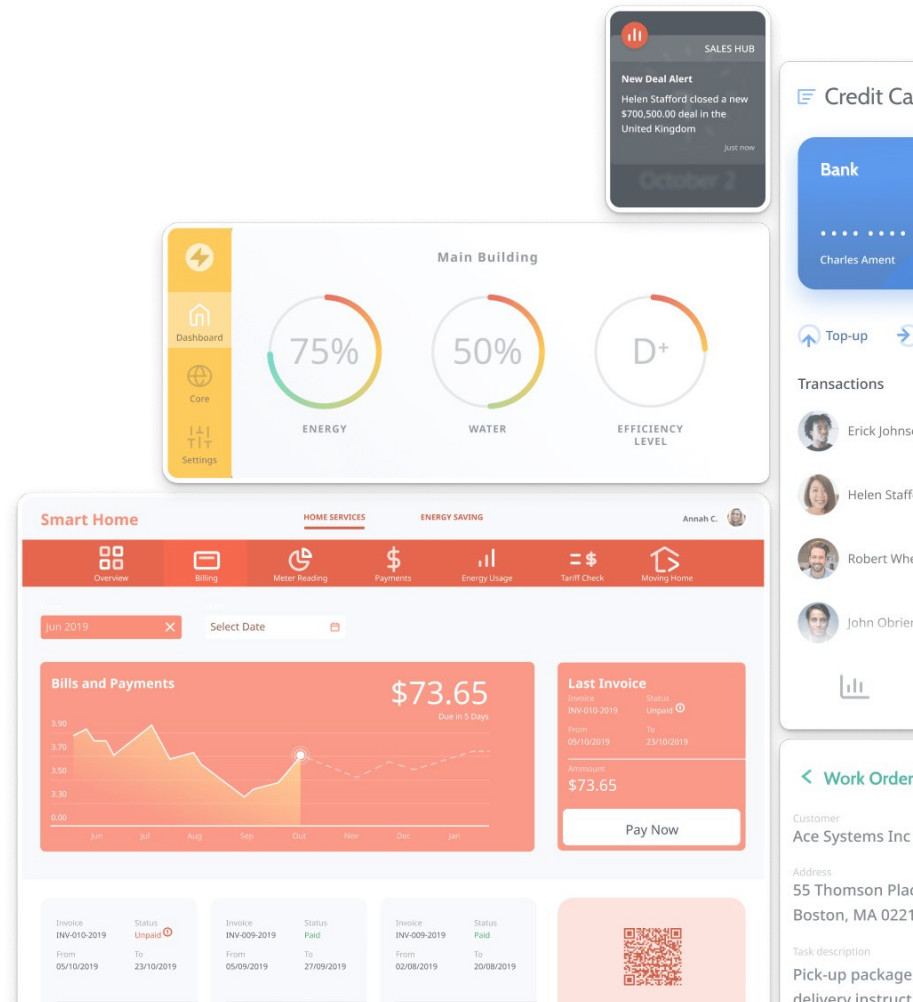




Role-based Security

Reactive Developer Boot Camp



What you will learn here

- Access Control
- Users and Roles
- Checking Permissions

What is Access Control?

Access control determines and enforces

who can do **what**



Business Users
Roles



Access Screens
Add data to the database

Authentication and Authorization

- Access control comprises **Authentication** and **Authorization**
- Authentication
 - Identify who is accessing the application
 - Validate user credentials (e.g: username and password)
- Authorization
 - Check if a user can execute a task
 - Validate if a user was granted the required permissions

Users

The screenshot shows the OutSystems 'Users' application interface. At the top, there's a dark header with the 'outsystems' logo and the title 'Users'. Below the header, there are tabs for 'Users', 'Groups', and 'Applications', with 'Users' being the active tab. The main content area is titled 'Users' and includes links for 'Create a new User', 'Inactive Users', and 'Export to Excel'. There is a search bar with a 'SEARCH' button. Below the search bar, it indicates '1 to 50 of 79 records'. A table lists the users with columns for Name, Username, and Email. The table contains five entries: Administrator (admin), Amy Peters (apeters), Bette Bauer (bbauer), Brandie Lahey (blahey), and Carol Hightower (chightower).

Name	Username	Email
Administrator	admin	
Amy Peters	apeters	AmyJPeters@techy.com
Bette Bauer	bbauer	BetteFBauer@techy.com
Brandie Lahey	blahey	BrandieCLAhey@techy.com
Carol Hightower	chightower	CarolCHightower@techy.com

- End-users are created and managed in the built-in Users application
 - Default OutSystems end-user provider
 - *https://<your_server>/Users*
- The core information of a user is the username and password

Users

outsystems | Users

Users Groups Applications

Users

Create a new User Inactive Users Export to Excel

SEARCH

1 to 50 of 79 records

Name	Username
Administrator	admin
Amy Peters	apeters
Bette Bauer	bbauer
Brandie Lahey	blahey
Carol Hightower	chightower

Users

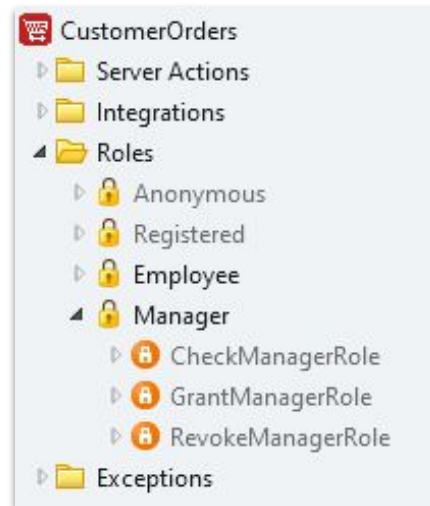
- UI Flows
- Server Actions
 - EncryptPassword
 - GetEffectiveUserProviderEspaceld
 - Group_CreateNew
 - Group_Delete
 - Group_Update
 - IPAddress_GetBlockedStatus
 - IPAddress_GetBlocks
 - IPAddress_Unblock
 - PasswordAutocompleteValue
 - UseActiveDirectoryAuthentication
 - UseIntegratedAuthentication
 - UseLDAPAuthentication
 - User_CanChangePassword
 - User_Create**
 - User_CreateOrUpdate**
 - User_DeleteIfNoRoles

- End-users are created and managed in the built-in Users application
 - Default OutSystems end-user provider
 - *https://<your_server>/Users*
- The core information of a user is the username and password
- Can be created programmatically
 - Actions from the Users module



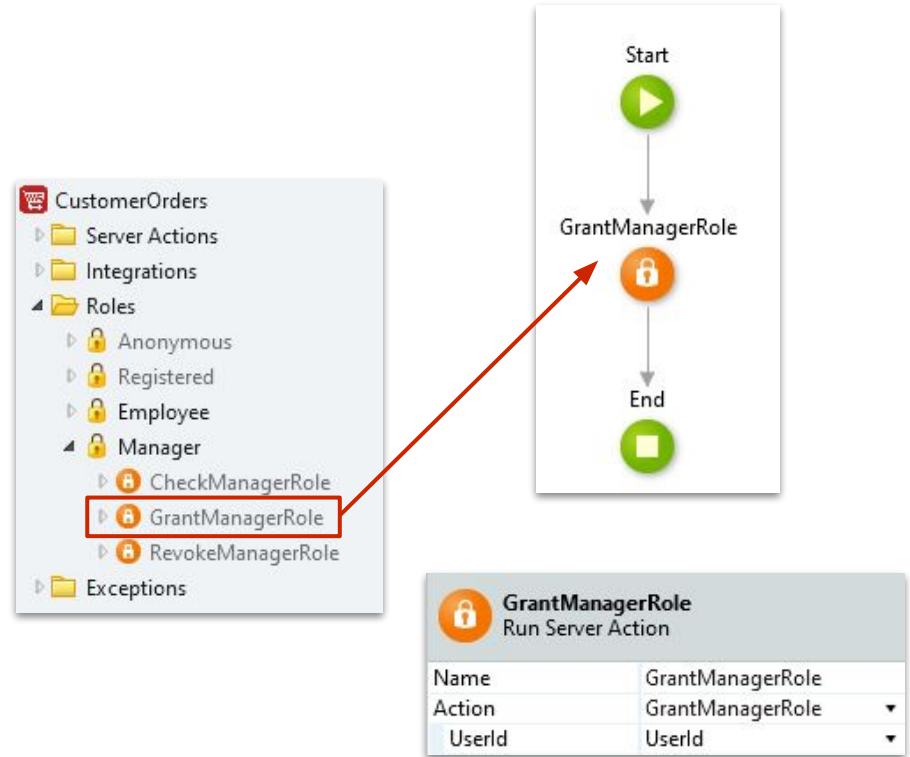
Roles

- Authorization is granted via Roles
- Built-in Roles
 - Anonymous
 - Registered
- All logged in end-users have the **Registered** Role
- Application-specific Roles can be created
 - Each Role has **Check**, **Grant** and **Revoke** Actions



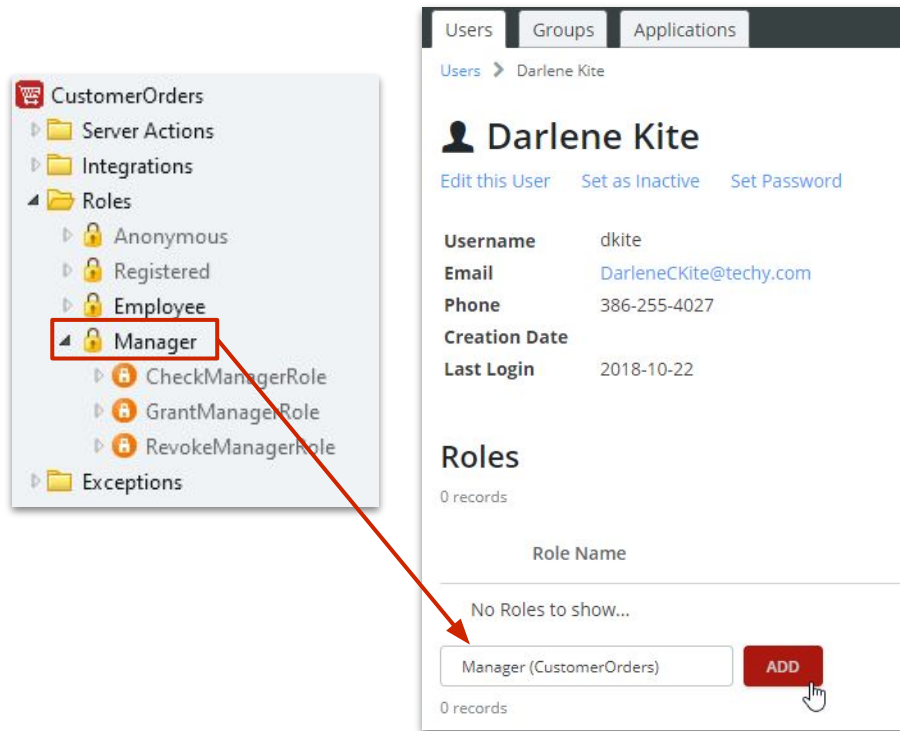
Granting Authorization

- Authorization is granted via Roles
 - Roles can be assigned to Users
- Authorization can be managed:
 - Programatically
 - Grant and Revoke Actions
 - Can be used in Server Actions



Granting Authorization

- Authorization is granted via Roles
 - Roles can be assigned to Users
- Authorization can be managed:
 - Programatically
 - Grant and Revoke Actions
 - Can be used in Server Actions
 - Manually in the Users app

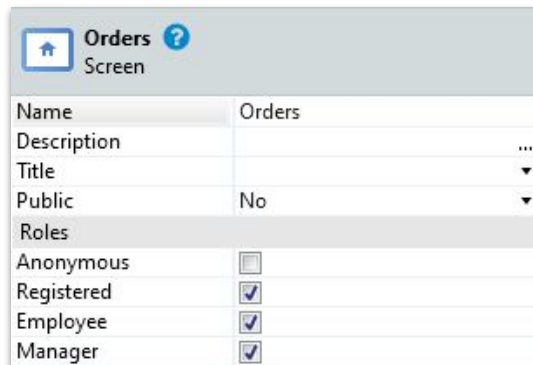
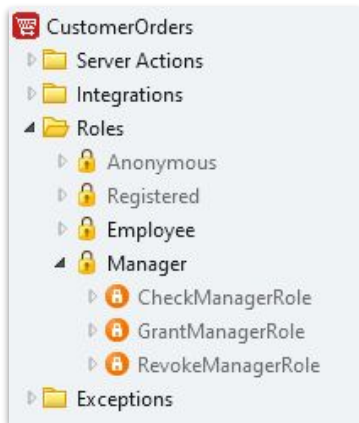


Checking Permissions

Roles can be checked in
Screens and **Actions**

Checking Permissions on Screens

- Screen Roles property
 - Enforces a user to have one of the Roles to access the Screen

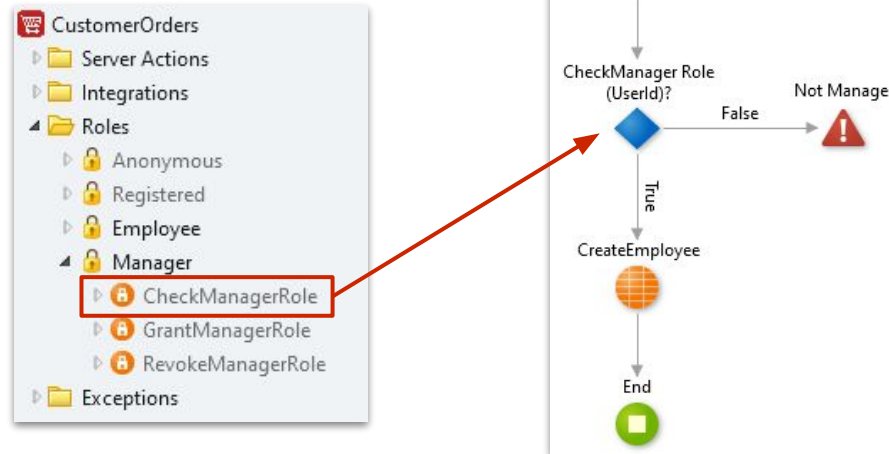


A screenshot of the 'Orders' screen configuration. The 'Roles' section is expanded, showing a list of roles and their corresponding permissions. The roles are Anonymous, Registered, Employee, and Manager. The permissions are represented by checkboxes: Anonymous is unchecked, while Registered, Employee, and Manager are checked.

Name	Orders
Description	...
Title	▼
Public	No ▼
Roles	
Anonymous	<input type="checkbox"/>
Registered	<input checked="" type="checkbox"/>
Employee	<input checked="" type="checkbox"/>
Manager	<input checked="" type="checkbox"/>

Checking Permissions on Actions

- *Check<RoleName>Role(UserId)* Action
 - Checks if a user has the Role
 - Can be used in If statements on Server Actions



Access Control in OutSystems

Define the User

The screenshot shows the 'Users' management page in OutSystems. At the top, there are tabs for 'Users', 'Groups', and 'Applications'. Below the tabs, there's a search bar and a 'SEARCH' button. A table lists users with columns for 'Name' and 'Username'. The table contains five entries: Administrator (admin), Amy Peters (apeters), Bette Bauer (bbauer), Brandie Lahey (blahey), and Carol Hightower (chightower).

Name	Username
Administrator	admin
Amy Peters	apeters
Bette Bauer	bbauer
Brandie Lahey	blahey
Carol Hightower	chightower

Grant a Role to a User

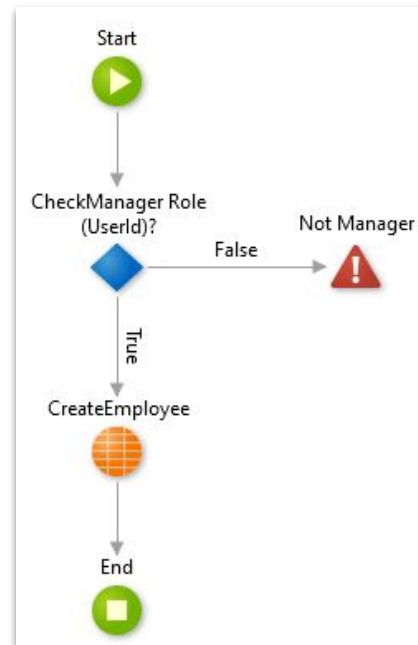
The screenshot shows the user profile for 'Darlene Kite'. It includes fields for Username (dkite), Email (DarleneCKite@techy.com), Phone (386-255-4027), Creation Date (2018-10-22), and Last Login (2018-10-22). Below the profile information, there's a 'Roles' section with a table that currently shows 'No Roles to show...'. At the bottom, there's an 'ADD' button next to a text input field containing 'Manager (CustomerOrders)'.

Roles

Role Name
No Roles to show...

Manager (CustomerOrders) **ADD**

Define / Check Permissions



Questions?



Thank You!

