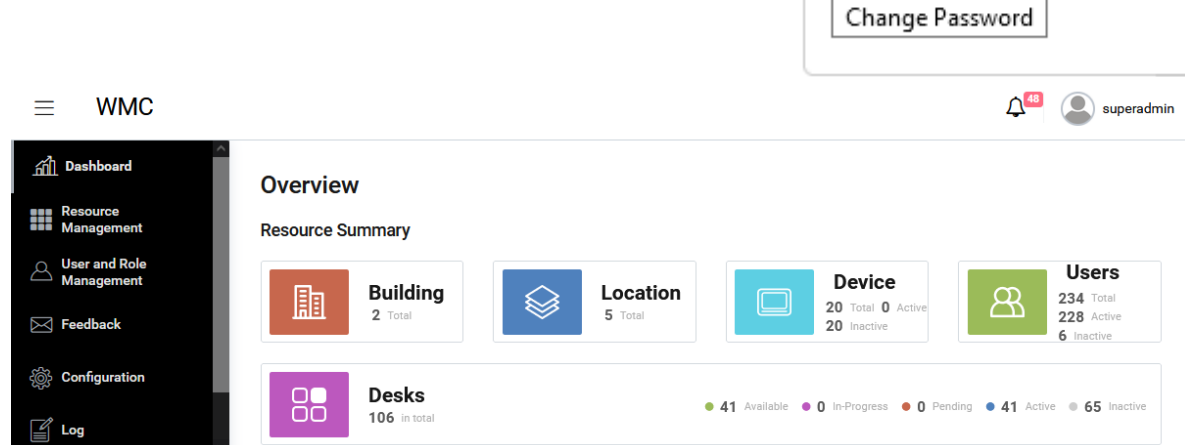
Upon successful system configuration, On-board the PanL35L devices. Refer to the section [On-board Desk Panel Device \(PanL35L\)*](#).

To use the other PDM Console functions, refer to the section [Getting Started with PDM Console](#).

B. Change Password

To change the default admin password –

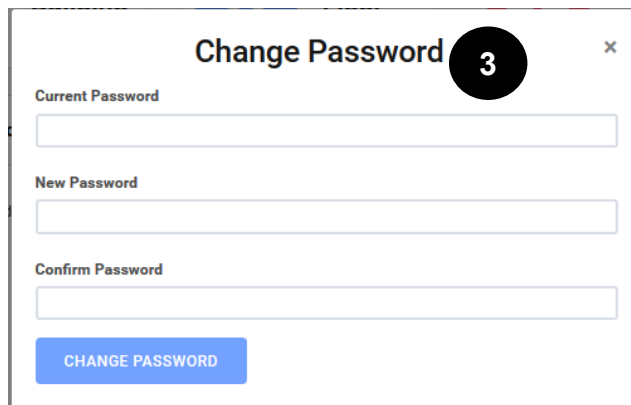
1. Click on the User Profile icon .
2. Select **Change Password**.



3. Enter the following -

- ✓ Current Password
- ✓ New Password
- ✓ Confirm New Password

Upon entering the required information, click on **[CHANGE PASSWORD]**.

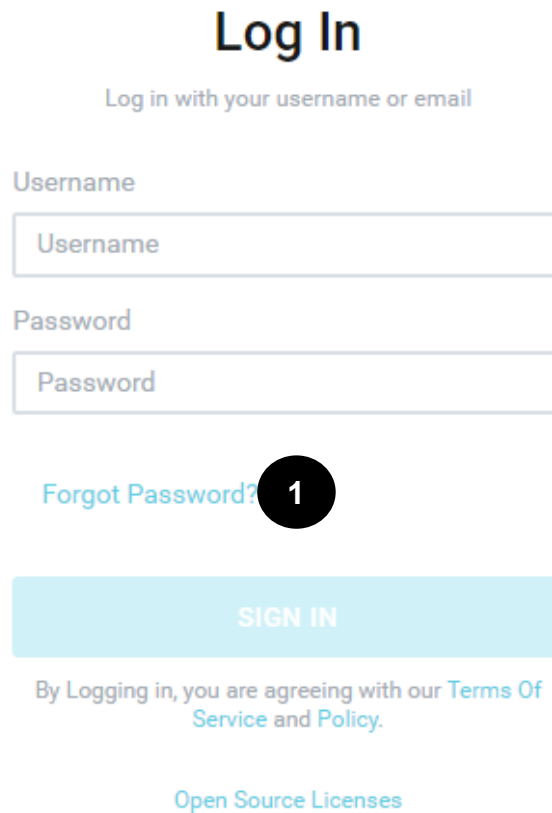


The screenshot shows the 'Change Password' form. It has three input fields: 'Current Password', 'New Password', and 'Confirm Password'. Below the fields is a blue button labeled 'CHANGE PASSWORD'. A black circle labeled '3' is positioned next to the form title.

C. Forgot Password

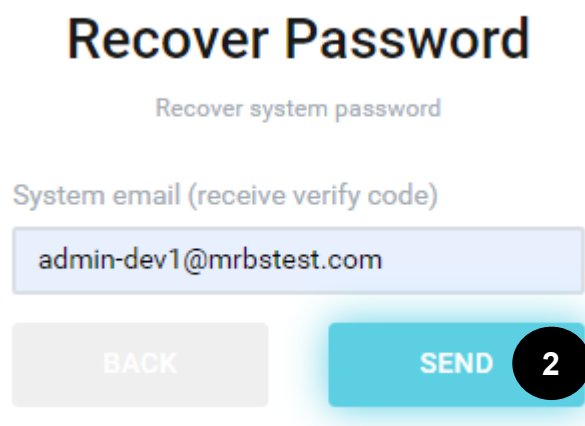
The Forgot Password function allows user to recover the password. To recover password–

1. Click **Forgot Password?**



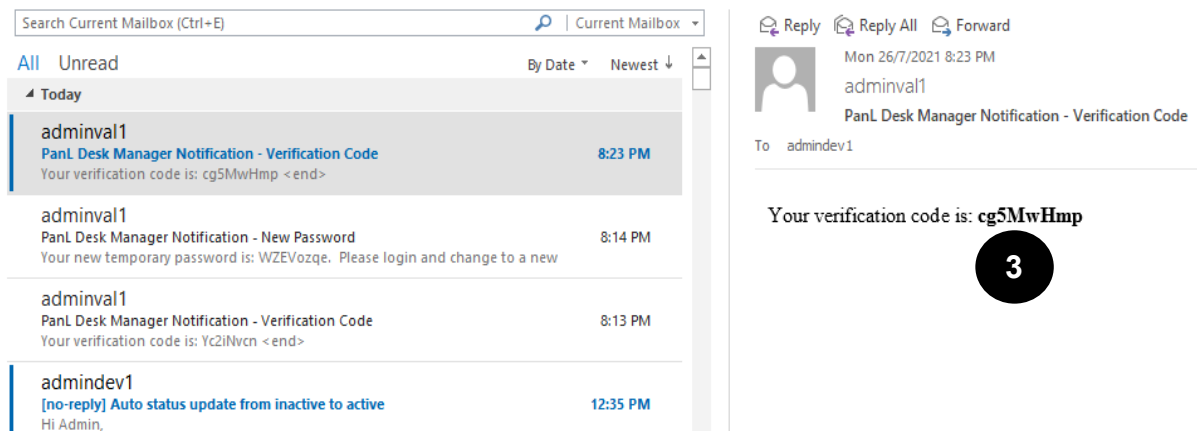
The screenshot shows the 'Log In' interface. At the top, the title 'Log In' is centered. Below it, a subtitle reads 'Log in with your username or email'. There are two input fields: 'Username' and 'Password'. Below the 'Password' field is a link 'Forgot Password?' which is circled with a black circle containing the number '1'. Below the input fields is a large blue button labeled 'SIGN IN'. At the bottom, there is a line of text: 'By Logging in, you are agreeing with our [Terms Of Service](#) and [Policy](#).' and a link 'Open Source Licenses'.

2. Enter the *System Email* and click **[SEND]** to receive the verification code.

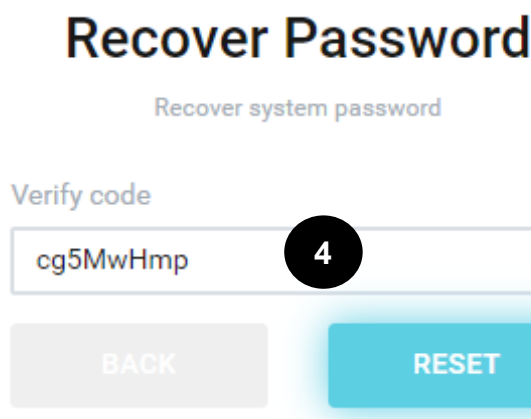


The screenshot shows the 'Recover Password' interface. At the top, the title 'Recover Password' is centered. Below it, a subtitle reads 'Recover system password'. There is a label 'System email (receive verify code)' above an input field containing the email 'admin-dev1@mrbstest.com'. Below the input field are two buttons: a grey 'BACK' button and a blue 'SEND' button. The 'SEND' button is circled with a black circle containing the number '2'.

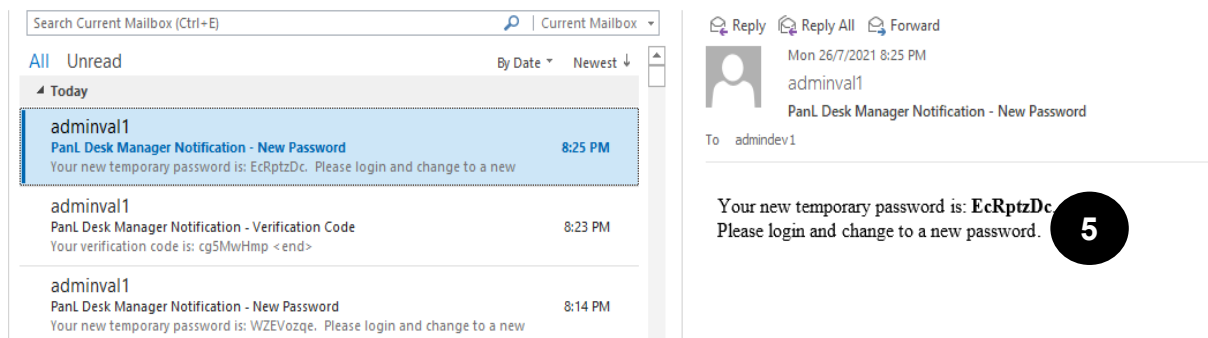
3. A *verification code* will be sent to the email id that was provided in the Recover Password interface.



4. Enter the *verification code* in the Recover Password interface and click **[RESET]**.



5. A *temporary password* generated by the system will be sent to the Email Id that was provided in the Recover Password interface.



- Enter the *Username* and the *temporary password* in the *Password* field. Click **[SIGN IN]**.

Log In

Log in with your username or email

Username

Password

[Forgot Password?](#)

SIGN IN **6**

By Logging in, you are agreeing with our [Terms Of Service and Policy](#).

[Open Source Licenses](#)

Upon successfully signing in with the temporary system password, the PDM Console is displayed. Using the [Change Password](#) function, update your temporary password. Upon successfully changing the password an appropriate message will be displayed.

NOTE 1: Reset Password email will be sent from the User Name that is mentioned in the Configuration → System interface *Exchange Server/0365 - User Name* field. Refer to the screenshot.

System Configuration

Exchange Server/0365 Connection Test

Host

Username

Password

Authentication

TEST CONNECTION

Exchange Server/0365






Host

Username

Password

NOTE 2: The verification code and the system generated temporary password will be sent to the Email Address mentioned in the Configuration → Policy interface *Product Information - Admin Email* field. Refer to the screenshot.

☰
WMC

-  Dashboard
-  Resource Management
-  User and Role Management
-  Feedback
-  Configuration
- Dashboard Settings
- System
 - ▶ Policy
- Email Template

PanL35L Device

Time Format 12 Hours

Firmware Update Schedule 12 : 00 AM

Product Information

Name Name

Developed by Developed by

Admin Hotline Admin Hotline

Admin Email admin-dev1@mrbstest.com

D. PDM Console Overview

The PDM Console main menu is displayed on the left and can be extended by clicking on it to display the sub menus. The following table provides an overview of the PDM Console Menu/Submenu and their functions.

Menu	Submenu	Functionality
Dashboard	-	Resource Summary / Booking Summary / Desk Utilization / Leader board etc.
Resource Management	Buildings	→ Add / Edit / Delete / Search Building Information
	Locations	→ Add / Edit / Delete Location Information / Assign Desk to Location / Search Location information
	Desks	→ Edit Desk Information/ Assign Desk to a device / Un-assign / Re-assign desk / Search Desk information
	Devices	→ Assign Device to a desk / Un-assign device / Re-assign device to a desk / Device Settings / Delete Device / Search Device information
	Firmware	→ Add / Delete Firmware / Configure Firmware Auto Update / Update Firmware Manually / View Device Log
	Amenities	→ Add / Edit / Delete Amenities
	Desk Groups	→ Create / Edit / Delete Desk Group / Add Desks to Desk Group Transfer Desk to another Desk Group / Configure Desk Booking Policies / Configure Amenities
User and Role Management	Users	→ Edit User Information / Synchronize data from Exchange Server
	User Groups	→ Add / Edit / Delete User Group
Feedback	Feedback Management	→ Create / Edit / Delete Feedback Templates
	User Feedback	→ View User Feedback Status
Configuration	Dashboard Settings	→ Configure Dashboard View for different User Group
	System	→ Update Exchange Server / O365 Information, Test Exchange Server / O365 connection, Synchronize Exchange Server / O365 Schedule, Additional Exchange Configuration and PDM Server Credentials
	Policy	→ Configure general Booking Policy, Booking Reminder etc.
	Email Template	→ Create / Edit / Delete Email Template
	Import / Export Configuration	→ Maintain Server Backup (upon importing new configuration, the previous booking information will be removed).
	License	→ View License / Generate Finger Print / Activate License
Log	System Log	→ To view System Log for system analysis purpose
	User Log	→ To view User Log for user analysis purpose
About	-	→ To view version information of PDM Management Console

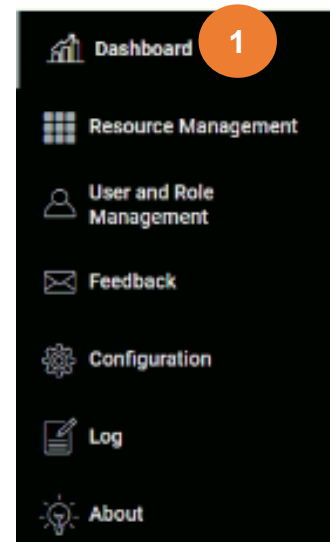
The forthcoming sections discusses about each menu/submenu/functions in detail.

E. Dashboard

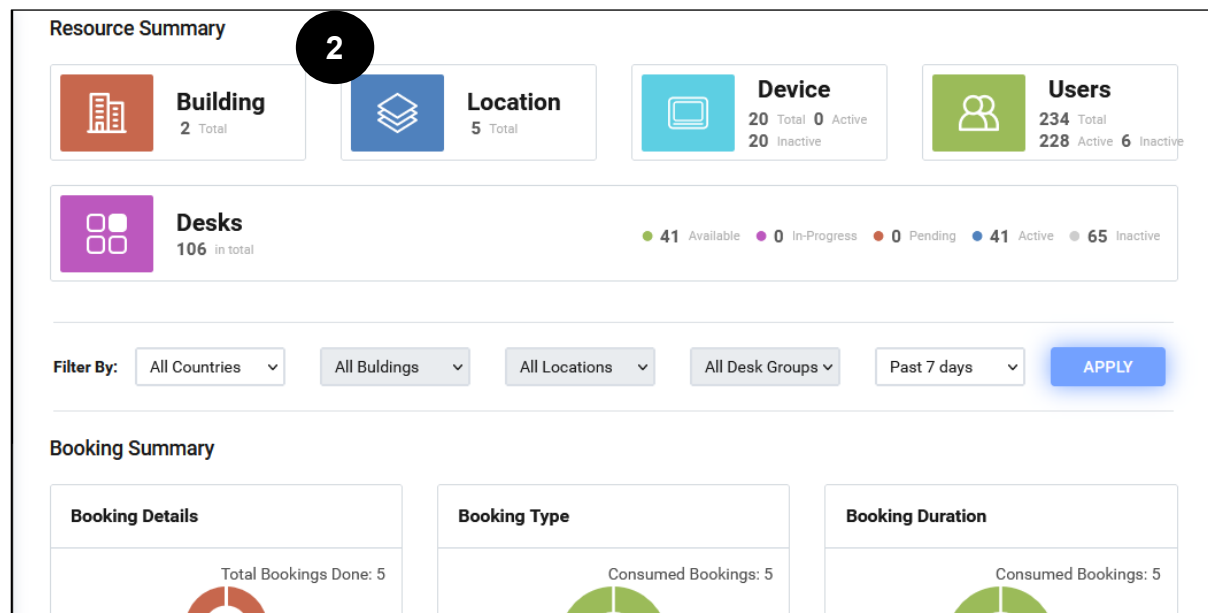
The dashboard displays insightful statistical information on a daily, weekly and monthly basis from processing various desk booking and user data. Through observing the statistics, management can plan and reorganize the whole desk booking structure and policies to improve desk utilization. The dashboard view varies depending on the permission given to the respective user group. If a particular user group is not configured, then member of that user group will see a blank dashboard upon logging into WMC. Refer to [Dashboard Settings](#) for more details.

To view the dashboard -

1. Click on the **Dashboard** menu.



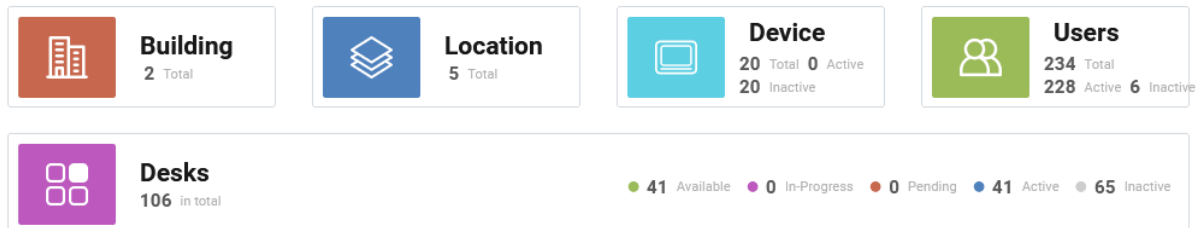
2. The dashboard interface is displayed.



Overview

Dashboard's **overview** section provides a summary of resources - *Total number of Buildings; Locations; Devices (Active / Inactive); Users (Active / Inactive); Desks / Status (Available / In Progress / Pending / Active and Inactive).*

Resource Summary



Filter

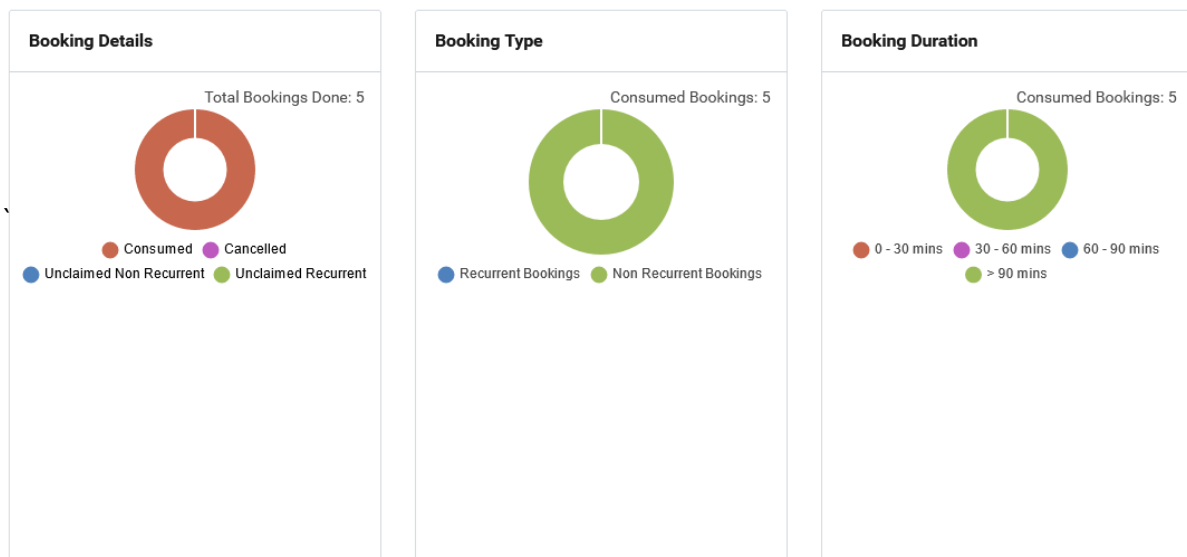
Users can **filter** Dashboard data based on *County; Building; Location & Desk Groups*. Alternately, users can filter data based on *Timeframe (i.e. Past 7 days or Past 4 Weeks or Past 12 Weeks or Past 6 months or Custom Range)*. Upon selecting the required filter criteria and clicking **[APPLY]**, the dashboard data is populated based on the applied filter criteria.

Filter By: All Countries ▾ All Buildings ▾ All Locations ▾ All Desk Groups ▾ Past 7 days ▾ **APPLY**

Booking Summary

The **Booking Summary** section provides pictorial representation (doughnut chart) of information about the **Booking Details**, **Booking Type** and **Booking Duration**.

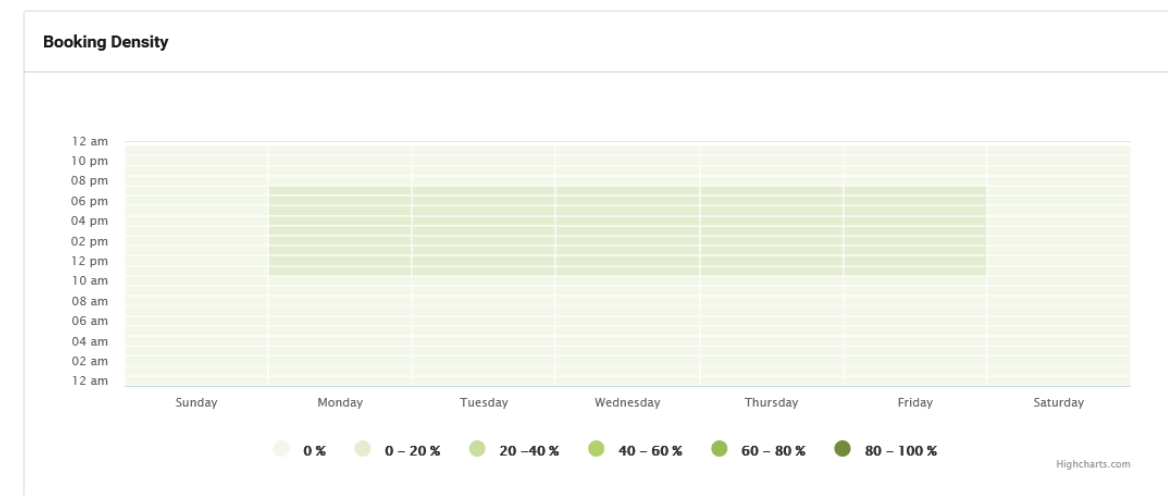
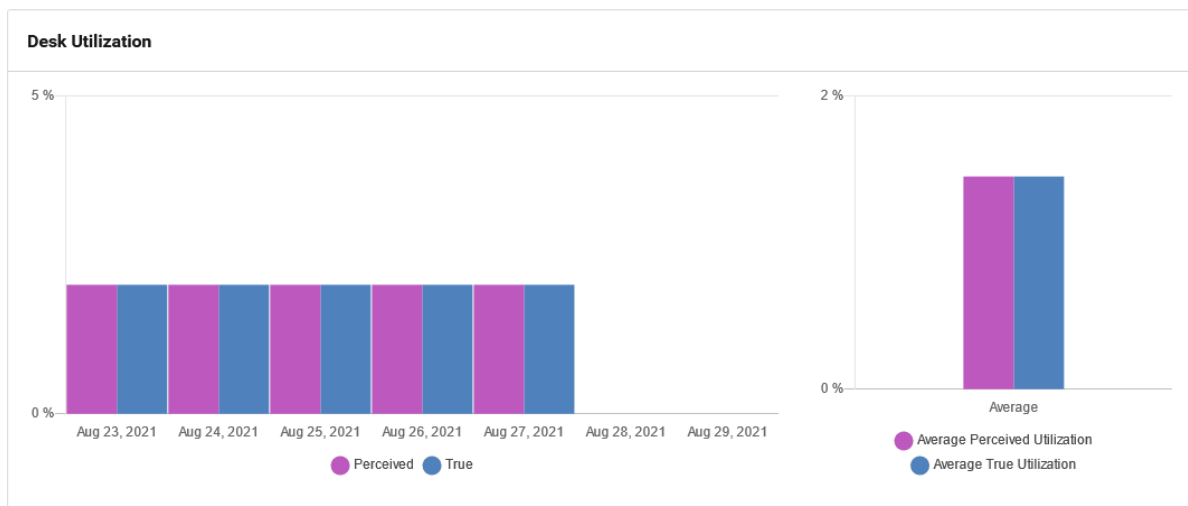
Booking Summary



Utilization

The **Utilization** section provides pictorial representation of information pertaining to **Desk Utilization** (Stacked bar chart / Histogram), **Recaptured Time** (Stacked bar chart / doughnut chart) and **Booking Density** (Heat map chart).

Utilization



Leader board

The **Leader board** section provides information pertaining to **Desk Leader board** (*Most Used Desks / Least Used Desks*) and **User Leader board** (*Most Active Users / Top Ghost Users*).

Leaderboard

Desk Leaderboard

Most Used Desks

No.	Desks	Consumed Bookings	Consumed Hours
1	D70506	5	45:00

Least Used Desks

No.	Desks	Consumed Bookings	Consumed Hours
1	D70506	5	45:00

User Leaderboard

Most Active Users

No.	Users	Consumed Bookings	Consumed Hours	Unclaimed Bookings	Cancelled Bookings	Total Bookings	Recurrent Bookings	Unclaimed Rate
1	Sun Yajun (BRT-SG)	5	45:00	0	0	5	0	0

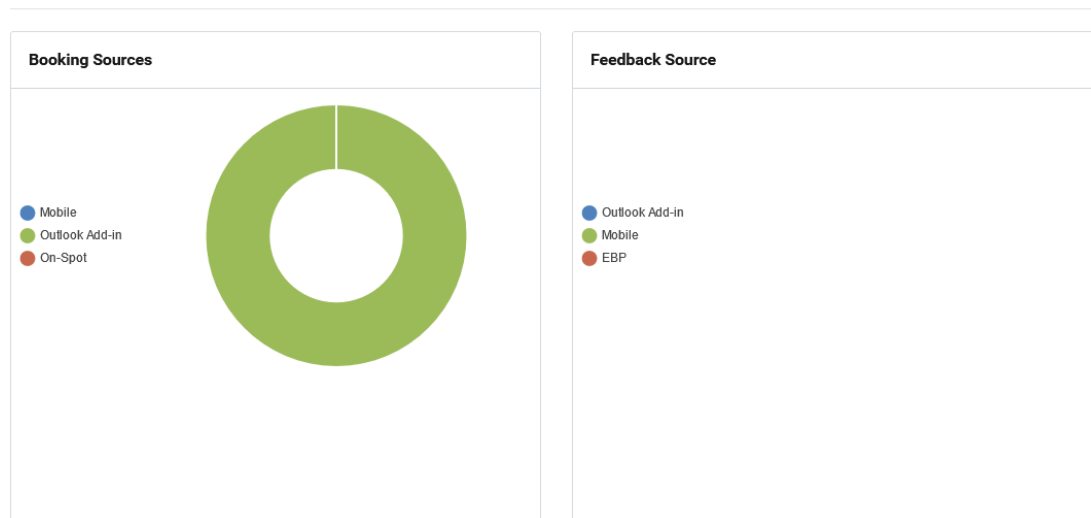
Top Ghost Users

No.	Users	Unclaimed Bookings	Consumed Bookings	Unclaimed Rate
1	Sun Yajun (BRT-SG)	0	5	0

Miscellaneous

The **Miscellaneous** section provides pictorial representation of information pertaining to **Booking Sources** (*Mobile / Outlook Add-in / On-Spot*) and **Feedback Source** (*Mobile / Outlook Add-in / EBP*).

Miscellaneous



F. Resource Management

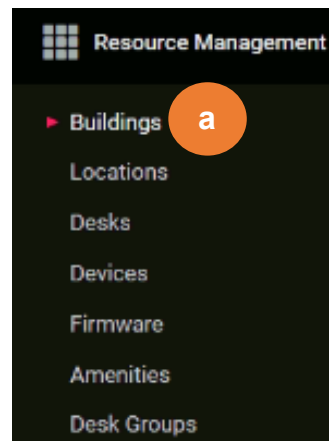
1. Building Management

Through the Building Management interface, admin users can add, edit, delete and search buildings within their organization. Multiple buildings at different sites or countries can be configured for organizations which have multi-site offices.

1.1 Add Building

To add building information -

- a. Click on the **Resource Management > Buildings** menu.



- b. Click **[ADD]**. The Create Building interface is displayed.

Building Management

ADD **b**

Select Country ▼

Select Status ▼

Search for... 🔍

No.	Name	Country	Time Zone	Address	Status	Actions
1	BRTCHIP_1	Singapore	(GMT +8:00) Beijing, Perth, Singapore, Hong Kong	Singapore	Active	✎ 🗑️

Per Page: 50 ▼

- c. Enter the following information -

- *Building Name**
- *Country**
- *Time Zone**
- *Building Status** – Active / Inactive
- *Duration* until which the building will be inactive* (This field will be displayed and applicable only if the Inactive status is selected)

NOTE: If a building is made inactive, then all the locations/desks under that building will be made inactive.

- *Building Address**
- *Building's official Working Hours Start Time and End Time**
- Click **[ADD]** to add the Non-Working Days.

(The desk panel will turn on/off based on these settings. The display will turn off after 15 minutes from end time by default if no bookings are made after)

*** indicates that all these fields are mandatory.**

Create Building

Name*

BRT_CHIP2

Time Zone*

(GMT +8:00) Beijing, Perth, Singap

Country*

Singapore

Status*

Active

Address*

178 Payalebar Road

Start of Working Hours*

09 : 00 AM

End of Working Hours*

07 : 00 PM

Non Available Days*

ADD

d

SAVE

CANCEL

- d. Upon providing the necessary information, click **[SAVE]**.
- e. The newly added building information is displayed on the table.

Building Management

ADD





e

Select Country

Select Status


Search for...

Q

No.	Name	Country	Time Zone	Address	Status	Actions
1	BRT_CHIP2	Singapore	(GMT +8:00) Beijing, Perth, Singapore, Hong Kong	178 Payalebar Road	Active	 
2	BRTCHIP_1	Singapore	(GMT +8:00) Beijing, Perth, Singapore, Hong Kong	Singapore	Active	 

Per Page: 50

1.2 Edit Building

- a. From the table, click **Edit**  for the building that needs to be updated. The search building function can be used by providing the search parameters in the **Search** box or filtering based on **Country** or **Status**.

Building Management

ADD





a

Select Country

Select Status

Search for...

Q

No.	Name	Country	Time Zone	Address	Status	Actions
1	BRT_CHIP2	Singapore	(GMT +8:00) Beijing, Perth, Singapore, Hong Kong	178 Payalebar Road	Active	 
2	BRTCHIP_1	Singapore	(GMT +8:00) Beijing, Perth, Singapore, Hong Kong	Singapore	Active	 

Per Page: 50

- b. The Edit Building interface is displayed with all the building information. Edit the Building information as required and click **[SAVE]**. The updated information (if any) will be displayed on the table.

Edit Building ✕

Name*

Country*

Address*

Start of Working Hours* :

Non Available Days*


Time Zone*

Status*

End of Working Hours* :

b

1.3 Delete Building

- a. From the table, click **Delete**  for the building which needs to be deleted. The search building function can be used by providing the search parameters in the **Search** box or filtering based on **Country** or **Status**. Building information cannot be deleted if it contains Locations. In order to delete building information, first delete the location information.




Building Management

Select Country

Select Status

Search for...

Q

No.	Name	Country	Time Zone	Address	Status	Actions
1	BRT_CHIP2	Singapore	(GMT +8:00) Beijing, Perth, Singapore, Hong Kong	178 Payalebar Road	Active	a 
2	BRTCHIP_1	Singapore	(GMT +8:00) Beijing, Perth, Singapore, Hong Kong	Singapore	Active	 

Per Page:

- b. A confirmation dialog box is displayed. Click **[CONFIRM]** to delete the building or **[CANCEL]** to cancel the delete operation.

Delete Building ✕

Are you sure to delete this building and all the related data?



The data is permanently deleted and will no longer be displayed on the table.

2. Locations Management

Through the Locations Management interface, admin users can *add, edit, delete* and *search a location* within a created building. Desk layout maps can be uploaded to the respective locations to which desk names and panels can be assigned.


2.1 Add Location

All the steps for adding location are same as that of [Add Building](#). The additional step is to upload Location Map. Click **[Browse]** and select the location map to upload and then save the location information. The recommended format is .png.

2.2 Edit Location
















The steps for editing location are same as that of [Edit Building](#).

2.3 View Location Map

- a. Click on the  icon to view the location map.

Location Management

ADD Select Country Select Building All Search for...

No.	Name	Building	Status	Location Map	Actions
1	#07-10	178 Paya Lebar	Active		 
2	#06-06	178 Paya Lebar	Active		 
3	#07-03	178 Paya Lebar	Active		 
4	#07-05	178 Paya Lebar	Active		 
5	#07-08	178 Paya Lebar	Active		 

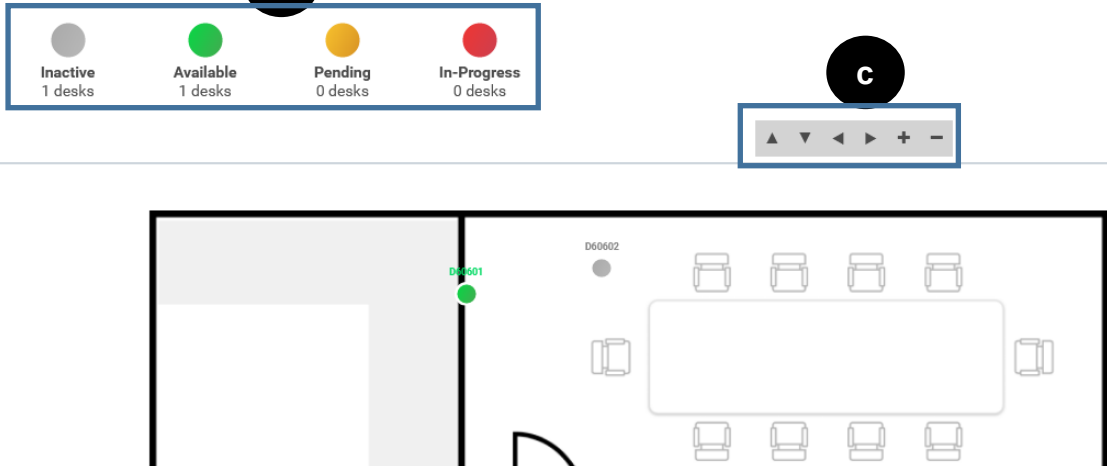
- b. The location map is displayed in an expanded view. It provides an overview of the information related to desk assigned (*Total Number of Desks; Number of available/active desks; Desk booking status etc.*)

Building: 178 Paya Lebar
Address: 178 Paya Lebar
Country: Singapore

Desk: 2
Status: Active

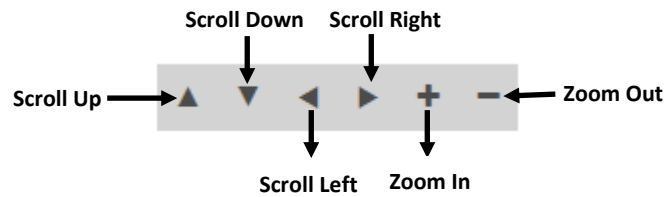
b

c



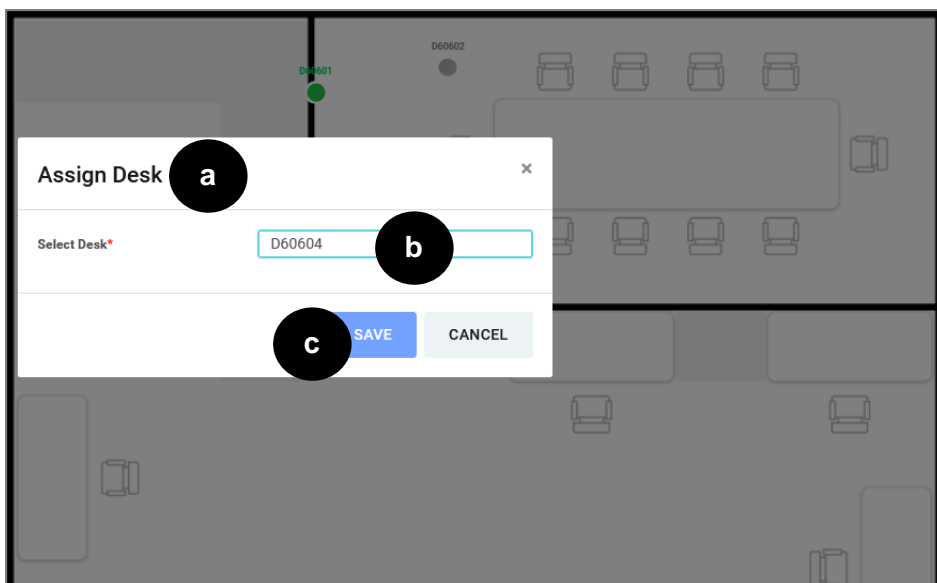
The interface displays a desk layout map. At the top, there are four status indicators: Inactive (1 desks), Available (1 desks), Pending (0 desks), and In-Progress (0 desks). Below these, a desk layout is shown with a large conference table and several chairs. A green dot labeled 'D06001' is visible on the map. A control bar with navigation arrows and zoom controls is located at the top right of the map area.

- c. The navigation **toolbar** available on top of the location map allows users to perform the following functions –

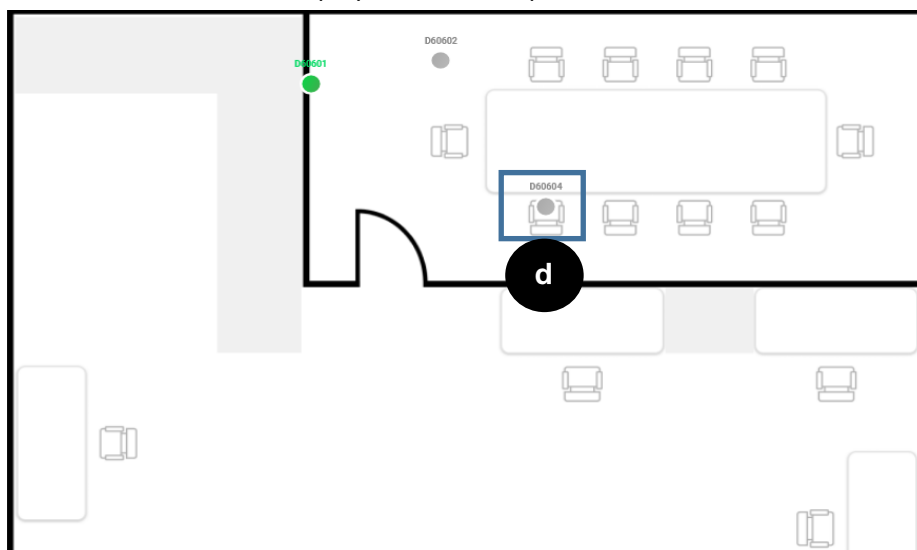


2.4 Assign Desk

- a. From the uploaded location map, click on any location that you want to assign a desk. The **"Assign Desk"** interface is displayed.

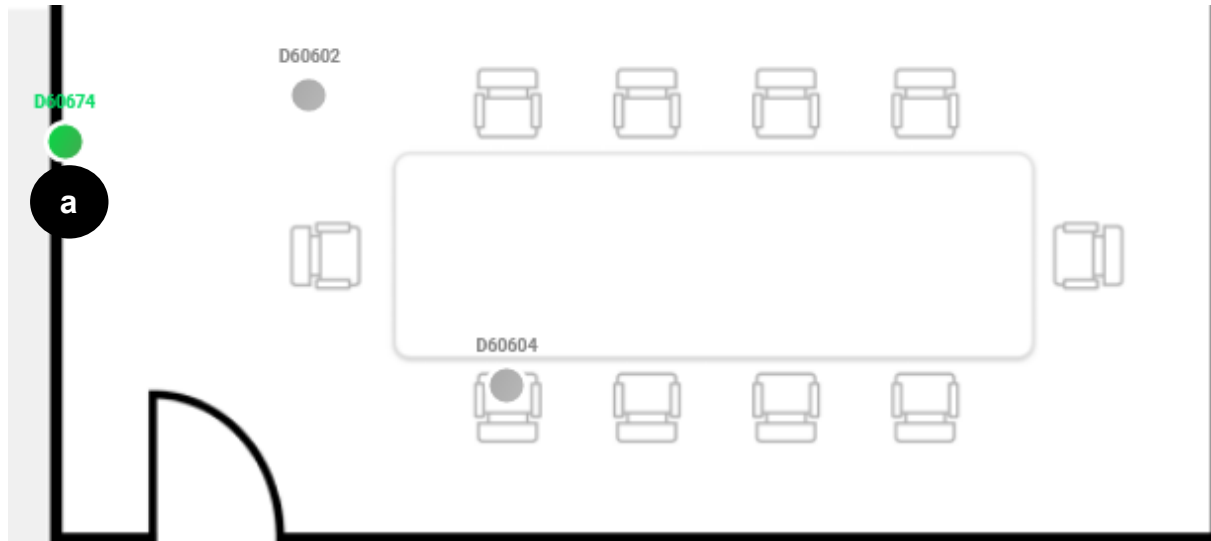


- b. Select the **Desk** from the drop down list.
- c. Click **[SAVE]** to assign the desk to the map location that is selected.
- d. The desk name will be displayed on the map as shown below –



2.5 Update Desk

- a. To re-assign a desk or change the active status, from the location map, click on the desk icon.



- b. The “**Update Desk**” interface is displayed. Update the *Desk Name* and *Desk Status* as required.

UPDATE DESK

Name

D60601

Status

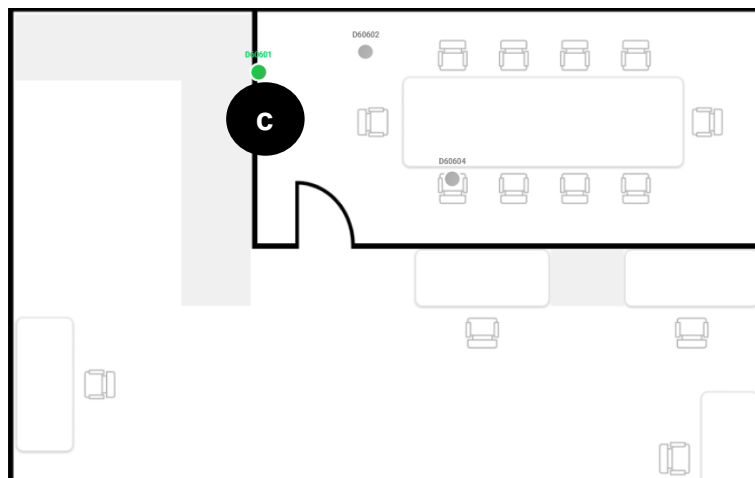
Active

UNASSIGNED

SAVE

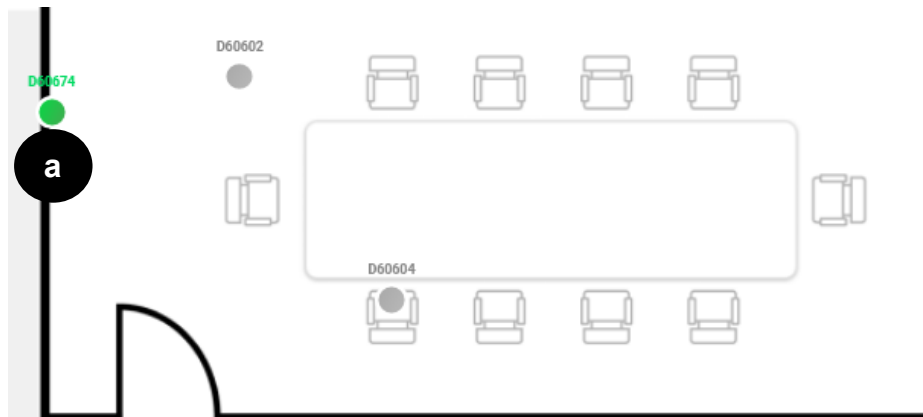
CANCEL

- c. Click [**SAVE**] to store the changes. To move desk to another location, simply click on the Icon and move it to a new location; click and save.



2.6 Un-assign Desk

- a. To remove an assigned desk, from the location map, click on the desk location icon.



- b. The **"Update Desk"** interface is displayed.

UPDATE DESK

Name

D60674

Status

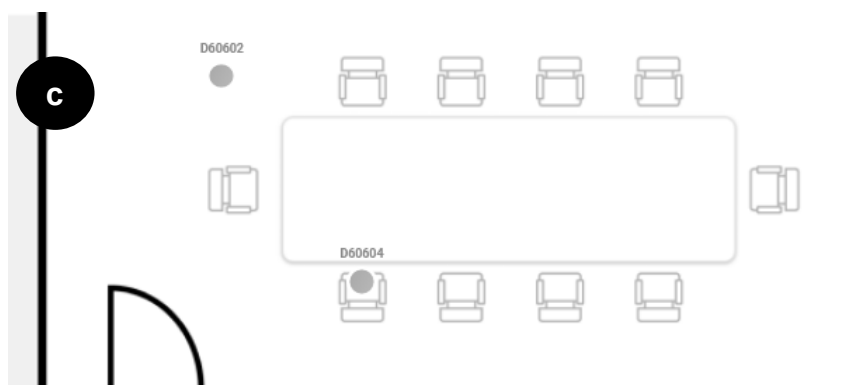
Active

UNASSIGN

SAVE

CANCEL

- c. Click **[UNASSIGN]**. The desk is unassigned and the desk is removed from the map.



NOTE: Ensure that the desk is not associated with any of the desk groups. If so, remove the desk from the desk group before un-assigning.

2.7 Delete Location

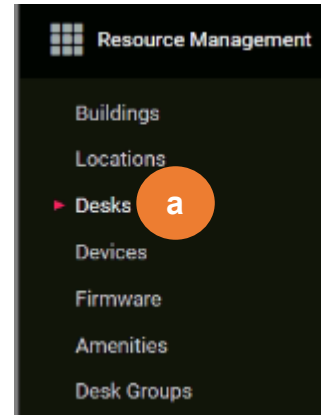
The steps for deleting location are same as that of [Delete Building](#). Ensure that the selected location does not have any desk assigned to it. If so, first un-assign the desk and then proceed with the delete operation.

3. Desk Management

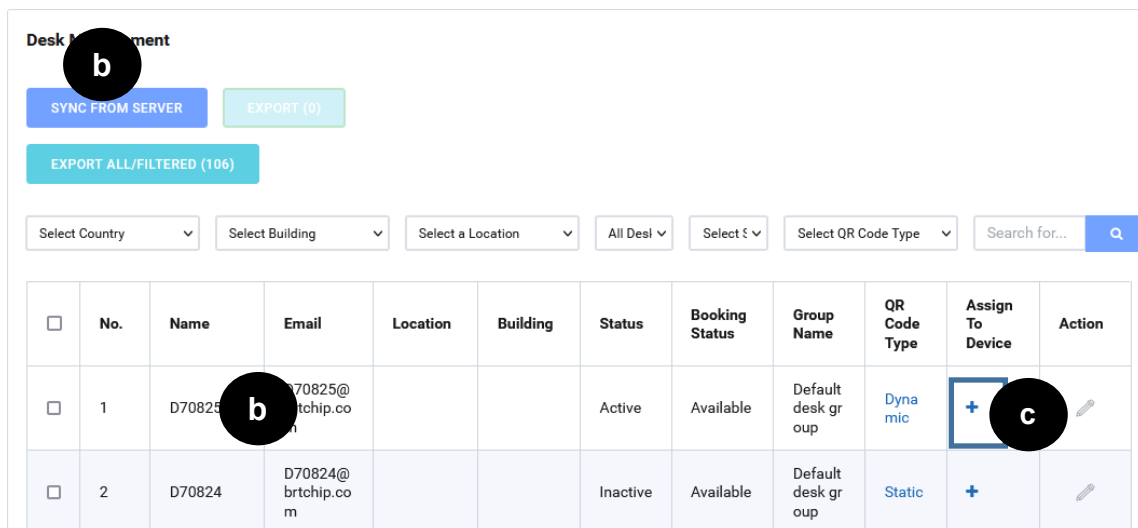
Through the Desk Management interface, admin users can assign a desk name to desks created via the calendar servers and also to attach a desk panel for desk availability status indicator, on spot desk booking and claim features.

3.1 Assign Desk Name & Panel to a Desk

- a. Click on the **Resource Management > Desks** menu.

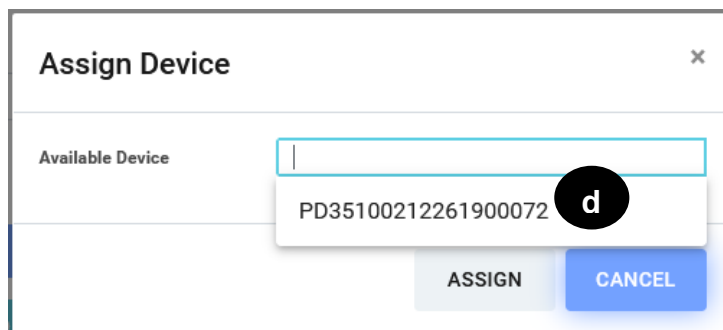


- b. Click **[SYNC FROM SERVER]** to synchronize all the available desks from the calendar server. Assign a display name which will appear on the desk panels.




No.	Name	Email	Location	Building	Status	Booking Status	Group Name	QR Code Type	Assign To Device	Action
1	D70825	D70825@brtchip.com			Active	Available	Default desk group	Dyna mic	+	
2	D70824	D70824@brtchip.com			Inactive	Available	Default desk group	Static	+	

- c. Click **+** to access the **"Assign Device"** interface to assign a desk panel.
- d. Select the *Device UUID* using the auto search of un-assigned desk panel devices and click **[Assign]**.





- e. The "Assign To Device" column on the table will be updated with the Device UUID.

<input type="checkbox"/>	No.	Name	Email	Location	Building	Status	Booking Status	Group Name	QR Code Type	Assign To Device	Action
<input type="checkbox"/>	1	D70825	D70825@brtchip.com			Active	Available	Default desk group	Dynamic	PD3510 021226 190007 2	
<input type="checkbox"/>	2	D70824	D70824@brtchip.com			Inactive	Available	Default desk group	Static	e	

If the desk panel assigned has gone through on-boarding and is powered up, the display should immediately reflect the current desk booking status.

3.2 Un-Assign Device

- a. The list of desk panel devices that are assigned to a desk are displayed (as a link) under the "Assign To Device" column in the table. Click on the Device link to un-assign a desk panel from desk.



<input type="checkbox"/>	No.	Name	Email	Location	Building	Status	Booking Status	Group Name	QR Code Type	Assign To Device	Action
<input type="checkbox"/>	1	D70825	D70825@brtchip.com			Active	Available	Default desk group	Dynamic	PD3510 021226 190007 2	
<input type="checkbox"/>	2	D70824	D70824@brtchip.com			Inactive	Available	Default desk group	Static	a	

- b. The "Assign Device" interface is displayed with the details of the assigned device. To un-assign a device, click [UNASSIGN].

Assign Device

Available Device

- c. The "Assign To Device" column on the table is updated accordingly.

<input type="checkbox"/>	No.	Name	Email	Location	Building	Status	Booking Status	Group Name	QR Code Type	Assign To Device	Action
<input type="checkbox"/>	1	D70825	D70825@brtchip.com			Active	Available	Default desk group	Dynamic	+	
<input type="checkbox"/>	2	D70824	D70824@brtchip.com			Inactive	Available	Default desk group	Static	c	

3.3 Assign QR Code Type

- a. The QR code type assigned to the desk panel devices are displayed (as a link) under the "QR Code Type" column in the table. Click on the **QR Code Type** *Static* or *Dynamic*.

Select Country

Select Building

Select a Location

All Deal

Select £

Select QR Code Type

Search for...

Q

<input type="checkbox"/>	No.	Name	Email	Location	Building	Status	Booking Status	Group Name	QR Code Type	Assign To Device	Action
<input type="checkbox"/>	1	D70825	D70825@brtchip.com			Active	Available	Default desk group	Dynamic	<div>a</div>	
<input type="checkbox"/>	2	D70824	D70824@brtchip.com			Inactive	Available	Default desk group	Static		

- b. The "Update QR Code Type" interface is displayed. Select the QR Code Type from the drop down combo box. The default QR Code Type is *Dynamic*.

Update QR Code Type

QR Code Type

Dynamic

Dynamic

Static

b

SAVE

CANCEL

Static QR Code – Assigning static code for a particular desk, allows users to perform various desk management functions (like desk booking, claiming, etc.) by using the same QR code without even requiring a PanL35 device.

Dynamic QR Code – Assigning dynamic code for a particular desk indicates that the QR code is generated dynamically by the PanL35 device depending on the type of desk management function the user wish to perform.

Upon assigning the QR Code Type, click **[SAVE]**. The details are updated in the table.

3.4 Export All / Filtered

The Export All/Filtered function allows users to export all desks without applying filter or all desks after applying a filter -

- a. Click **[EXPORT ALL/FILTERED]**.

Desk Management

SYNC FROM SERVER

EXPORT (0)

EXPORT ALL/FILTERED (106)

a

Select Country

Select Building

Select a Location

All Deal

Select £

Select QR Code Type

Search for...

Q

<input type="checkbox"/>	No.	Name	Email	Location	Building	Status	Booking Status	Group Name	QR Code Type	Assign To Device	Action
<input type="checkbox"/>	1	D70825	D70825@brtchip.com			Active	Available	Default desk group	Dynamic	+	
<input type="checkbox"/>	2	D70824	D70824@brtchip.com			Inactive	Available	Default desk group	Static	+	

- b. Export Desks interface is displayed with the list of desk related data that can be exported. By default, *Desk Name*, *Desk Email* and *QR Code* are selected for export. Click on the checkbox and select the items to export. Upon selecting the required items, provide a file name in the Save As* field and click **[EXPORT]**.

The exported data is opened or saved in a .CSV.

	A	B	C	D	E
1	Desk Name	Desk Email	QR Code		
2	D70825	D70825@tGfN1peo5pf			
3	D70824	D70824@tUjABHYnULI			
4	D70826	D70826@t dC6WrZ49UC			
5	D70827	D70827@tSEXfi4ESI3			
6	D70828	D70828@tClY8iOVbQT			
7	D70829	D70829@t nIRjUUglqa			
8	D70822	D70822@t iCDzoVGuKx			
9	D70821	D70821@t Z8IT3s8Hls			
10	D70823	D70823@t E2mfrNUArA			
11	D70817	D70817@t A4Z0AzzVHg			
12	D70819	D70819@t Lr0IHk1TAx			
13	D70820	D70820@t Gik6LgpQ3m			
14	D70818	D70818@t oINkvSiKKI			

Export Desks

Select the items you want to export:

☒ Desk Name
 ☒ Desk Email
 ☒ QR Code
 ☐ Desk Location
 ☐ Desk Status
 ☐ Device Associated
 ☐ Created Date
 ☐ Modified Date

Save As*
desks

EXPORT CANCEL

3.5 Export

The Export function allows users to export the selected desk data from the table.

- a. Select the desk data from the table by clicking on the check box. To select all the desk data, click the checkbox on the header. Upon selecting desk data, click **[EXPORT]**.

Desk Management

SYNC FROM SERVER

EXPORT (4)

EXPORT ALL/FILTERED (106)

Select Country

Select Building

Select a Location

All Desks

Select

Select QR Code Type

Search for...

<input type="checkbox"/>	No.	Name	Email	Location	Building	Status	Booking Status	Group Name	QR Code Type	Assign To Device	Action
<input checked="" type="checkbox"/>	1	D70825	D70825@brtchip.com			Active	Available	Default desk group	Dynamic	+	
<input checked="" type="checkbox"/>	2	D70824	D70824@brtchip.com			Inactive	Available	Default desk group	Static	+	
<input checked="" type="checkbox"/>	3	D70826	D70826@brtchip.com			Inactive	Available	Default desk group	Dynamic	+	

- b. Export Desks interface is displayed with the list of desk related data that can be exported. By default, *Desk Name*, *Desk Email* and *QR Code* are selected for export. Click on the checkbox and select the items to export. Upon selecting the required items, provide a file name in the Save As* field and click **[EXPORT]**.

The exported data is opened or saved in a .CSV.

	A	B	C	D
1	Desk Name	Desk Email	QR Code	
2	D70825	D70825@brtchip.com	GfN1peo5pf	
3	D70824	D70824@brtchip.com	ujABHYnULI	
4	D70826	D70826@brtchip.com	dC6WrZ49UC	

Export Desks

Select the items you want to export:

☒ Desk Name
 ☒ Desk Email
 ☒ QR Code
 ☐ Desk Location
 ☐ Desk Status
 ☐ Device Associated
 ☐ Created Date
 ☐ Modified Date

Save As*

desks

EXPORT

CANCEL

3.6 Update Desk Information

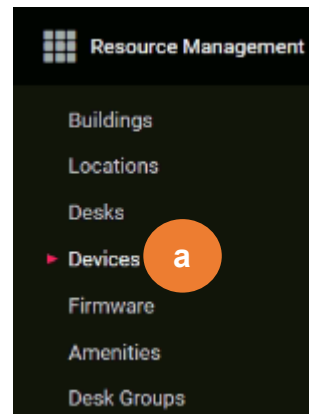
The steps for updating desk information are same as that of [Edit Building](#).

4. Device Management

Through the Device Management interface, admin users can assign a desk created to a desk panel device, and configure device settings (brightness).

4.1 Assign Desk to a Device

- a. Click on the **Resource Management > Devices** menu.



- b. The desk display devices which have gone through on-boarding to the PDM server are displayed on the table. Click **+** to access the **"Assign Desk"** interface.

Device Management

Desk assignment: [v] Select Status: [v] Search for... [q]

No.	Device UUID	Status	Version	MAC ID	IPv4	Last Online	Group Name	Assigned To	Settings	Action
1	PD35100213012100002	Offline	1.2.2	AA:BB:CC:DD:EE:FF	0.239.205.171	01-13-2021 17:59:58		+	[wrench]	[trash]
2	PD35100213012100001	Offline	1.2.2	AA:BB:CC:DD:EE:FF	0.239.205.171	01-13-2021 17:58:01		+	[wrench]	[trash]

Per Page: 50 [v]

- c. Select the desk name from the drop down list and click **[Assign]**.

Assign Desk [x]

Available Desk: [desk-dev725]

[c] **ASSIGN** **CANCEL**

- d. The *Assigned To* column on the table will be updated with the desk selected.

Device Management

Desk assignment: [v] Select Status: [v] Search for... [q]

No.	Device UUID	Status	Version	MAC ID	IPv4	Last Online	Group Name	Assigned To	Settings	Action
1	PD35100213012100002	Offline	1.2.2	AA:BB:CC:DD:EE:FF	0.239.205.171	01-13-2021 17:59:58		desk-dev725	[wrench]	[trash]
2	PD35100213012100001	Offline	1.2.2	AA:BB:CC:DD:EE:FF	0.239.205.171	01-13-2021 17:58:01		+	[wrench]	[trash]

4.2 Un-Assign Desk

- a. The list of desks that are assigned to a desk display devices are displayed (as a link) under the "Assign To Desk" column on the table. Click on the Desk link to un-assign the desk from the desk panel.

Device Management

Desk assignment Select Status Search for...

No.	Device UUID	Status	Version	MAC ID	IPv4	Last Online	Group Name	Assigned To	Settings	Action
1	PD35100213012100002	Offline	1.2.2	AA:BB:CC:DD:EE:FF	0.239.205.171	01-13-2021 17:59:58		desk-dev725		
2	PD35100213012100001	Offline	1.2.2	AA:BB:CC:DD:EE:FF	0.239.205.171	01-13-2021 17:58:01		+		

- b. The "Assign Desk" interface is displayed with the details of the assigned device. To un-assign a desk, click [UNASSIGN].

Assign Desk

Available Desk desk-dev725

ASSIGN UNASSIGN CANCEL

4.3 Configure Desk Panel Device

Brightness Settings -

- a. Click on the configure icon for the desk panel to adjust the brightness level.

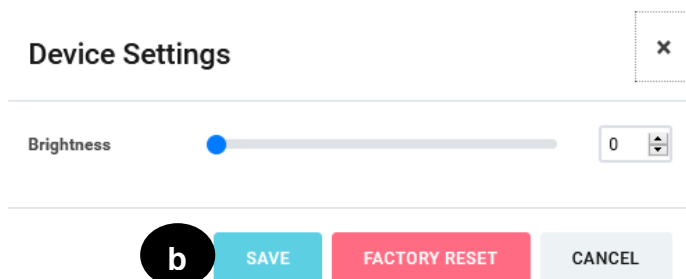
Device Management

Desk assignment Select Status Search for...

No.	Device UUID	Status	Version	MAC ID	IPv4	Last Online	Group Name	Assigned To	Settings	Action
1	PD35100213012100002	Offline	1.2.2	AA:BB:CC:DD:EE:FF	0.239.205.171	01-13-2021 17:59:58		+		
2	PD35100213012100001	Offline	1.2.2	AA:BB:CC:DD:EE:FF	0.239.205.171	01-13-2021 17:58:01		+		

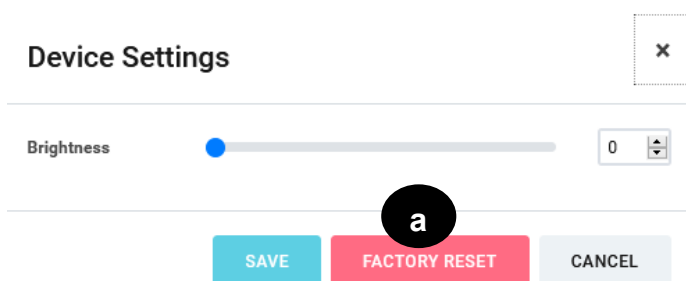
Per Page: 50

- b. The “**Device Settings**” interface is displayed. Configure the device **Brightness** as required, by dragging the slider. Click **[SAVE]** to save the updated settings, if any.

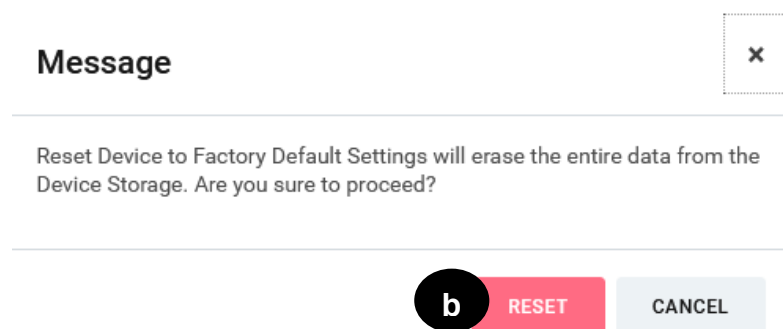


Reset Device to Factory Settings -

- a. Ensure that the device is ONLINE. From the Device Settings interface, click **[FACTORY RESET]**.



- b. A confirmation dialog box is displayed. Click **[RESET]** to proceed or **[CANCEL]** to cancel and discard the operation.



Upon resetting the PanL35L device to factory settings, all the data will be erased and the device is reset to its original configuration, not connecting to any PDM Server or network. To use the device again, [on-boarding](#) procedure has to be done.

4.4 Delete Device Information

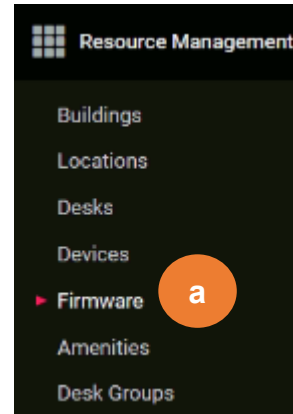
Users can **only** delete OFFLINE device. The steps for deleting device information are similar to [Delete Building](#).

5. Firmware Management

Through the Firmware Management interface, admin users can upload desk panel device firmware package, and do an auto or manual firmware update Over The Air (OTA) for selected or all devices. Users can also delete firmware. A log history is also available for viewing.

5.1 Add / Upload Firmware Package

- a. Click on the **Resource Management > Firmware** menu.



- b. The Firmware Management interface is displayed. Click **[ADD]**.

Firmware Management

ADD b										
No.	Name	Major Version	Minor Version	Build Number	Checksum	Date Uploaded	Auto Update	Manual Update	Device Log	Action
1	otaall27082020	2	0	44	a24d4ae1b929ae39a860697d2ed3fa03	03-09-2021 11:31:09	<input type="checkbox"/>			

Per Page: 50

- c. The Upload Firmware interface is displayed. Click **[Browse]** and select the *firmware package file** to upload. Upon selection, the file attributes are automatically populated in the respective fields.

Create Firmware

File

otaall25022021_462c7f3ef11a563f711dbe5b5f363439_02_00_49.bin

Browse

Name*

otaall25022021

Major Version *

2

Minor Version *

0

Build Number *

49

Checksum *

462c7f3ef11a563f711dbe5b5f363439

Auto Update

☐

c







SAVE

CANCEL

*** indicates that all these fields are mandatory**

d. The Uploaded Firmware is displayed on the table.

Firmware Management



ADD										
No.	Name	Major Version	Minor Version	Build Number	Checksum	Date Uploaded	Auto Update	Manual Update	Device Log	Action
1	otaall2 50220 21	2	0	49	462c7f3ef11a563f711dbe5b5f363439	03-09-2021 11:55:18	<input type="checkbox"/>			
2	otaall2 70820 20	2	0	44	a24dfae1b929ae39a860697d2ed3fa03	03-09-2021 11:31:09	<input type="checkbox"/>			

5.2 Auto Update

To enable / disable automatic update of firmware -


- From the list of uploaded firmware information displayed on the table, click and select/de-select the **Auto Update** checkbox to enable or disable an automatic firmware update. Upon enabling this function, system will trigger this firmware update automatically for all the desks panel devices which are online at that particular point of time, based on the update schedule specified in the **Configuration > Policy** interface.

Firmware Management







ADD										
No.	Name	Major Version	Minor Version	Build Number	Checksum	Date Uploaded	Auto Update	Manual Update	Device Log	Action
1	otaall2 50220 21	2	0	49	462c7f3ef11a563f711dbe5b5f363439	03-09-2021 11:55:18	<input checked="" type="checkbox"/>			
2	otaall2 70820 20	2	0	44	a24dfae1b929ae39a860697d2ed3fa03	03-09-2021 11:31:09	<input type="checkbox"/>			

5.3 Manual Update

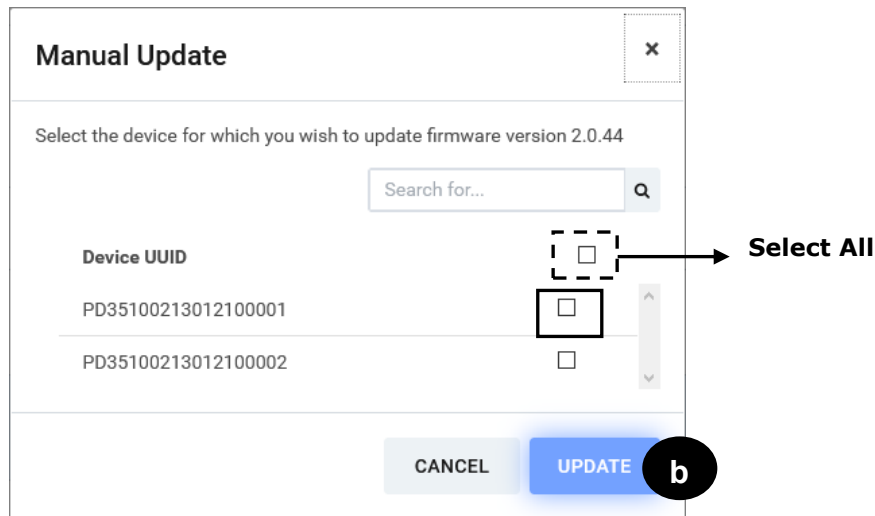
To update firmware manually for devices -

- From the list of uploaded firmware information displayed on the table, click on the  icon.

Firmware Management

ADD										
No.	Name	Major Version	Minor Version	Build Number	Checksum	Date Uploaded	Auto Update	Manual Update	Device Log	Action
1	otaall2 50220 21	2	0	49	462c7f3ef11a563f711dbe5b5f363439	03-09-2021 11:55:18	<input checked="" type="checkbox"/>			
2	otaall2 70820 20	2	0	44	a24dfae1b929ae39a860697d2ed3fa03	03-09-2021 11:31:09	<input type="checkbox"/>			

- b. Select the checkbox to select the device to update the firmware manually. Alternately, to select all the devices, click on the checkbox on the top. Click **[UPDATE]**.



Manual Update

Select the device for which you wish to update firmware version 2.0.44

Search for...

Device UUID

PD35100213012100001


PD35100213012100002

Select All

CANCEL UPDATE **b**



5.4 View Firmware Update Log

To view firmware update log -

- a. From the list of uploaded firmware information displayed on the table, click on the  icon.

Firmware Management

ADD

No.	Name	Major Version	Minor Version	Build Number	Checksum	Date Uploaded	Auto Update	Manual Update	Device Log	Action
1	otaall2 50220 21	2	0	49	462c7f3ef11a563f711dbe5b5f363439	03-09-2021 11:55:18	<input checked="" type="checkbox"/>			
2	otaall2 70820 20	2	0	44	a24dfae1b929ae39a860697d2ed3fa03	03-09-2021 11:31:09	<input type="checkbox"/>		 a	

- b. The firmware update log interface is displayed for the selected firmware version showing the device update results.

Firmware 2.0.49 **b**


No.	Device UUID	Status	Date Time
1	PD35100213012100001	Could not be sent	03-09-2021 14:54:19




Per Page: 50

CLOSE

5.5 Delete Firmware

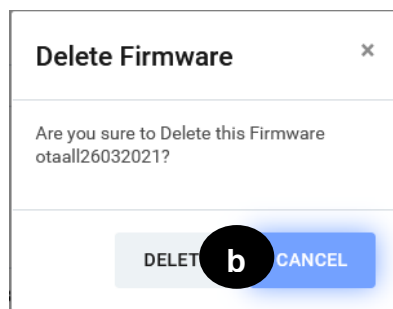
To delete firmware -

- From the list of uploaded firmware information displayed on the table, click on the  icon.

Firmware Management									
Name	Major Version	Minor Version	Build Number	Checksum	Date Uploaded	Auto Update	Manual Update	Device Log	Action
otaall26032021	2	2	50	b5cc7b6800eab0567f90e4e38aa0c3a9	04-30-2021 09:24:52	<input type="checkbox"/>			

a

- A confirmation dialog box is displayed. Click **[CONFIRM]** to delete the firmware or **[CANCEL]** to cancel the delete operation.



The data is permanently deleted and will no longer be displayed on the table.

6. Amenities Management

Through the Amenities Management interface, admin users can *add*, *edit* and *delete* amenities.

6.1 Add Amenities

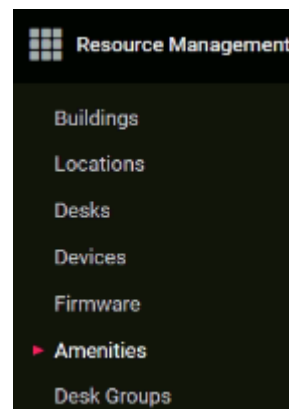
The steps for adding amenities are same as that of [Add Building](#).

6.2 Edit Amenities

The steps for editing amenities are same as that of [Edit Building](#).

6.3 Delete Amenities

The steps for deleting amenities are same as that of [Delete Building](#).



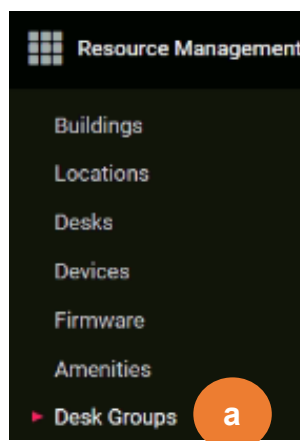
7. Desk Groups

Through the Desk Groups interface, admin users can *create desk group*, *add desks to desk group*, *assign desk booking policies and amenities to desk group*, *edit* and *delete* desk group.

7.1 Create Desk Group

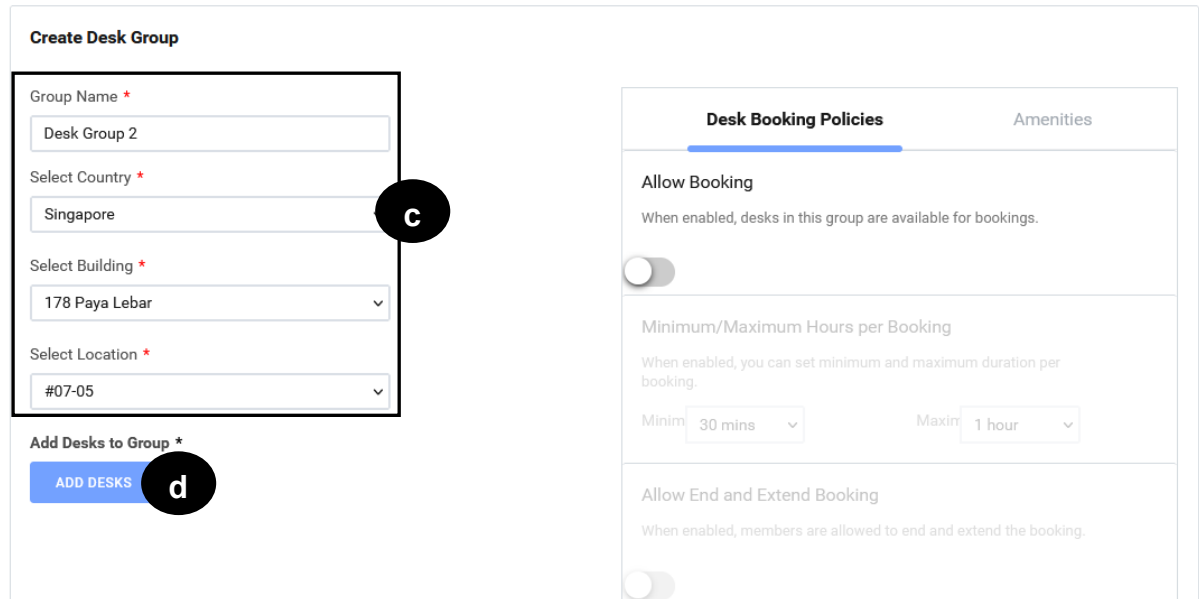
To create desk group -

- Click **Resource Management > Desk Groups** menu.
- The Desk Group interface is displayed. Click **[CREATE]**.

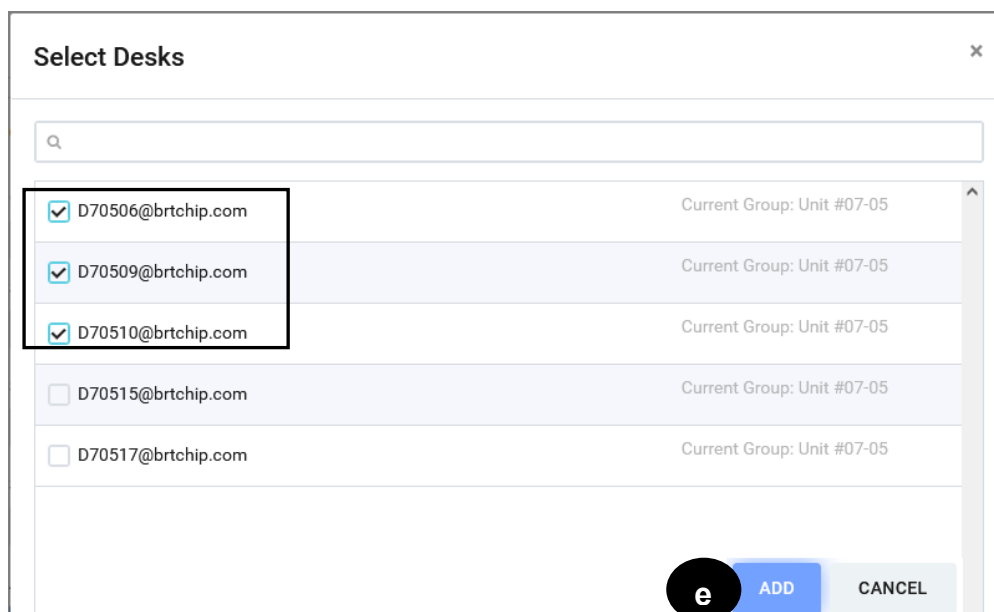


Desk Group						
<div>CREATE b</div>						
No.	Group Name	Desks	Country	Building	Location	Actions
1	Default desk group	89				
2	Unit #06-06	1	Singapore	178 Paya Lebar	#06-06	
3	Unit #07-03	10	Singapore	178 Paya Lebar	#07-03	
4	Unit #07-05	5	Singapore	178 Paya Lebar	#07-05	
5	Unit #07-08	1	Singapore	178 Paya Lebar	#07-08	

- c. The Create Desk Group interface is displayed. Enter the Desk **Group Name**; Select the **Country / Building** and **Location**.



- d. By default the Add Desks function button is disabled. It is enabled only upon selecting a *Country*; *Building* and *Location* and the selected location has desks. Click **[ADD DESKS]** to select the desks to add to the group.
- e. The Select Desks interface is displayed with a list of desks. Alternately, desks can be searched using the Search bar. Select the desks by clicking on the checkbox. Upon selecting the desks, click **[ADD]**.



f. The newly added desks are displayed.

Add Desks to Group *

ADD DESKS

Desks in this group

Q

Following highlighted desk(s) are selected to be transferred from their current group to this group once saved. New desk policies and amenities will take immediate effect.

D70506@brtchip.com

f

x

D70509@brtchip.com

x

D70510@brtchip.com

x

g. Assign the relevant [Desk Booking Policies](#) to the desk group.

Desk Booking Policies g	Amenities
<p>Allow Booking</p> <p>When enabled, desks in this group are available for bookings.</p> <p><input checked="" type="checkbox"/></p>	
<p>Minimum/Maximum Hours per Booking</p> <p>When enabled, you can set minimum and maximum duration per booking.</p> <p>Minim <input type="text" value="30 mins"/> Maxim <input type="text" value="1 hour"/></p>	
<p>Allow End and Extend Booking</p> <p>When enabled, members are allowed to end and extend the booking.</p> <p><input checked="" type="checkbox"/></p>	
<p>On-spot Booking</p> <p>When enabled, members have the option to perform on-spot booking.</p>	

Desk Booking Policies












Desk Booking Policy	When enabled 	When disabled 	Default State
Allow Booking	Desks in this group are available for bookings.	Desks in this group are NOT available for bookings.	Disabled 
Min. & Max. Hours per Booking	Used to set the minimum & maximum duration per booking	Cannot set the minimum & maximum duration per booking	Disabled 
Allow End & Extend a Booking	Members are allowed to end and extend the booking	Members are NOT allowed to end and extend the booking	Disabled 
On-Spot Booking	Members have the option to perform on-spot booking;	Members DO NOT have the option to perform on-spot booking	Disabled 
	Members can select/de-select the <i>Enable on-spot booking only</i> checkbox. If the checkbox is selected, then members can only book desk through the device		
Same day Booking	Members are allowed to do ONLY same day bookings	Members cannot do same day booking	Disabled 
Advanced Booking	Members have to book in advance no less than "X" hours	Members cannot do advance booking	Disabled 
Window Booking	Members can set a window rule in which bookings can be done by setting values for the following fields – <ul style="list-style-type: none"> <i>Cannot book in advance no less than "X" Hours</i> <i>Advance bookings are not allowed to be made beyond "Y" hours</i> 	Members are NOT allowed to set a window rule for bookings	Disabled 
Recurrent Booking	Members are allowed to make recurrent bookings;	Members are NOT allowed to make recurrent bookings	Disabled 
	Members can select/de-select the <i>Cancel booking series if unclaimed</i> checkbox. If selected, members can define the number of times.		
Claim Booking	Members have to claim desks to confirm booking. Unclaimed desks will be released. The Claim Window Start Time Offset & End Time Offset can be set.	Members are not allowed to claim desk to confirm booking.	Disabled 

Table 1 – Desk Booking Policies

- h. Assign the relevant Amenities (if any) to the desk group.

Desk Booking Policies
Amenities h

☒ Power Sockets

☒ Large 30" Monitor Screens

☒ Accessibilities

☒ Landline

NOTE: Amenities can be added using the [Amenities Management](#) interface.

- i. Upon adding all the relevant information, click **[SAVE]**. The new desk group is added and displayed in the table.

Desk Group

CREATE

No.	Group Name	Desks	Country	Building	Location	Actions
1	Default desk group	89				
2	Unit #06-06	1	Singapore	178 Paya Lebar	#06-06	
3	Unit #07-03	6	Singapore	178 Paya Lebar	#07-03	
4	Unit #07-05	5	Singapore	178 Paya Lebar	#07-05	
5	Unit #07-08	1	Singapore	178 Paya Lebar	#07-08	
6	Desk Group 2 i	4	Singapore	178 Paya Lebar	#07-03	

7.2 Edit Desk Group

To edit desk group –

- a. From the table, click **Edit** for the desk group that needs to be updated.

Desk Group

CREATE

No.	Group Name	Desks	Country	Building	Location	Actions
1	Default desk group	89				
2	Unit #06-06	1	Singapore	178 Paya Lebar	#06-06	
3	Unit #07-03	6	Singapore	178 Paya Lebar	#07-03	
4	Unit #07-05	5	Singapore	178 Paya Lebar	#07-05	
5	Unit #07-08	1	Singapore	178 Paya Lebar	#07-08	
6	Desk Group 2	4	Singapore	178 Paya Lebar	#07-03	a

The steps for editing the desk group is same as that of creating desk group. Refer to [Create Desk Group](#) for more details.

G. User & Role Management

The User & Role Management interface enables administrators to manage user access to certain functions.

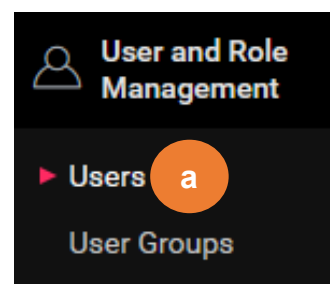
1. User Management

Through the User Management interface, admin users can *Sync user from server* and *edit user information*.

1.1 Sync from Server



To sync user information from server -

- Click **User and Role Management > Users** menu.



- The User management interface is displayed. Click **[SYNC FROM SERVER]** to update all users from the calendar server to be displayed on the table.

User Management

SYNC FROM SERVER		Select Status	Search for....			
No.	Username	Name	Email	Status	Group Name	Action
1	admin-dev1@mrbstest.com	admindev1	admin-dev1@mrbstest.com	Active	User_Group1	
2	admin-dev12@mrbstest.com	admindev12	admin-dev12@mrbstest.com	Active	Default user group	

1.2 Edit User Information

The steps for editing user information are same as that of [Edit Building](#).

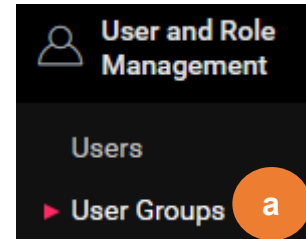
2. User Groups

Through the User Groups interface, admin users can *create user group, add users to user group, assign permissions and policies to user group, edit and delete user group.*

2.1 Create User Group

To create user group -

- Click **User and Role Management > User Groups** menu.
- The User Group interface is displayed. Click **[CREATE]**.



- The Create User Group interface is displayed. Enter the **Group Name**. Click **[ADD USERS]** and select the users to add to the group and click **[SAVE]**.

Create User Group

Group Name *

Users in this group *

ADD USERS c

Select Users c

<input checked="" type="checkbox"/> admin-dev1	Current Group: User_Group1
<input checked="" type="checkbox"/> admin-dev2	Current Group: User_Group1
<input checked="" type="checkbox"/> admin-dev3	Current Group: User_Group1
<input checked="" type="checkbox"/> admin-dev4	Current Group: Default user group
<input type="checkbox"/> admin-dev5	Current Group: Default user group

- d. The newly added users are displayed. Assign the relevant [Permissions](#) and [Policies](#). Click **[SAVE]**.

Create User Group

Group Name *

Users in this group *

ADD USERS

Q

Following highlighted user(s) are selected to be transferred from current group to this group once saved. New user permissions will take immediate effect.

- admin-dev1
- admin-dev2
- admin-dev3
- admin-dev4

d

SAVE **CANCEL**

Permissions Policies

Organization Management

When enabled, members are allowed to manage the Countries, Buildings, Floors and Amenities.

Desk Management

When enabled, members are allowed to manage Desks and Desk Groups.

User Management

When enabled, members are allowed to manage Users and User Groups.

System Management

When enabled, members are allowed to manage System Configuration.

License Management

When enabled, members are allowed to manage Licenses.

Feedback Management

When enabled, members are allowed to manage Feedback.

User Group Policies







User Group Policies	When enabled 	When disabled 	Default State
Usage quota	Can limit user booking hours by daily, weekly, monthly	Do not limit user booking hours	Disabled 
Booking Hours	Can set user booking hours	Allows booking from 00:00am to 11:59pm in a day	Disabled 
Booking Days	Can set booking days in a week	Can set booking activities for all week	Disabled 
Bypass resource policies	Members are allowed to bypass desk and user booking policies	Desk and user booking policies will be applied on Members	Disabled 

Table 2 – User Group Policies

User Group Permissions








User Group Permissions	When enabled 	When disabled 	Default State
Organization Management	Members are allowed to manage the Countries, Buildings, Locations & Amenities	Members are NOT allowed to manage the Countries, Buildings, Locations & Amenities	Disabled 
Desk Management	Members are allowed to manage Desks & Desk Groups	Members are NOT allowed to manage Desks & Desk Groups	Disabled 
User Management	Members are allowed to manage Users & User Groups	Members are NOT allowed to manage Users & User Groups	Disabled 
System Management	Members are allowed to manage System Configuration (which includes <i>System, Policy, Dashboard Settings, Email Template, Import/Export Configuration</i>) & Logs (which includes <i>System Log and User Log</i>)	Members are NOT allowed to manage System Configuration	Disabled 
License Management	Members are allowed to manage Licenses	Members are NOT allowed to manage Licenses	Disabled 
Feedback Management	Members are allowed to manage Feedback	Members are NOT allowed to manage Feedback	Disabled 
Devices Management	Members are allowed to manage Devices	Members are NOT allowed to manage Devices	Disabled 
Desk Group Access	Members are allowed to add desk group, view or use the desks in the added desk group	Members will not be able to view any desk on location map for booking activities on Mobile / Add-in	Disabled 
Allow Booking	Members are allowed to book desks	Members are NOT allowed to book desks	Disabled 

Table 3 – User Group Permissions

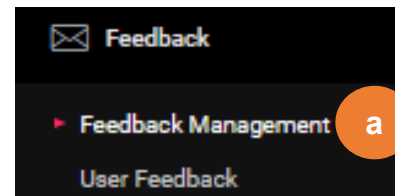
H. Feedback

Users can provide their feedback on the PDM solution via PDM mobile app, outlook add-in or Desk Viewer. Users can either choose a pre-defined feedback set by the admin or type in a customize feedback.

1. Feedback Management

To create pre-defined feedback inputs from users. -



- a. Click on the **Feedback > Feedback Management** menu.



- b. The Feedback management interface is displayed with the list of feedbacks options, if any. Click **[ADD]** to add a new feedback option.

Feedback Management

ADD **b**

No.	Feedback	Status	Actions
1	Highly Recommended	Active	 

Per Page: 50





- c. Create Feedback option dialog box is displayed. Enter the new *Feedback* option (*mandatory*) and select the *Status* of the feedback – *Active* / *Inactive*. Click **[SAVE]**. The newly added feedback option is displayed on the table.


CREATE FEEDBACK OPTION **c**

Feedback*

Status*

SAVE **CANCEL**

No.	Feedback	Status	Actions
1	Good c	Active	 
2	Highly Recommended	Active	 

To **edit feedback** option, Click on the  icon. The steps for editing is similar to creating feedback option. Update the feedback option as required and click **[SAVE]** to save the changes, if any.

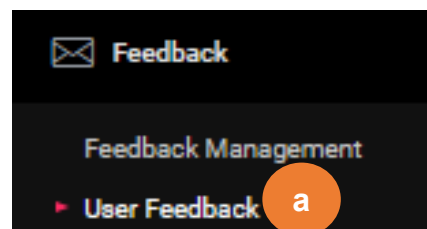
To **delete feedback** option, Click on the  icon. Click **[Confirm]** to proceed or **[Cancel]** to discard the delete operation.

2. User Feedback

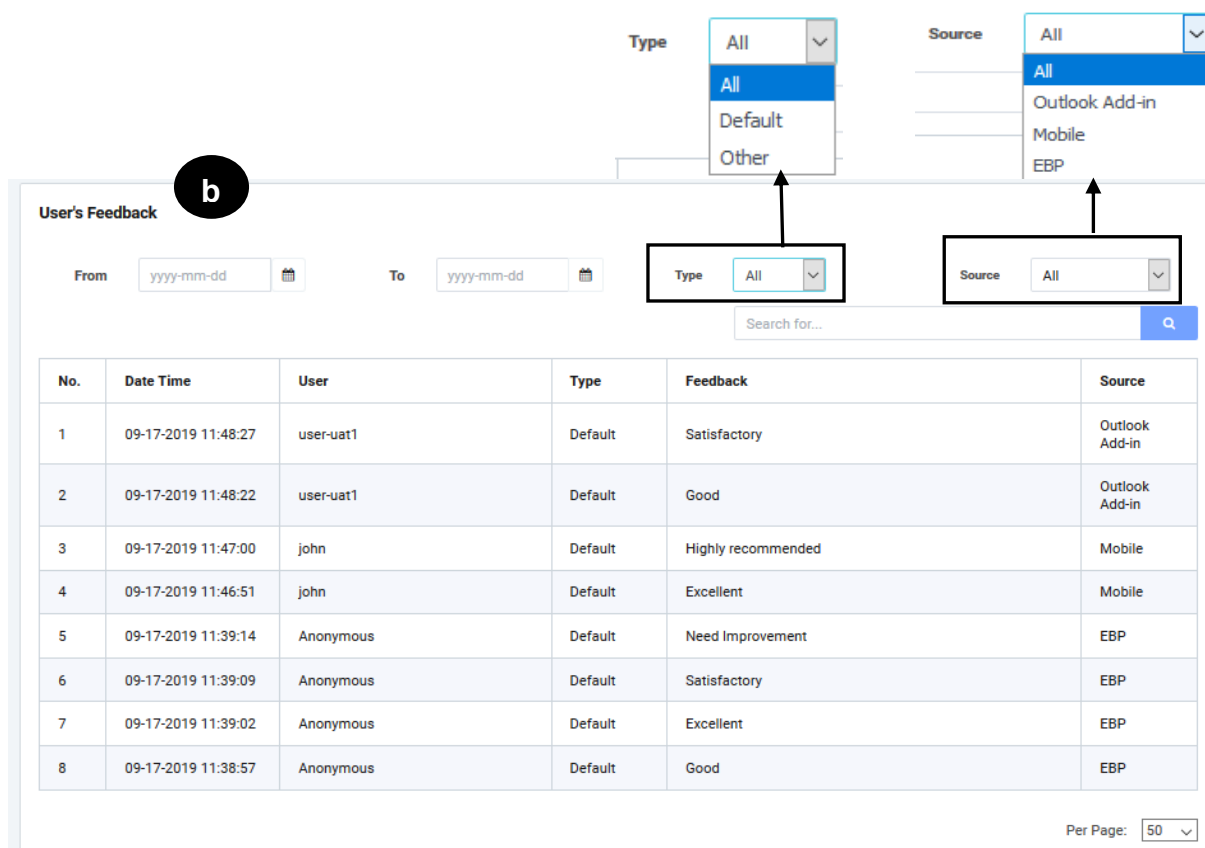
The user's feedback interface displays all of the feedback from users from the various sources.

To view user's feedback –

- Click on the **Feedback > User Feedback** menu.



- The User's Feedback interface is displayed. Filter user's feedback accordingly based on a specific *date range* or Feedback *Type* or Feedback *Source*.



User's Feedback

From: To:

Type: Source:

Search for...

No.	Date Time	User	Type	Feedback	Source
1	09-17-2019 11:48:27	user-uat1	Default	Satisfactory	Outlook Add-in
2	09-17-2019 11:48:22	user-uat1	Default	Good	Outlook Add-in
3	09-17-2019 11:47:00	john	Default	Highly recommended	Mobile
4	09-17-2019 11:46:51	john	Default	Excellent	Mobile
5	09-17-2019 11:39:14	Anonymous	Default	Need Improvement	EBP
6	09-17-2019 11:39:09	Anonymous	Default	Satisfactory	EBP
7	09-17-2019 11:39:02	Anonymous	Default	Excellent	EBP
8	09-17-2019 11:38:57	Anonymous	Default	Good	EBP

Per Page:

I. Configuration

Different configurations related to dashboard settings, calendar server, desk booking policies and other PDM settings can all be done through this interface.

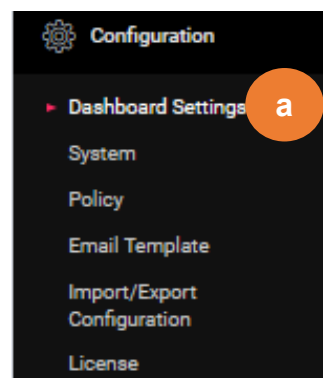
1. Dashboard Settings

Through the Dashboard settings interface, admin users can configure (i.e. *enable / disable*) the access permission (*Edit / View*) for different types of dashboard statistics for a particular user or user group.

For example, if *User Group 1* is allowed to view the utilization statistics in the dashboard interface, then the *View* permission should have been *enabled* for *User Group 1* in the Dashboard Settings.

To configure dashboard settings –

- Click **Configuration > Dashboard Settings** menu.



- The dashboard settings interface is displayed. Click on the  icon to edit the permissions against a particular user group. Note that the **Default User Group, Admin, Super Admin** user permissions cannot be edited.

Dashboard Settings

Statistic Widgets

Overview Statistics

- Building/Location/Desk/Users /Device
- Booking Type
- Booking Details
- Booking Duration

Utilization Statistics



- Booking Density
- Perceived/True Utilization
- Recaptured Time

Leaderboard Statistics

- User Leaderboard
- Desk Leaderboard

Miscellaneous Statistics

- Booking Sources
- Feedback Summary
- Feedback Sources

No.	User Group	Overview	Utilization	Leaderboard	Miscellaneous	Edit View Permissions
1	Super Admin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2	Admin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3	Default user group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Business Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	IT Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

- c. Upon providing the relevant permissions (by checking the checkbox), click **[SAVE]**. The updated information is available on the table.

No.	User Group	Overview	Utilization	Leaderboard	Miscellaneous	Edit View Permissions
1	User Group 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<div>SAVE CANCEL</div>
2	Default user group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<div>C</div>
3	Admin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4	Super Admin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

2. System Configuration

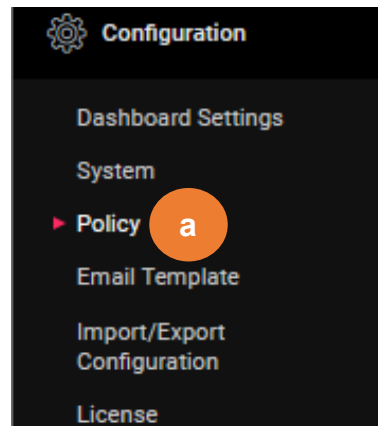
To update calendar server and PDM server settings refer to the steps provided under the topic [Update System Configuration](#).

3. Policy Settings

3.1 Update Policy Settings

To update policy settings –

- a. Click on the **Configuration > Policy** menu.



- b. The policy settings interface is displayed with the following information -

Policy Settings

b

Booking

Time Slot

30 minutes

▼

Maximum Desk

50

⬆ ⬇ ⬆

Desk(s)

Email

Resource Activation Reminder

1

⬆ ⬇ ⬆

Day(s)

PanL35L Device

Time Format

12 Hours

▼

Firmware Update Schedule

05

:

00

PM

Product Information

Name

Bridgetek Pte Ltd

Developed by

Developed by

Admin Hotline

97317797

Admin Email

panl-support@brtchip.com

Booking Reminder

Default Time Reminder

15

▼

Minute(s)

CANCEL

SAVE

Booking

- *Time Slot* - Set the Default *Time Slot* duration for every desk booking. The available durations are 30 minutes and 1 hour. However, the booking duration can be prolonged if required. If **advance booking** is done, the booking time will start from the next 30minutes/1 hour interval. For example, if the time is 6.05pm, a new booking will start from 6.30pm. For **on spot desk booking**, the booking time will start immediately i.e. 6.05pm.
- *Maximum Desk* - Set the Maximum number of desk(s) that can be selected for booking at a time by the user.

Email

- *Re-active Reminder*: This is to set the time where an email reminder will be sent to the admin email id when a resource (Building/Location/Desk) should be re-activated based on the available date set. For example, if the reminder is set as 1 day and a resource available date is on the 30th Oct 2020, an email reminder will be sent to the admin on the 29th Oct 2020.

PanL35L Device

- *Time Format*: This refers to the format in which the time will be displayed. I.e. 12 Hours or 24 Hours format.
- *Firmware Update Schedule*: This refers to the desk panel device firmware update schedule. If firmware auto update is selected, the desk panel if it's online will be updated automatically with the latest firmware uploaded at the set time.

Note: Firmware can only be upgraded and cannot be downgraded.

Product Information

- *Product Name/Developed by/Admin Hotline/Admin Email*: This information will be displayed in the [About](#) section in the mobile app/Outlook Add-In as a support channel for the users.

Reminder

- *Default Time Reminder* – This field refers to the timeframe at which the booking notification reminder will be sent to the user. For example, if the *Default Time Reminder* is set to 5 minutes, user will be notified 5 minutes before the start of the booking through Outlook Add-In and Mobile app.

Upon configuring the policy settings, click **[SAVE]** to store the changes.

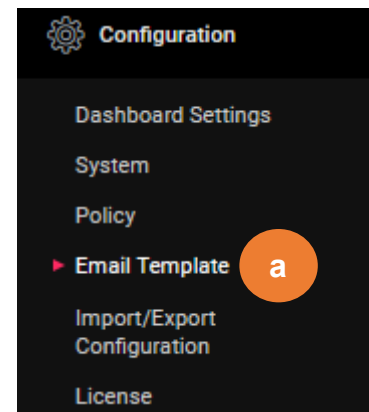
4. Email Template

Email notifications are sent on behalf of admin to the relevant users automatically upon different booking events such as a new desk booking or cancellations. Admin users are able to add or edit existing standard email templates which are defined for various events. There are also console configuration related emails which are sent to the admin user email set under Configuration>System for events such as building/location/desk activation status and other system related events.

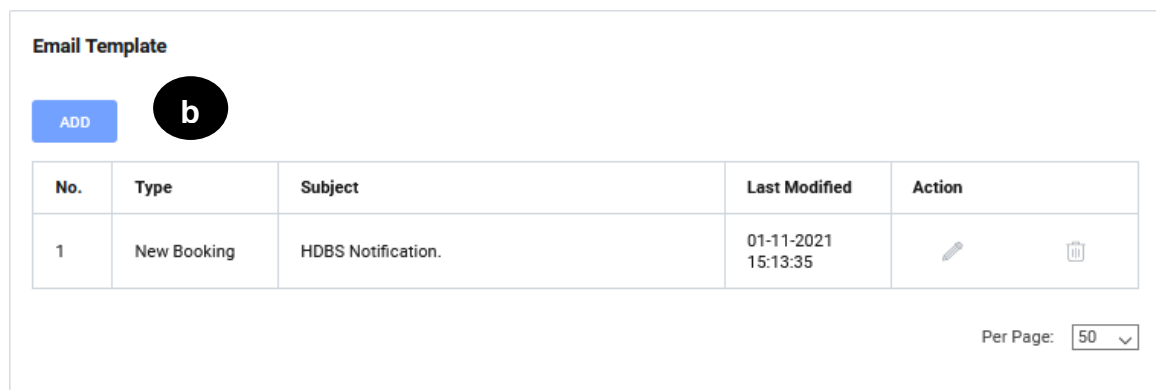
4.1 Add Email Template

To add email template –

- a. Click on the **Configuration > Email Template** menu.



- b. The Email template interface is displayed with a list of email templates, if any.



- c. Click **[ADD]**. The Email template details interface is displayed. Input the following details –
 - Select *Email Type*
 - Based on the selected email type, the default *Email Subject* is displayed. Users may edit the email subject as required.
 - Draft and format the email *Body* content with the inbuilt functions. Function keywords are also provided to import useful system data/strings into the email content.

Upon creating the template, click **[PREVIEW]** to preview the email template or click **[SAVE]** to save the email template. The newly added email template is displayed on the table.

EMAIL TEMPLATE DETAIL

Email Type

Recurrence Booking

C

Subject

HDBS Notification.

Body

File Edit View Insert Format Tools Table

Formats B I [Text Formatting Icons]

Recurrence bookings are booked.Start: {start} Until: {until} Location: {location}.Thank you.

Keywords

{start}

{end}

{until}

{deskName}

{location}

{reminder}

{assignee}

{host}

{activeTime}

{syncResult}

PREVIEW

SAVE

Email Template

ADD



No.	Type	Subject	Last Modified	Action
1	Recurrence Booking	HDBS Notification.	01-28-2021 17:40:28	 
2	New Booking	HDBS Notification.	01-11-2021 15:13:35	 

Per Page: 50

NOTE: If no email template is setup to signify a certain event, then the email will be sent with the default content to the user/admin when the event occurs.





4.2 Edit / Delete Email Template

To edit / delete email template –

- From the Email template interface, click on the  icon. Edit the template as required and click **[SAVE]**. Alternately, click on the  icon and confirm to delete email template.

Email Template

ADD

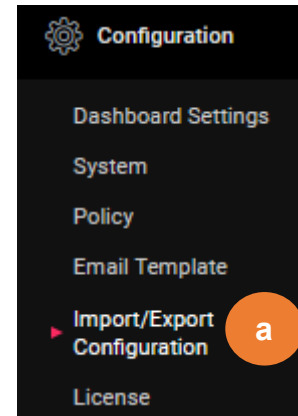
No.	Type	Subject	Last Modified	Action
1	Recurrence Booking	HDBS Notification.	01-28-2021 17:40:28	 
2	New Booking	HDBS Notification.	01-11-2021 15:13:35	 

5. Import / Export Configuration

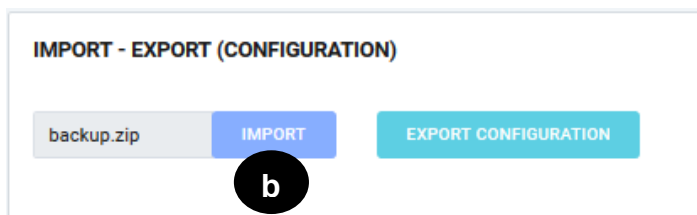
This interface allows admin users to import previously configured PDM console configurations or export current configurations useful in the event of a new PDM server installation or PDM Server software update. All the data, except for the Dashboard data will be imported from the backup file. The Dashboard data will be empty.

To import (restore) system configuration –

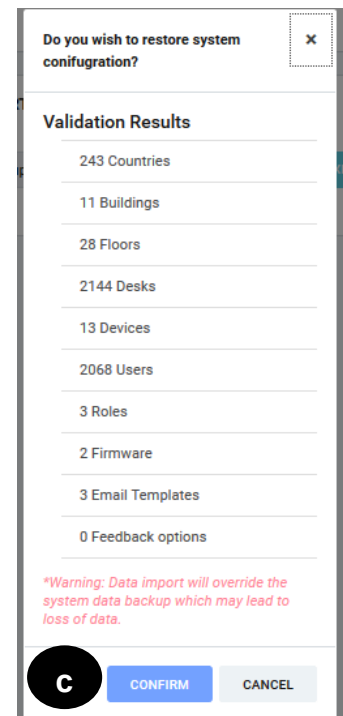
- Click on the **Configuration > Import / Export Configuration** menu.



- The Import-Export (Configuration) interface is displayed. Click **[IMPORT]** and select the backup file that was previously exported.



- A confirmation window with a list of pre-defined PDM Console configuration backup information is displayed. Click **[CONFIRM]** to proceed with the import operation or click **[CANCEL]** to discard the import operation. Upon successful import, an appropriate message indicating the same is displayed.



6. License

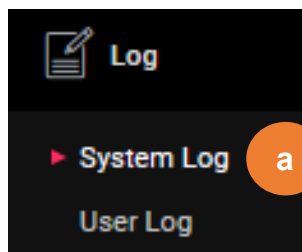
To generate license, refer to the steps provided under the topic [Generate License](#).

J. Log

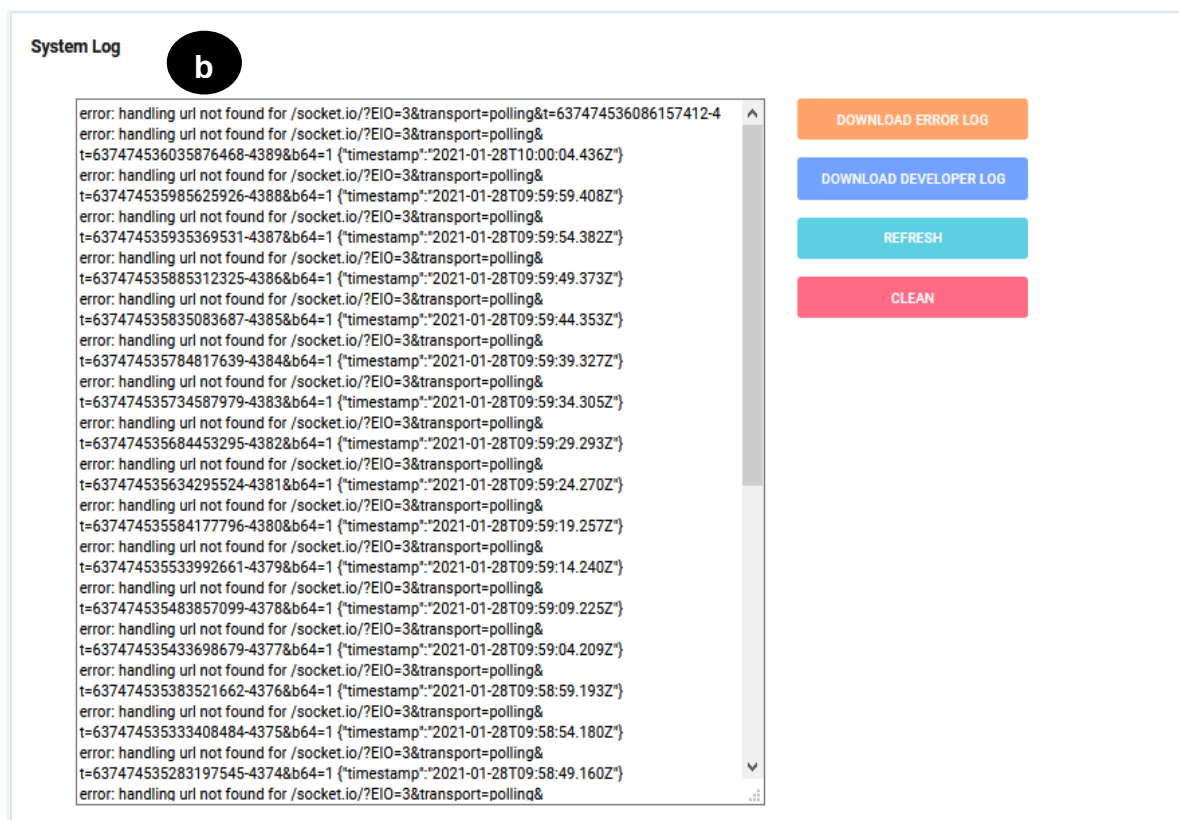
1. System Log

To view the system log for system analysis purposes–

- Click on the **Log > System Log** menu.



- The System log interface is displayed.



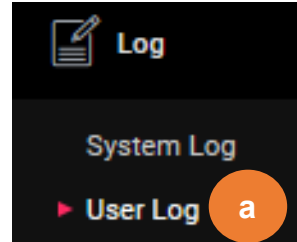
[DOWNLOAD ERROR LOG]
[DOWNLOAD DEVELOPER LOG]
[REFRESH]
[CLEAN]

Click to download the error log
Click to download the developer log
Click to refresh the system log
Click to clean the system log

2. User Log

To view the User log for user analysis purposes–

- a. Click on the **Log > User Log** menu.











- b. The User log interface is displayed. It will display the corresponding action to be taken by the user.

User Log **b**


CLEAN

Q

No.	Log From	Action	Time	
1	superadmin	AUTHORIZE_SUCCESS	01-28-2021 11:57:23	
2	superadmin	AUTHORIZE_SUCCESS	01-28-2021 11:51:27	
3	superadmin	AUTHORIZE_SUCCESS	01-27-2021 13:47:25	
4	superadmin	AUTHORIZE_SUCCESS	01-27-2021 13:42:26	
5	superadmin	AUTHORIZE_SUCCESS	01-13-2021 18:09:37	
6	superadmin	AUTHORIZE_SUCCESS	01-11-2021 18:47:20	
7	superadmin	AUTHORIZE_SUCCESS	01-05-2021 09:11:46	

To search for a specific action details, enter the action in the search box and click on the  icon.

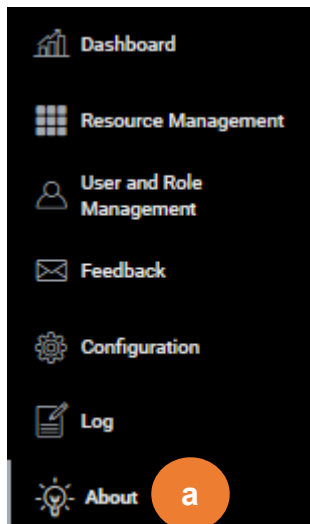
To clean the user log, click **[CLEAN]**.

To delete a user log, click on the **Delete**  icon from the table

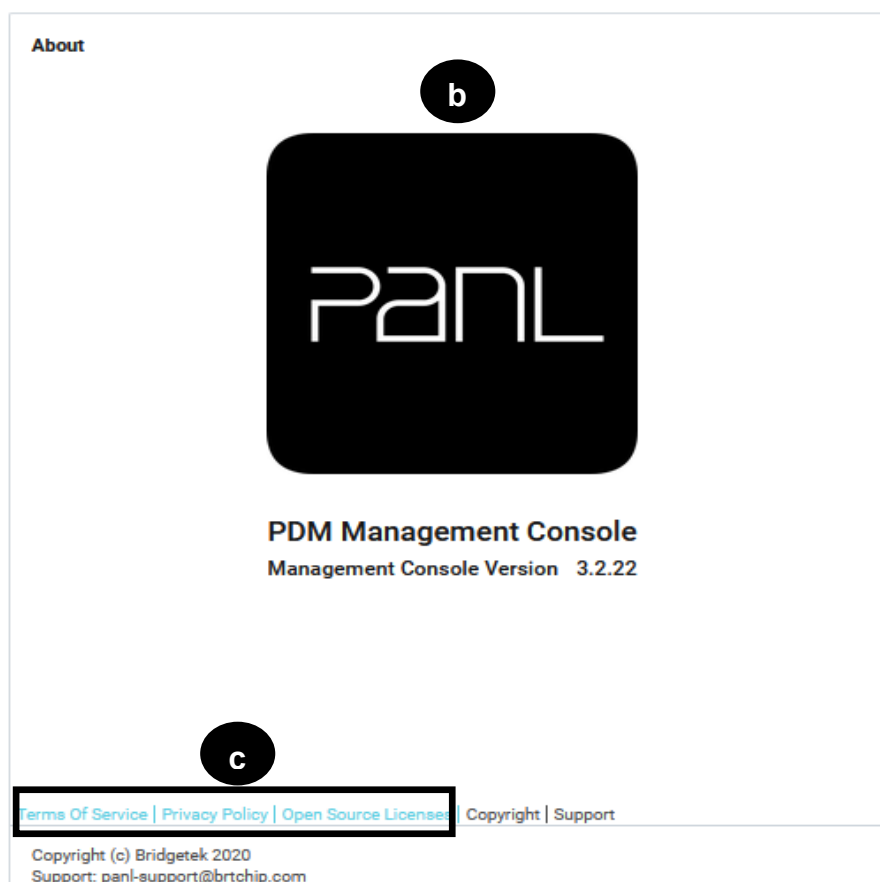
K. About

The About interface displays information related to PDM Management Console's version, Copyright, PanL Support etc.

- a. Click on the **About** menu.




- b. The About interface is displayed.

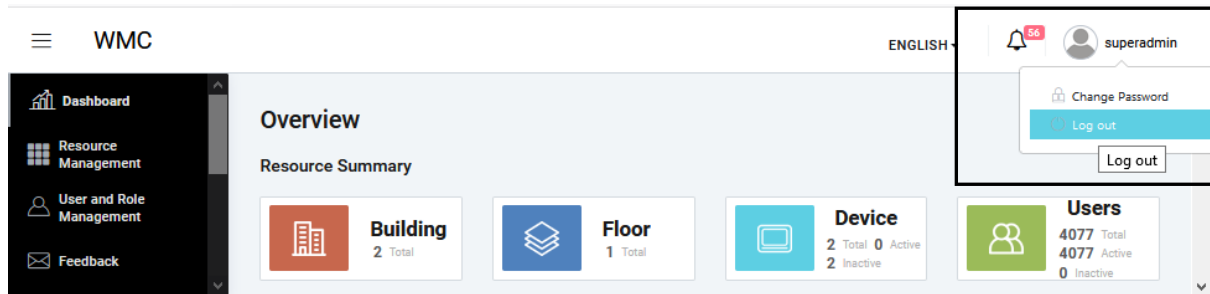


- c. Click on **Terms of Services / Privacy Policy / Open Sources Licenses** to view the respective details.

L. Log Out

To log out of PDM Console,

Click on the  icon. From the resulting menu, click **[Log out]**.



M. Desk Viewer GUI Overview


In order to access and use the Desk Viewer ensure that the PDM Software Server and PDM Console Configurations are up and running.

The following steps will guide you through in accessing the Desk Viewer interface –

1. Open any of the supported web browser (*Chrome / Mozilla Firefox / Safari*) and enter the URL <https://app.<organization's domain name>/ebp>, for example <https://app.brtchip.com/ebp>.

The default building and location layout will be displayed if configured previously.



2. Tap on the  icon (**Settings**) to log in and view and edit the Desk Viewer settings. Tap and enter the superadmin *Username* and *Password*. Tap on **[Login]**. In the Settings interface, the admin user can select the *Default location (Country/Building/Location)* where if the **[My Location]** button is pressed, it will bring up the default location map. Tap on **[Save]**.

Login to view the settings

Username

admin

Password

.....

Close

Login

Settings

Please select a Default Location to set the Entrance Big Panel.

Country

Singapore

Building

BridgeTek

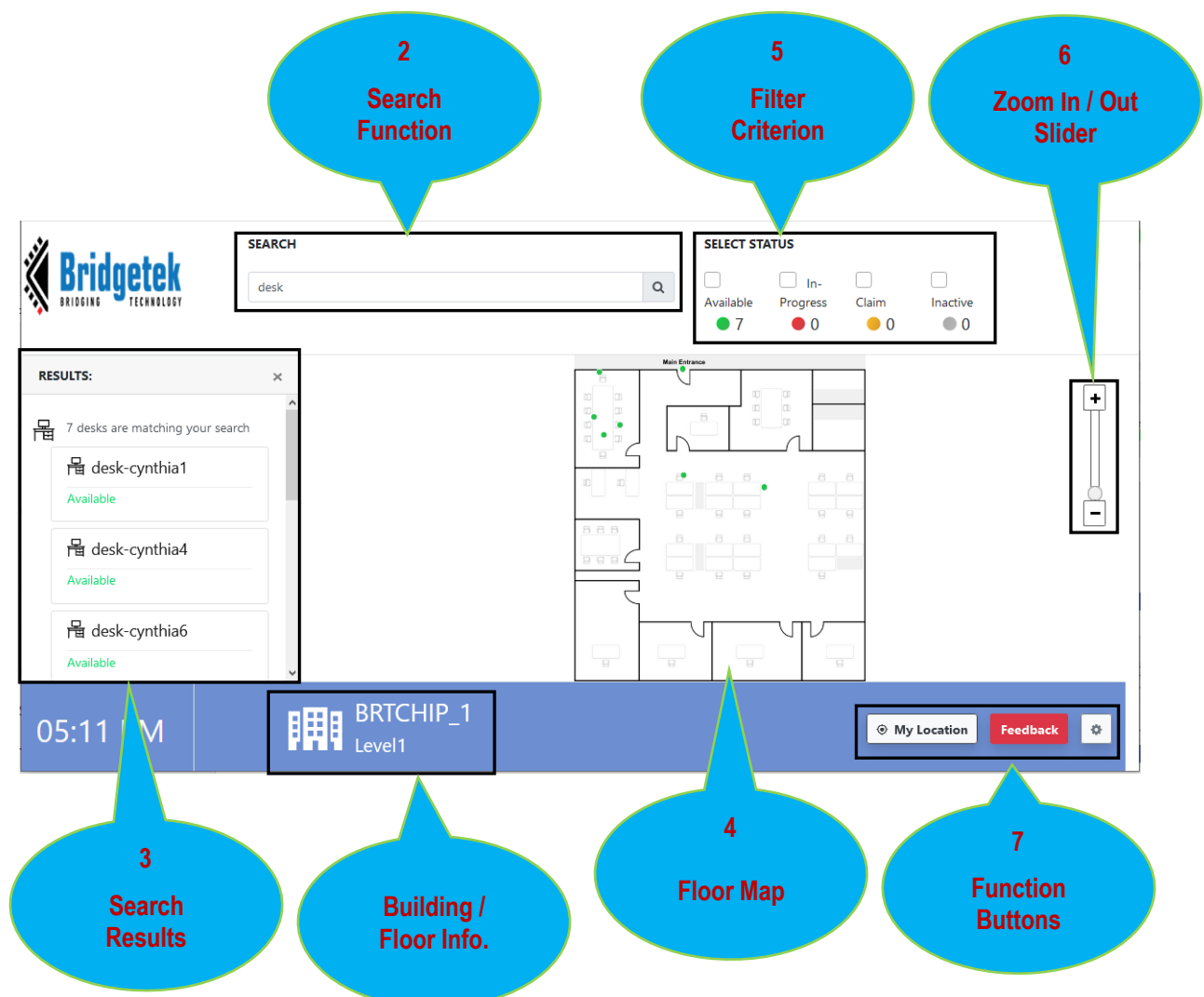
Floor

Bridgetek_Floor_06_06

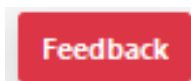
Close

Save

3. Enter the *search* criteria in the *search box* (for example – *Desk Name* or *User Name* or *Location Name* created under the *Building*) and tap on the search icon.
4. A list of desk or location id(s) (based on the search criteria) based on the keyword entered is displayed
5. Tap on any of the search results and the respective location map will be displayed.
6. You may filter desks on the map based on any or all of the following criteria –
 - *Available* – Desks which are available for immediate booking
 - *In-Progress* – Desks which are currently booked
 - *Claim* – Desks which are awaiting user claim and may be potentially released if unclaimed
 - *Desks Inactive* – Desks which are set as inactive by the admin user.
7. The location map can be zoomed in or out using the bar *slider*.



8. You can make use of the following buttons to perform the respective functions –



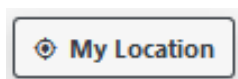
Tap on **[Feedback]** to view the Feedback dialog window.

Feedback
×

Please share with us the issue(s) encountered.

☒ Highly Recommended
☐ Good
☐ Other

Send Feedback



Tap on **[My Location]** to switch back to the default location map.

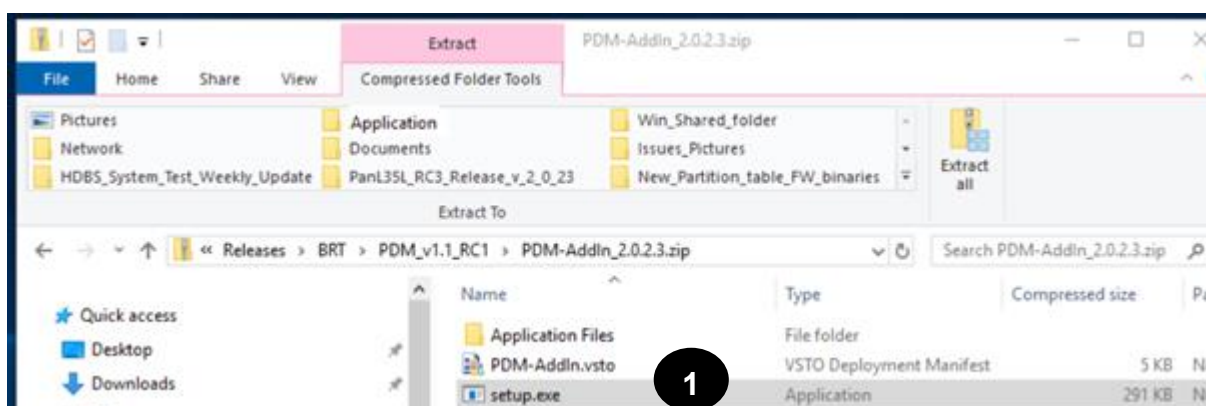
Outlook Add-In

VI. Getting Started with Outlook Add-In

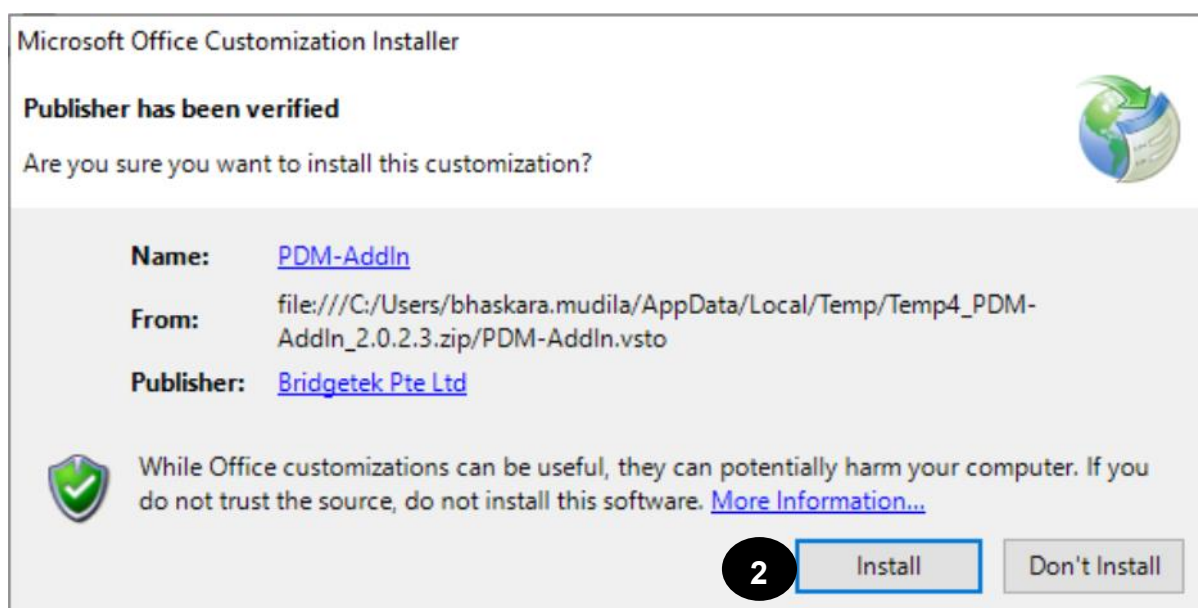
A. Installing Outlook Add-In

The Microsoft Outlook Add-In provides an alternative option for users to view and book desk(s) from the calendar aside from the mobile app.

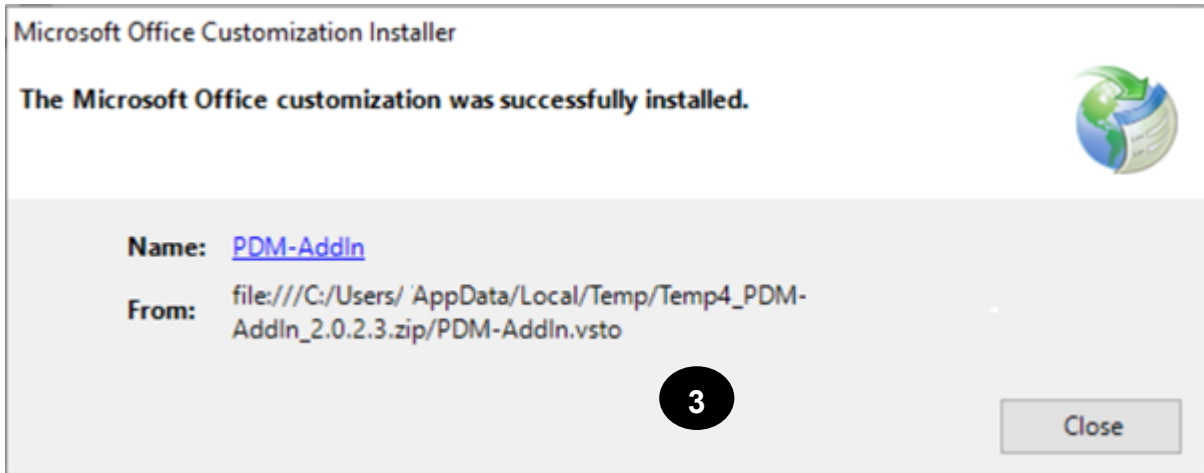
1. Extract or unzip the *PDM- Add-In package file* provided and execute the .exe file. Ensure that [.net framework v4.6.6](#) or newer is preinstalled.



2. Once the installation pop up appears, click **[Install]**.



- Upon successful installation, an appropriate message indicating the same is displayed.



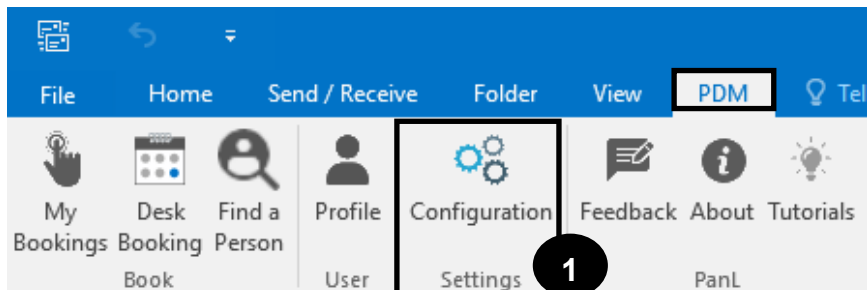
- Restart Microsoft Outlook in order for the add-in to take effect.

B. Configure Outlook Add-In

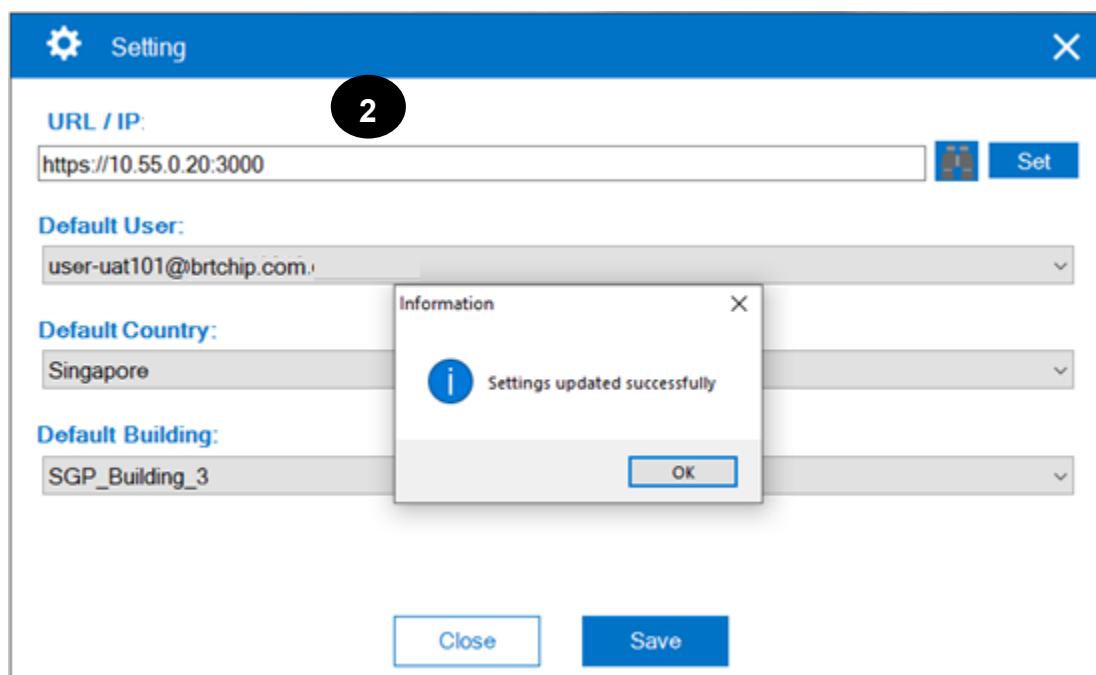
Using a valid MS-Outlook email account, log in to Outlook calendar, the Add-In should appear as a tab on the top bar.

To configure the Add-In Settings –

- From the top bar menu, click **PDM > Configuration**.



- Add/update the following information, as required –
 - URL/IP (either PDM Server URL name or IP address) – Enter the URL/IP manually (if the Outlook client PC is not part of a local PDM network) or click on the **Discover** button to detect the PDM Server URL/IP automatically.
 - Default User Name - Select the *Default User Email ID* and click **[Set]** to ensure that the Email ID exist in the calendar configured to the PDM Server. An appropriate message indicating if the settings was configured successfully or not is displayed.
 - Default Country – Select the *default country* in which a desk is booked.
 - Default Building – Select the *default building* in which a desk is booked.
 - Upon adding/updating the settings, click on **[Save]**.



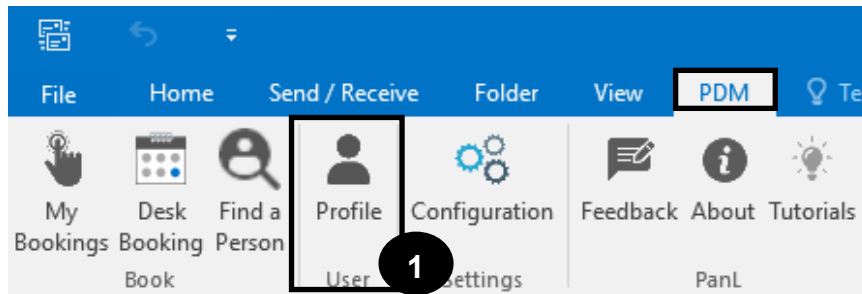
An appropriate message indicating if the settings were updated successfully or not is displayed.

C.Profile

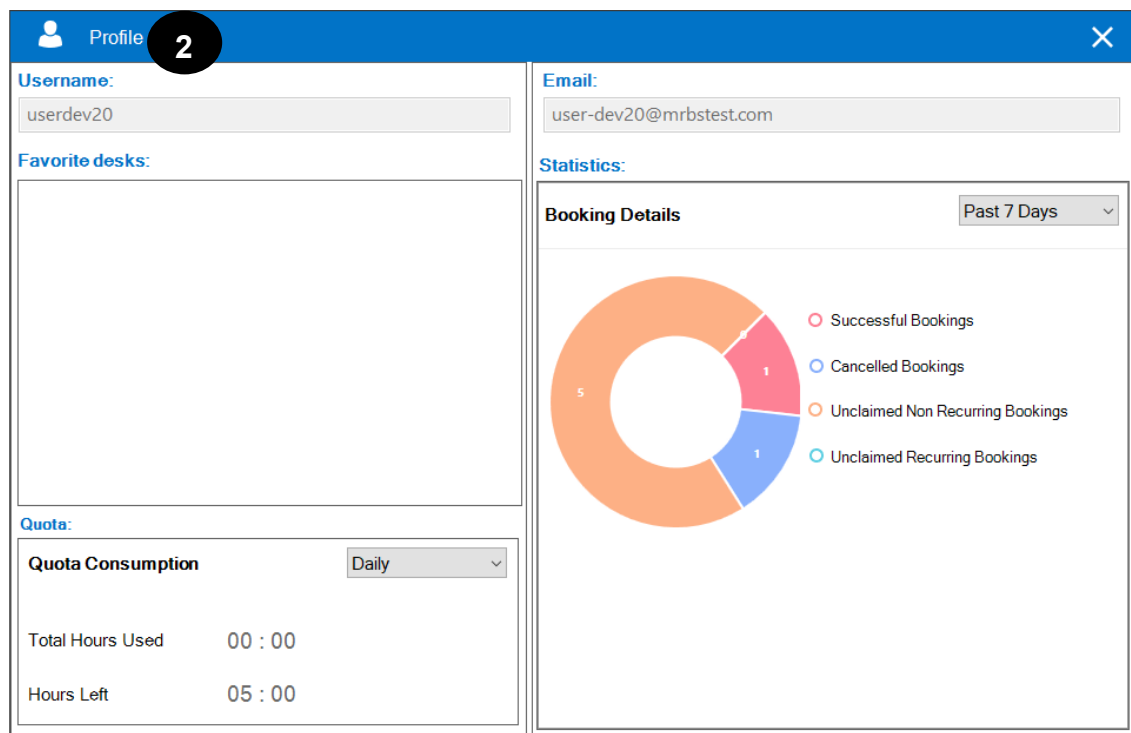
The Profile interface displays the user profile and booking statistics pertaining to the user.

To access User Profile –

1. From the top bar menu, click **PDM > Profile**.



2. The User Profile interface is displayed. This interface provides the details of the logged in user - *Username*, *Favourite Desks*, if any, *User's Email Address* and *Booking Statistics* (such as Top Desk Booking – By Week/By Month/By Year/All and a pictorial representation of the statistical data).

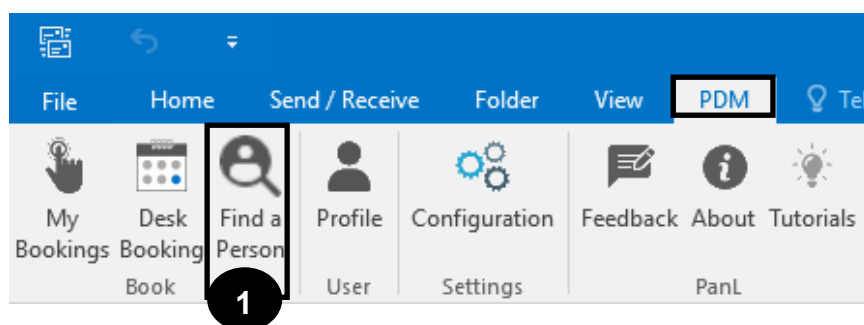


D. Find a Person

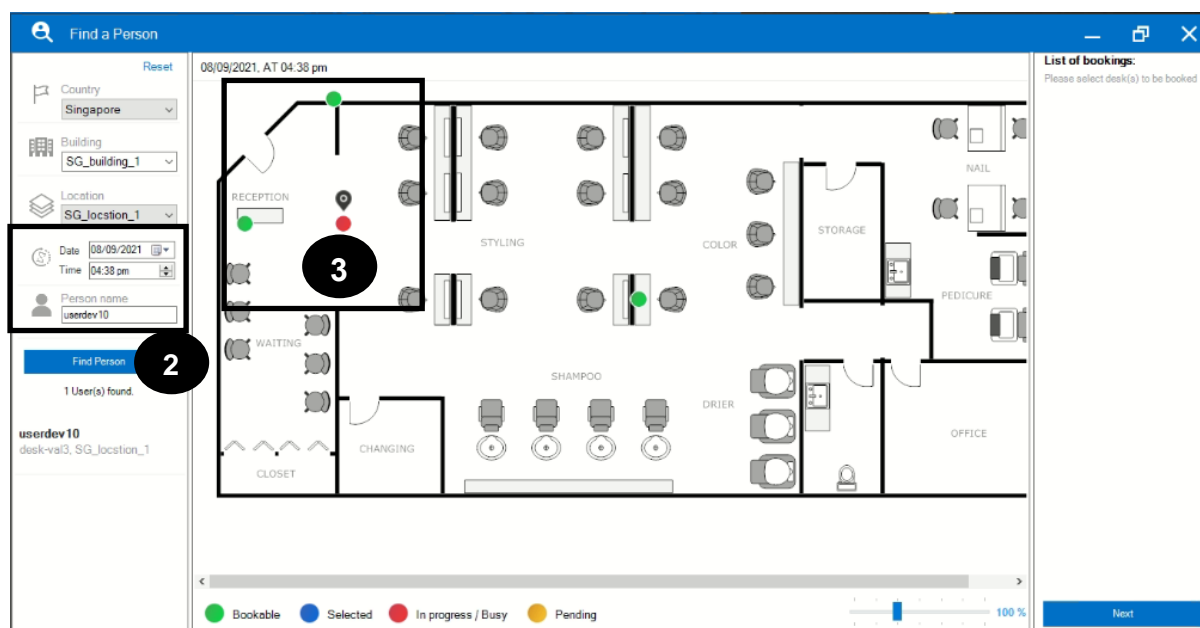
This interface is used to find a person and book available desks near to that person.

To find a person –

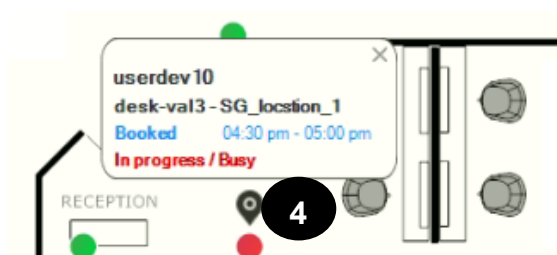
1. From the top bar menu, click **PDM > Find a Person**.



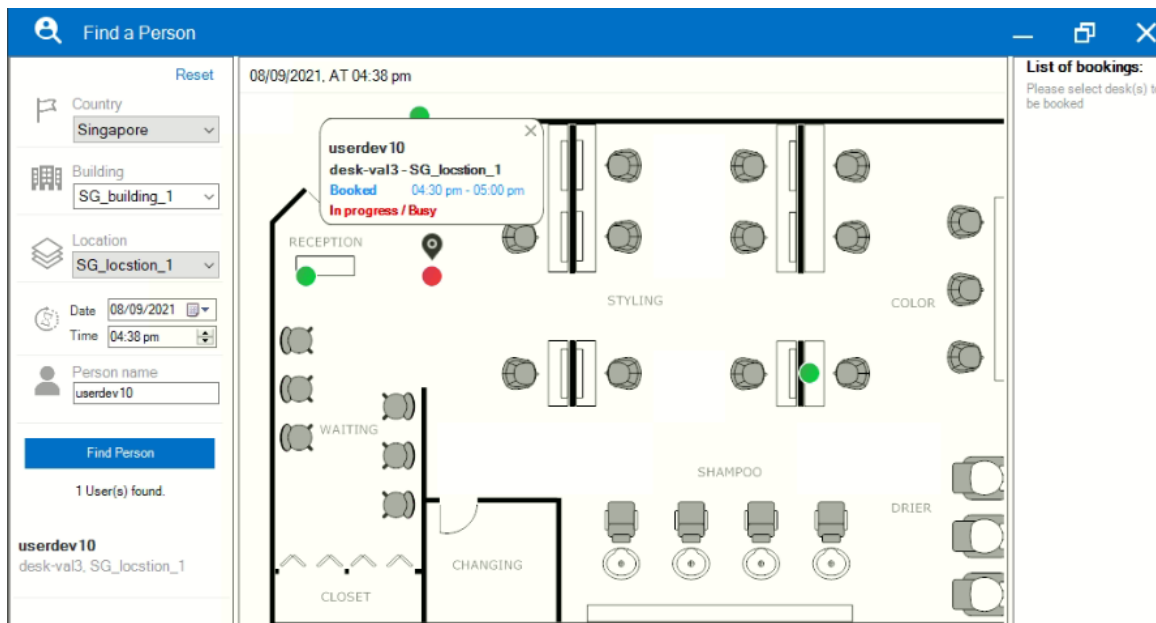
2. Find a Person interface is displayed. Input the following fields – *Date*, *Time* and *Person Name*. Click [**Find Person**]. If the search is successful an appropriate message is displayed.



3. The person's location along with the nearby bookable desks (if any) are displayed.
4. Tap on the location icon to view the details (*i.e. person name, desk name, location info, desk booking status and booking time*).



5. Tap on the bookable desks (indicated in GREEN) located near the person to proceed with the desk booking. Refer to for the different booking status of desk.

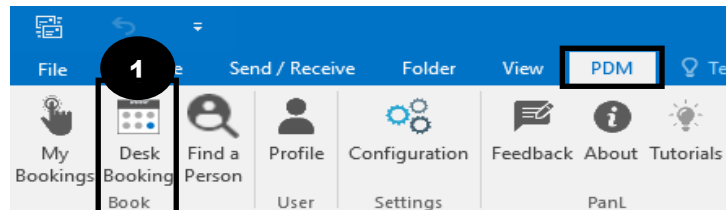


E. Desk Booking

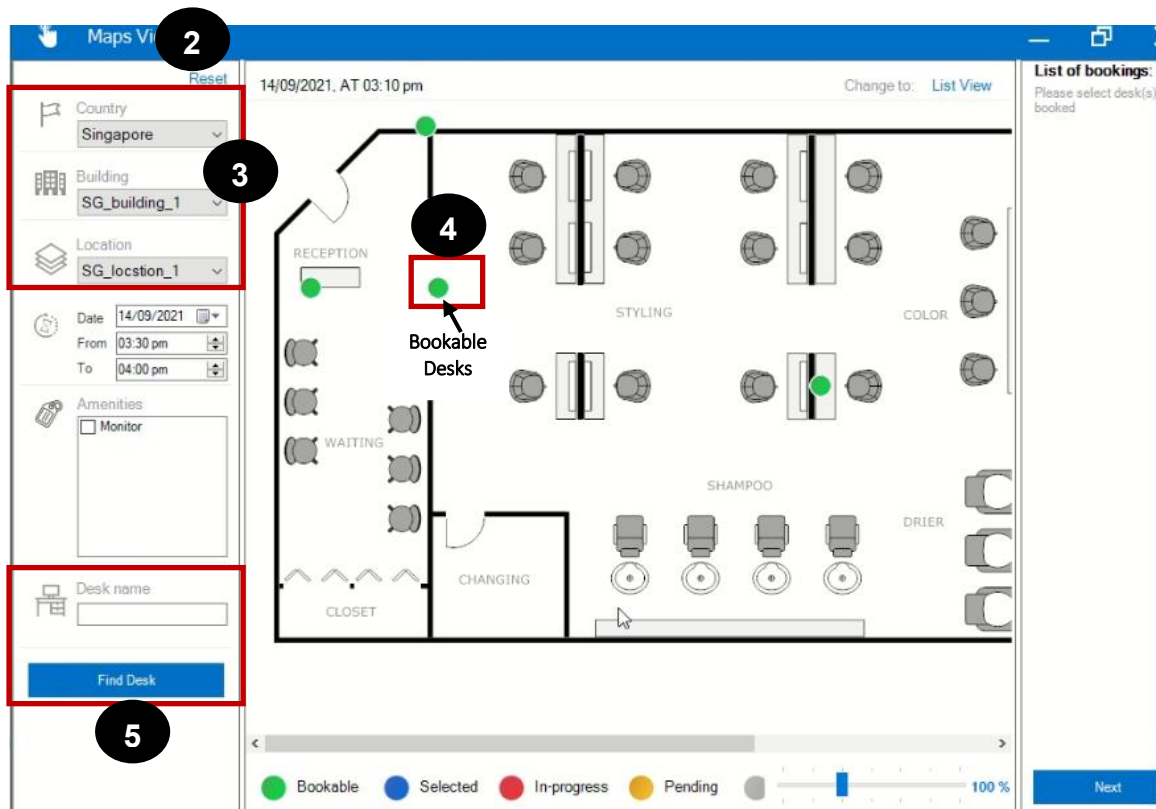
The Desk Booking interface is used for booking desk(s). Users can book desk(s) either in **Maps View** or **List View**. By default the desk booking interface is opened in Maps View. Users may switch between Maps View and List View depending on their requirement.

To access desk booking interface –

1. From the top bar menu, click **PDM > Desk Booking**.



2. The desk booking interface is opened in **Maps View**.



3. The pre-configured *Country*, *Building* and *Location* are displayed on the left panel.
4. A list of bookable desk(s) if any, indicated in GREEN are displayed. Refer to for the different status of Desk.
5. To search for all the desks, click **[Find Desk]** button. Alternately, users may search for a specific desk by keying in the *Desk Name* and clicking the **[Find Desk]** button.






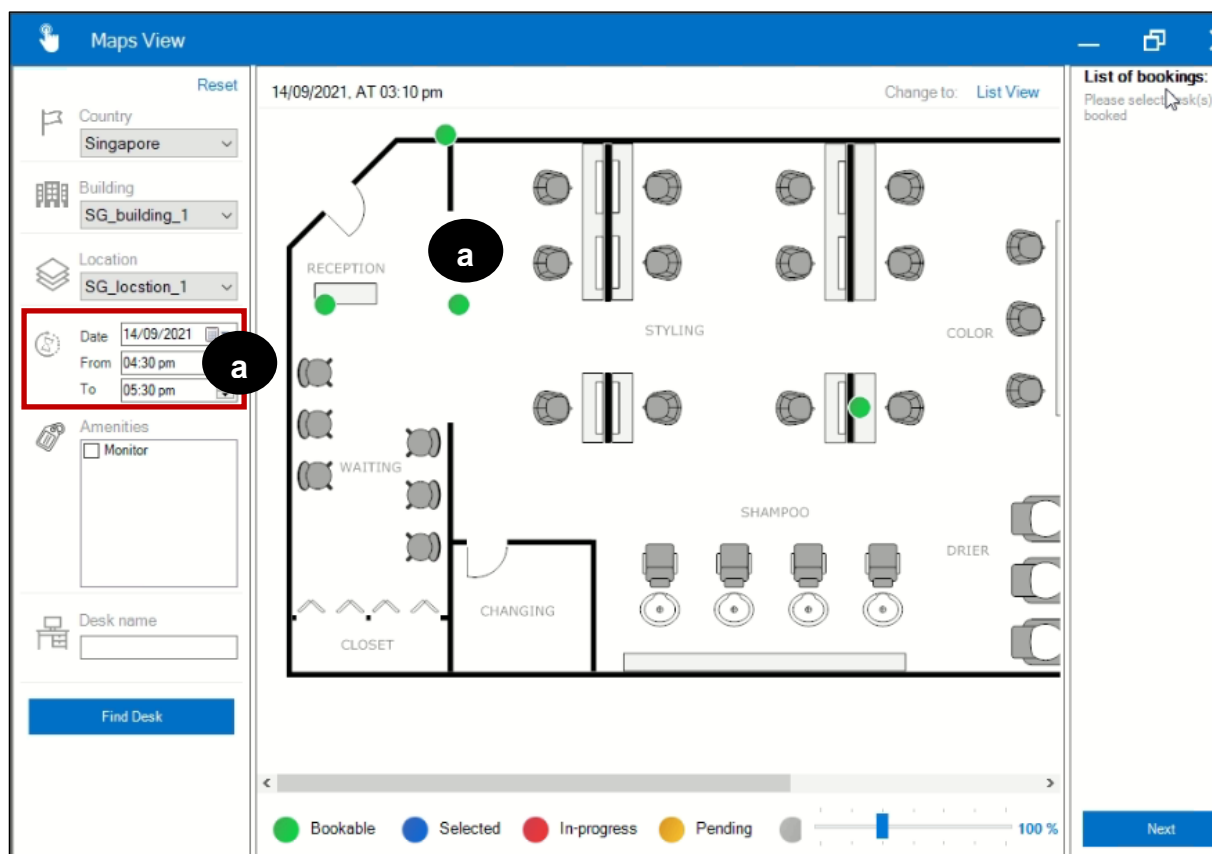
Desk Status	Indicated By	Color
Bookable Desk		Green
Selected Desk		Blue
Booking In-Progress		Red
Booking Pending for Claim		Orange
Inactive Desk		Grey

Table 4 - Desk Status

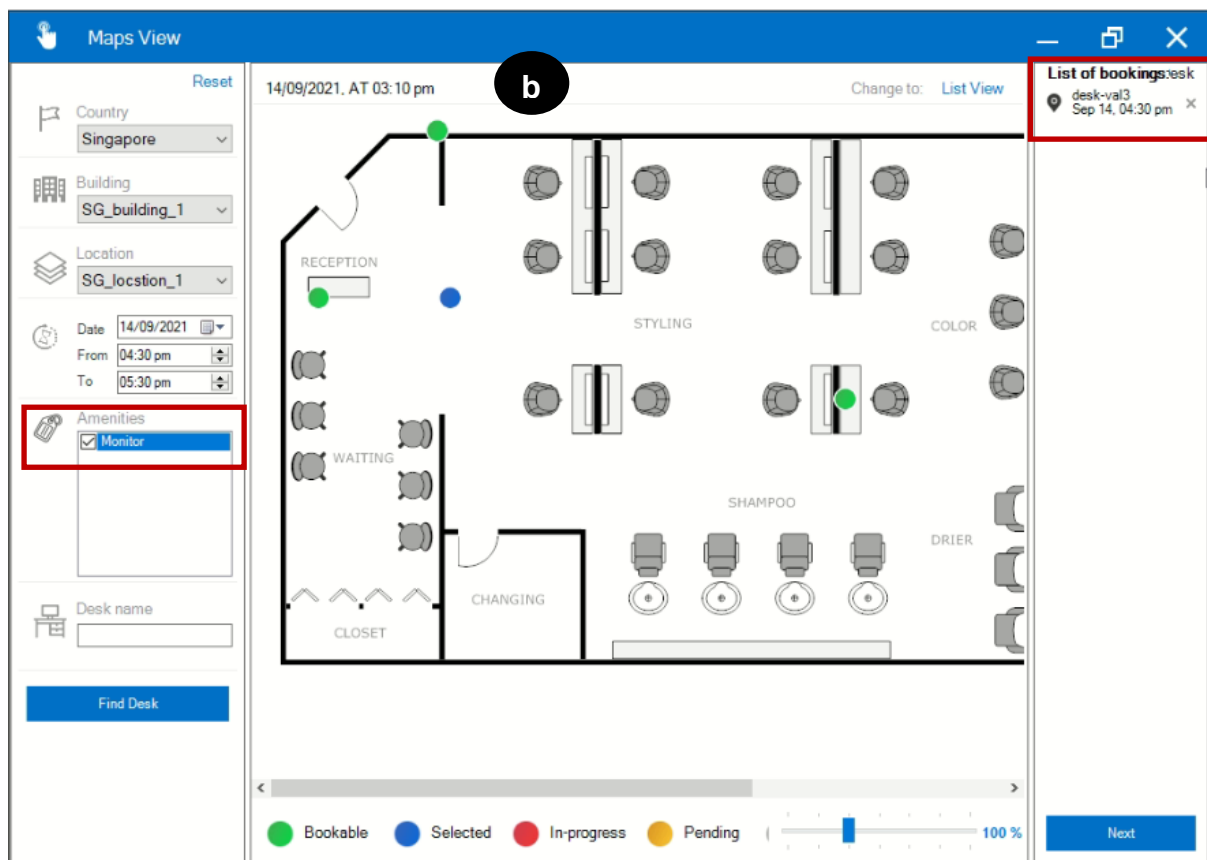
1. Booking Desk using Maps View

To book desk using Maps View –

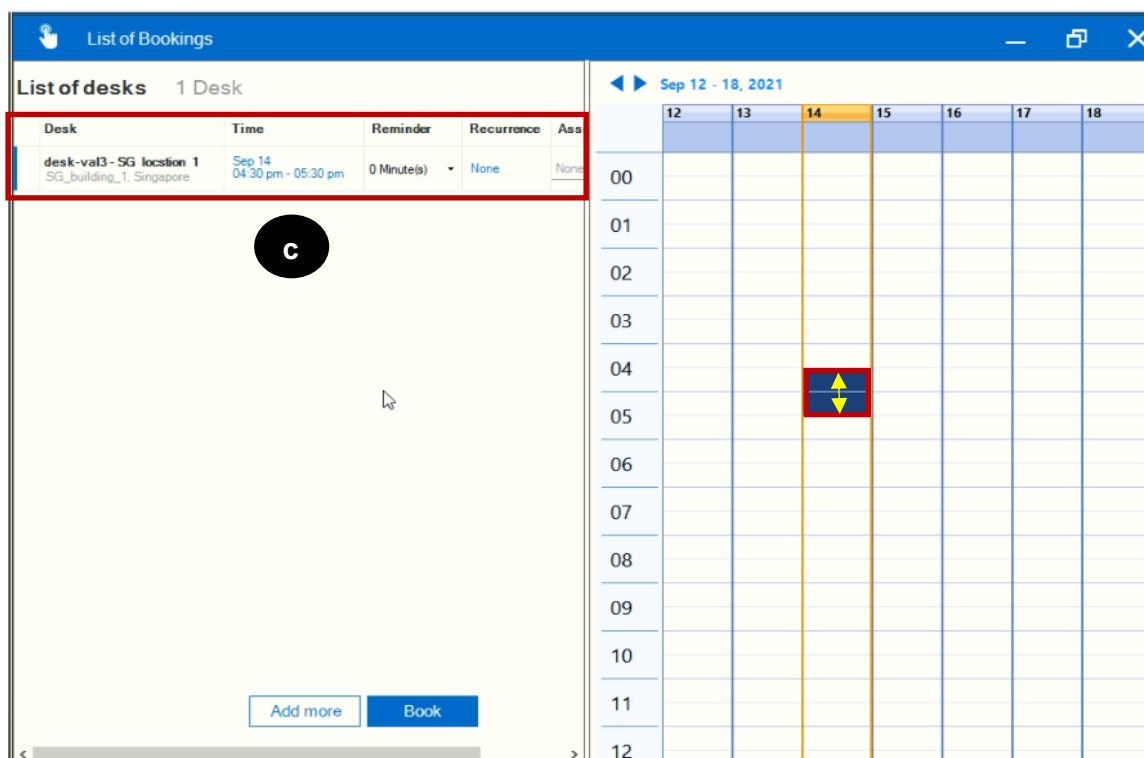
- Select the booking *Date* and *Time*. Select one or more bookable desk(s). The bookable desks are indicated in GREEN. Click **[Next]**.



- b. The selected desk(s) are indicated in BLUE. The selected desk(s) are also displayed under the List of bookings. Select the **amenities** (as required), by clicking on the checkbox. Click **[Next]**.



- c. The following booking related attributes are displayed. Change the attributes as required –



- **Time** – Set the desk booking start time and end time by clicking on the *Set Time*. To change the start time / end time, drag the edge of the time slot on the calendar window as shown above. A greyed out slot will indicate that the desk is already booked by another user.
- **Reminder** – Outlook notification reminder before the booking starts. By default, it will follow the reminder time settings under PDM Console: Configure>Policy.

Desk	Time	Reminder	Recurrence	Assignee	
desk-val3-SG locstion 1 SG_building_1, Singapore	Sep 14 04:30 pm - 05:30 pm	0 Minute(s) ▾	None	None	>

Reminder

0 Minute(s) ▾

- None
- 0 Minute(s)
- 5 Minute(s)
- 10 Minute(s)
- 15 Minute(s)
- 20 Minute(s)
- 30 Minute(s)
- 45 Minute(s)
- 60 Minute(s)

- **Recurrence** – Set the booking *recurrence pattern* (None/Daily/Weekly/Monthly/Yearly). Refer to for more details about the recurrence patterns. Upon selecting the preferred recurrent pattern, click **[Save]**.

Recurrence

Recurrence pattern

☒ None
☐ Daily
☐ Weekly
☐ Monthly
☐ Yearly

Start
Tuesday , 14 September 2021

☐ End on
Tuesday , 14 September 2021
☒ End after
0
occurrence(s)

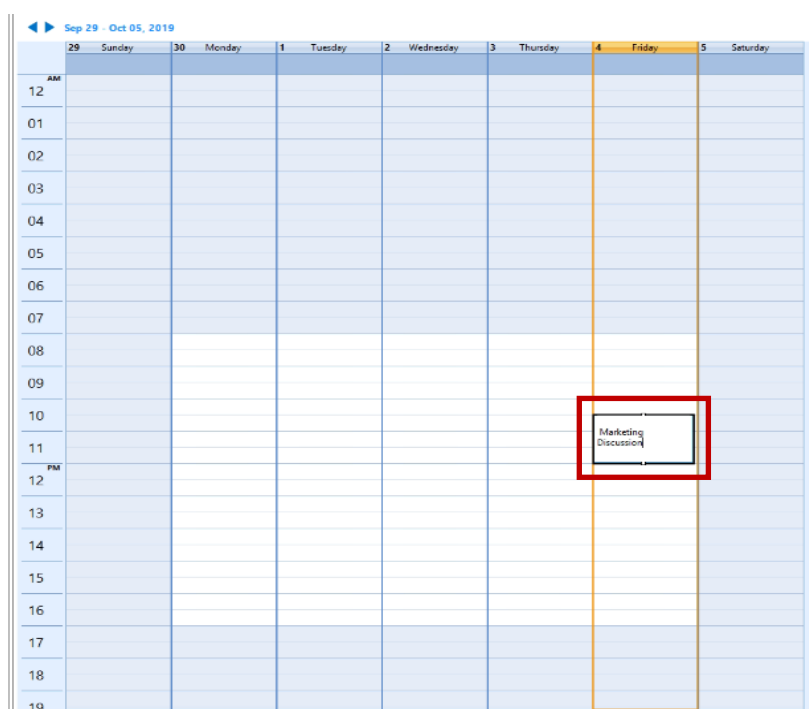
Cancel

Save

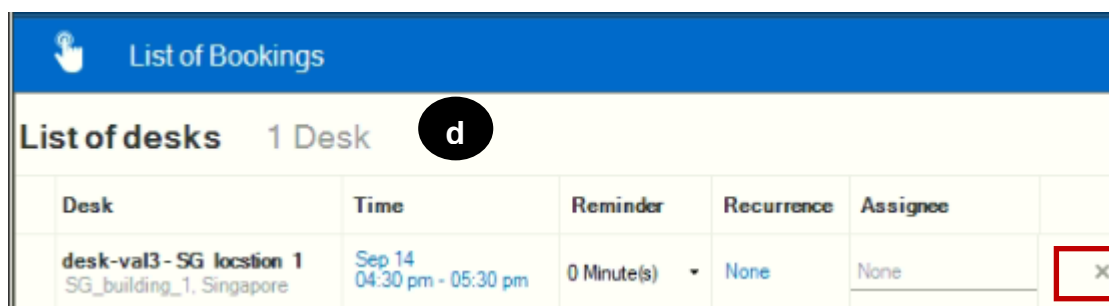
- *Assignee* – If desk(s) is booked on behalf of another user, click on the Assignee field and enter his/her Username/Email ID.



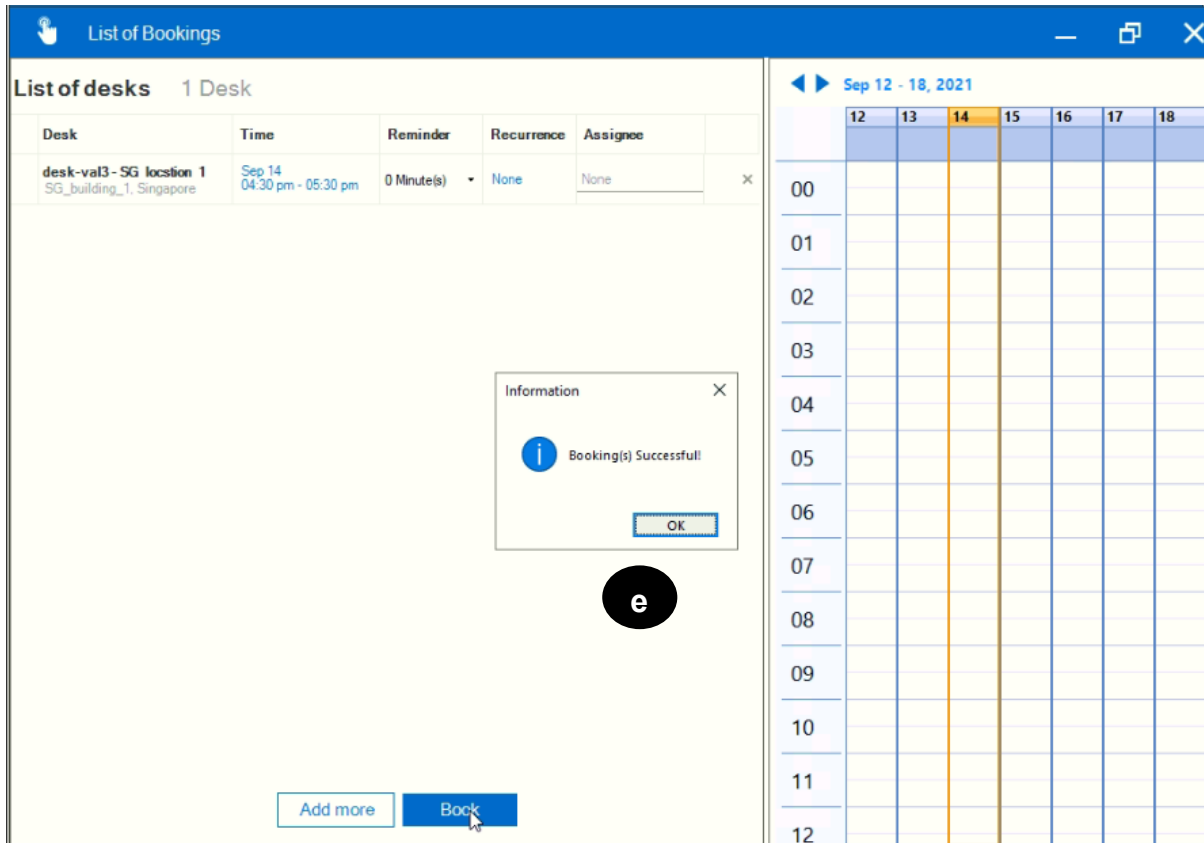
- *Note* – To add a note to the booking, click on the booking slot in the calendar window and type as required.



- d. Click **[Add More]** if you wish to add more desks or click **✕** to remove a desk booking.



- e. Upon adding/updating the booking related attributes, click **[Book]**. An appropriate message indicating whether the booking is successful or not is displayed. An email will be sent to the booking recipient(s) notifying that the desk(s) booking is complete (provided email template is configured)



The screenshot displays the 'List of Bookings' window. On the left, a table lists desk bookings. A modal dialog titled 'Information' is open in the center, displaying a blue information icon and the text 'Booking(s) Successfull' with an 'OK' button. Below the dialog is a black circle with a white letter 'e'. At the bottom of the desk list, there are 'Add more' and 'Book' buttons, with a mouse cursor clicking on 'Book'. On the right, a calendar grid for 'Sep 12 - 18, 2021' is visible, with the 14th of September highlighted in orange.

List of desks 1 Desk				
Desk	Time	Reminder	Recurrence	Assignee
desk-val3- SG locstion 1 SG_building_1, Singapore	Sep 14 04:30 pm - 05:30 pm	0 Minute(s)	None	None

Information

Booking(s) Successfull

OK

Add more Book

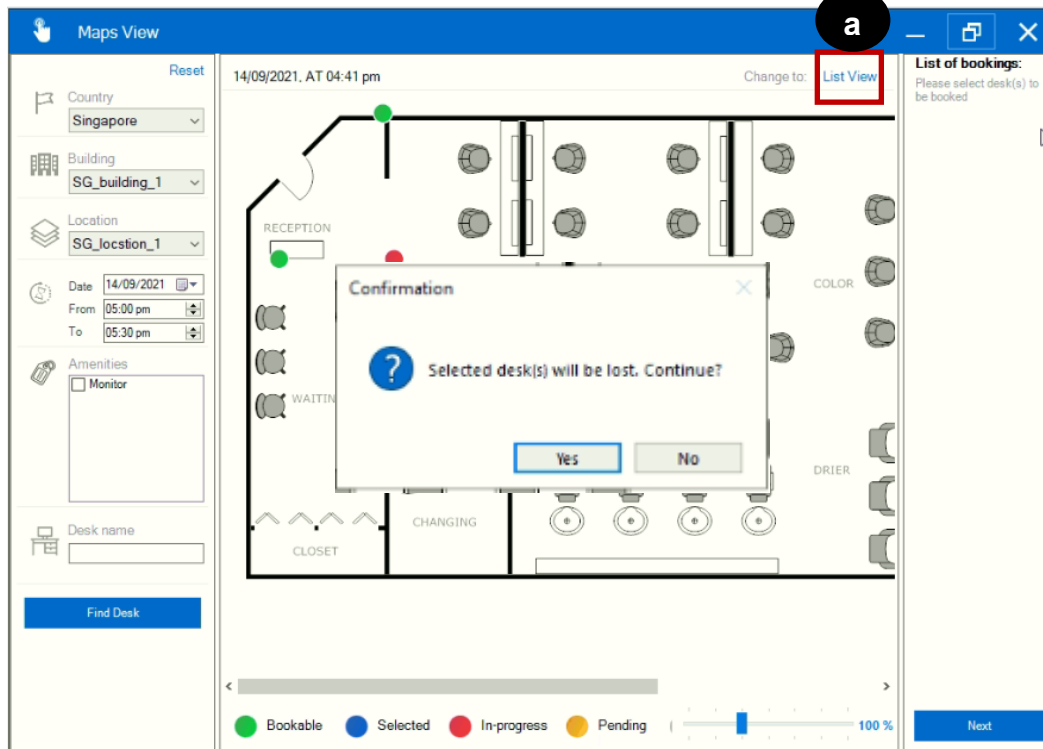
Sep 12 - 18, 2021

	12	13	14	15	16	17	18
00							
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							

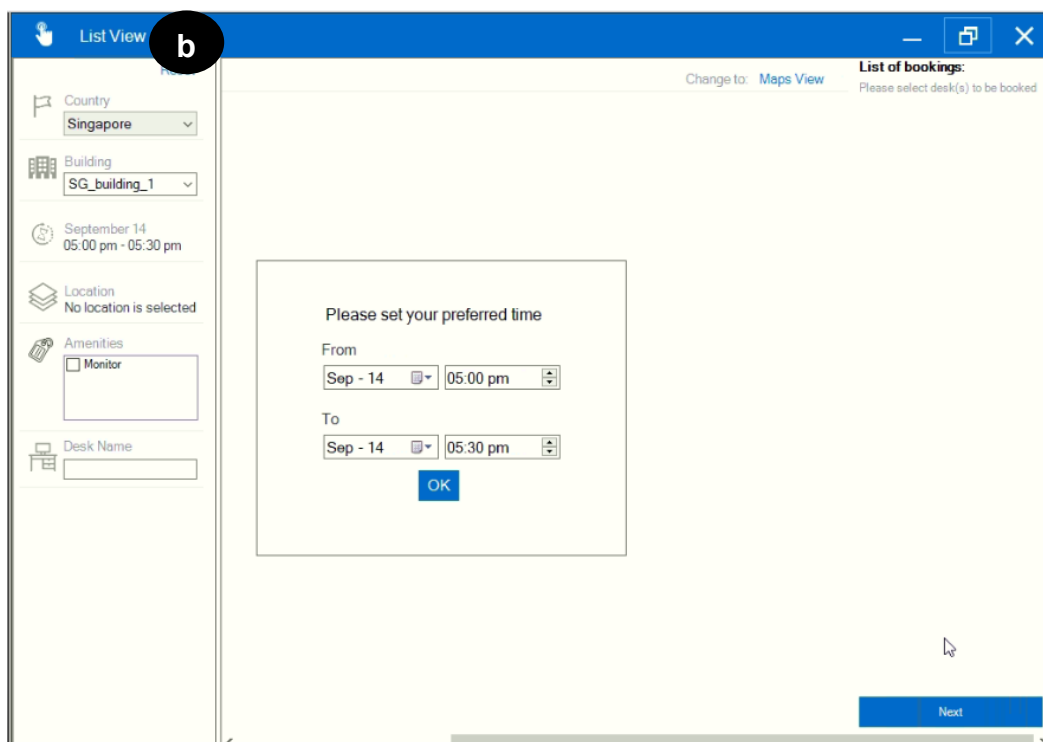
2. Booking Desk using List View

To book desk using List View –

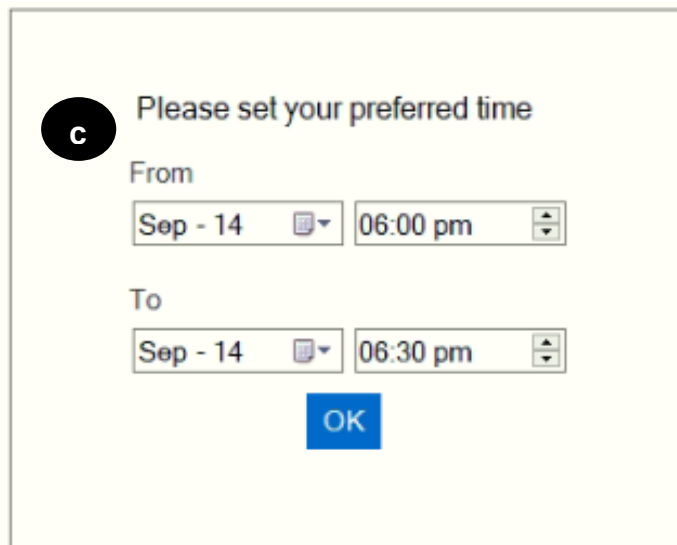
- By default, the desk booking interface opens in Maps View. Change to **List View** by clicking the link. A confirmation window is displayed. Click **[Yes]** to proceed.



- Desk booking interface switches to List View.



- c. Click and select the *preferred date* and *time* for booking the desk. Click **[OK]**.



c Please set your preferred time

From

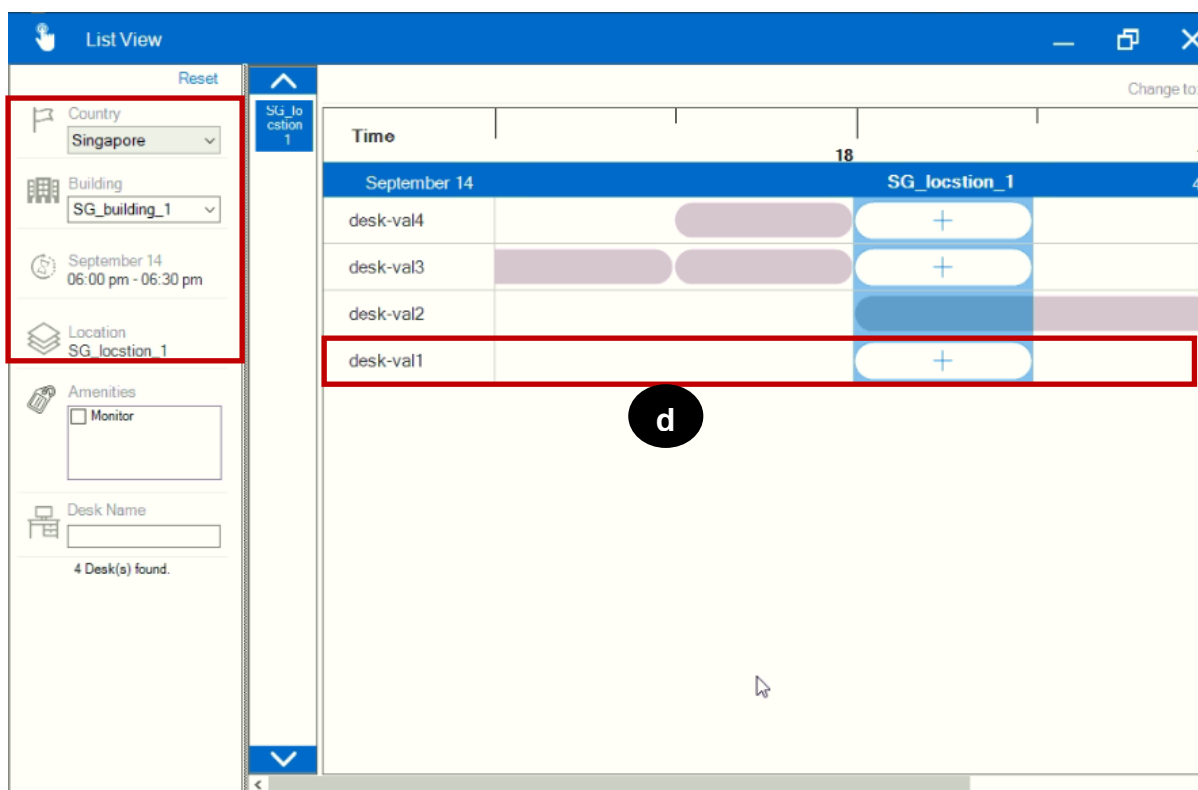
Sep - 14 06:00 pm

To

Sep - 14 06:30 pm

OK

- d. A list of desk(s) available in the selected location are displayed. Desk(s) which are not available for the required time slot will be greyed out. Tap on **+** to add desk(s) for booking. The selected desk(s) along with the preferred date and time are displayed under the *List of Bookings*. Select the amenities (as required) by clicking the check box. Click on **[Next]**.



List View

Reset

Country: Singapore

Building: SG_building_1

September 14
06:00 pm - 06:30 pm

Location: SG_location_1

Amenities: ☐ Monitor

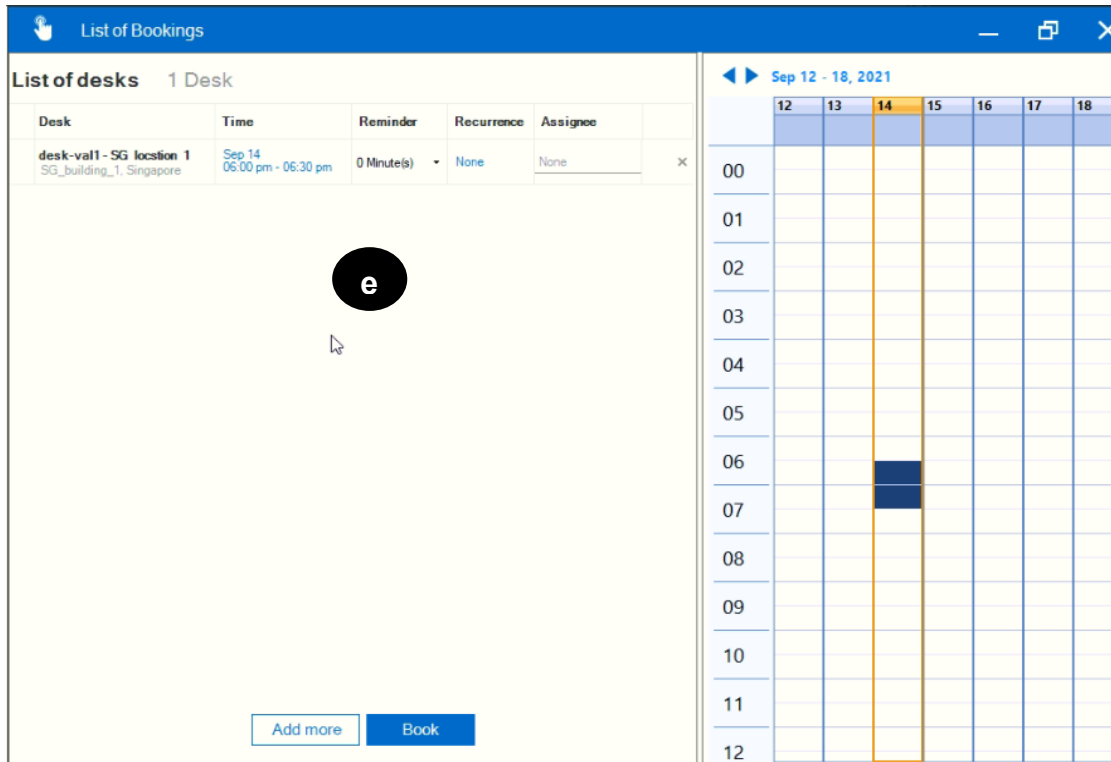
Desk Name:

4 Desk(s) found.

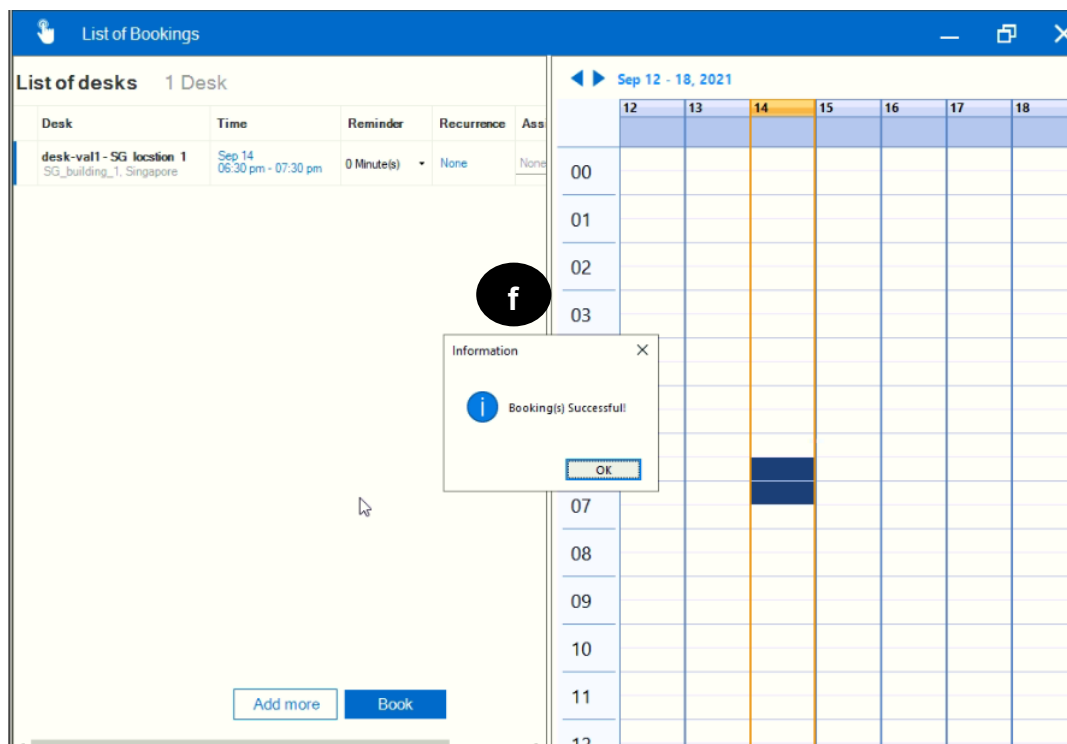
Time	18	19	20	21
September 14				
SG_location_1				
desk-val4			+	
desk-val3			+	
desk-val2				
desk-val1			+	

d

- e. The booking related attributes are displayed. You may change the attributes, as required. Refer to [Booking Desk using Maps View](#) for the details pertaining to setting booking attributes. Click on **[Add More]** if you wish to add more desks or click **X** to remove a booking. Upon adding/updating the booking related attributes, click on **[Book]**.



- f. An appropriate message indicating whether the booking is successful or not is displayed. Email will be sent to the booking recipient(s) notifying that the desk(s) booking is done (provided email template is configured).

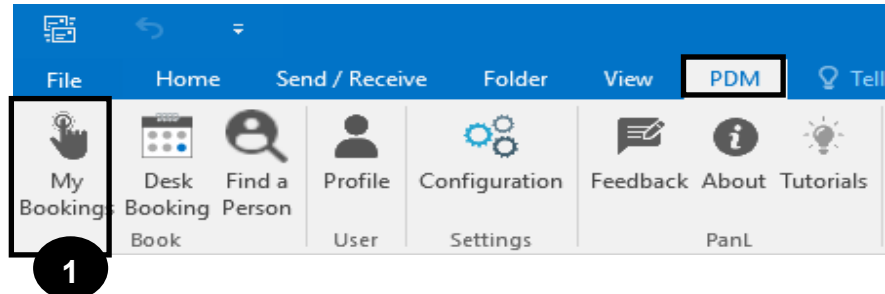


3. Other Booking Functions

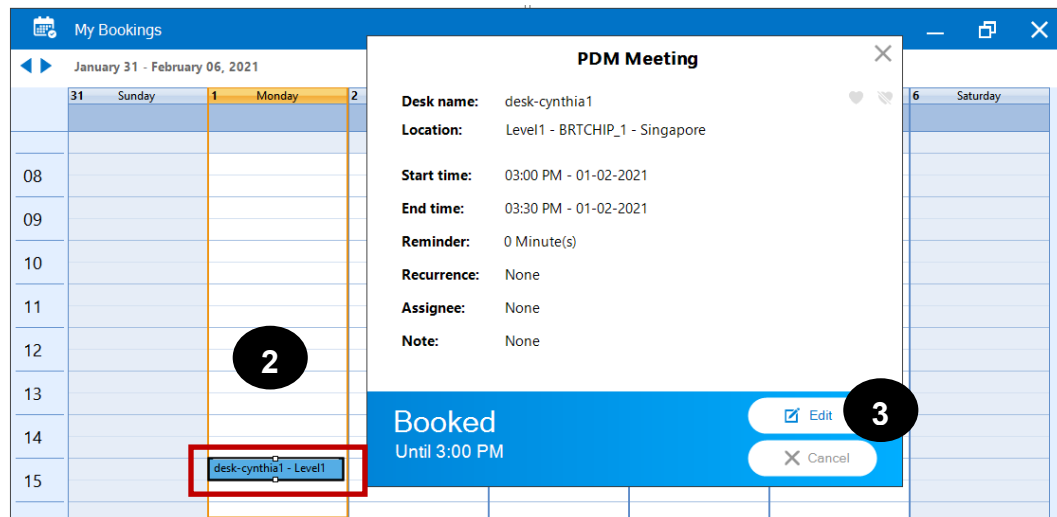
3.1 View and Edit Booking

To edit booking details –

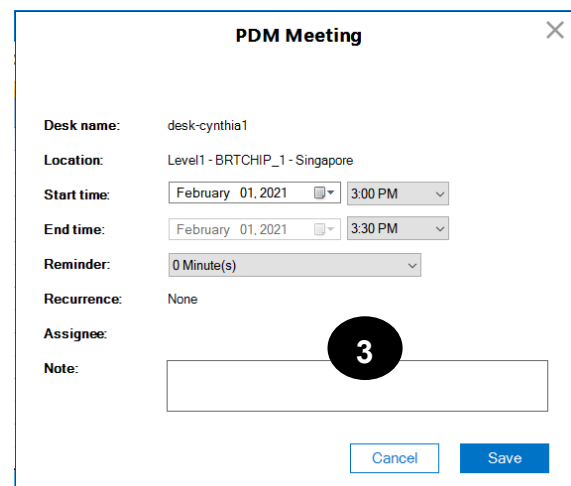
- a. From the top bar menu, click **PDM** > **My Bookings**.



- b. The booking summary is displayed in the calendar window. You will be only able to edit the booking that are in "Booked" status (time slot indicated in Blue color). Double click on the booking.



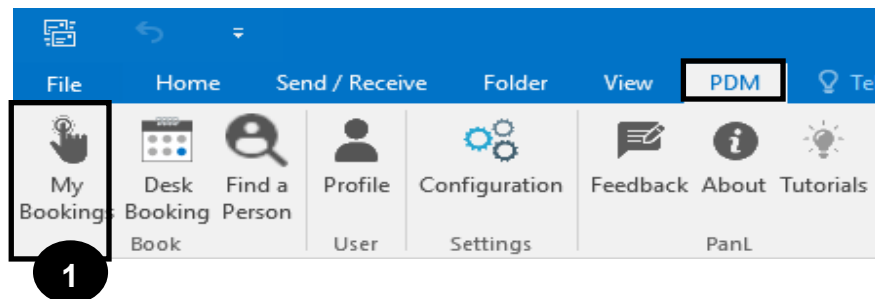
- c. The booking details are displayed. Click **[Edit]**. Edit the booking details as required and click **[Save]** to update the changes, if any. An appropriate message indicating whether the update was successful or not is displayed. An Email will be sent to the booking recipient(s) notifying of the changes (provided email template is configured)



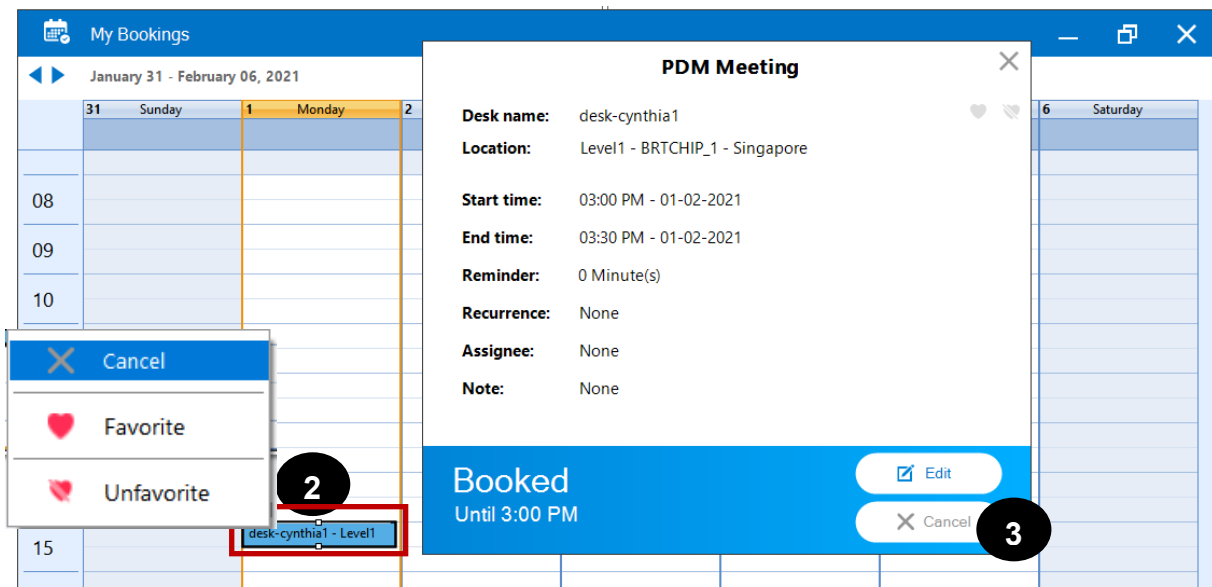
3.2 Cancel Booking

To cancel booking –

- a. From the top bar menu, click **PDM > My Bookings**.



- b. The booking summary is displayed in the calendar window. Right click and select **"Cancel"** or double click on a booking.

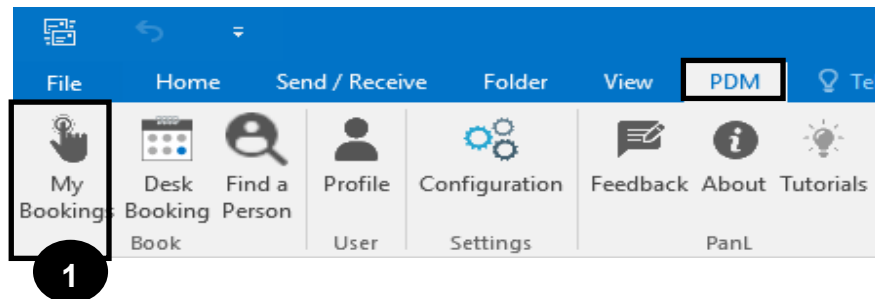


- c. The booking details are displayed. Click **[Cancel]**. A confirmation message is displayed. Click **[Yes]** to cancel the booking or **[No]** to retain the booking. Upon selecting **[Yes]**, an appropriate message indicating whether the cancellation of booking was successful or not is displayed. An Email will be sent to the booking recipient(s) notifying of the cancellation (provided email template is configured)

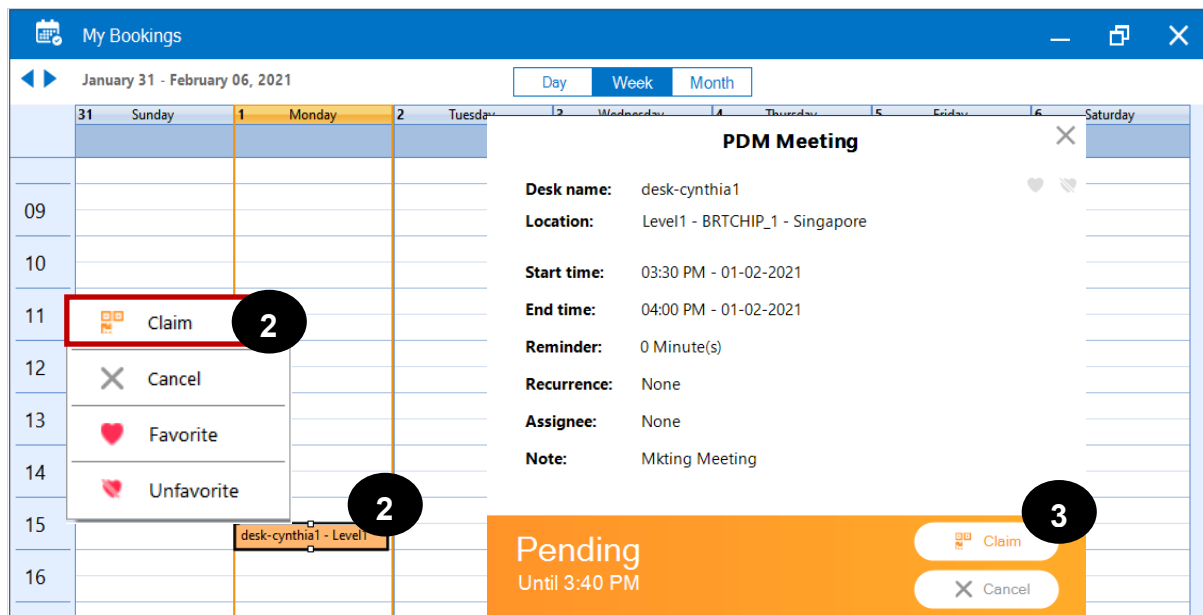
3.3 Claim Booking

To claim booking –

- a. From the top bar menu, click **PDM > My Bookings**.



- b. The booking summary is displayed in the calendar window. Right click and select **"Claim"** or double click on the booking that is **"Pending"** for Claim (timeslot indicated in Yellow Color).

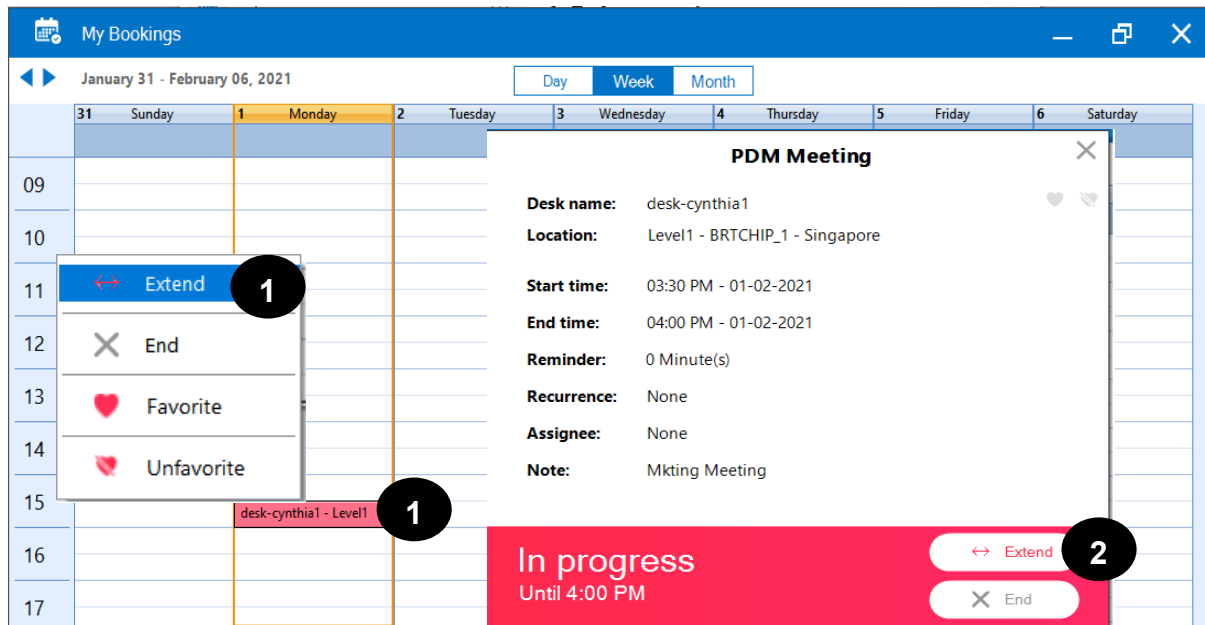


- c. The booking details are displayed. Click **[Claim]**. A confirmation message is displayed. Click **[Yes]** to claim the booking or **[No]** to discard claim process. Upon selecting [Yes], an appropriate message indicating whether the claim was successful or not is displayed. An Email will be sent to the booking recipient(s) notifying of the claim (provided email template is configured).

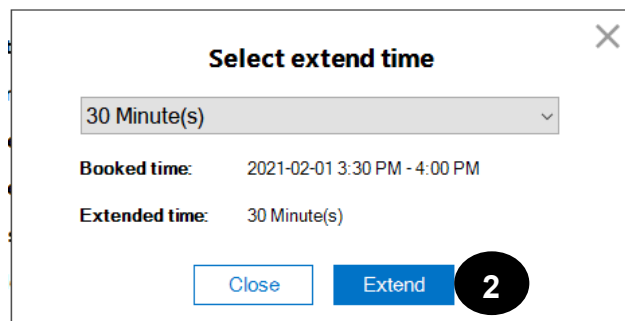
3.4 Extend Booking

To extend booking –

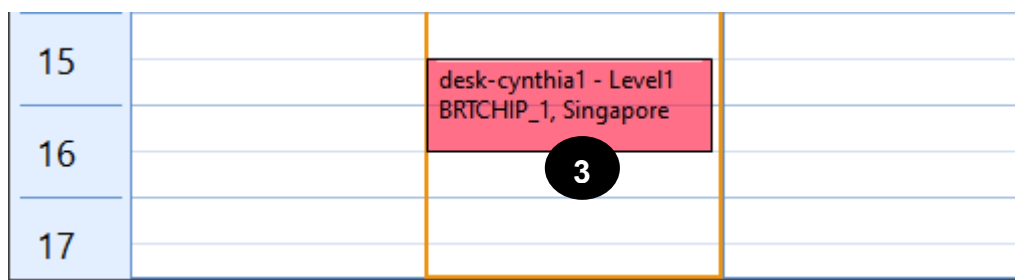
- From the My booking interface, Right click on the booking that is "In-Progress"(timeslot indicated in Red Color) and select "**Extend**" or double click on the booking that is "In-Progress".



- The booking details are displayed. Click on [**Extend**]. Select the time to extend the booking. Click [**Extend**]. An appropriate message indicating whether the booking was successfully extended or not is displayed. An Email will be sent to the booking recipient(s) notifying of the extension (provided email template is configured).



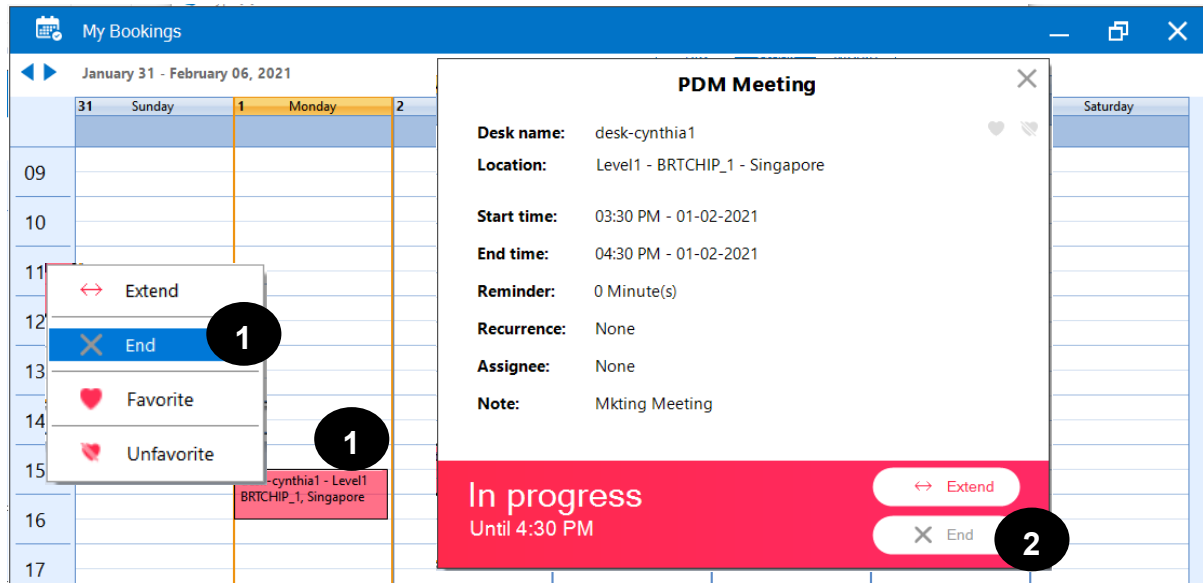
- The booking timeslot is updated accordingly in the calendar window.



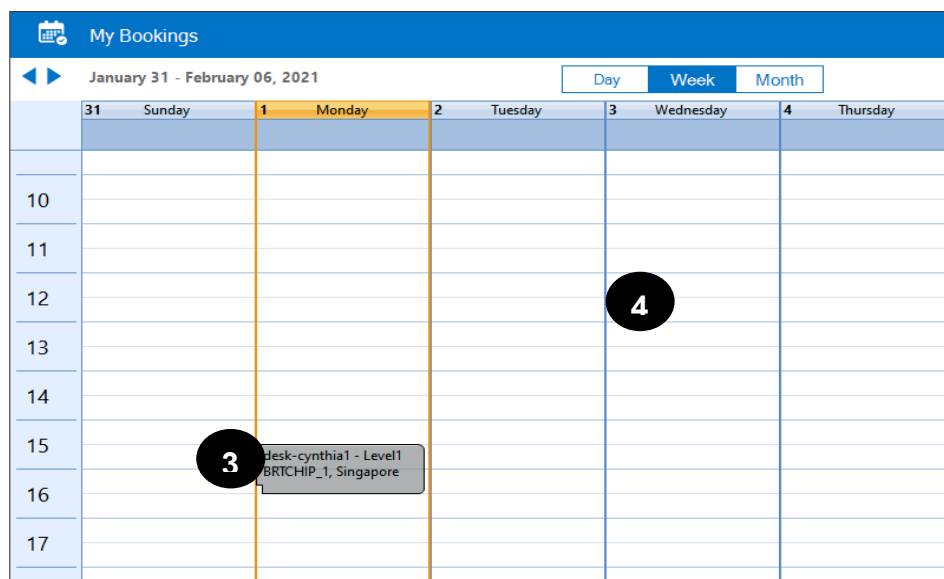
3.5 End Booking

To end booking –

- From My booking interface – calendar view, right click on the booking that is "In-Progress" (timeslot indicated in Red Color) and select **"End"** or double click on the booking that is "In-Progress".



- The booking details are displayed. Click **[End]**. A confirmation message is displayed. Click **[Yes]** to end the booking or **[No]** to discard the operation. Upon selecting **[Yes]**, an appropriate message indicating whether the booking was ended successfully or not is displayed. An Email will be sent to the booking recipient(s) notifying of the booking ended(provided email template is configured)
- The booking timeslot is updated accordingly in the calendar window (timeslot indicated in grey color)

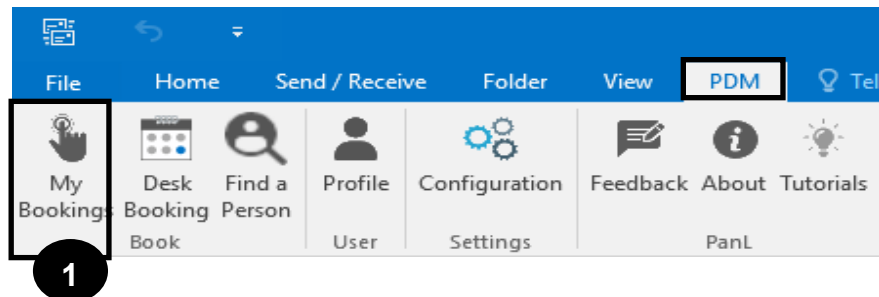


- To do a re-booking, right click on the booking summary and select **"Book Again"**. Go through the booking procedure as provided under the section **Desk Booking**.

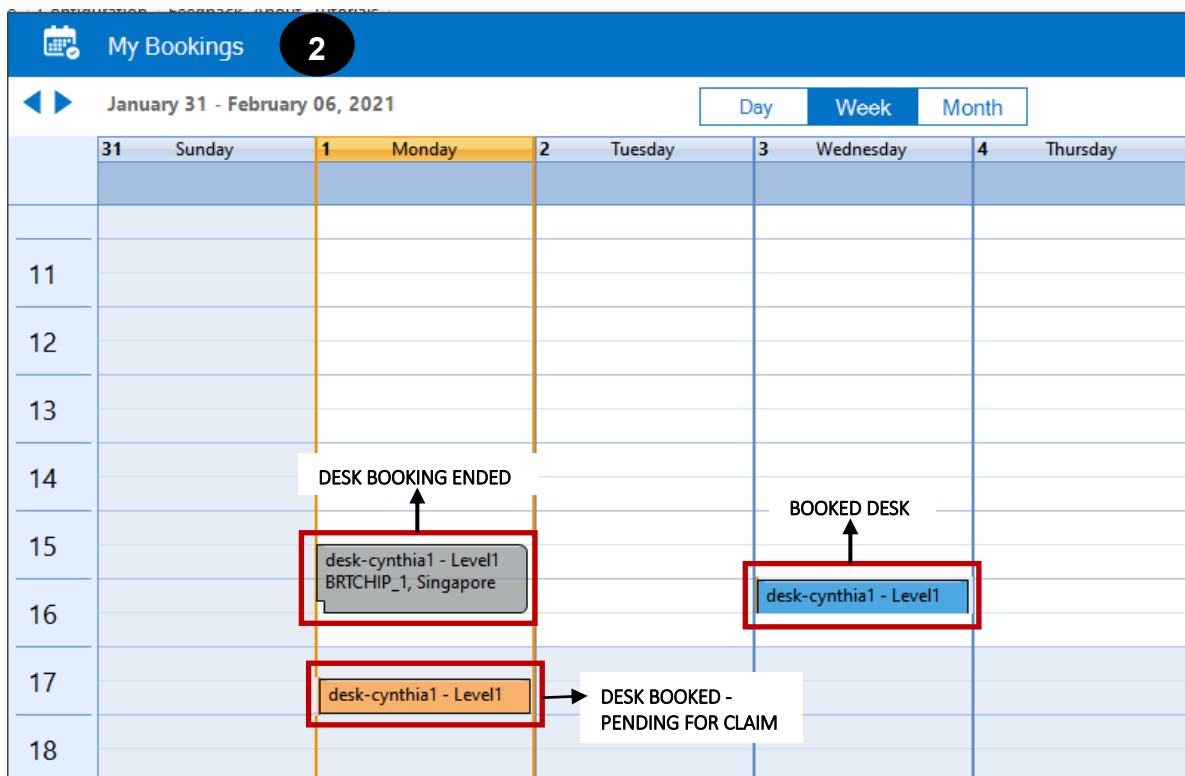
F. My Bookings

The My Bookings interface displays the list of desks booked by the user. To view the list of bookings,

1. From the Add Ins menu, click **PDM > My Bookings**.



2. The list of bookings, if any, are displayed in the calendar view. Double click on the booking to view the details of the booking. *Blue – Booked, Orange - Pending Claim, Red - In Progress, Grey – Ended.*

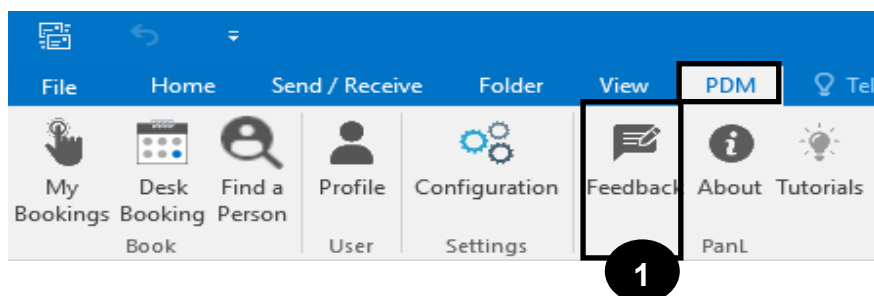


G.Feedback

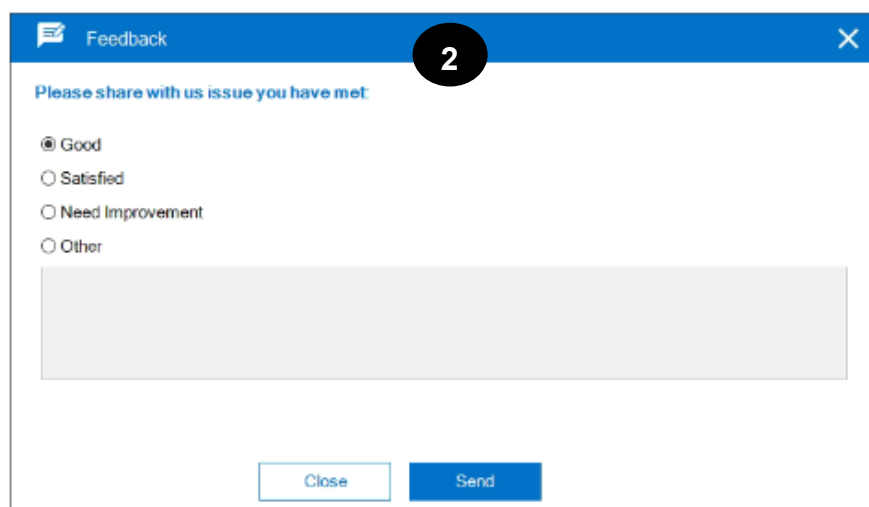
The Feedback interface allows users to send feedback about PanL Desk Manager (PDM) solution to the admin user.

To send feedback –

1. From the top bar menu, click **PDM > Feedback**.



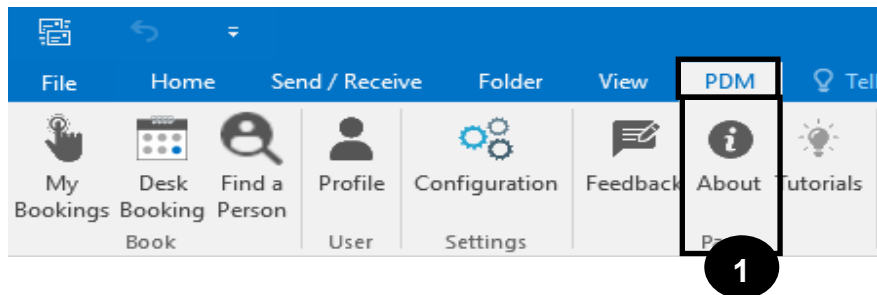
2. The Feedback interface is displayed with a set of pre-defined feedback options (preset in the PDM console under Feedback Management by the admin). Click and choose any of the option. If the option **Other** is chosen, then user may type in a customized feedback. Upon providing the feedback, click **[Send]**. An appropriate message indicating whether the message was sent successfully or not is displayed.



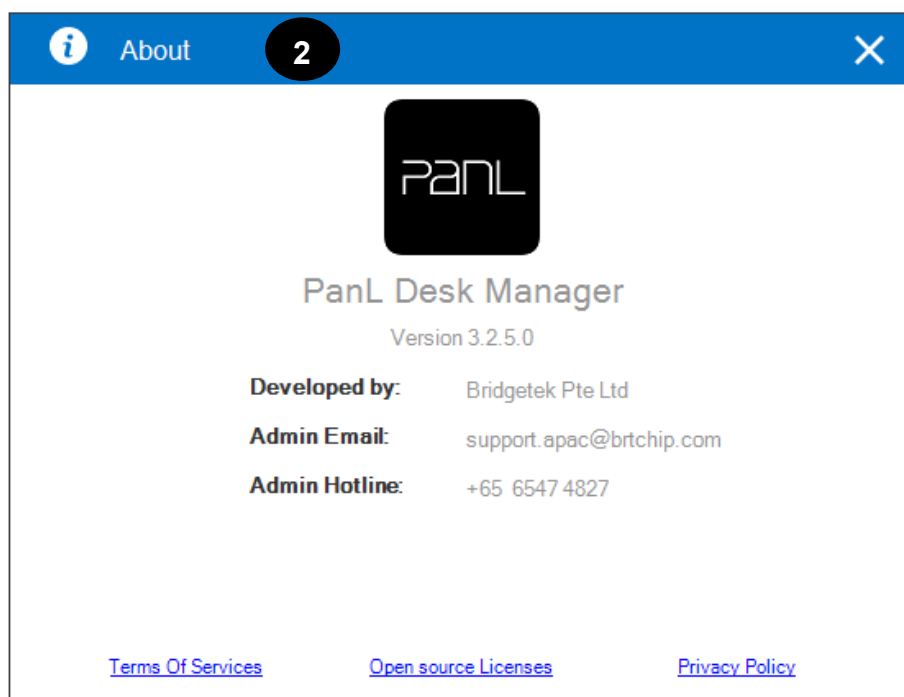
H.About

The About interface displays the Outlook Add-In Version, Product developer as well as the organization admin contact and email as a support channel for the users.

1. From the top bar menu, click **PDM > About**.



2. An example of the PanL Desk Manager (PDM) Version info, Organization and Product developer information is displayed in the About interface.



Refer to the section [Getting Started with PDM Console > Configuration > Policy Settings](#) for adding the product information.

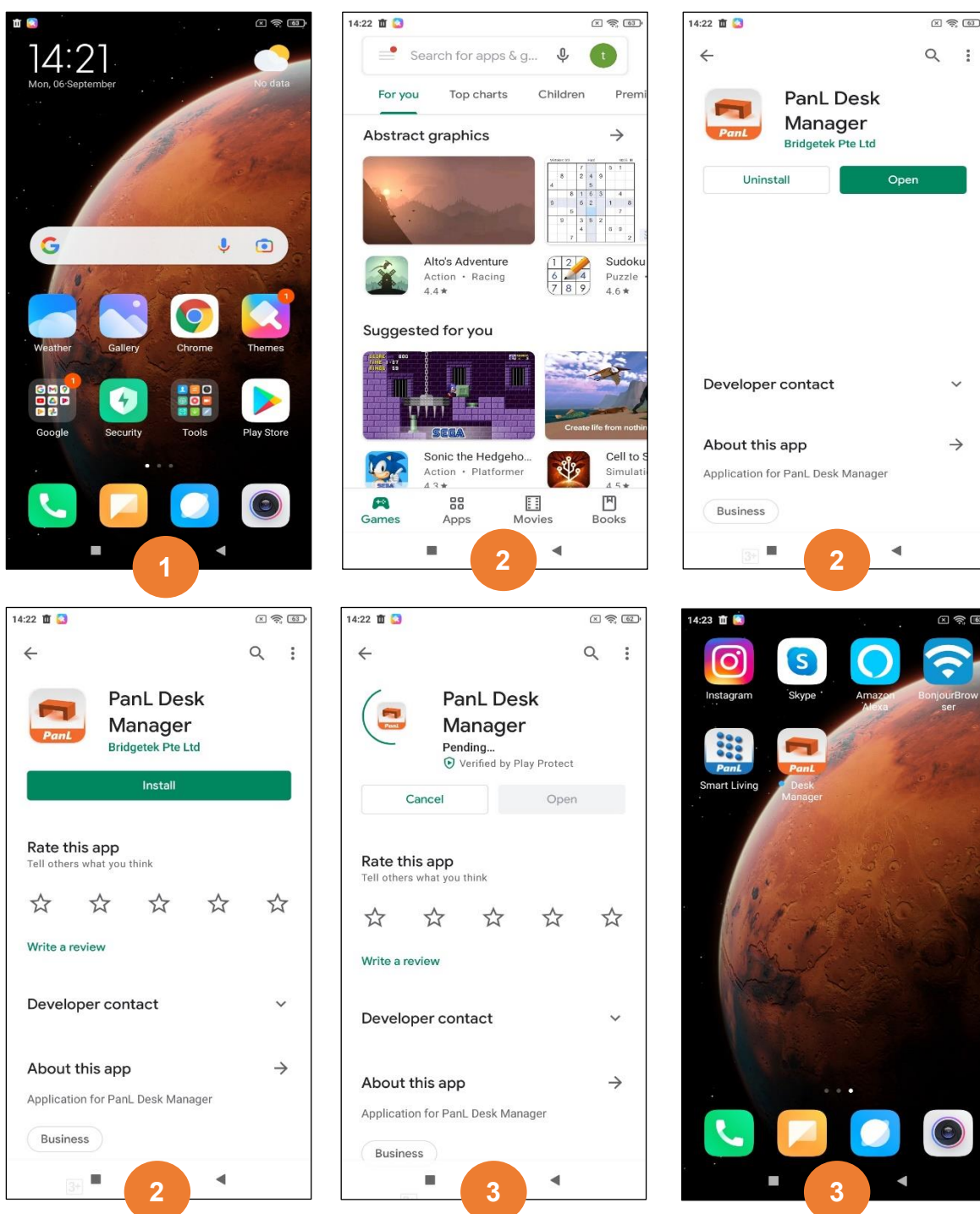
Mobile App for Android / iOS Users

VII. PanL Desk Manager Mobile App for Android Users

A. Hardware / Software Requirements

Operating System	Technical Requirement
Android	Android devices with Android 7+

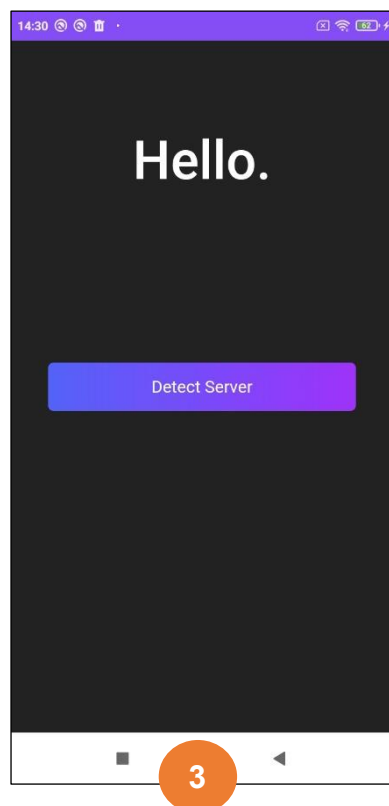
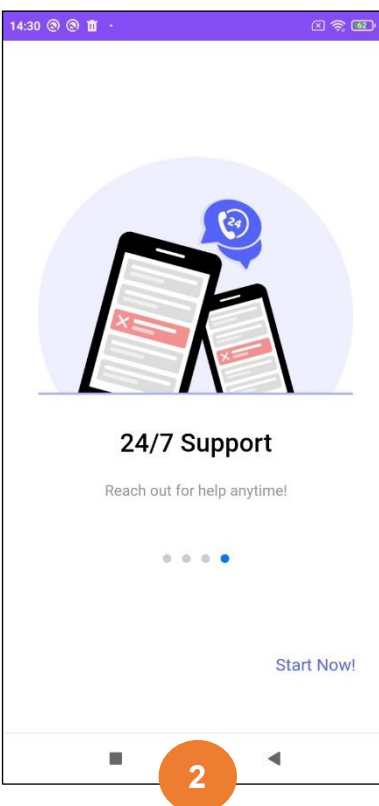
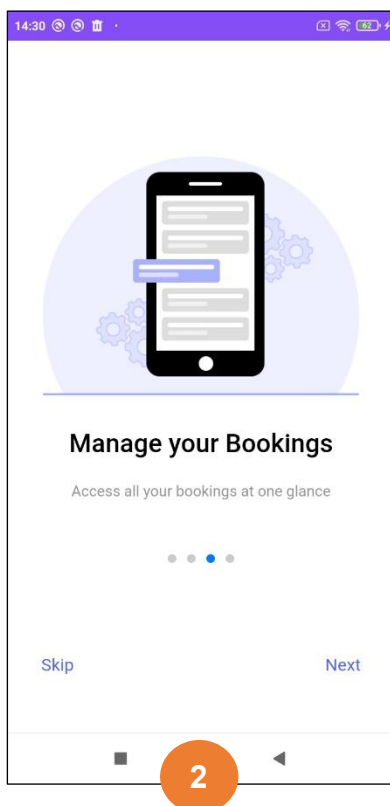
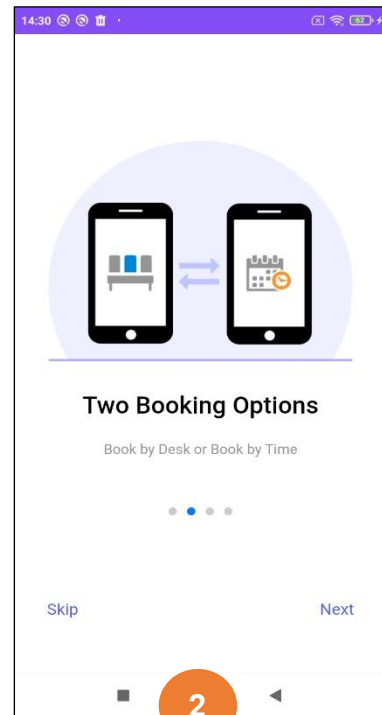
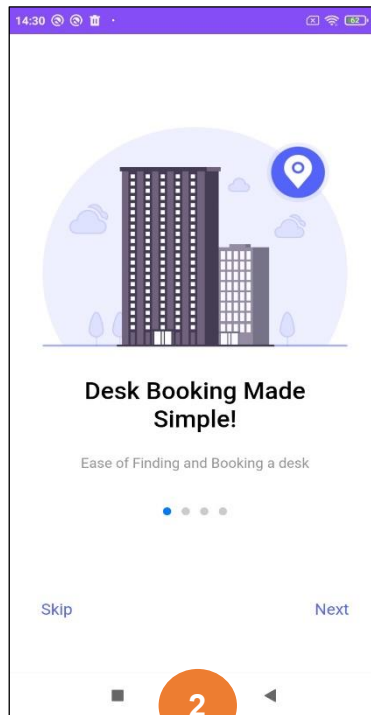
B. Download / Installation of PDM Mobile App from Play Store

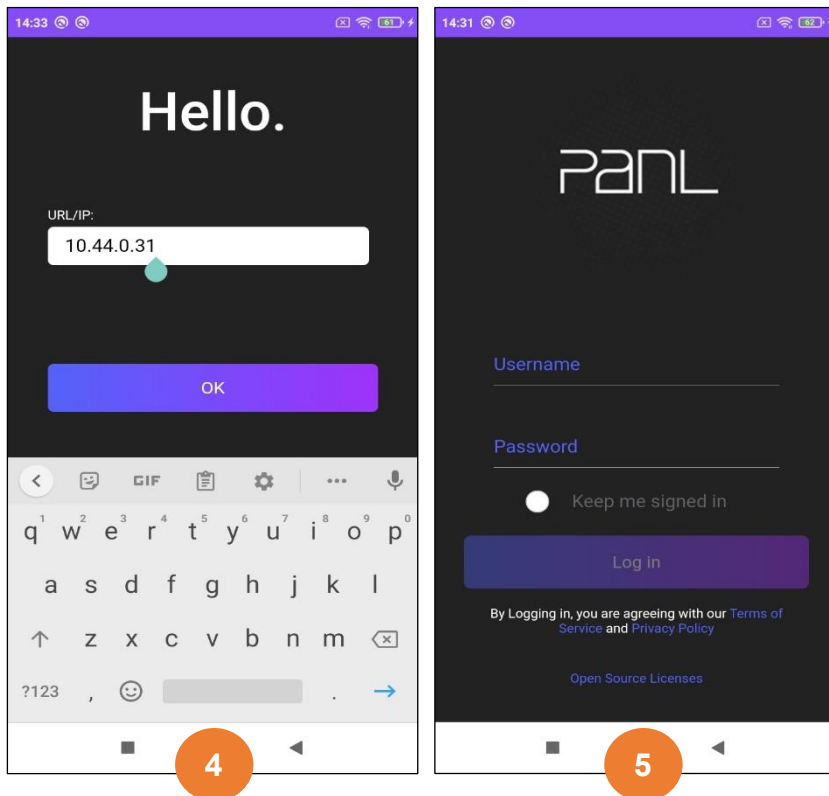


The PDM Mobile App can be downloaded from the Google Play Store using the following steps –


1. On the Android Phone, tap on **[Play Store]** icon.
2. The Play Store page is displayed. Enter “PanL Desk Manager” in the search field. The app page is displayed. Tap on **[Install]** to start the downloading/ installation of the app.
3. Upon successful installation, tap on **[Open]** to access the PanL Desk Manager (PDM) App. A shortcut is created and displayed.

C. Starting the PDM Mobile App

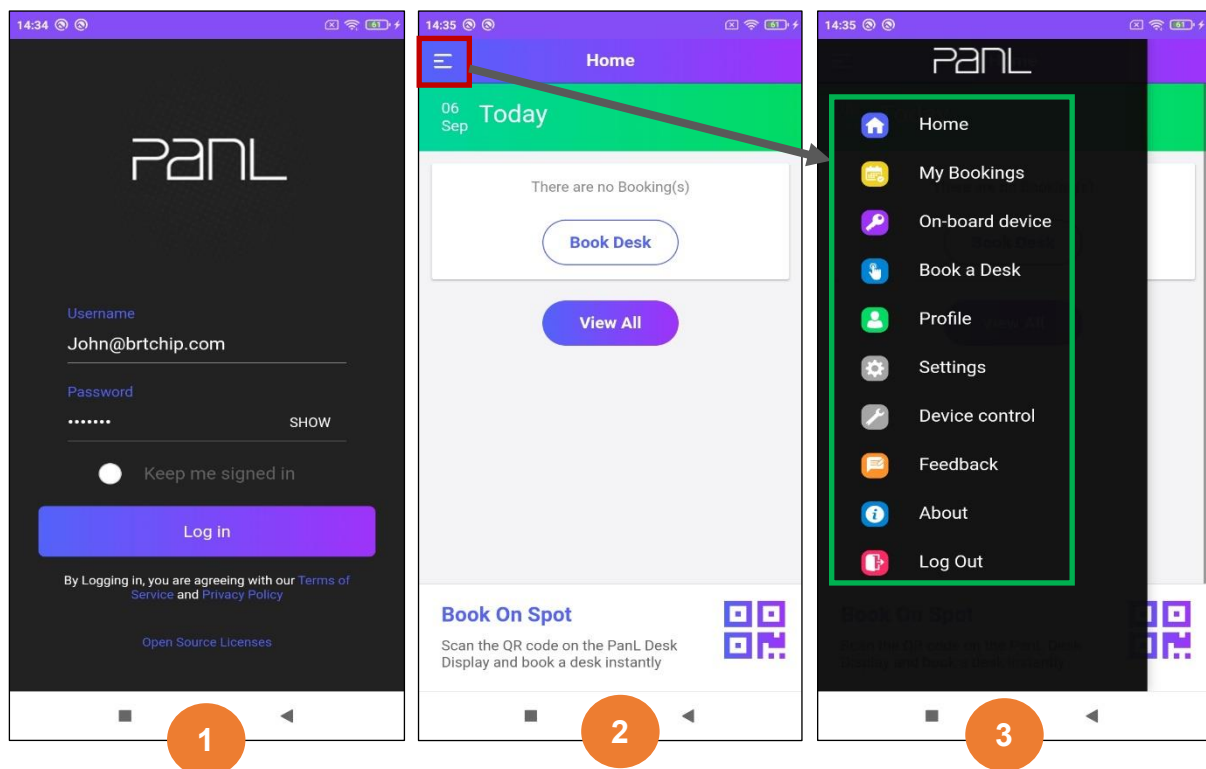




Upon installing the PDM Mobile App on the mobile device, invoke the PDM app using the steps given below –


1. Tap on the PDM application  icon.
2. A set of Introduction screens are shown. Tap on **[Next]** to go through the introduction or tap on **[Skip]** to skip the introduction.
3. A "Hello" interface is displayed. Tap on **[Detect Server]** to automatically detect and connect to a PDM server.
4. For a local host/DNS setup, the mobile device Wi-Fi should be connected to the same local server network for automatic PDM server detection. If it's a global DNS setup, enter the PDM Server URL/IP manually.
5. Upon successfully detecting and connecting to a PDM server, the login page is displayed.

D. Log in



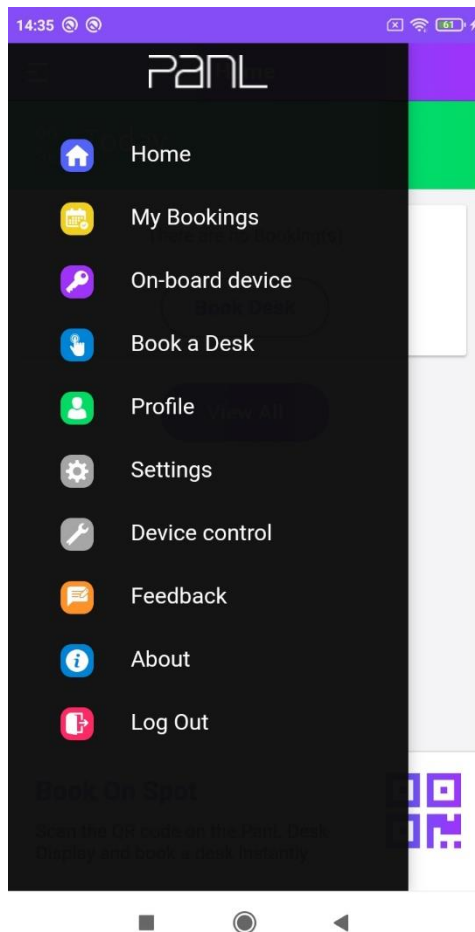
To log in to the PDM Mobile app,

1. Enter the Username and Password as provided by the organization. Tap on **[Login]**.
2. If the logging in is successful, the PanL Desk Manager home screen is displayed. Alternately, if the logging in fails, an appropriate message indicating the same is displayed. Try logging in again.

Upon successfully logging in, tap on the menu  icon.

3. A list of functions that a user can perform is displayed as part of the menu.

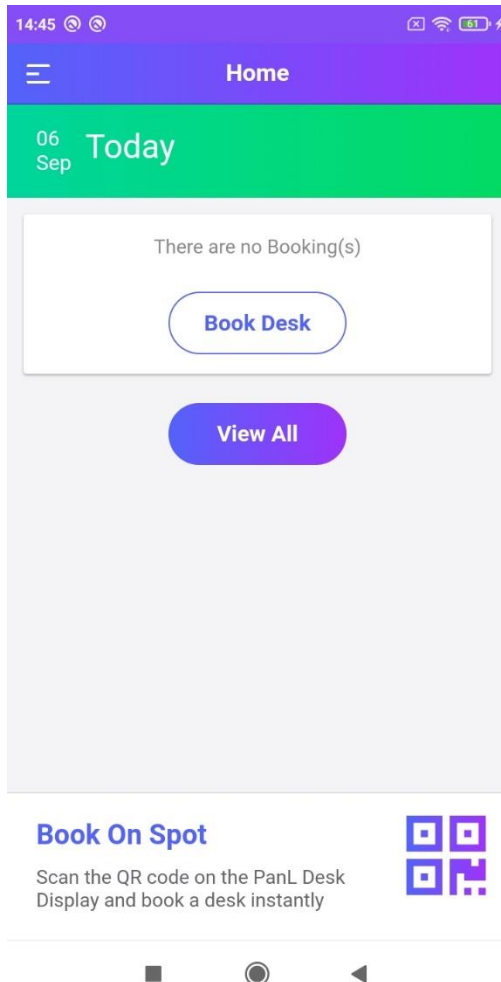
E. Menu Overview



Home	To access the app home screen
My Bookings	To view the list of bookings made
On-board device*	To perform desk panel device on-boarding
Book a Desk	To book a desk
Profile	To view user profile and booking statistics
Settings	To configure mobile related settings
Device control*	To control desk panel device attributes
Feedback	To send user feedback
About	To view PDM mobile app version information and support contact
Logout	To logout from the mobile app

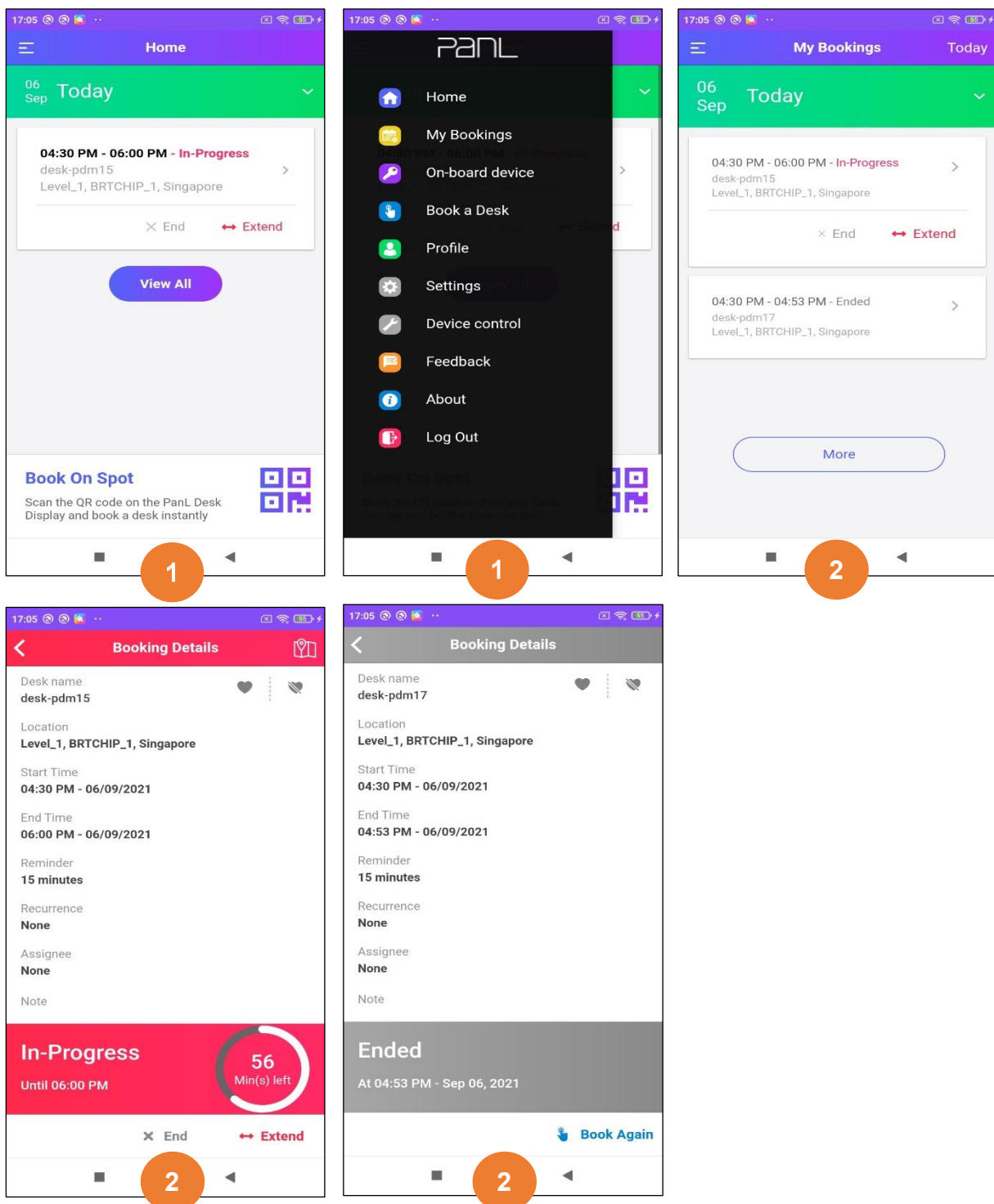
The * indicates that these menu functions are available for **ONLY USERS WITH DEVICE MANAGEMENT PERMISSION.**

F. Home



1. Upon user login, by default the Home screen is displayed. However, users can also access the home screen, by tapping on the menu icon and from the resulting menu, tap on **Home**.
2. Tap on **[Book a Desk]** to book a desk. Refer to the topic for more details.
3. Tap on **[View All]** to view a list of bookings, if any.
4. Tap and scan the QR code on the desk panel device display for instant on spot desk booking.

G.My Bookings



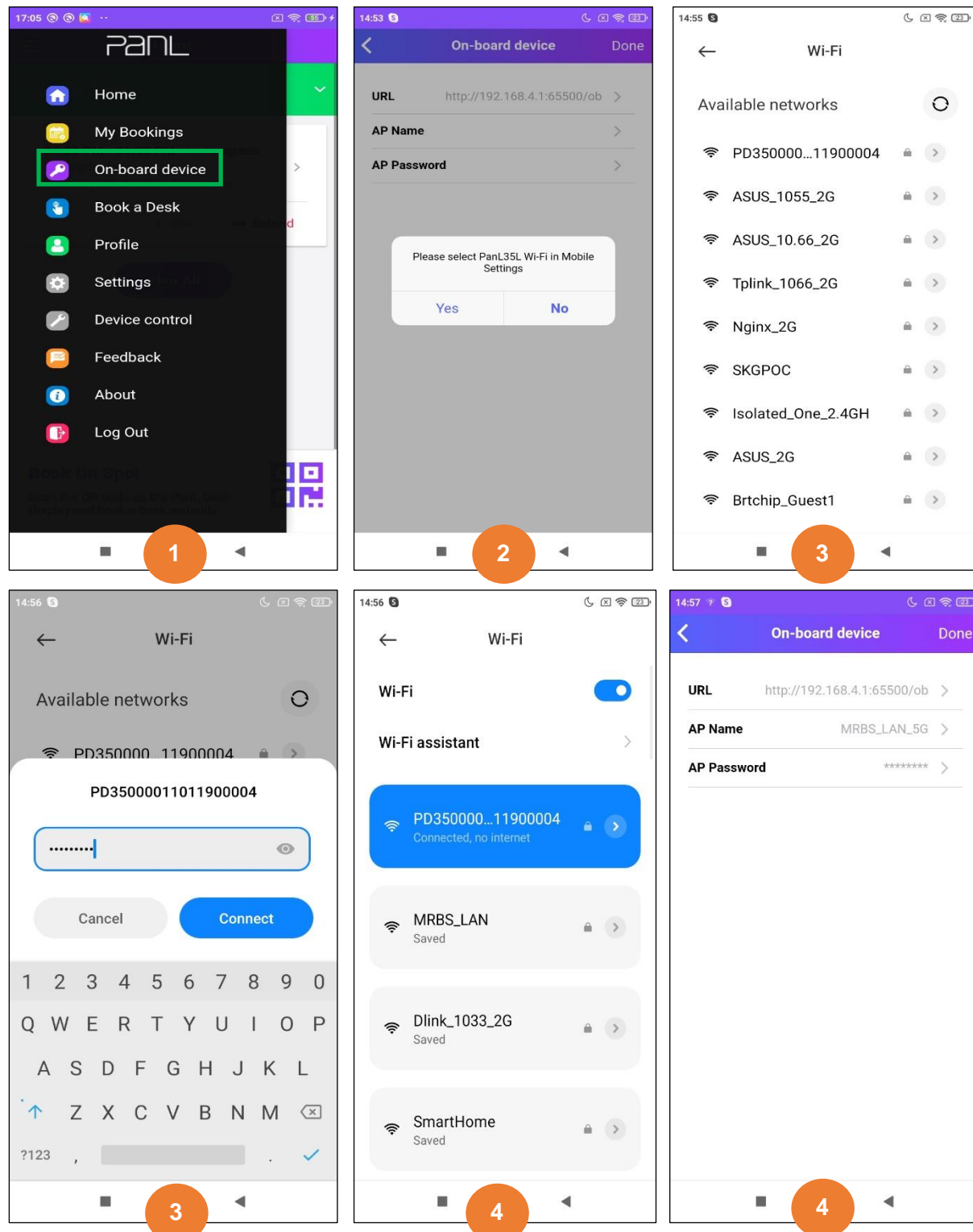
My Bookings interface displays the list of desks booked by the user. To view the list of bookings –

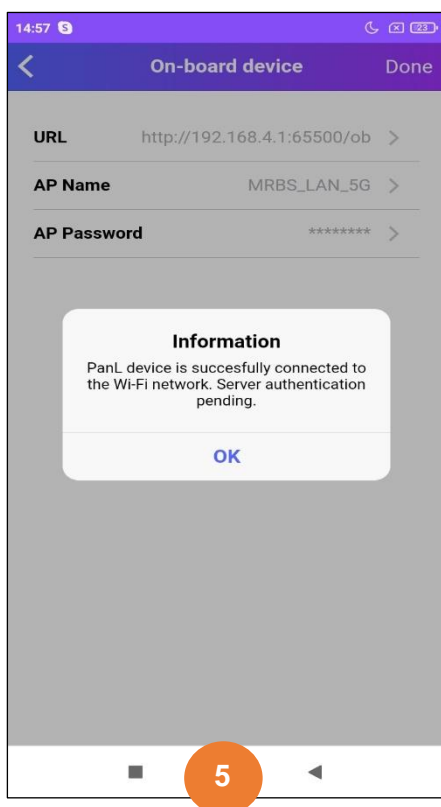
1. From the home screen, tap on **[View All]** or from the menu function tap on **My Bookings**.
2. The list of bookings, if any, are displayed. Tap on the booking to view the details of the booking and perform any of these desk functions - **Edit, Claim, Extend, End, Cancel** or **Book Again** as required.

H.On-board Desk Panel Device (PanL35L)*

The on-boarding procedure is performed to integrate the PanL35L desk panel devices to the PDM Server network. ***This function is only available for users with Device Management Permission*.**

Manual On Boarding

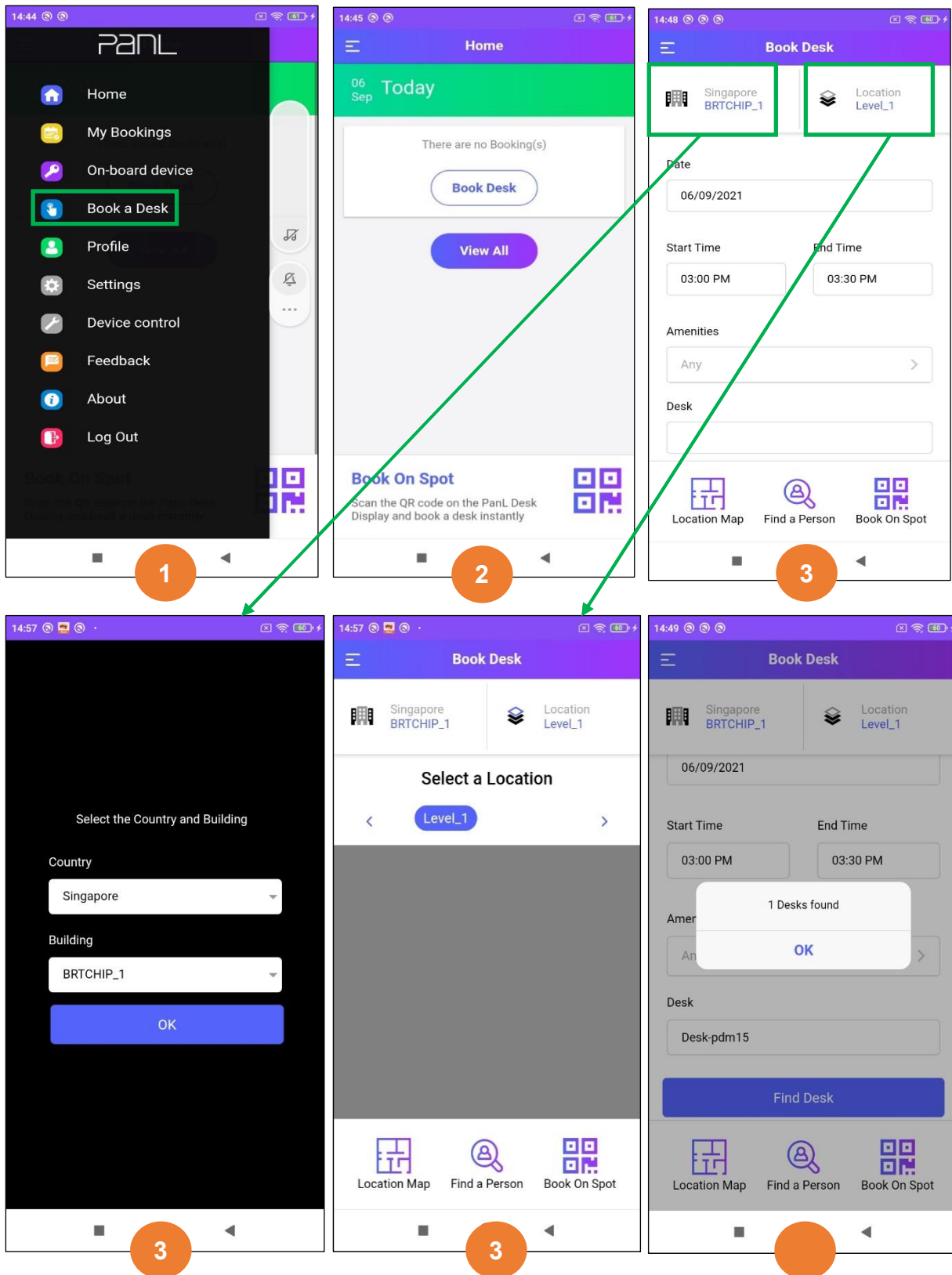


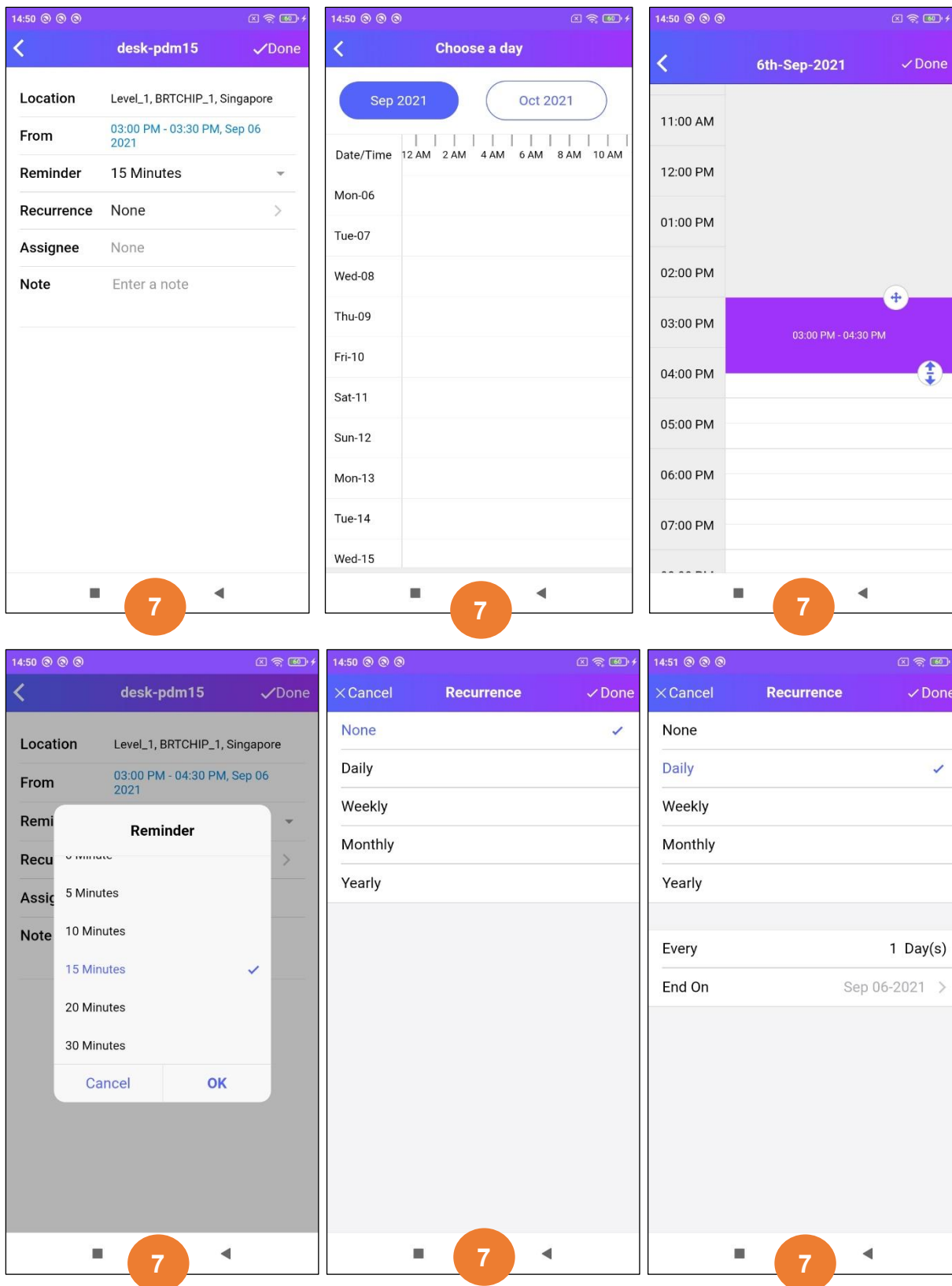


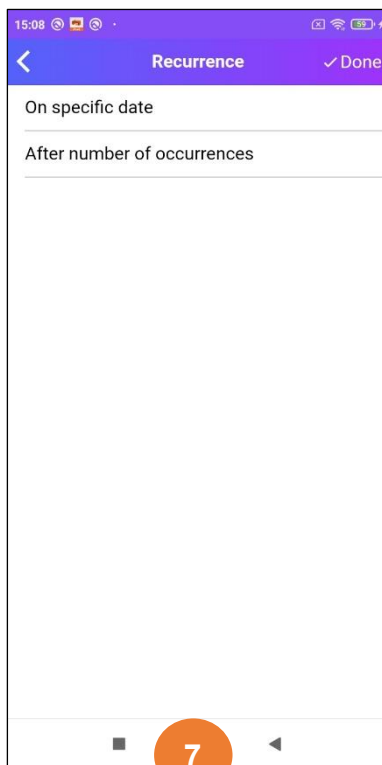
To on-board the PanL35L device manually -

On the PanL35L Device	On the Android Mobile App
1. Power up the PanL35L device and wait until the LED strip bar turns white (AP Mode).	1. Tap on the PDM Mobile App menu, select On-board device .
	2. A message pops up in On-board device interface, prompting the admin user to connect to the PanL35L device's Wi-Fi. Tap on [Yes] and access the Mobile's Wi-Fi Settings.
3. The device SSID and password are displayed on the PanL35L device.	3. Select the PanL35L device's SSID (refers to the device's Wi-Fi ID which is the device UUID. For example: "PD35000011011900004"). Input the Password to connect. Tap on [Connect] .
	4. Upon successfully establishing the Wi-Fi connection with the PanL35L device, switch back to the PDM mobile app's On-board device interface using the ← icon. In the On board Device interface, enter the name of the PDM Server network in the AP Name field and password in the AP Password field to connect the PanL35L to the PDM server. Tap on [Done] .
	Note: If the PDM Server Wi-Fi credentials entered is incorrect, then the PanL35L will be in a DISCONNECT State (LED in WHITE). Perform a Factory reset or enter AP mode on the PanL35L.
	5. Upon successful connection to the network, an authentication from the PDM Server will be awaited. An appropriate message indicating the same is displayed.
The PanL35L device will switch to Desk Assign Mode. Assign Desk using the PDM Console.	Upon successful authentication from the PDM server, an appropriate message indicating if the network connection is successful or not is displayed.

I. Book a Desk







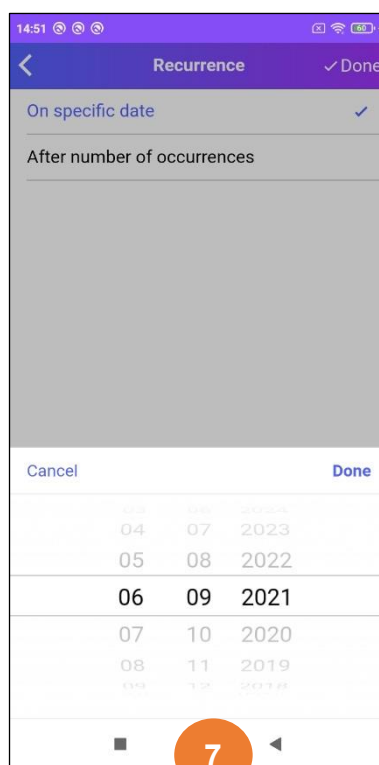
15:08

Recurrence ✓ Done

On specific date

After number of occurrences

7



14:51

Recurrence ✓ Done

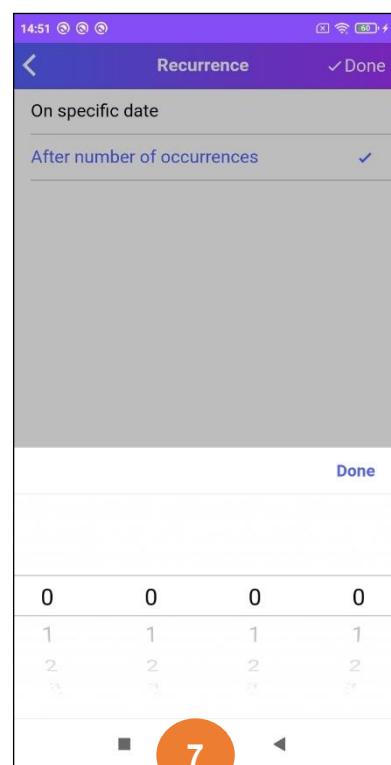
On specific date ✓

After number of occurrences

Cancel Done

MM	DD	YYYY
04	07	2023
05	08	2022
06	09	2021
07	10	2020
08	11	2019
09	12	2018

7



14:51

Recurrence ✓ Done

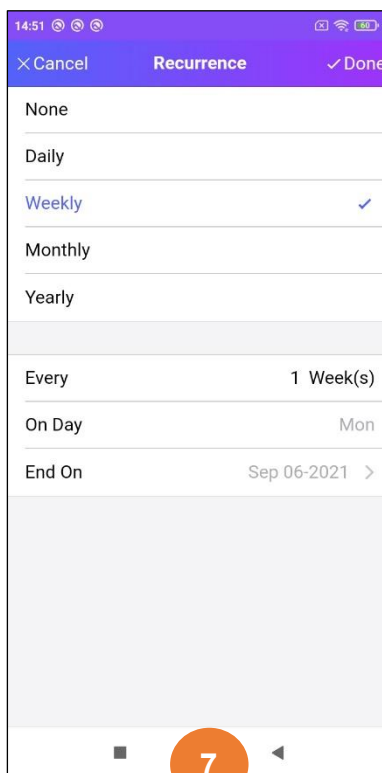
On specific date

After number of occurrences ✓

Done

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3

7



14:51

× Cancel Recurrence ✓ Done

None

Daily

Weekly ✓

Monthly

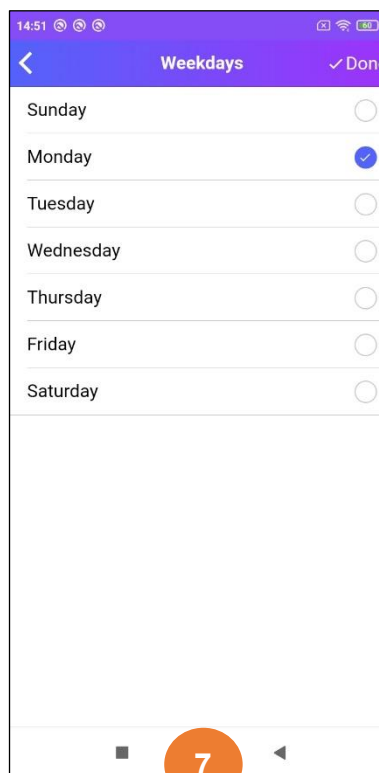
Yearly

Every 1 Week(s)

On Day Mon

End On Sep 06-2021 >

7



14:51

Weekdays ✓ Done

Sunday ☐

Monday ☒

Tuesday ☐


Wednesday ☐

Thursday ☐

Friday ☐

Saturday ☐

7



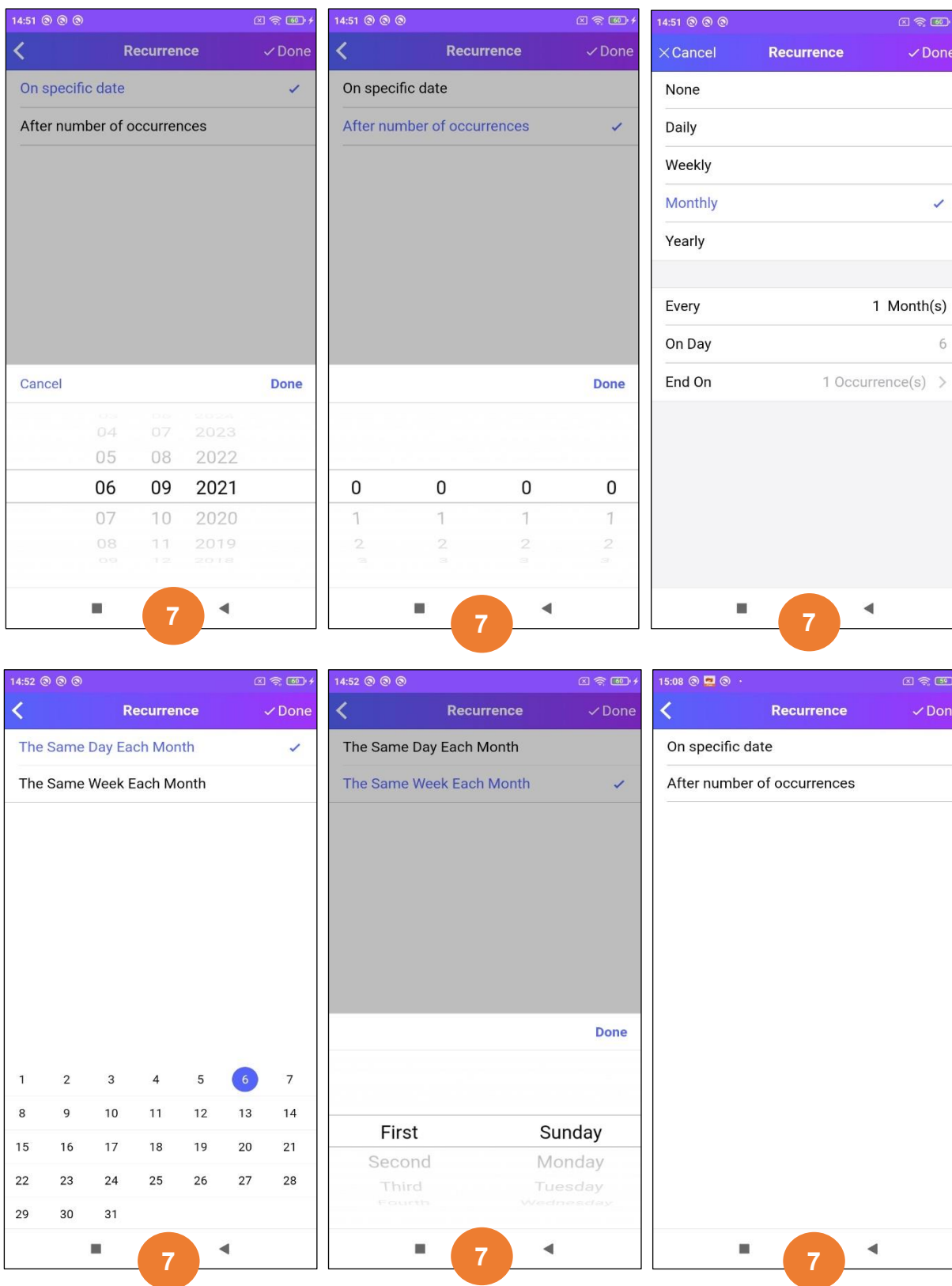
15:08

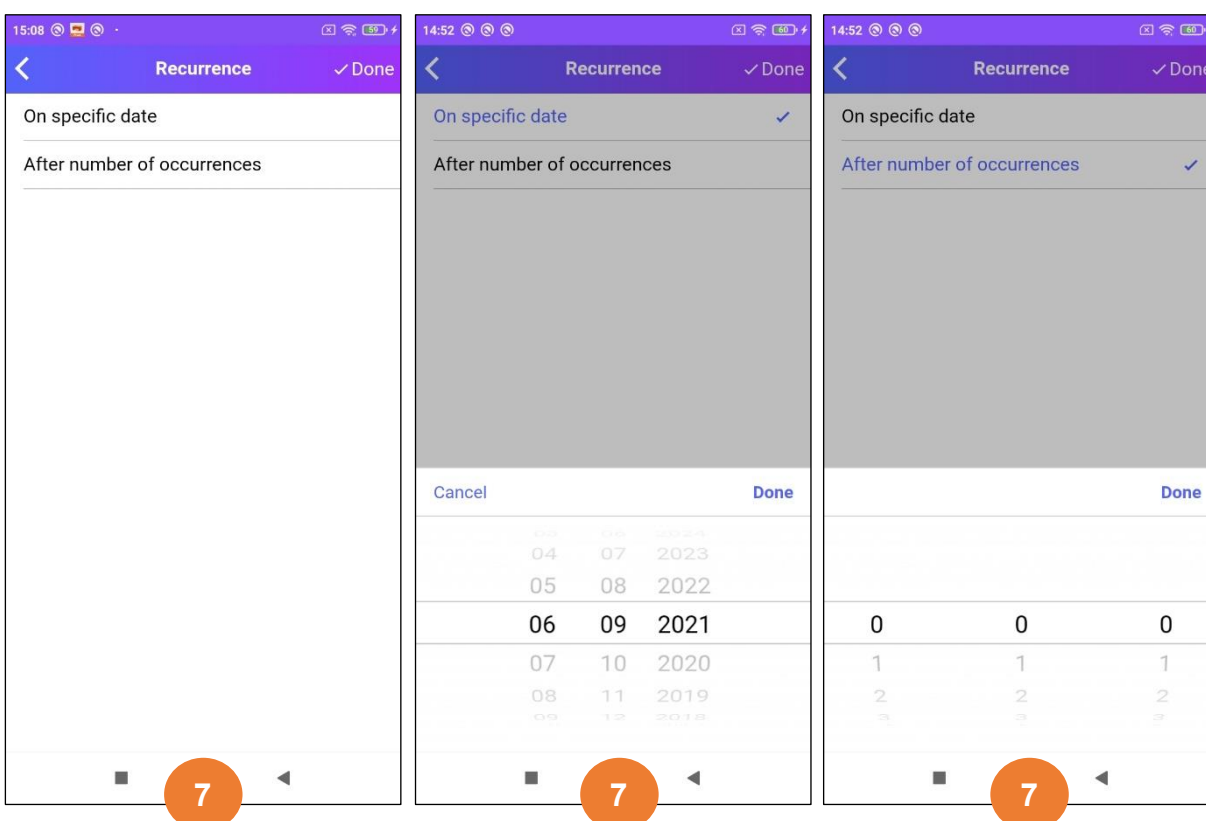
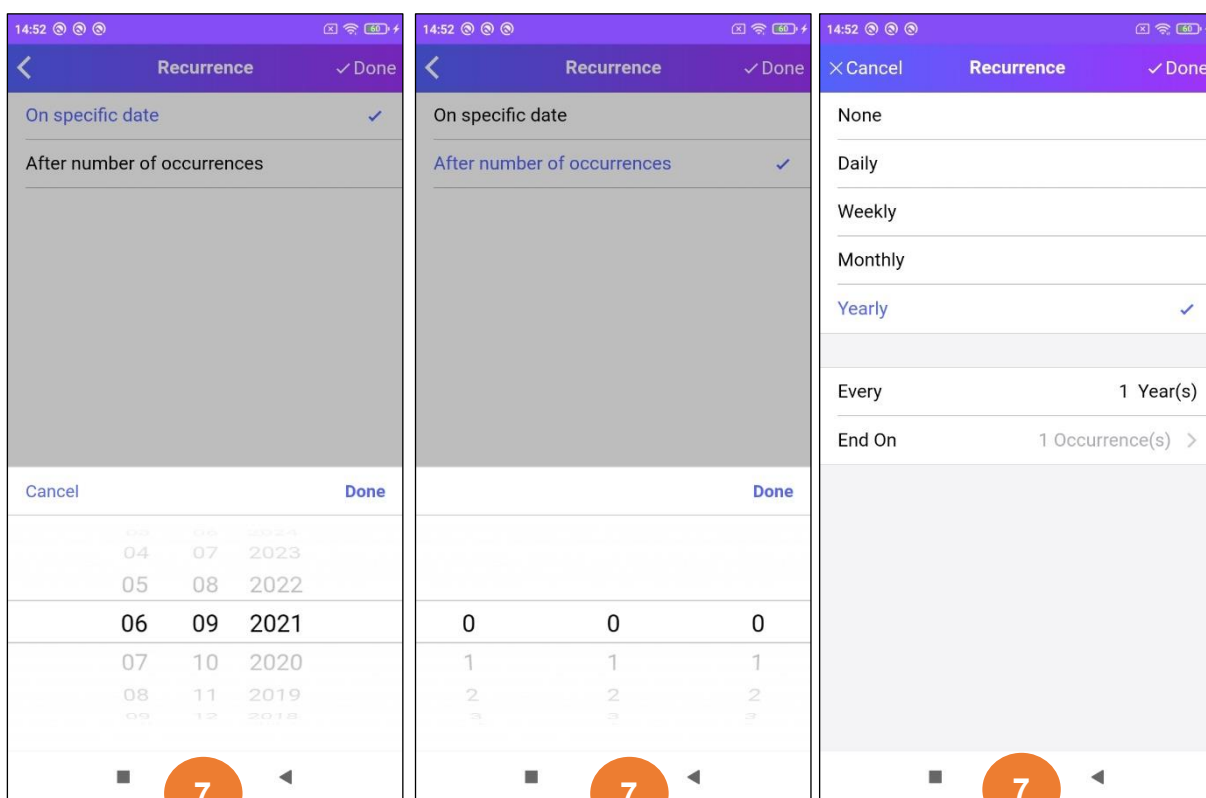
Recurrence ✓ Done

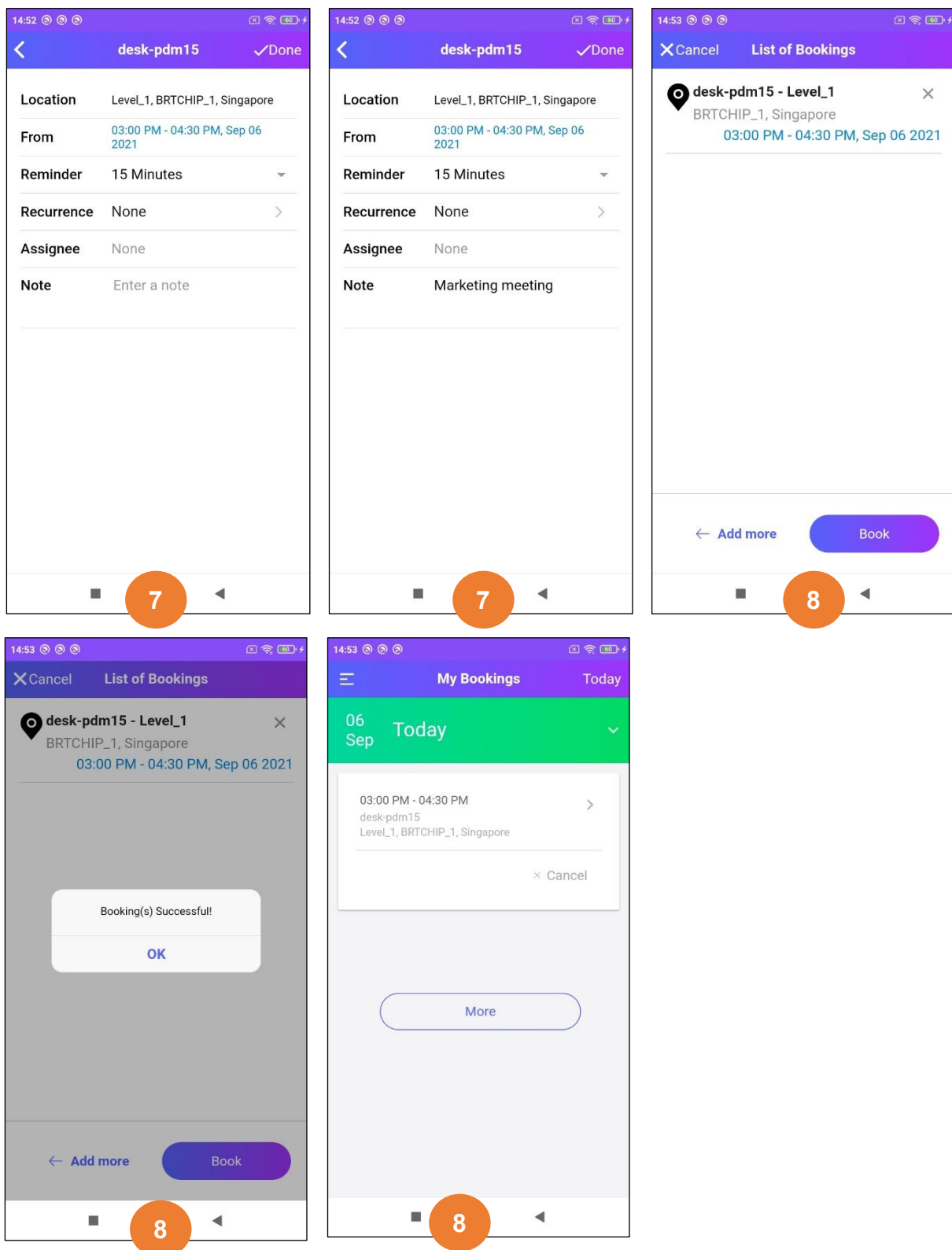
On specific date

After number of occurrences

7







1. Tap on the menu icon and select **Book Desk** or from Home screen, tap on **[Book Desk]**.
2. Book Desk interface is displayed. A desk can be booked in the following ways –
By finding desk (*Find Desk*) or a Person (*Find a Person*) or using Location Map or Booking On Spot.

3. Tap and change the *Country/Building/Location* if required.

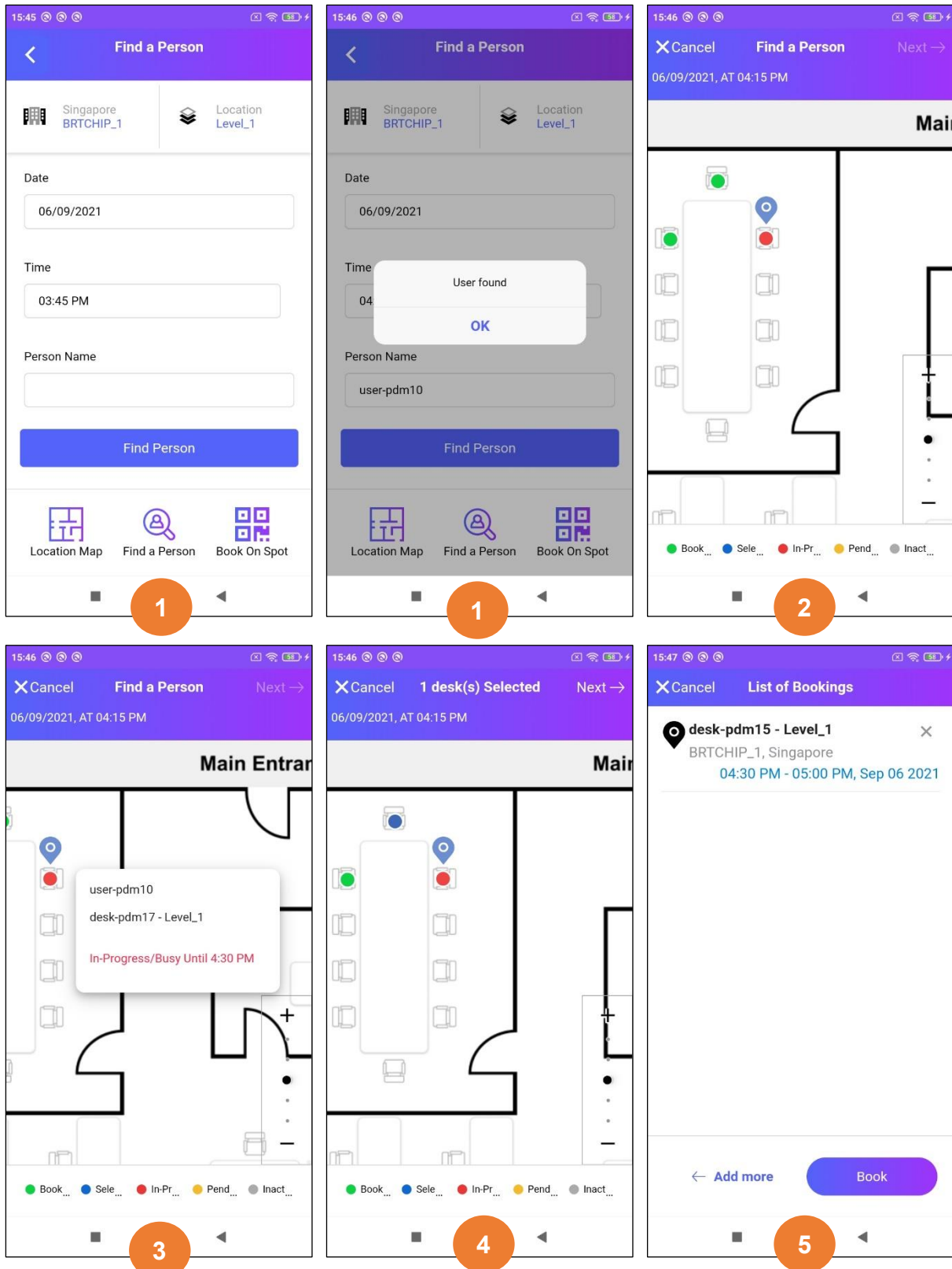
Find a desk to book


4. Tap and provide the input in the following fields – *Date, Start Time; End Time; Amenities* (if any) and *Desk Number* or *Name*. Tap on **[Find Desk]**. Desks available for booking that meets the search criteria are displayed. Tap on **[OK]** to proceed.
5. The bookable desks are displayed in the location map indicated in GREEN. Refer to for the different booking status of desk.
6. Select one or multiple bookable desk(s). The selected desk(s) are indicated in BLUE. Tap on **[Next]**. The selected desk(s) are displayed under the List of bookings
7. Tap on the booking. The desk/ booking attributes are displayed. Tap and change the attributes as required.
 - *Time* – Set the desk booking start time and end time by clicking on the *Set Time*. To change the start time / end time, drag the edge of the time slot on the calendar window. Tap on **[Done]**.
 - *Reminder* – Set the Notification reminder before the booking starts. Tap on **[OK]**. By default, it will follow the reminder time settings under PDM Console: Configure>Policy.
 - *Recurrence* – Set the booking *recurrence pattern* (*None/Daily/Weekly/Monthly/Yearly*). Refer to for more details about the recurrence patterns. Upon selecting the preferred recurrence pattern, tap on **[Done]** to save.
 - *Assignee* – If desk(s) is booked on behalf of another user, tap on the Assignee field and enter the Username/Email ID.
 - *Note* – Tap and add a note to the booking.
8. Upon adding/updating the booking attributes (if any), tap on **[Book]**. An appropriate message indicating whether the booking is successful or not is displayed. Tap on **[OK]**. The booking details are displayed in My Bookings interface.

Recurrence Pattern				Description
None	-			None
Daily	Every	On a specific hour of a day		Events that repeat every day based on the number of days until the end of the occurrence
		After the end of previous occurrence		
	End On	On specific date		
Weekly	Every 1 Week(s)	On a specific day of every week		Events that repeat on the same day of the week, based on the number of weeks until the end of the occurrence
		After the end of previous occurrence		
	End On	On specific date		
Monthly	Every 1 Month(s)	The Same Day of the week, of every Month		Events that repeat on the same day of the month (for example, 10th) based on the number of months until the end of the occurrence
		The Same Week Each Month	On specific date	
			After the end of previous occurrence	
			End On	
	Yearly	Every 1 Year(s)	On specific date	
After the end of the previous occurrence				
End On		After the end of specified number of occurrences		

Table 5 - Recurrence Patterns

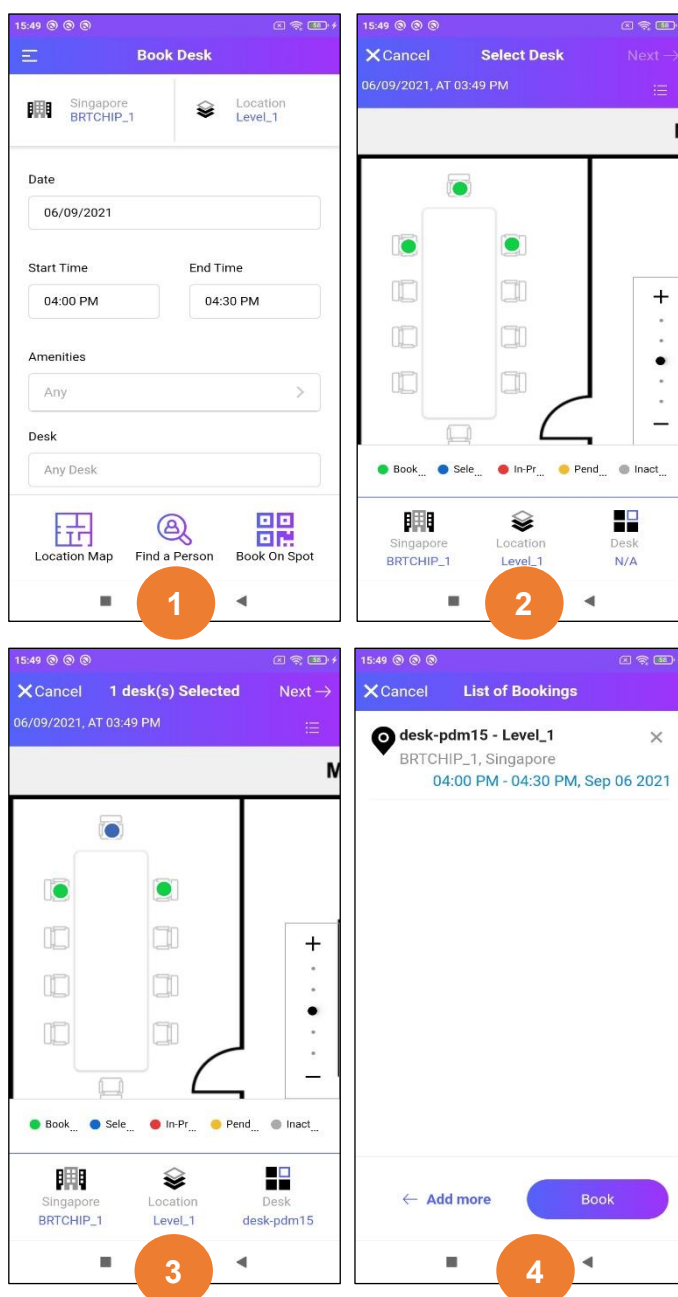
Find a Person & book a Desk



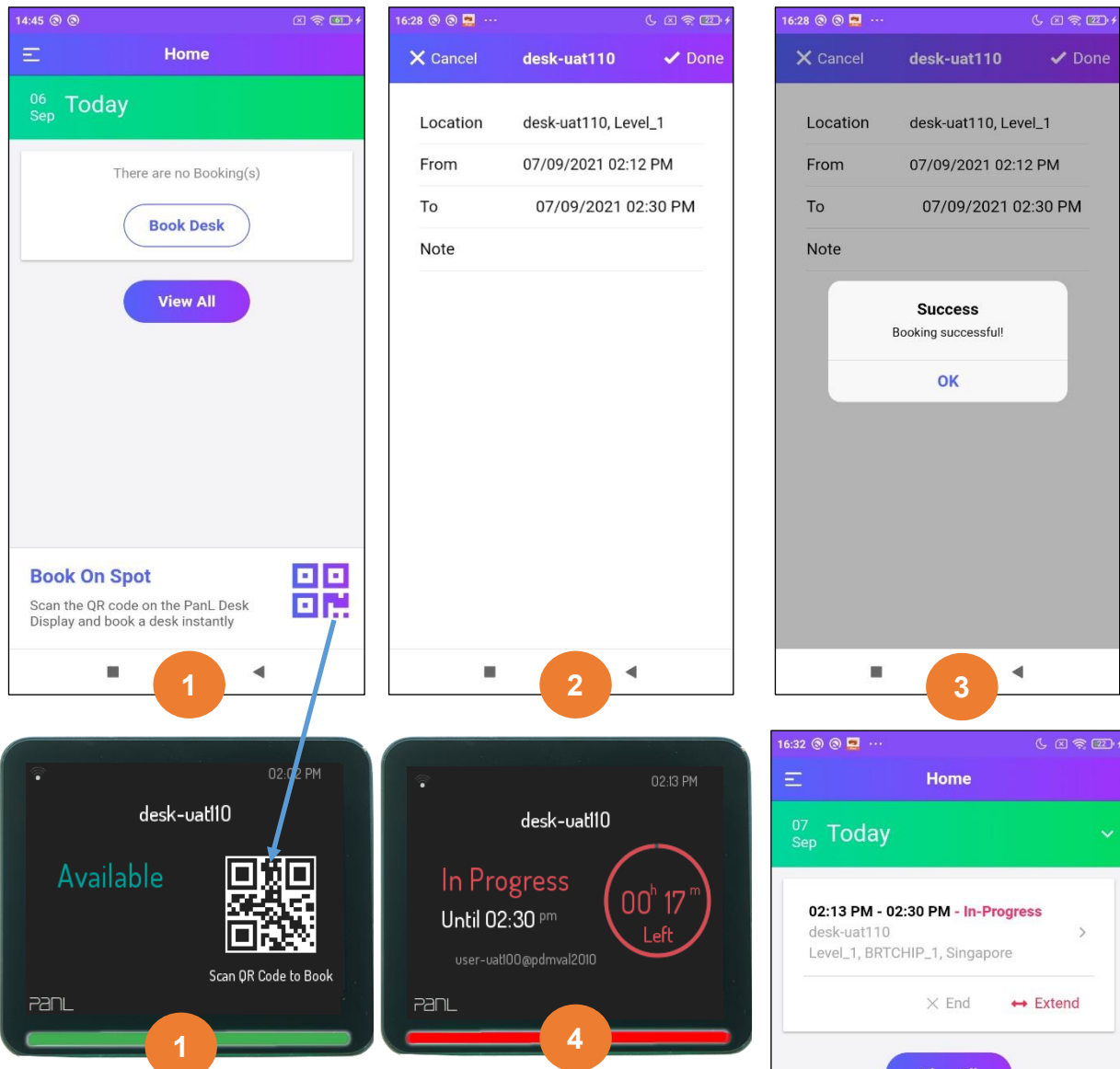
1. Tap **[Find a Person]** and input in the following fields – *Date*, *Time* and Person Name. Tap on **[Find Person]**. If the search is successful an appropriate message is displayed. Tap on **[OK]** to proceed.
2. The person's location along with the nearby bookable desks (if any) are displayed.
3. Tap on the location  icon to view the details (*i.e. person name, desk name, location info, desk booking status and booking time*).
4. Tap on the bookable desks (indicated in GREEN) located near the person to proceed with the desk booking. Refer to for the different booking status of desk.
5. The desk selected for booking is listed under the list of bookings. Refer to the **steps 7 to 8** given under the topic [Find a desk to book](#) to continue booking.

Book a Desk via Location Map

1. Tap on **[Location Map]**.
2. The bookable desks are displayed in the location map indicated in GREEN. Refer to for the different booking status of desk.
3. Select one or multiple bookable desk(s). The selected desk(s) are indicated in BLUE. Tap on **[Next]**. The selected desk(s) are displayed under the List of bookings. Refer to the **steps 7 to 8** given under the topic [Find a desk to book](#) to continue booking.



Book On Spot

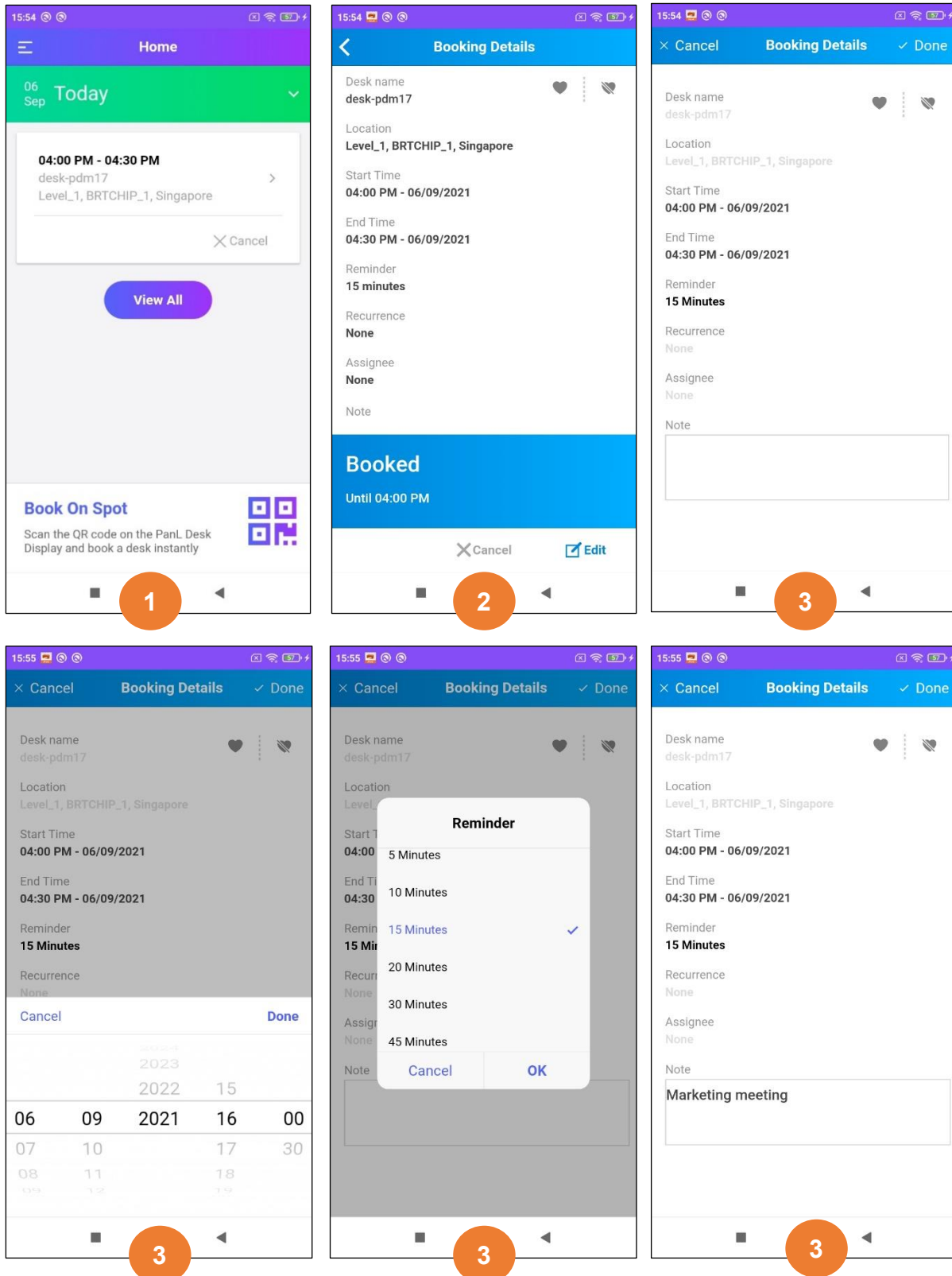


To book a desk *On Spot*-

1. From the **Home/Book a Desk** interface, tap **[Book On Spot]** and position the phone so that the QR code on the PanL35L device appears in the digital viewfinder.
2. The details of the available desk on the PanL35L device are captured on the mobile app. Make the necessary changes on the booking duration (should be in the range of min and max duration of desk group policies and the start time cannot be changed) or add a note. Tap on **[Done]**.
3. An appropriate message indicating whether the booking is successful or not is displayed. Tap on **[OK]** to close the message window.
4. Upon a successful booking, the booking Status is updated from "Available" to "In Progress Until <booking end time>" on the PanL35L device and the mobile app instantly..

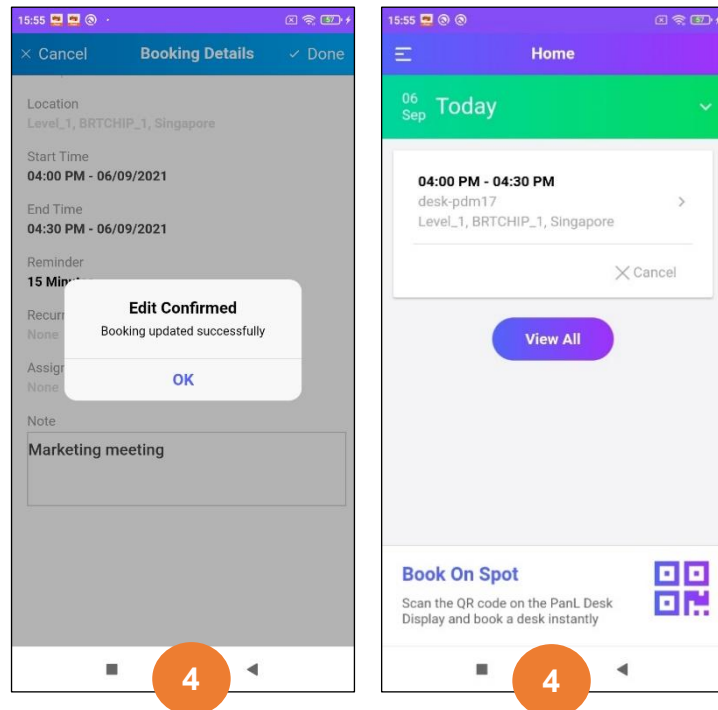
1. Other Booking Functions

1.1 Edit Booking



To edit booking details –

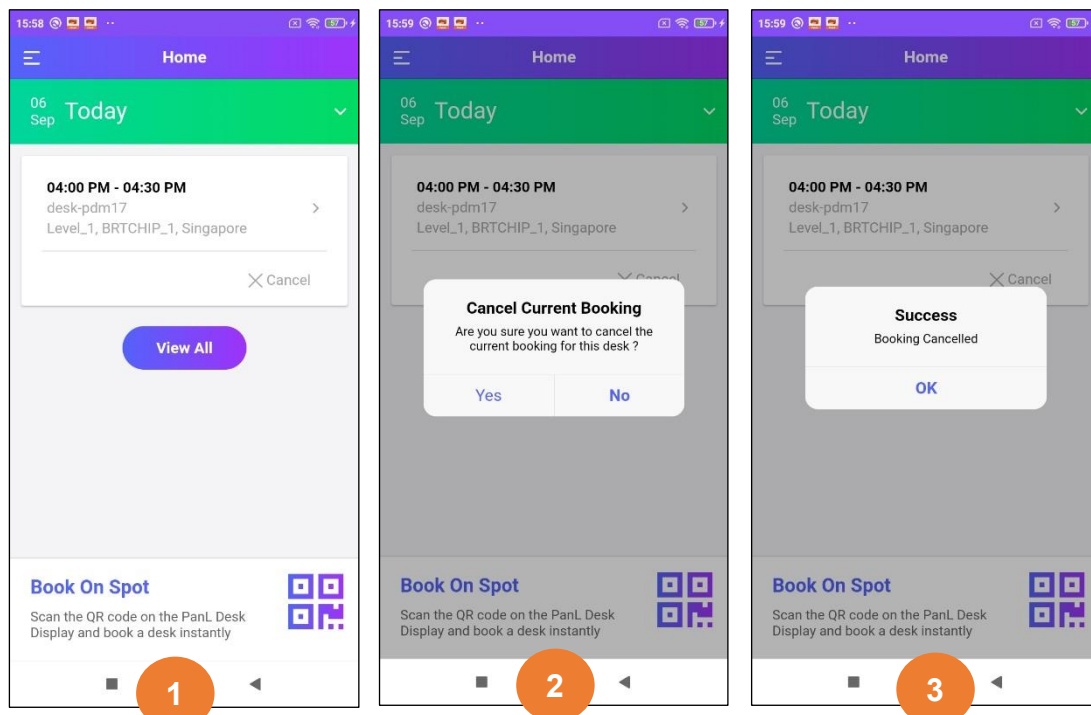
1. To edit a booking, on the mobile App **My Bookings** interface, tap on the booking you wish to edit.
2. The booking details are displayed. Tap on **[Edit]**.
3. Update the booking details as required. For example, if you wish to change the start time, tap on that field. Change the Start time and tap on **[Done]**. The updated booking details are displayed. Tap on **[Done]** to save the changes.
4. An appropriate message indicating whether the booking details are updated or not is displayed.



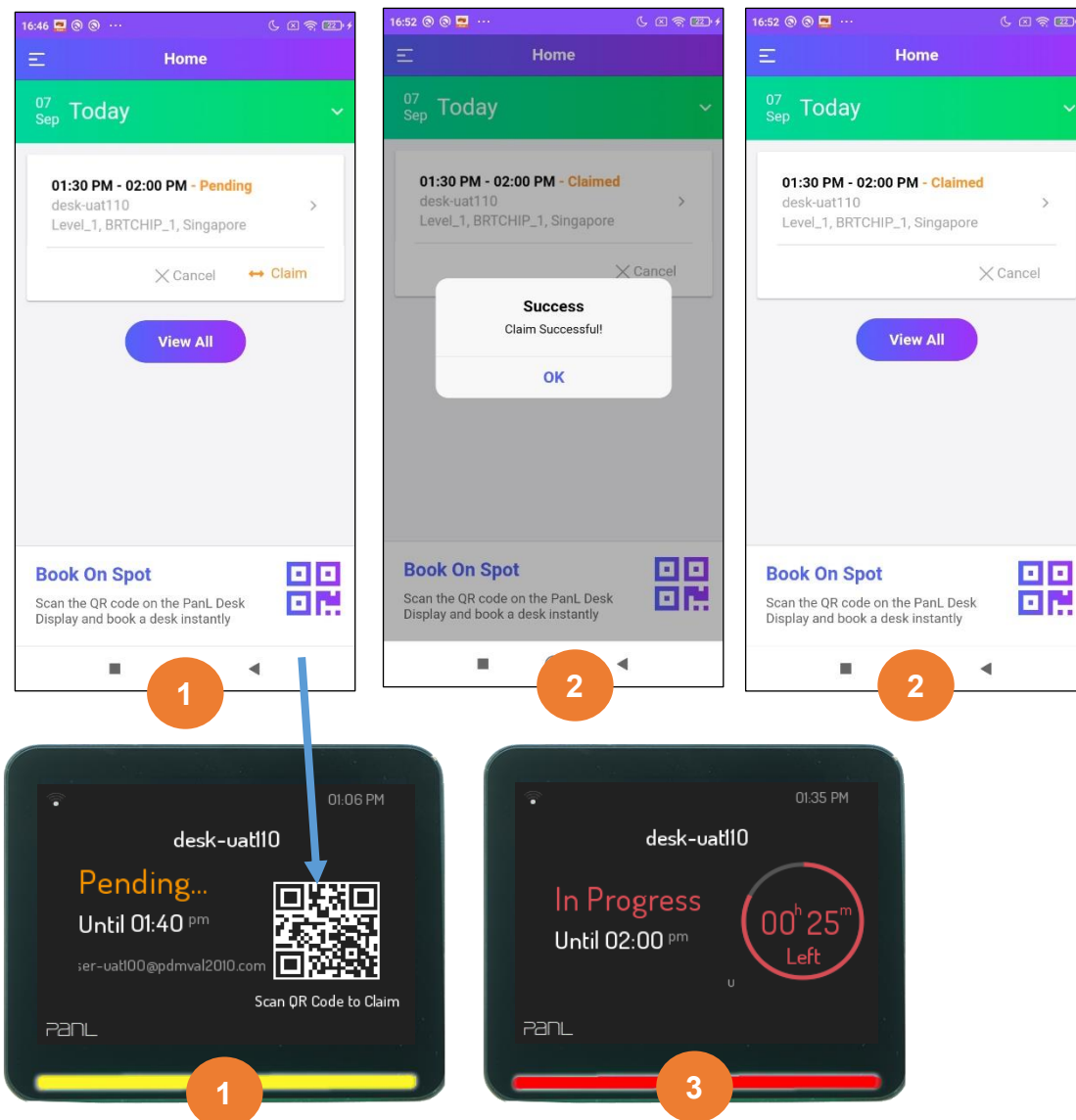
1.2 Cancel Booking

To cancel booking –

1. To cancel a booking, on the mobile App **My Booking** interface, tap on **[Cancel]** against the booking you wish to cancel.
2. A confirmation message is displayed. Tap on **[Yes]** to cancel the current booking or **[No]** to discard the operation.
3. Upon cancelling the desk booking, an appropriate message indicating the same is displayed.



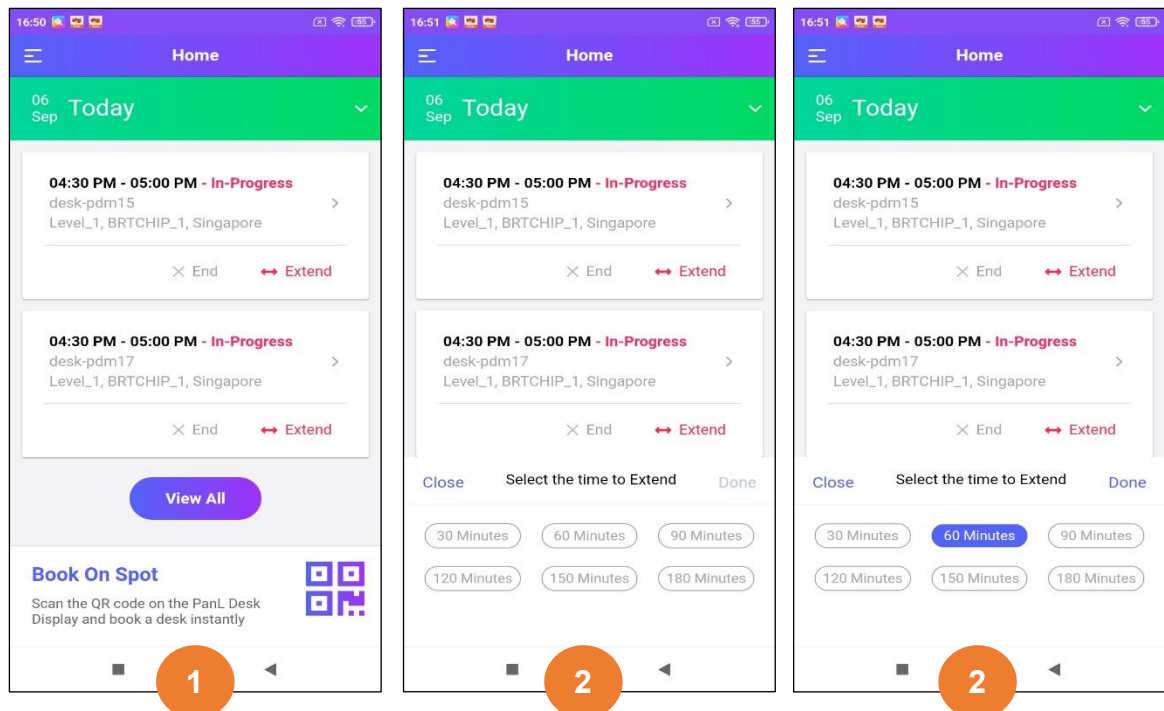
1.3 Claim Booking



To claim booking –

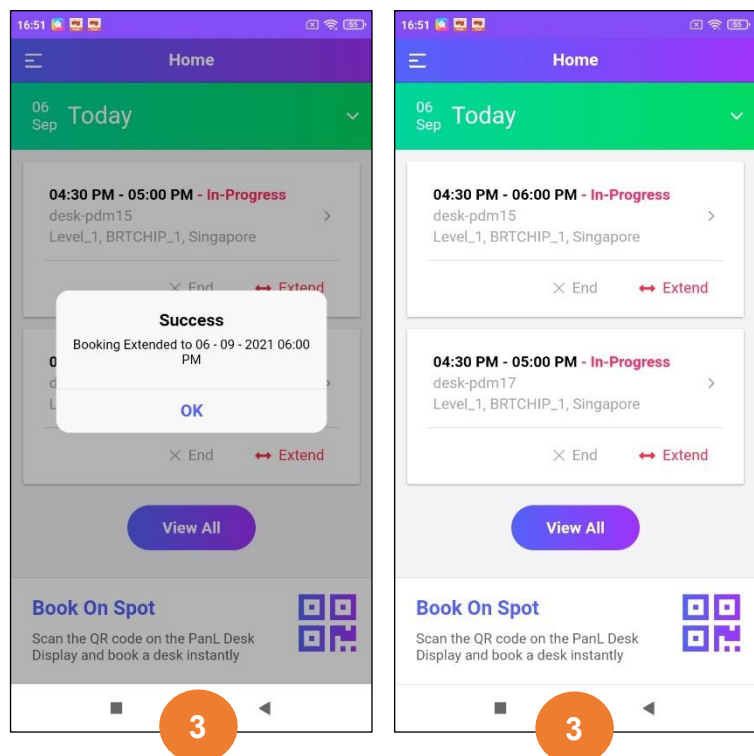
1. To claim a booking, on the mobile App from **My Booking** interface, tap on **[Claim]** against the booking you wish to claim. Position the phone so the QR code on the PanL35L device appears in the digital viewfinder.
2. Upon successful claim, an appropriate message indicating the same is displayed on the mobile app. Tap on **[OK]**. The status of the booking is updated from "Pending" to "Claimed".
3. Once the desk booking time starts, the status is updated to "In Progress" on both the PanL35L device and the mobile app.

1.4 Extend Booking

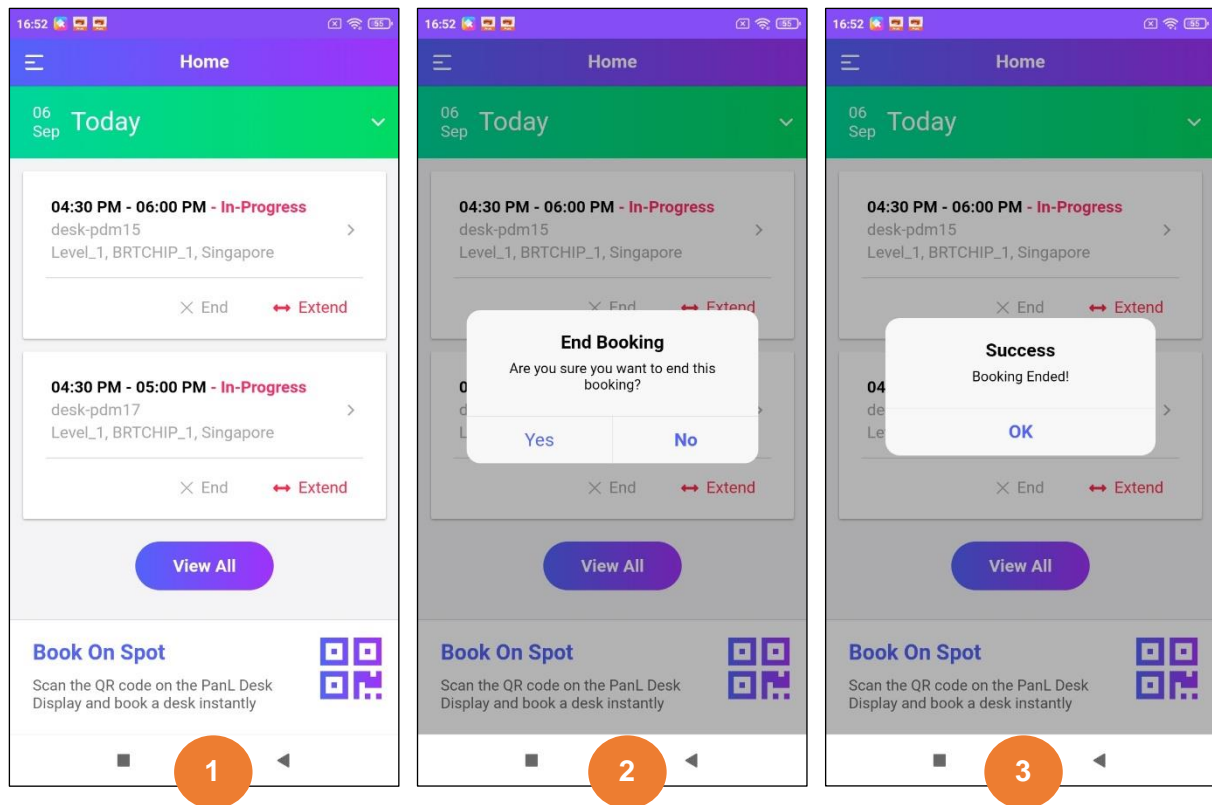


To extend an existing booking –

1. From **Home/My Booking** interface, tap on **[Extend]** against the booking you wish to extend.
2. Tap and select the *time to extend*. Tap on **[Done]**.
3. Upon successfully extending the booking, an appropriate message indicating the same is displayed on the mobile app. Tap on **[OK]**. The new extended time is displayed.



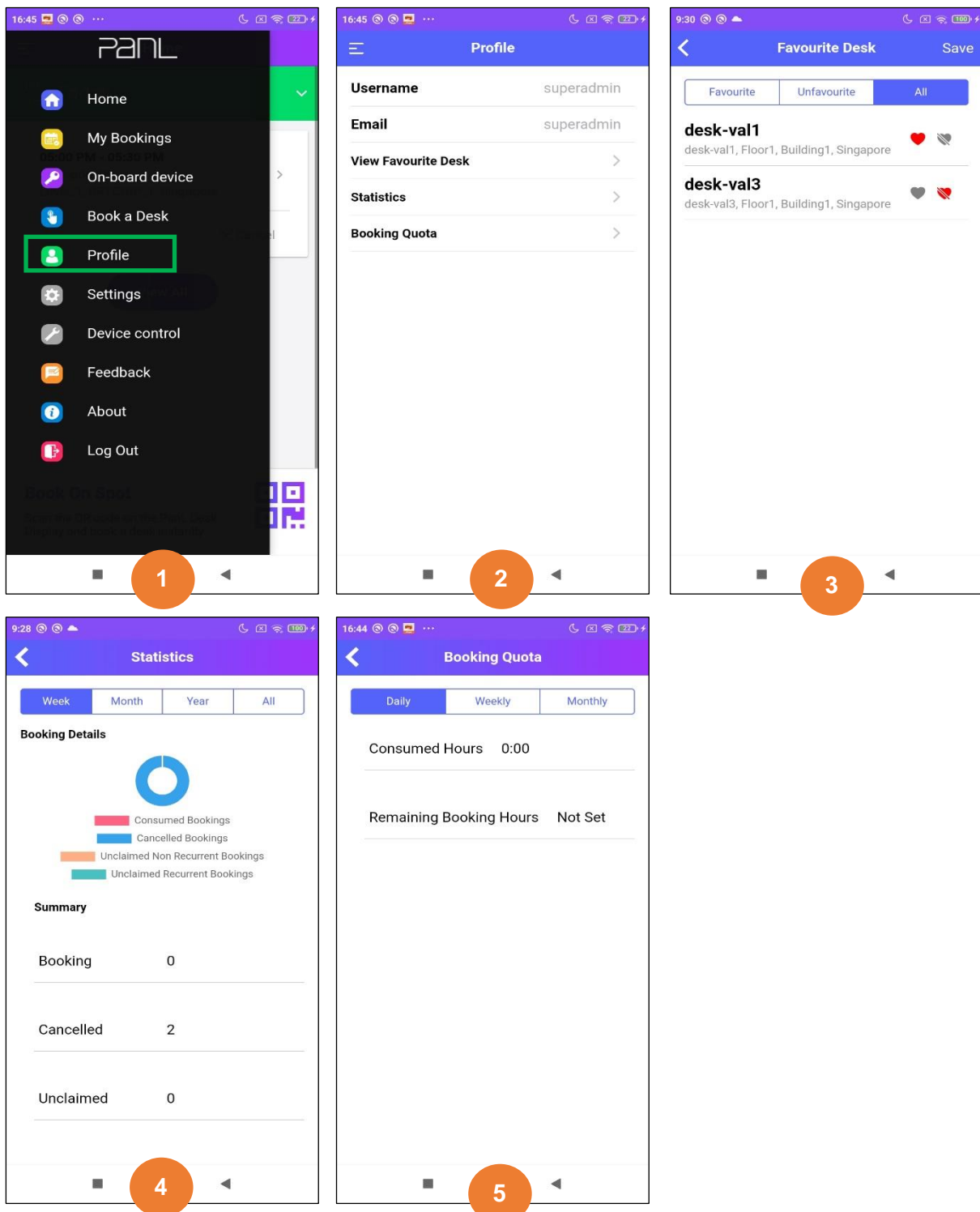
1.5 End Booking



To End booking –

1. From **My Booking** interface, tap on **[End]** against the booking you wish to end.
2. A confirmation message is displayed. Tap on **[Yes]** to end the current booking or **[No]** to discard the operation.
3. Upon cancellation, an appropriate message indicating the same is displayed and the desk panel status will change to "Available". Tap on **[OK]**.

J. Profile







To access user profile interface –

1. Tap on the menu icon and select **Profile**.
2. The user profile interface displays the following details - Currently logged in *Username*; *Email*; *View Favourite / Un-favourite Desk*; *Booking Statistics*; *Booking Quota*

3. Tap on **View Favourite Desk** to access the Favourite Desk interface.

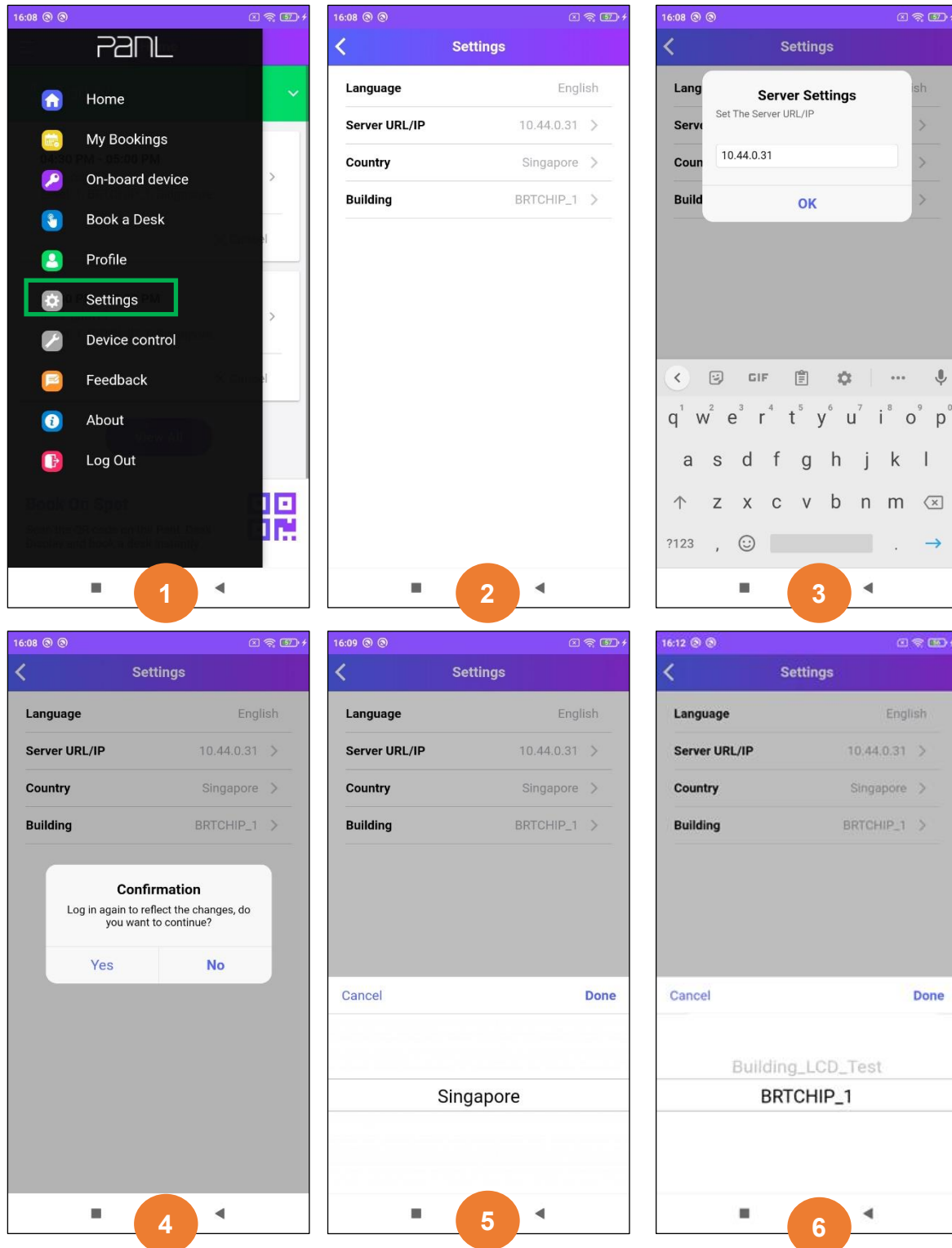
In any of the Favourite/Unfavourite/All tab, users can view and change favourite status by simply tapping the icons.

No Favourite \ Un-favourite Desks (Neutral State)	 
Favourite Desks	
Unfavourite Desks	

4. Tap on **Statistics** to view the booking statistics for a *Week; Month; Year* or *All*. By default, *Week* view is displayed.
5. Tap on **Booking Quota** to view the Usage Quota the user is entitled on a *Daily; Weekly; Monthly* basis. The usage quota is defined by admin user while creating the user group and setting the user group policies.

K. Settings

The Settings interface allows user to view and change the mobile app default settings like *Language*; *PDM Server URL Path*; *Country* and *Building*.



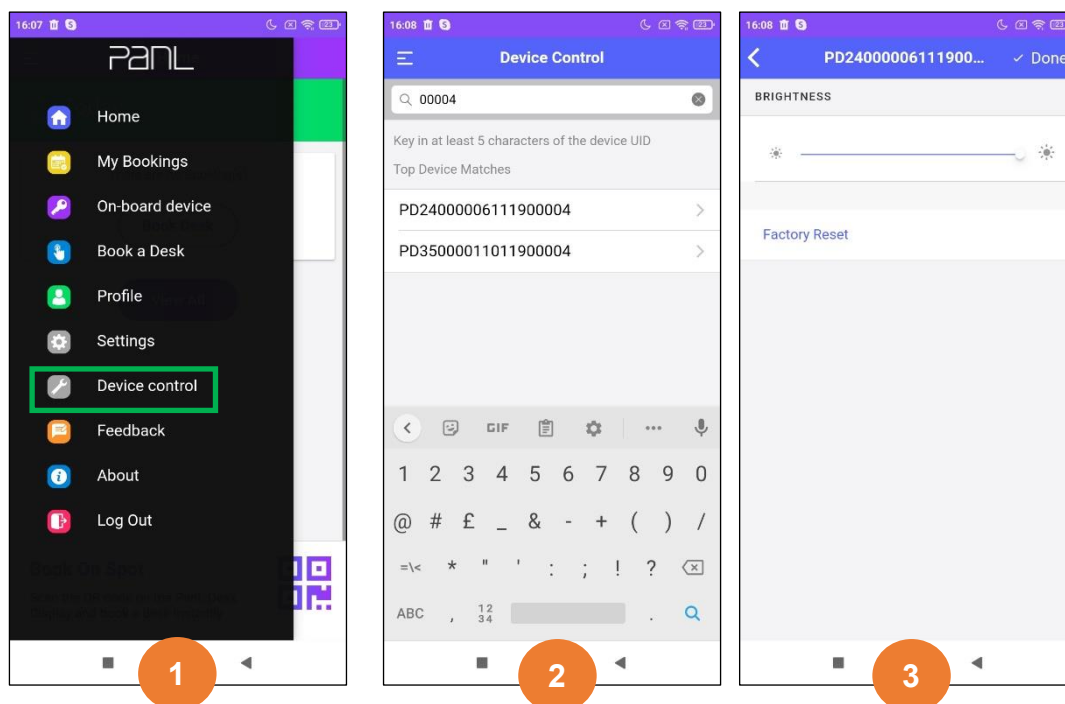
To edit Settings –

1. Tap on the menu icon and select **Settings**.

2. The Settings interface is displayed with the following default settings – *Language*; *Server URL Path*; *Country* and *Building*.
3. To edit default language, tap on **Language**. The available languages are *English* and *Chinese*. Upon selecting the language, tap on **[OK]** to save the settings.
4. Tap on **Server URL Path** to edit the PDM Server URL Path as required. Upon changing the path, log in again to reflect changes. Tap on **[Yes]** or **[No]** accordingly.
5. Tap on **Country** to edit the default country settings. Upon editing, tap on **[Done]** to save the changes.
6. Tap on **Building** to edit the default building settings. Upon editing, tap on **[Done]** to save the changes.

L. Device Control

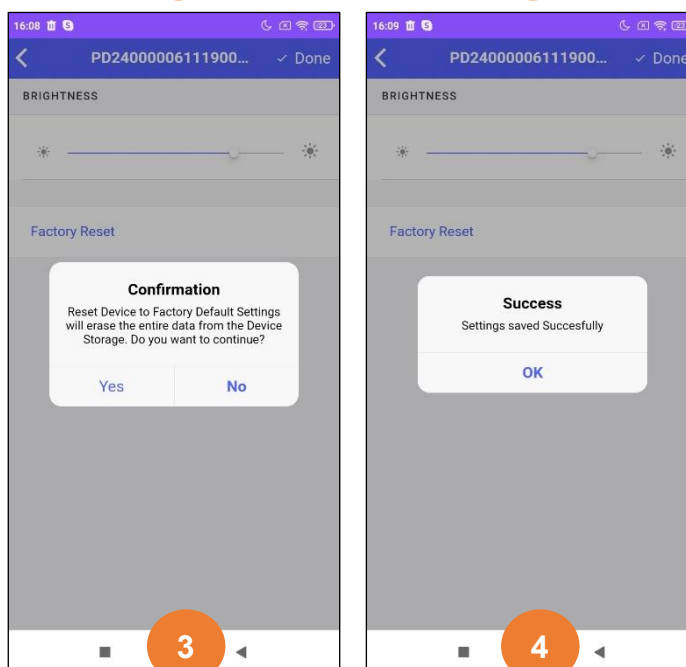
The Device Control function is only available for users with device management permission to control the PanL35L desk panel device attribute- *Brightness*. *Factory Reset* function is also available to reset the device to factory settings (original configuration with the last updated firmware), not connecting to any PDM Server or network. To use the device again, on-boarding procedure has to be done.



To control PanL35L device attributes –

1. Tap on the menu icon and select **Device Control**.
2. The Device Control interface is displayed. *Key in at least 5 characters of the device SSID/UUID*. The list of devices matching the search criteria is displayed. Tap and select the device.
3. The selected device and its current attribute (*Brightness*) is displayed. Using the slider you may increase or decrease the brightness of the device.

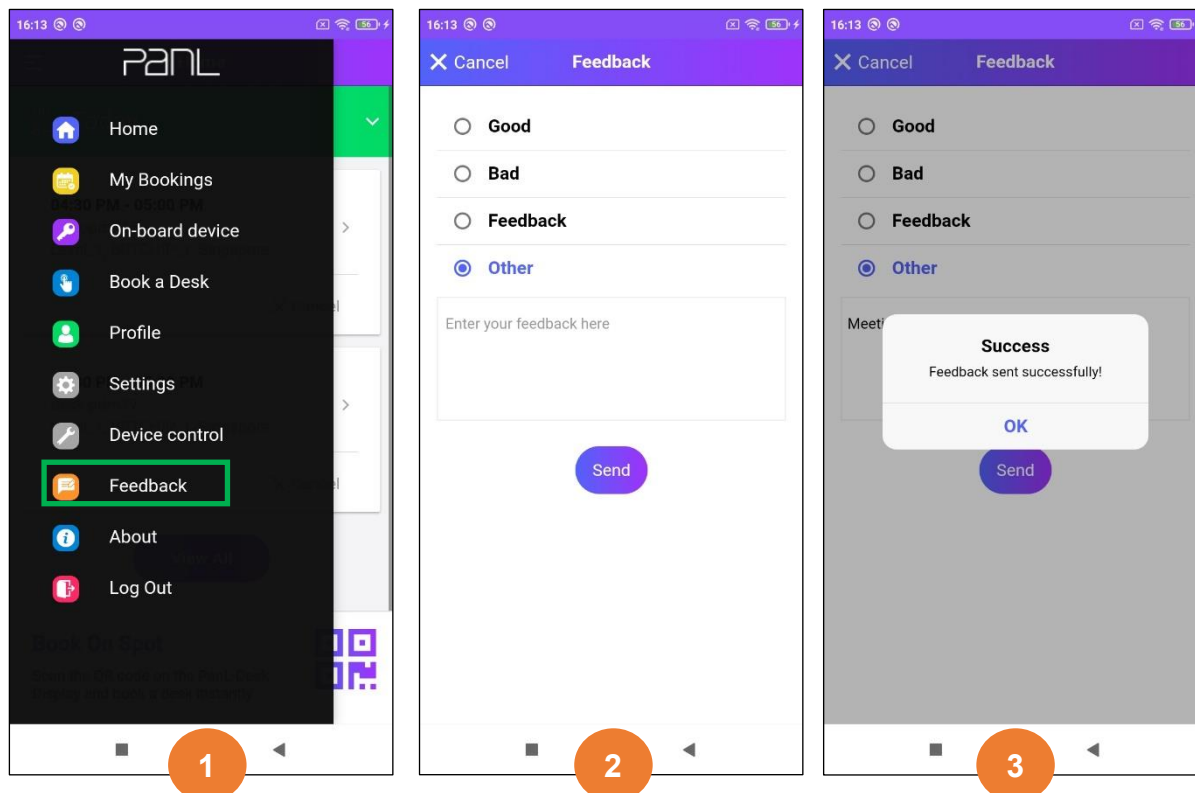
Tap on the **Factory Reset** if you wish to reset the selected PanL35L device to factory settings. An appropriate confirmation message is displayed. Tap on **[Yes]** to erase all the PDM configuration data and to reset the device to the original configuration or **[No]** to discard the operation.



4. Upon changing the attributes (if any) of the device, tap on **[Done]** to save the changes.

M. Feedback

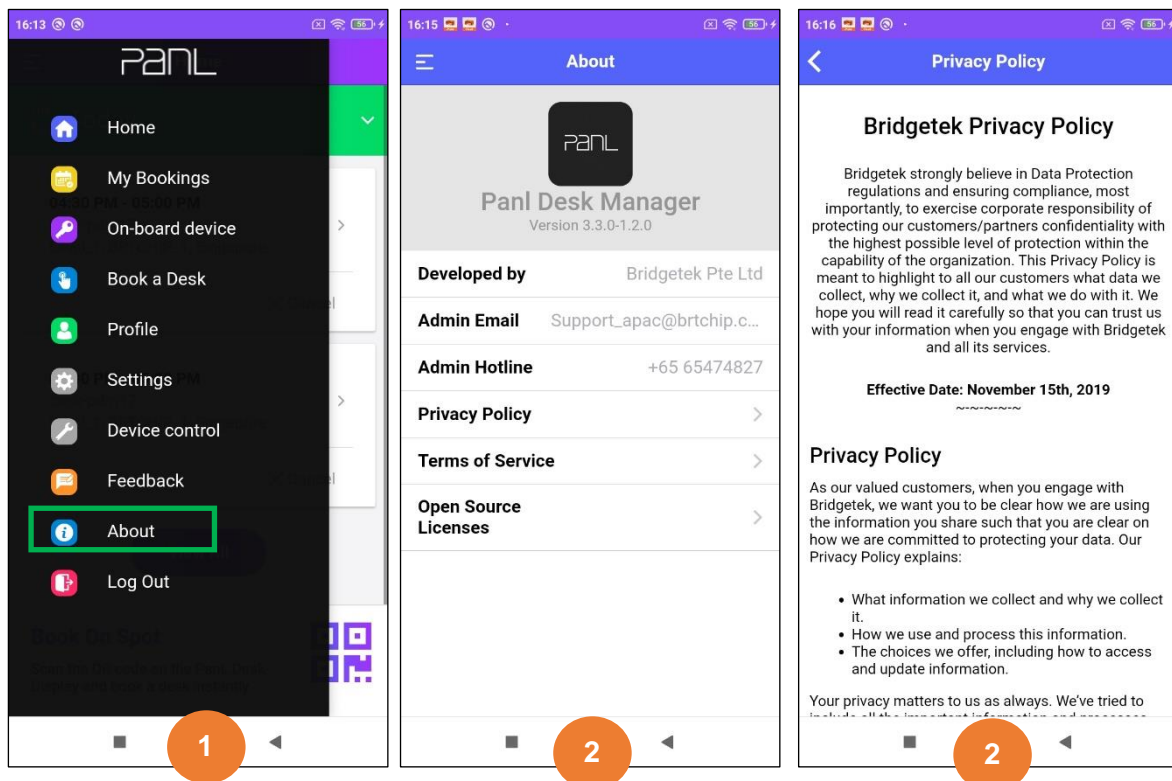
The Feedback interface allows users to send feedback about PanL Desk Manager (PDM) solution.



To send feedback –

1. Tap on the menu icon and select **Feedback**.
2. The Feedback interface is displayed with a set of pre-defined feedback options (set under Feedback>Feedback Management under PDM Console by admin). Tap and choose any of the option. If the option **Other** is chosen, user may type in a customized feedback. Upon providing the feedback, tap on **[Send]**.
3. An appropriate message indicating whether the feedback was sent successfully or not is displayed.

N. About

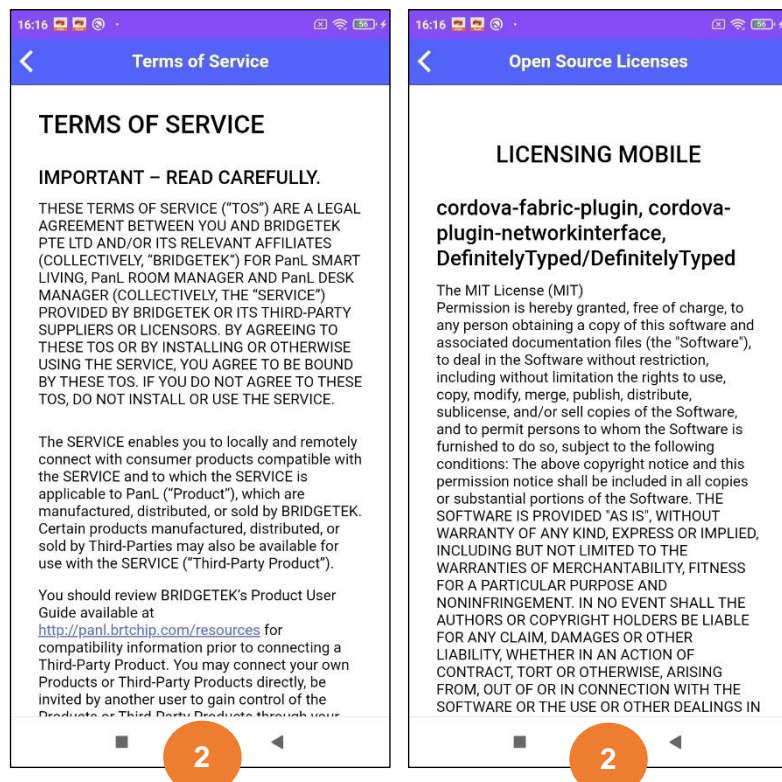


The About interface displays the PDM Mobile App Version, Product developer as well as the organization admin contact and email as a support channel for the users.

To view the about info. -

1. Tap on the menu icon and select **About**.
2. Information pertaining to *Developer, Admin Email, Admin Hotline, Privacy Policy, Terms of Service* and *Open Source Licenses* are displayed.

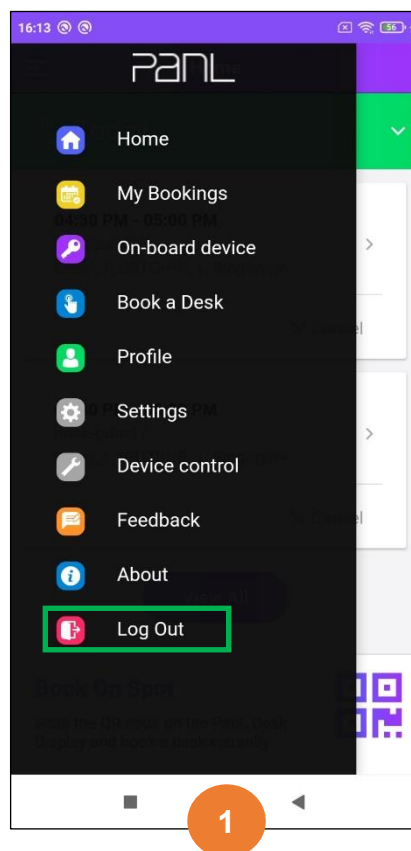
Tap on **Privacy Policy / Terms of Services / Open Sources Licenses** to view the respective details.



0. Log out

To logout from the mobile app–

1. Tap on the menu icon and select **[Logout]**.

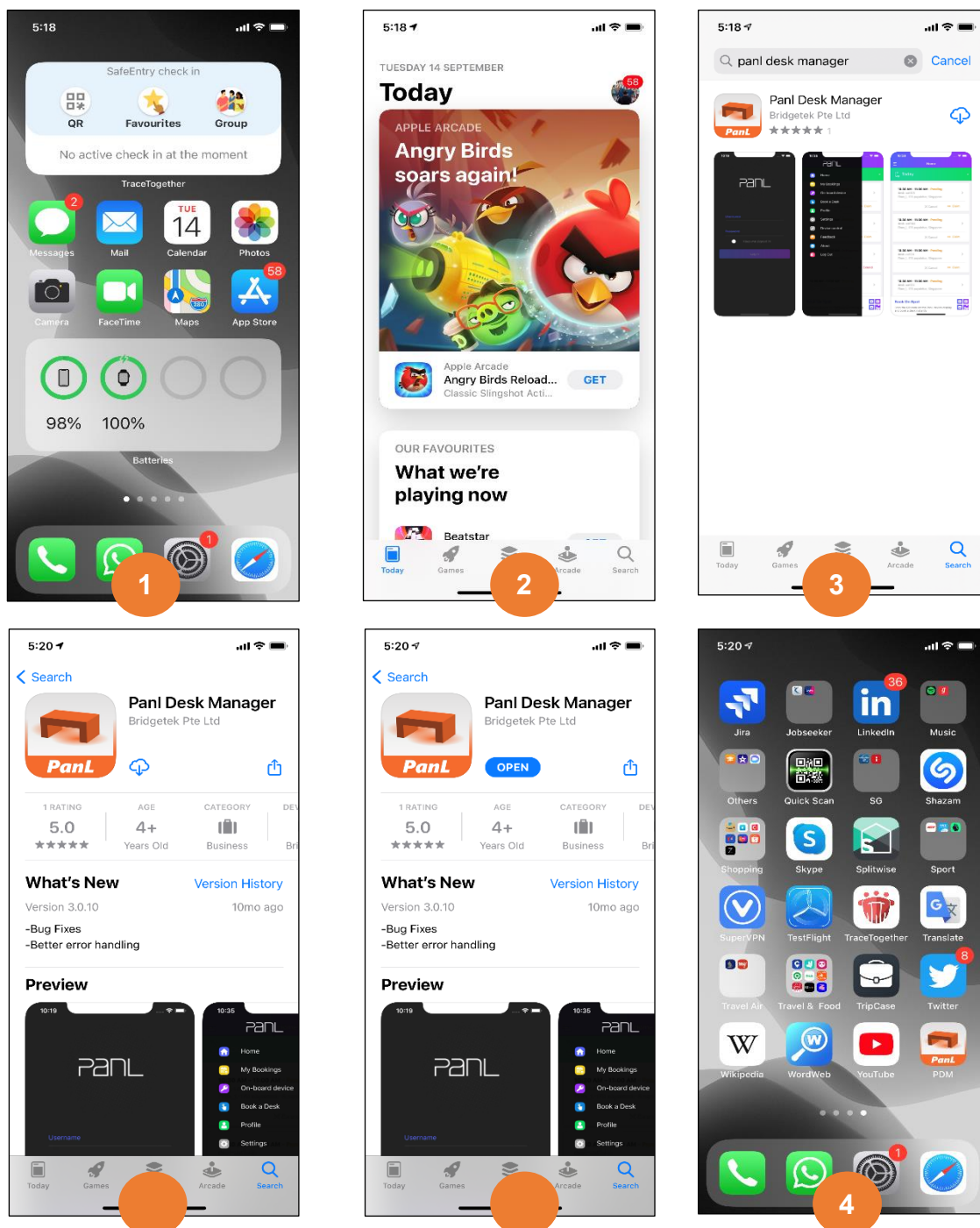


VIII. PanL Desk Manager Mobile App for iOS Users

A. Hardware / Software Requirements

Operating System	Technical Requirement
iOS	iPhone devices with minimum iOS 11.0

B. Download / Installation of PDM Mobile App from App Store



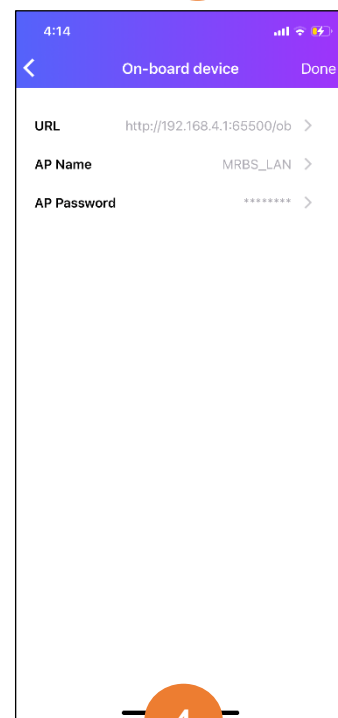
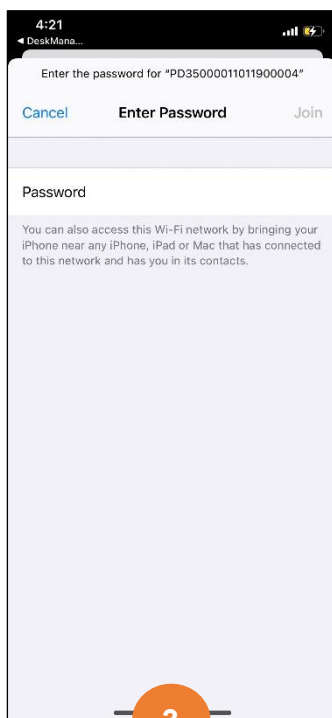
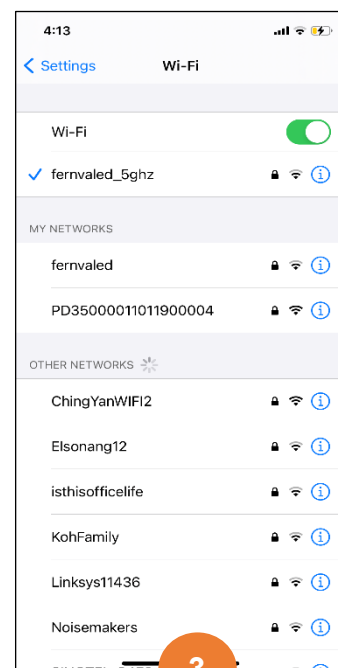
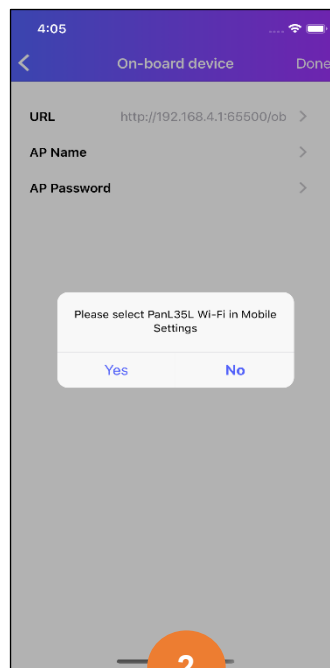
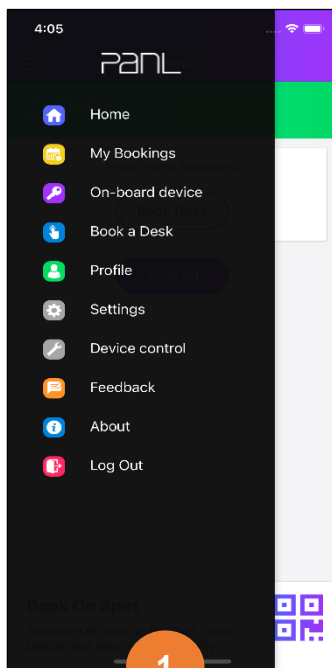
The PanL Desk Manager App (PDM) can be downloaded from the Apple Store. Follow the steps given below –

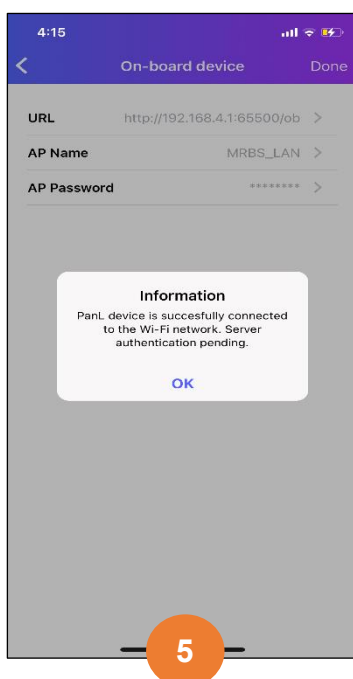
1. On the iPhone, tap on **[App Store]** icon.
2. Tap on the **Search** icon.
3. Enter “PanL Desk Manager” in the search field. Tap on **[GET]** to start the downloading/ installation of the app. The download/installation will commence.
4. Upon successful download / installation, tap on **[OPEN]** to start using the PanL Desk Manager App. A shortcut for PDM application is created and displayed.

C. On-board Desk Panel Device (PanL35L)*

The on-boarding procedure is performed to integrate the PanL35L desk panel devices to the PDM Server network. ***This function is only available for users with Device Management Permission*.**

Manual On-boarding





To on-board the PanL35L device manually -

On the PanL35L Device	On the iOS Mobile App
1. Power up the PanL35L device and wait until the LED strip bar turns white (AP Mode).	1. Tap on the PDM Mobile App menu, select On-board device .
	2. A message pops up in On-board device interface, prompting the admin user to connect to the PanL35L device's Wi-Fi. Tap on [Yes] and access the Mobile's Wi-Fi Settings.
3. The device SSID and password are displayed on the PanL35L device.	3. Select the PanL35L device's SSID (refers to the device's Wi-Fi ID which is the device UUID. For example: "PD35000011011900004"). Input the Password to connect. Tap on [Join] .
	4. Upon successfully establishing the Wi-Fi connection with the PanL35L device, switch back to the PDM mobile app's On-board device interface by tapping on [Settings] . In the On board Device interface, enter the name of the PDM Server network in the AP Name field and password in the AP Password field to connect the PanL35L to the PDM server. Tap on [Done] .
	Note: If the PDM Server Wi-Fi credentials entered is incorrect, then the PanL35L will be in a DISCONNECT State (LED in WHITE). Perform a Factory reset or enter AP mode on the PanL35L.
	5. Upon successful connection to the network, an authentication from the PDM Server will be awaited. An appropriate message indicating the same is displayed.
The PanL35L device will switch to Desk Assign Mode. Assign Desk using the PDM Console.	Upon successful authentication from the PDM server, an appropriate message indicating if the network connection is successful or not is displayed.

Please refer to [PanL Desk Manager Mobile App for Android Users](#) for using the other mobile app functions.

PanL35L Desk Panel Device Display

IX. Getting Started with PanL35L Desk Panel Device Display

A. PanL35L (PD35L) Device Display Overview

The PanL35L Display provides users an intuitive interface option to monitor and trigger control events. It is based off a 3.5 inch 320 x 240 pixel TFT LCD panel powered by Bridgetek's very own Embedded Video Engine (EVE) Graphic Controller chip that enables rich and intuitive GUI displays. It also comes with built in buzzer and Wi-Fi module for wireless connectivity. The display is also furnished with a RGB LED strip light indicator where different color codes can be programmed to represent a certain application event. The display can be placed at highly accessible areas with a flat surface and is powered by a 5V Micro-USB adaptor which comes along with the package.

Features:

The PanL35L is built upon Bridgetek's FT813Q graphic controller together with an ESP32 Wi-Fi module to wirelessly connect the display to a Wi-Fi Access Point. The PanL35L has the following features:

- Dual-Core 32-bit LX6 microcontroller (MCU)
- Built-in advanced FT813Q graphics controller with display and audio functionality
- 3.5" high brightness TFT LCD (320*240 pixels)
- Support Wi-Fi 802.11b/g/n (2.4GHz), up to 150Mbps
- Built In Buzzer
- RGB LED Strip Indicator
- Micro USB Type B Port
- DC Power: 5V / 1A
- Operating temperature range : 0°C to +55°C
- FCC ID: 2AC7Z-ESPWROOM32D



B. PanL35L Product Specifications

PLATFORM	Microcontroller	32-bit RISC MCU
	Graphic Controller	FT813Q
DISPLAY	Display Size	3.5" TFT LCD
	Number of Pixels	320 x 240
	Active Display Area	70.8 x 52.56 mm
	Light Intensity	540 cd/m ²
	Display Color	16.7M
	Viewing Angles	60°
	Wi-Fi	2.4 GHz 802.11 b/g/n, up to 150Mbps
FEATURES	Sound Alert	Buzzer
	Function Button	Multiple Function
	Power Indicator	Green LED
	LED Status Indicator	RGB LEDs
	Input Voltage	5 VDC/1.0A
POWER PARAMETER	DC Connector	Micro USB Type B
	Color	Cool Grey
PHYSICAL CHARACTERISTICS	Housing Material	Polycarbonate
	Dimensions	85 x 67.80 x 70.05 mm
	Weight	109g
	Operating Temperature	0 to 55°C
ENVIRONMENTAL LIMITS	Storage Temperature	0 to 70°C
	Ambient Relative Humidity	20 to 85% (non-condensing)
	EMC (FCC/CE)	EN 55032:2015+AC:2016 Class B CISPR 32:2015+C1:2016 Class B EN 55035:2017 FCC Part 15, Subpart B
STANDARDS & CERTIFICATIONS	Radio Equipment Directive (RED)	EN 301 489 – 1 v2.2.0 EN 301 489 – 17 v3.2.0
	Safety (LVD)	IEC 62368-1:2014 EN 62368-1:2014+A11:2017
	RF (FCC/CE)	EN300 330 v2.1.1 EN62311:2008 FCC PART 15, Subpart C (15.225) EN 300 328 v2.1.1
	Devices	1x PanL35L 1x 5W USB-B Power Adapter 1x USB Charge Cable (1.2 meter) 2x Double Sided Adhesive Tapes for Rubber Foot
PACKAGE CONTENTS	Documentation	1x Quick Start Guide

Table 6 - PanL35L Display Specifications

C. PanL35L (PD35L) Desk Panel Display Setup

The following steps will guide you through to Set up PanL35L Display –

1. Identify a flat surface to place PanL35L where the bottom RGB LED strip has good 180 degrees visibility to users. Ensure that it is placed within Wi-Fi range and power socket is within reach. Power up PD35L with the Micro-USB cable and power adaptor provided. A longer micro-USB cable can be used in the event that the cable supplied is not sufficient.
2. The RGB LED strip will be BLUE upon power up and will change to WHITE when Wi-Fi is ready to connect (AP mode). Follow the on-boarding instructions.



Once on-board is done and the cables are neatly placed, peel of the adhesive tapes provided and secure display. **(OPTIONAL)**. The RGB LED Strip light should reflect the desk booking status below if on-boarding and desk assigning procedure is done.



**Green -
Available**



**Yellow -
Pending Claim**



**Red -
In Progress**

D. On-Boarding

Refer to [On-board Desk Panel Device \(PanL35L\)*](#) for on-boarding procedure to the PDM network.

Refer to the topic *Assign Desk to a device* under section [Device Management](#) for steps involved in assigning a desk to the desk panel.

E. Accessing Device Control Menu

The PanL35L Display menu functions allows users to perform functions like setting the device brightness / volume; Resetting the device to factory settings (if required) etc.

To access the menu –

1. Using a pin, gently press the function button at the back of the panel for 3 seconds. The PanL35L device control menu is displayed.
2. Toggle between the menu items by doing short presses. Once the item is highlighted, press the function button for 3 seconds to enter into the item interface. To exit the menu, toggle to the back button and press for 3 seconds,



1. Settings

The Settings interface allows users to increase or decrease brightness / volume of the PanL35L Display.

To change device settings –

- Navigate to **Settings** by doing short presses and once Settings is selected, press the function button for 3 seconds.
- The Settings interface is displayed. Increase or decrease the brightness of the device as required by doing short presses to select the function. In order to execute the function, press the function button again for 3 seconds and do short presses. To exit to main menu, toggle to the back button and press for 3 seconds.



2. About

The About interface displays the PanL35L device level information.

To view device level information –

- Navigate to the **About** interface by doing short presses and once the About menu is selected, press the function button again for 3 seconds.
- The About interface is displayed with the PanL35L device level information – *Device Name*, device *Location*, the *Wi-Fi* network to which the device is connected, device *Unique ID* and the *Firmware version* installed on the device are displayed. To exit to main menu, toggle to the back button and press for 3 seconds.



3. Factory Reset

The Factory Reset function allows users to reset the PanL35L device to its original configuration with the last updated firmware, not connecting to any PDM Server or network. To use the device again, on-boarding procedure has to be completed.

To reset device to factory settings –

- Navigate to **Factory Reset** by doing short presses and once Factory Reset is selected, press the function button again for 3 seconds.
- The Factory Reset Interface is displayed. Input 0000 and the device will proceed to reset to factory settings.
- A confirmation message is displayed. Tap on **[RESET DEVICE]** to proceed.



4. AP Mode

The AP Mode is useful in the event that the device needs to be connected to another PDM Wi-Fi network while still connecting to the current PDM server.

To access the AP mode -

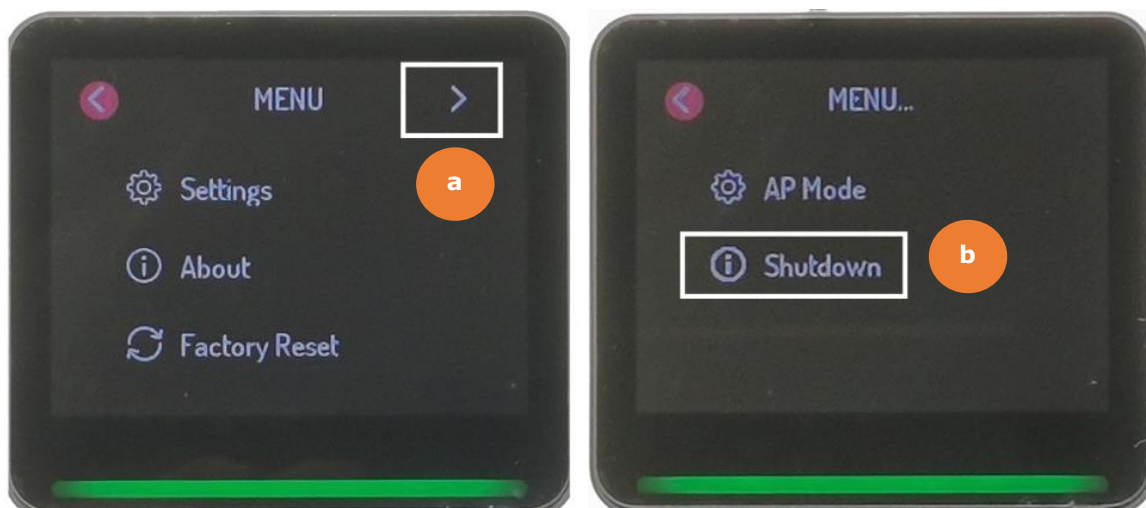
- Navigate to the **Forward** button on the main menu by doing short presses and once it is selected, press the function button again for 3 seconds.
- Navigate to **AP Mode** by doing short presses and once it is selected, press the function button again for 3 seconds.
- The AP Mode interface is displayed. Refer to for on-boarding procedure to connect the device to another PDM Wi-Fi network.



5. Shutdown

To shut down a device manually without detaching the power cable-

- Navigate to the **Forward** button on the main menu by doing short presses and once it is selected, press the function button again for 3 seconds.
- Navigate to **Shut down** by doing short presses and once it is selected, press the function button again for 3 seconds.



X. Appendix

A. Acronyms & Abbreviations

Acronyms	Abbreviations
AP	Access Point
GUI	Graphical User Interface
HMI	Human Machine Interface
IP	Internet Protocol
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LDAP	Lightweight Directory Access Protocol
MCU	Micro Controller Unit
NTLM	New Technology LAN Manager
PDM	PanL Desk Manager
PWM	Pulse Width Modulation
TFT	Thin Films Transistor

B. List of Figures

Figure 1 – PanL Desk Manager Ecosystem	11
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C. List of Tables

Table 1 – Desk Booking Policies	105
Table 2 – User Group Policies	110
Table 3 – User Group Permissions	111
Table 4 – Desk Status	136
Table 5 – Recurrence Patterns	169
Table 6 – PanL35L Display Specifications	192

XI. Revision History

Document Title : BRT_AN_079 PanL Desk Manager 2.X User Guide
Document Reference No. : BRT_000377
Clearance No. : BRT#179
Product Page : <https://brtchip.com/product/>
Document Feedback : [Send Feedback](#)

Revision	Changes	Date
Version 1.0	Initial Release	02-11-2021