

# TestOptimal

A short introduction ...

Workgroup: Model Based Testing

Date: April 30, 2015

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  - b. How TestOptimal looks
2. Installation TestOptimal
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## What is TestOptimal

- TestOptimal provides advanced (test) suite for functional testing and performance / load testing.
- Integration with Model-Based Testing (MBT), Data-Driven Testing (DDT) and Pairwise Testing.
- TestOptimal helps test engineers to better test coverage, shorter test cycle and to obtain faster response to changes.
- TestOptimal combines Model- Based Testing (MBT) and Data-Driven Testing (DDT) for test case generation and automatic testing.

## Features TestOptimal

Top 5 key features TestOptimal:

- Short learning curve
- No test automation knowledge required
- Create logical test cases
- Physical test data generation
- Control Coverage

## How TestOptimal looks

The screenshot displays the TestOptimal IDE interface with the following components:

- Model View:** A state machine diagram with states: Start, ProductList, ProductDetail, ShoppingCart, Checkout, and ThankYou. Transitions include actions like 'ViewDetail', 'AddItem', 'ContinueShopping', 'Order', and 'Pay'.
- Monitor Window:** A table showing the execution of a 'Current Execution' with columns for state and duration.
 

State	Duration
Start	0
end_init_activity	0
ProductDetail	0
ProductDetail: ContinueShopping	0
ProductDetail: ShowShoppingCart	0
ProductList	0
ProductList: end	0
ProductList: AddItem	0
ProductList: ShowShoppingCart	0
ProductList: ViewDetail	0
ShoppingCart	0
ShoppingCart: Order	0
ShoppingCart: RenewItem	0
ShoppingCart: ContinueShopping	0
Start: start	0
ThankYou	0
ThankYou: ContinueShopping	0
- Requirements Coverage Table:** A table showing coverage for various requirements.
 

Tag	P	Passed	Failed
1.1	H	1	0
1.2	H	1	0
1.3	M	2	0
2.1	H	1	0
2.2	L	1	0
PageFile		0	0
Security	H	0	0
viewDetail	M	0	0
- MScript Window:** A code editor showing the underlying state machine logic in a script-like language, including state transitions and actions like 'updateShoppingCartCount'.

## Installation Part I

### 1. Download and install TestOptimal

- a. Copy the files from the USB stick to your own laptop.
- b. Install different software: TestOptimal, JDK 1.7, Firefox 35.

### 2. Firefox

- a. Make Firefox your default browser. In this way, starting TestOptimal IDE in Firefox. This is necessary for proper operation of MBT builder (described in step 2 of installation Part II).

### 3. TestOptimal preparation

- a. Prerequisite
  - i. Browser: *Popup Blocker* is "disabled" *javascript* is 'enabled'. If you use IE, make sure checkbox for "Enable Protected Mode ..." is unchecked (Internet Options / Security tab).
  - ii. Computer: *JDK* is installed, verify that runs on JDK installed *java -version* (1. Open *command prompt in Windows* (Start >>> >>> Run type "cmd") 2. Type "*java -version* "), *JDK* state on the USB stick (memory tenminsche 512MB hard disk space: at least 200MB).

## Installation Part II

### 1. Installation of TestOptimal

- a. Unzip TestOptimal.zip file to a directory on your local hard drive (eg C: / TestOptimal).
- b. Double-click setup.bat to be found under (c: / TestOptimal)
  - i. Voegt system tray increase (SysTray [Console](#))
  - ii. Setup starts automatically start TestOptimal server once you log into Windows and launch the [TestOptimal IDE](#) browser.
- c. Add the following email address and license code:
  - i. Email address: [mbt.workshop@testnet.org](mailto:mbt.workshop@testnet.org)
  - ii. License code: license key given out at workshop

### 2. Installation WebMBT Builder

- a. Open Firefox
- b. Open folder "C: / TestOptimal"
- c. Drag and drop file "webmbt\_2.2.xpi" to Firefox

### 3. Rounding installation

- a. Log out of Windows and then log in again
- b. TestOptimal should start automatically in Firefox

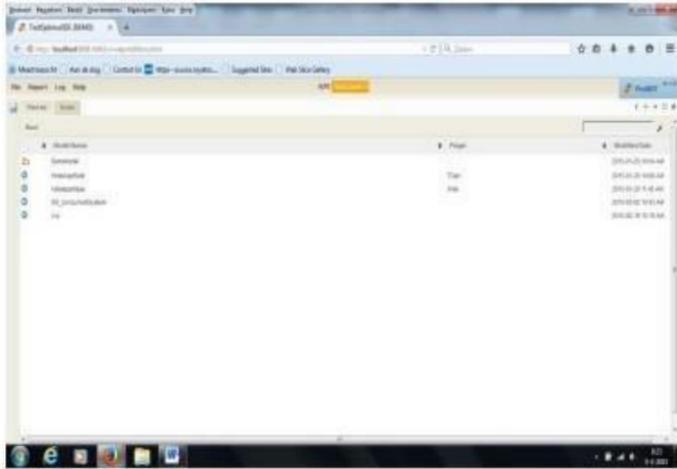


## Installation Part III



And now ....

if everything is installed properly, see firefox stand with the screen below



The following slides are States and Transitions discussed

Now firefox close down and restart it ... ..

Register at the hotel Adactin app

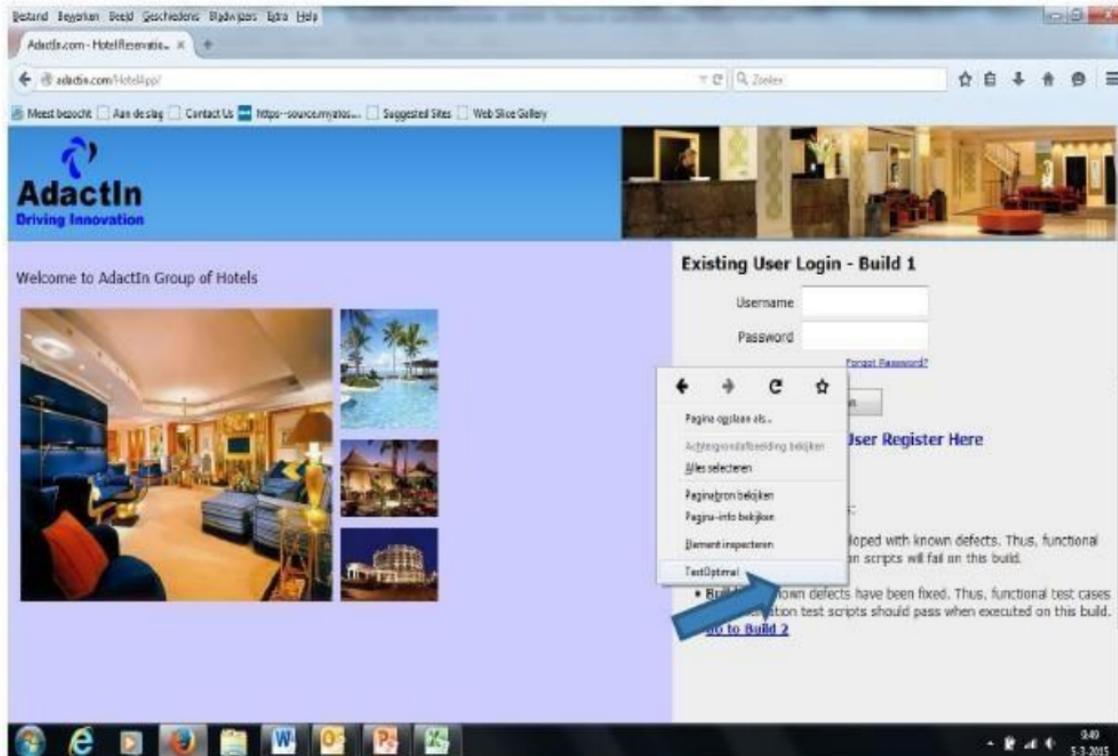
1. Go to <http://adactin.com/HotelApp/>
2. make on two HotelApp systems are just built a system with errors
3. Select [New User Register Here](#) and sign up

*Remember your username and password. You need this in the course of this*

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workshop

## Modeling STEP 1



The screenshot shows a web browser window displaying the AdactIn website. The page title is "AdactIn - Hotelreservatie...". The URL bar shows "adactin.com/hotelsipol". The page content includes the AdactIn logo with the tagline "Driving Innovation", a welcome message "Welcome to AdactIn Group of Hotels", and a section titled "Existing User Login - Build 1". This section contains a login form with fields for "Username" and "Password". A context menu is open over the login form, listing various actions such as "Pagina opnieuw laden", "Achtergrondafbeelding bekijken", "Afbeelding selecteren", "Pagina bron bekijken", "Pagina-into bekijken", "Element inspecteren", and "TestOptimal". A blue arrow points to the "TestOptimal" option in the menu. The Windows taskbar at the bottom shows the date and time as "5-7-2015 9:49".

- Go to AdactIn
- Right-click
- Select TestOptimal

## Modeling STEP 2

The screenshot shows the 'Create New Model' dialog box in TestOptimal. The fields are filled with the following information:

- Model Name:** Adactin
- Model Notation:** State Diagram
- AUT URL/File Path:** http://adactin.com/HotelApp/
- Browser Type:** Firefox
- Plugins:** Selenium Web application cross-browser testing (checked)

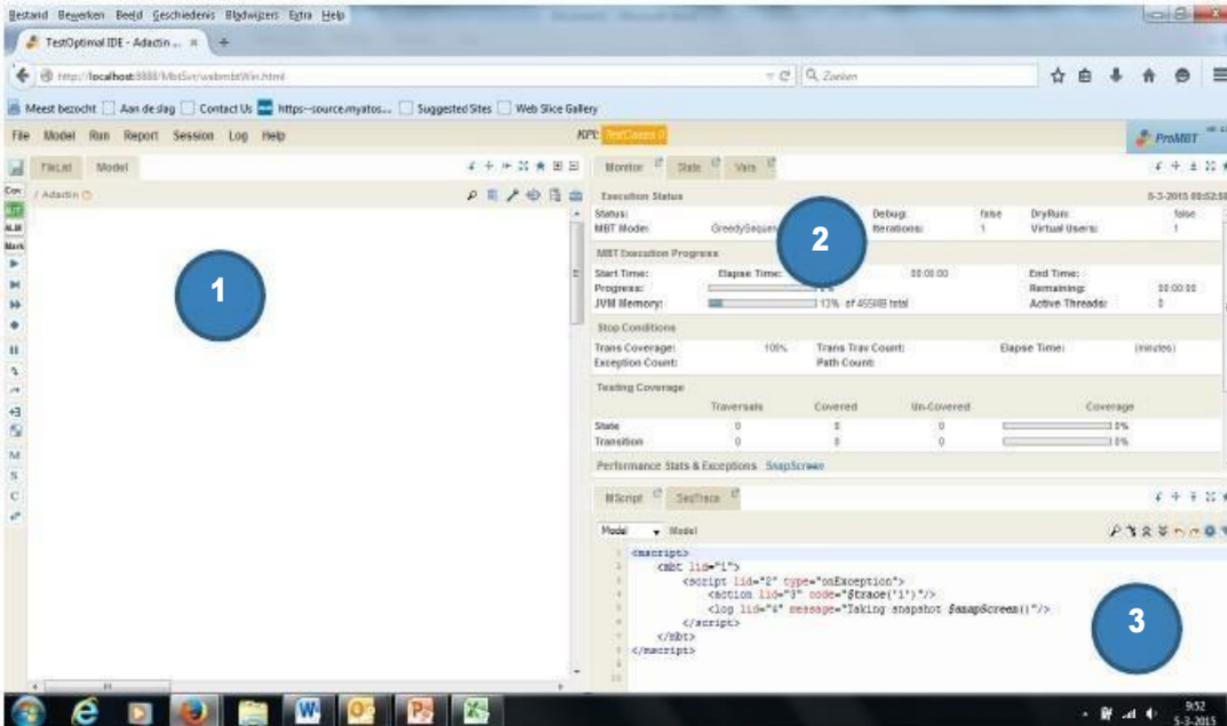
Blue arrows point to the 'File' menu, the 'Model Name' field, the 'Model Notation' dropdown, the 'AUT URL/File Path' field, the 'Selenium' checkbox, and the 'Ok' button.

- Choose File
  - New Model
- Type model name
- Type the URL of HotelAPP (Via copy or paste)
- Check or Selenium is unchecked
- Click 'OK'

## Modeling STEP 3

1. Space for the model
2. Monitor screen
3. M-script screen. For completed the mission that an error a screenshot is made, and that this mention is made in the log.

- Select the other Firefox session



The screenshot displays the TestOptimal IDE interface. The main workspace is labeled '1'. The right-hand side contains a 'Monitor' panel with various status indicators and progress bars, labeled '2'. Below the monitor is an 'MScript' editor showing XML code for a test script, labeled '3'. The code includes elements like <macroscript>, <mbc lid='1'>, <script lid='2' type='onException'>, <action lid='3' code='\${trace('1')}>, <log lid='4' message='Taking snapshot \$snapScreen()'>, </script>, and </macroscript>.

## Modeling STEP 4

1. Creation of states and transitions
2. Control or executive orders

serving transitions:

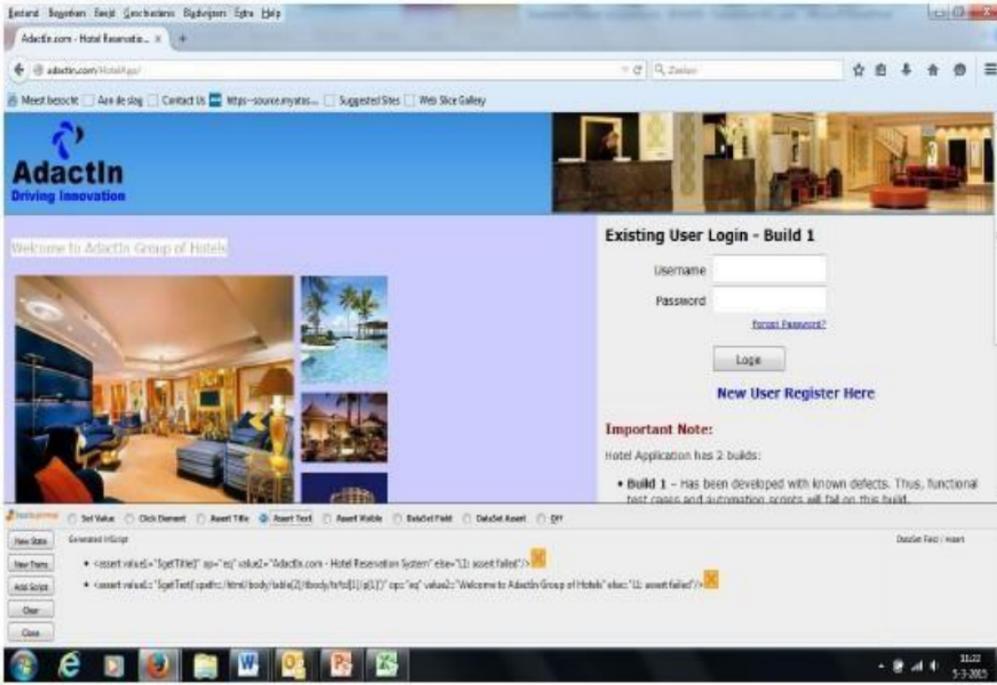
- Set value
- Click element
- Dataset field

serving states:

- Assert Title
- Assert Text
- Assert Visible
- Dataset Assert



## Modeling STEP 4 - Create State



The screenshot shows a web browser displaying the AdactIn website. The TestOptimal interface is overlaid at the bottom, showing a 'New State' dialog with the following generated XPath scripts:

```

    • <assert xpath="//img[@src='http://www.adactin.com/HotelReservationSystem/WelcomeToAdactInGroupOfHotels.jpg']" op="=" value="" />
    • <assert xpath="//h1" op="=" value="Welcome to AdactIn Group of Hotels" />
  
```

Expected outcome:

- Select Assert Title
- Click anywhere on the page
- Title control script is created
- Select Assert Text
- Use the mouse for example. "Welcome to AdactIn Group of Hotels "
- Text control script is created

Now click on "New State"



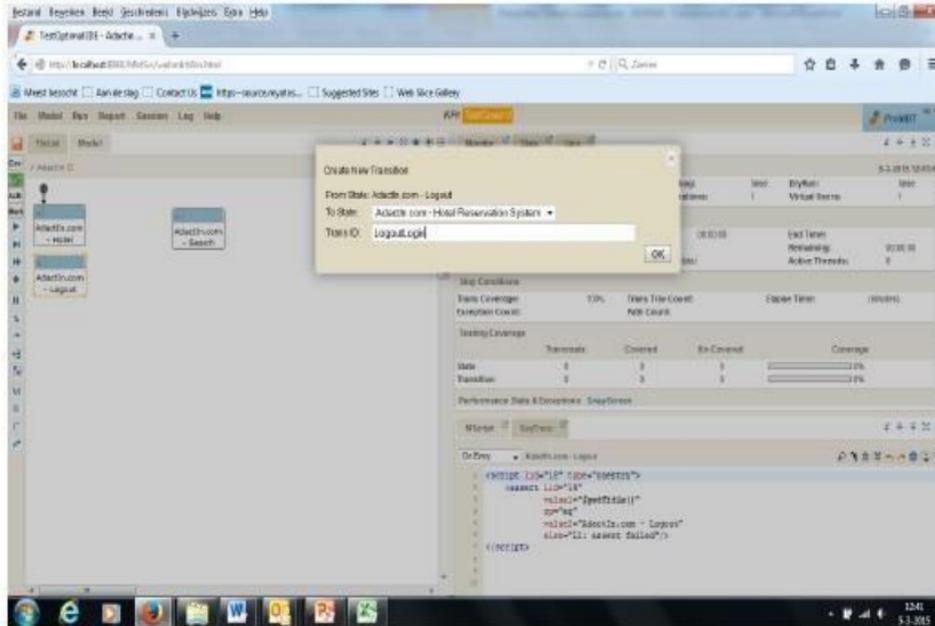
## Modeling STEP 5 - Create State 2 and 3

- Select "off" and click "Clear"
- The M-script lines are removed
- Enter the screen adactin username and password and click "Ok"
- The second screen (search) of Adactin shown
- Create Asset Title to.
- Mscript filled
- Click "New State"
- Click the TestOptimal display "OK". Fill Parent state not
- A new State (search) is made
  
- Go to the Adactin page and click "Logout"
- The second screen is displayed of Adactin
- Select Off and press Clear (M-script lines are removed)
- Makes an Asset Title and click "New State" and click on the TestOptimal display "OK"
- The third State (Logout) is made

Slide the states to which they are distinct from each other with a gap of several centimeters  
**Make sure the "Logout" state is selected** and go to the page Adactin (Logout)

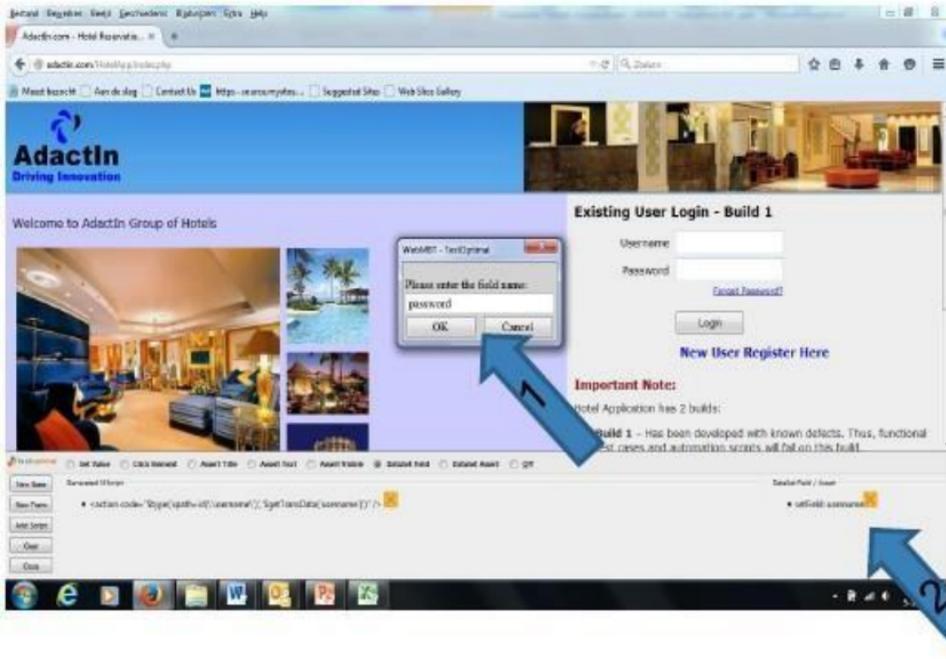
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## Modeling STEP 5 - Create Transition



- Select Off and press Clear
- Select "Click Element"
- Click on "Click here to Login again"
  - M-script line is filled and
  - the Login page loads
- Then click "New Transition"
  - Check TestOptimal pop-up window or and just to be filled (from Logout to Hotel-display (can be selected)
- Then type the transition name (eg LogoutLogin) and click "OK"
  - Then, the transition is subscribed and placed the M-script
- **Make sure the "Hotel" state is selected** and go the Adactin page (Hotel Login)

## Modeling STEP 6 - Creating Transition - incl dataset.



- Click Clear and select "Dataset Field"
- Then click Username input field
  - 1. Choose a name for the field and click "OK"
  - 2. Check whether the dataset contains field "Username"
- Do the same with password.
- Then choose "Click Element" and click on "Login"
  - M-script line is filled and then then "New Transition"
  - Check TestOptimal pop-up window or just is filled (Hotel) and select the state "Search"
- Type then the transition name (eg Login Search) and click "OK"
  - Then, the transition is subscribed and M-script posted

## Modeling STEP 6 - Creating Transition - incl dataset.

The screenshot shows the TestOptimal IDE interface. A pop-up window titled 'Dataset for "http://www.log4jsearch.adactin.com - New Reservation System-Adactin.com - Search" is open. The window contains the following fields and controls:

- Dataset Name: Adactin.com - Hotel Reservation System\_loginSearch
- Imported From: import
- Algorithm: Pairwise
- Pairwise:  (checked)
- Random Retrieval:
- Field Name: username
- Field Name: password
- Buttons: regenerate

Below the configuration fields, there is a table with the following data:

Dataset	Coverage
0	0%
0	0%

A blue arrow points to the 'regenerate' button in the configuration window.

- Select transition
- Right-click the transition and select transition dataset.
  - Type the username (username) and password (password) of Adactin
  - Click "regenerate"
  - A combination record is created (According to the algorithm pairwise)
  - Then close the pop-up window

*Do not forget: select the Search State in the Optimal Test*

## Modeling STEP 6 - Creating Transition - incl dataset.

- Go to Adactin screen and login with the username and password
- Arriving at the Search screen:
  - Click Off and then Clear
  - Select: Click Element
  - Click on the Adactin screen on logout
  - Click New Trans
  - Check on the pop-up screen of the state (Search)
  - Select the To-State (Logout) and give the transaction a name, eg. SearchLogout
  - Then click OK

## Modeling STEP 7 - and now ... we're almost done ... we lack is a State final

- Go to the TestOptimal screen
- Go to the model and click the right mouse button and select "Add State"
- Then open the Properties window, make this final state and give it a nice name, eg. End
- Go to the Hotel State
- Using the right mouse button "Add Transition"
- Pull the "transition" to the End State
  
- Then save the model by clicking on the floppy
  - Floppy is blue now
- Close the page Adactin
- Now enter the model, click ►

*OptimalTest, now going to create the test and run. You can follow it by watching them in the new Firefox window which is created, and at the end is closed. After a few seconds, indicating that the test was conducted*

- Now look at all the reports logs ed. At least in the STATS and then also on the C (you will see what is done)

## Assignment

### Assignment 1:

Verifying check out and check in date

Steps:

1. Start the hotel reservation website <http://adactin.com/HotelApp/index.php>
2. Login with your username and password test
3. Location "London" and "Hotel Sunshine"
4. Select room type "Super Deluxe" and amount of rooms "2"
5. Enter check-in date "today + 7 days" and check-out date "today + 5 days" in
6. Select the number of adults "2" and how many kids "0 (not select)"
7. Click on the "Search" button
8. Verify that the system displays an error message: 'check-in date can not be later than the check-out date'

## Assignment

### Task 2:

Booking a hotel and logout.

Steps:

1. Start the hotel reservation website <http://adactin.com/HotelApp/index.php>
2. Login with your username and password test
3. Location "Sydney" and "Hotel Creek"
4. Select room type "standard" amount of rooms and "2"
5. Enter check-in date "today" and check-out date "today + 1 day" in
6. Select the number of adults "1" and how many children "0 (not select)"
7. Click on the "Search" button
8. Select a hotel and click on the "Continue" button
9. Fill in the details and click "Book Now"
10. Click "Logout" and verifeer that well has been logged

Where to find information ...

- manuals and instructional videos

<http://testoptimal.com/tutorials/TutorialList.html>

- automate Hotel app

<http://www.adactin.com/HotelApp/>

- General Information Test Optimal

<http://testoptimal.com/>