

# Getting Started with Series 40 Web Apps

**NOKIA** Developer

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# Table of contents

- 1. Introduction 3
  - 1.1 Nokia Web Tools 3
  - 1.2 Content 3
- 2. Getting started guide 4
  - 2.1 Starting Web Developer Environment 4
  - 2.2 Creating your first web app project 5
  - 2.3 Your News web app project 9
  - 2.4 A short guide to editing 9
  - 2.5 Previewing your web app 10
  - 2.6 Running your web app on a phone 13
    - 2.6.1 Deploy with Bluetooth Launcher 14
      - 2.6.1.1 Set up a Bluetooth connection 14
      - 2.6.1.2 Install Bluetooth Launcher 15
  - 2.7 Define the deployment target 17
    - 2.7.1.1 Run your web app 17
    - 2.7.2 Deploy by use of a short URL 20
      - 2.7.2.1 Define the deployment target 21
      - 2.7.2.2 Run your web app 21

## Change history

7 April 2011	1.0	Initial document release
25 October 2011	1.1	Updated to describe the getting started process in Nokia Web Tools 1.5

# 1. Introduction

This document provides a getting started guide to using Nokia Web Tools to create, preview, test, and deploy Series 40 web apps for Nokia Browser for Series 40.

## 1.1 Nokia Web Tools

Nokia Web Tools comprises three components for Series 40 web apps development:

- Web Developer Environment (WDE) — built on the Eclipse platform; WDE leverages the powerful code development features of this platform to provide for the editing, packaging, and deploying of web apps. The features of the WDE for creating Series 40 web apps are described fully in [Web Developer Environment Guide](#), available from Web Developer Channel.
- Web Developer Channel (WDC) — this resource is embedded in WDE and provides online access to a range of resources from Nokia that will assist in the development of web apps. The features of WDC are described fully in [Web Developer Channel Guide](#), available from WDC.
- Web App Simulator (WAS) — this tool enables web apps to be previewed and debugged. The simulator enables web apps to be tested on the development computer, while an integrated implementation of Web Inspector provides feature that enable web apps to be debugged. The features of WAS are described fully in [Web App Simulator Guide](#), available from Web Developer Channel.

Nokia Web Tools are available for computers running Microsoft Windows, Apple Mac OS X, or Ubuntu Linux.

## 1.2 Content

This document provides a guide to getting started with the creation of Series 40 web apps and describes the processes of creating, previewing, testing, and deploying a Series 40 web app. Reading this guide will provide you with sufficient information to start creating Series 40 web apps with Nokia Web Tools.

This guide has been written based on use of a Microsoft Windows installation; however the guidance provided is the same for Apple Mac and Ubuntu installations, unless specifically noted.

## 2. Getting started guide

This guide assumes you have installed Nokia Web Tools onto your computer. Nokia Web Tools are delivered in standard installer packages for Microsoft Windows, Ubuntu Linux, and Apple Mac. If you need additional information on the installation process it's provided in [Nokia Web Tools Installation Guide](#), which is available from the [Nokia Web Tools download page](#) on the Nokia Developer website.

Once Nokia Web Tools is installed, getting started is easy: You create a web app from a template, edit it, preview it, and deploy it to your compatible Nokia phone — through the Nokia Browser for Series 40 Proxy server — to see it in action.

### 2.1 Starting Web Developer Environment

Web apps are created, edited, packaged, and deployed in Web Developer Environment (WDE). WDE is run from your system's applications menu. The first time WDE is run you will be prompted to select a workspace, as shown in Figure 1. Unless you wish to regularly change the active workspace, **Use this as the default and do not ask again** can be selected.

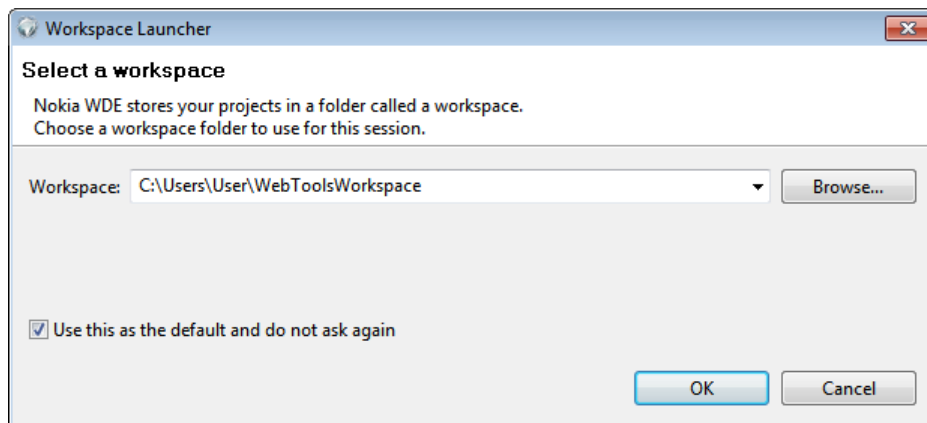


Figure 1: The Workspace Launcher, enabling an alternative work space to be selected, is shown.

After clicking **OK**, WDE opens.

Once the workspace has been selected you may receive a **Windows Security Alert** prompt, as shown in Figure 2. If this message is displayed, click **Allow access**.

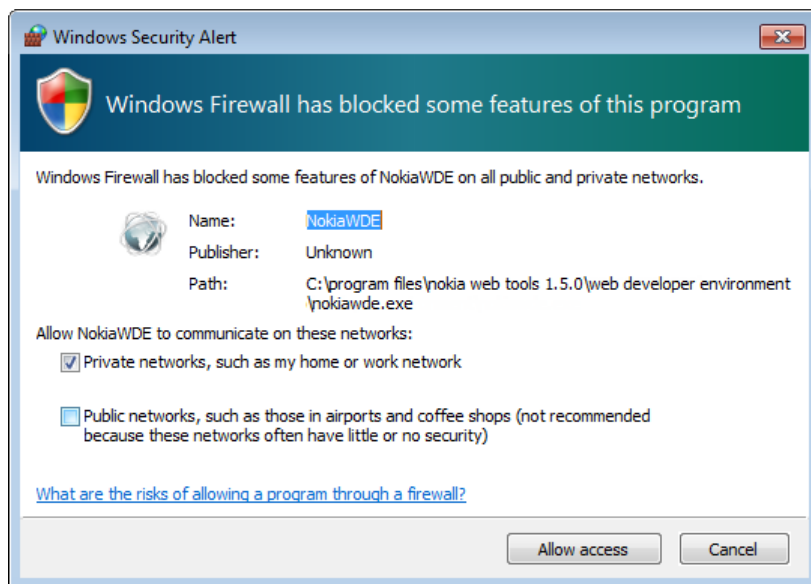


Figure 2: The Windows Security Alert that may be displayed when WDE is first run is shown.

## 2.2 Creating your first web app project

To enable the creation of Series 40 web apps WDE offers a number of templates, such as the Basic template that contains the core web app files with no functionality and the News web app project template that offers a functional RSS reader. You can work with web app examples or a web app project you have already created as well. More details on importing web apps and using the templates can be found in Web Developer Environment Guide.

For this guide the fully working News web app template will be used to create a Series 40 web app.

To create the Series 40 web app project, on the **File** menu point to **New** and click **Series 40 web app (wgt)**, shown in Figure 3.

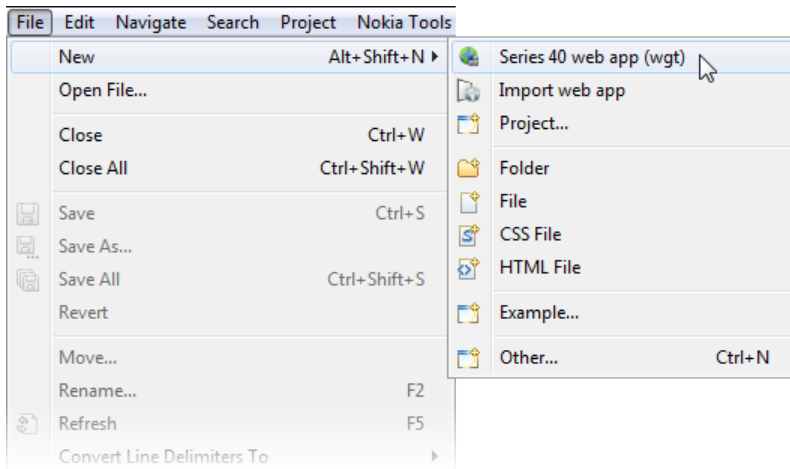


Figure 3: Selecting the Series 40 web app (wgt) option on the File menu is shown.

The **New Series 40 web app** dialogue, shown in Figure 4, displays. In the **Nokia Series 40 web apps** folder, click **News web app project** and then **Next**.

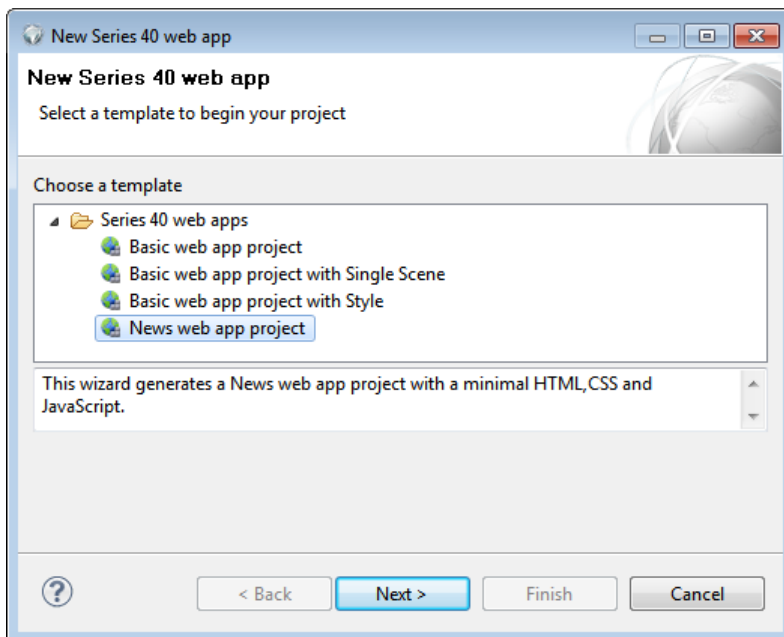


Figure 4: Selecting a template for a new Series 40 web app is shown.

The first page of the **New News web app project** dialogue, shown in Figure 5, displays.

Figure 5: The **New News web app project** dialogue, where details of the web app project are defined, is shown.

Enter the project name, *MyNews*, in the **Project Name** field. When you leave the **Project Name** field, the wizard automatically populates the **Display Name** (the name that will be displayed in the phone's UI) and **Unique Identifier**. You can change these fields as desired: do so for the **Display Name**, using *My News App*. Two fields are not automatically populated: **Version #** and **Short Name**. Set a version number, using *1.0* and short name to *My News*.



Note: For more information on the display and short names, see the [Series 40 Web Apps Publishing Guide](#), available in WDC.

Finally, leave the **Runtime Version #** at 1.5 — you should use this version for all new web apps as all Nokia Browser for Series 40 users will be encouraged to update to the version of the browser supporting 1.5.

Click **Next** and the **RSS Project Settings** page, see Figure 6, displays. This dialogue enables the setting of the main HTML file name that will be used in the project, the URL for the RSS feed to be displayed, and information about the web app. Update the information if you wish, but these details can be left unchanged for this example.

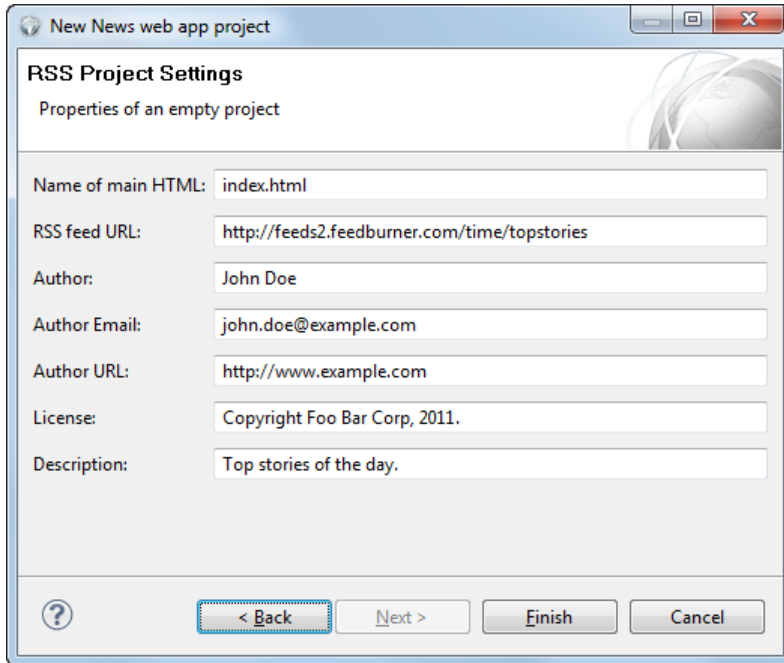


Figure 6: The RSS Project Settings dialogue, which enables the setting of web app variables, is shown.

Your web app project is created by clicking **Finish**. The **Create Project** dialogue, see Figure 7, displays, showing the progress of the project’s creation before the project is opened in **Project Explorer**.

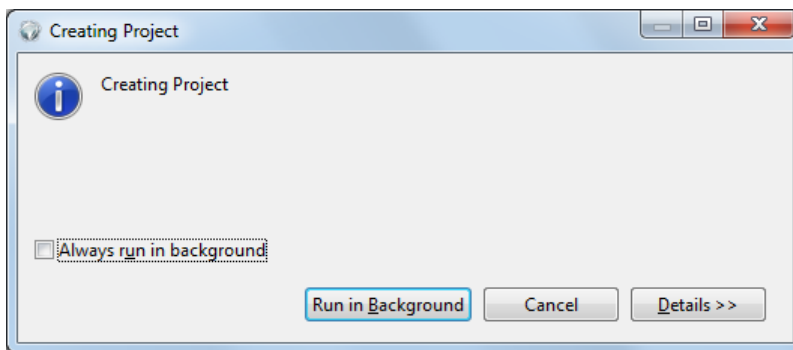


Figure 7: The Create Project dialogue, displaying the progress of project creation, is shown.

## 2.3 Your News web app project

If you are new to web apps, take a moment to review the content of the project before continuing. To do this, expand the **MyNews** item in **Project Explorer**, as shown in Figure 8.

The content of the project is as follows:

- JavaScript resources — this library container folder provides the default JavaScript libraries used on Nokia Browser for Series 40 Proxy server. The libraries are used to provided information for:
  - code completion.
  - validation.
  - debugging — the libraries improve the information available in Debugger (Web Inspector) thereby aiding the debugging and analysis of your web apps.

More information on the APIs provided in these libraries can be found in [Series 40 Web Apps Developer's Guide and API Reference](#), available in WDC.

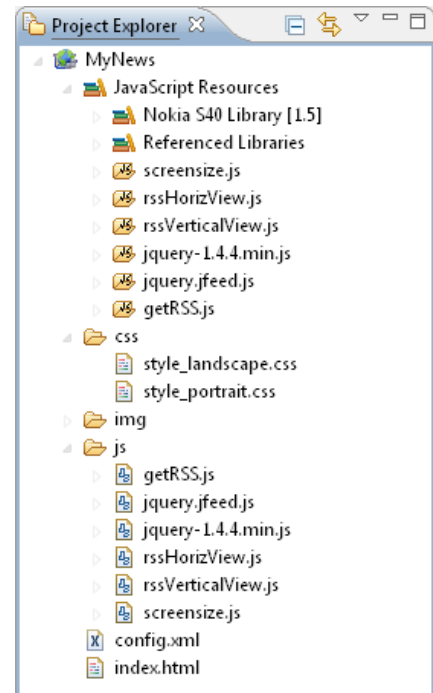




Figure 8: The content of the News web app project in Project Explorer is shown.

 Note: The standard JavaScript libraries provided for Series 40 web apps are not packaged in your web app's \*.wgt file, rather they are provided by the Nokia Browser for Series 40 Proxy server.

- css — this folder contains the CSS files used by the web app.
- img — this folder contains the images used in the web app.
- js — this folder contains the JavaScript code created for this web app.

 Note: CSS files, images, JavaScript code, and any other web app content can be stored anywhere in a project. If stored in a folder, the name and location of the folder is arbitrary. The use of a meaningful folder and single location specific types of files can help in managing content.

- Files config.xml and index.html — these files define the content and behaviour of the web app. For more information, see the W3C [Widget Packaging and Configuration](#) standard.

## 2.4 A short guide to editing

The news web app you have created requires no editing, as the template is functionally complete. However, a short introduction to editing a web app's files is worthwhile at this stage.

Double-clicking any web or web app related file in **Project Explorer** opens it in the WDE editor. To see how this works, double-click the `index.html` file in **Project Explorer** and see that it opens in the editor, as shown in Figure 9.



```

<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="content-type" content="text/html; charset=utf-8"/>
    <title>My News App</title>
    <script type="text/javascript" src="js/screensize.js"></script>
    <script type="text/javascript" src="js/rssHorizView.js"></script>
    <script type="text/javascript" src="js/rssVerticalView.js"></script>
    <script type="text/javascript" src="js/jquery-1.4.4.min.js"></script>
    <script type="text/javascript" src="js/jquery.jfeed.js"></script>
    <script type="text/javascript" src="js/getRSS.js"></script>
  </head>
  <body>

    <!--RSSContent -->
    <div class="container">
      <div class="strip view0" id="views">
        <div id="verviewcontainer">
          <div id="verview">
            <div class="pubDate_contnr"><div id="catPubDate" class="pubDate_tx
            <div class="verHorloader">Loading...</div>

```

Figure 9: The `index.html` file open in the WDE editor is shown.

WDE includes a feature designed to simplify code editing: Code completion, which is available in the HTML, CSS, and JavaScript code editors as well as for the `config.xml` file.

More details on code completion are provided in [Web Developer Environment Guide](#), available from WDC.

## 2.5 Previewing your web app

Transferring a web app onto a phone each time changes are made to the code isn't a practical way of previewing and testing your web app during development. To simplify testing of a web app, WDE integrates with Web App Simulator (WAS).

You have two options for running the preview:

- server (cloud) based preview, this option provides a simulation that is very close to the experience that will be seen on a phone, although there are limitations and final testing should always be conducted on a phone (or range of phone models, where possible). In addition, it's useful when you need to examine the volume of data exchanged between the client and server.
- Locally based preview, this option can be useful when:
  - you're working offline or encounter problems with the server based preview due to network issues.

- you want to use Web Inspector to debug the JavaScript code in your web app or examine the DOM (during a server preview the visible DOM is incomplete because most of it's resident on the server and therefore not visible to Web Inspector.)

In this case use the local preview, which you start from the project's shortcut menu by clicking **Local Preview for Web app**, as shown in Figure 10.

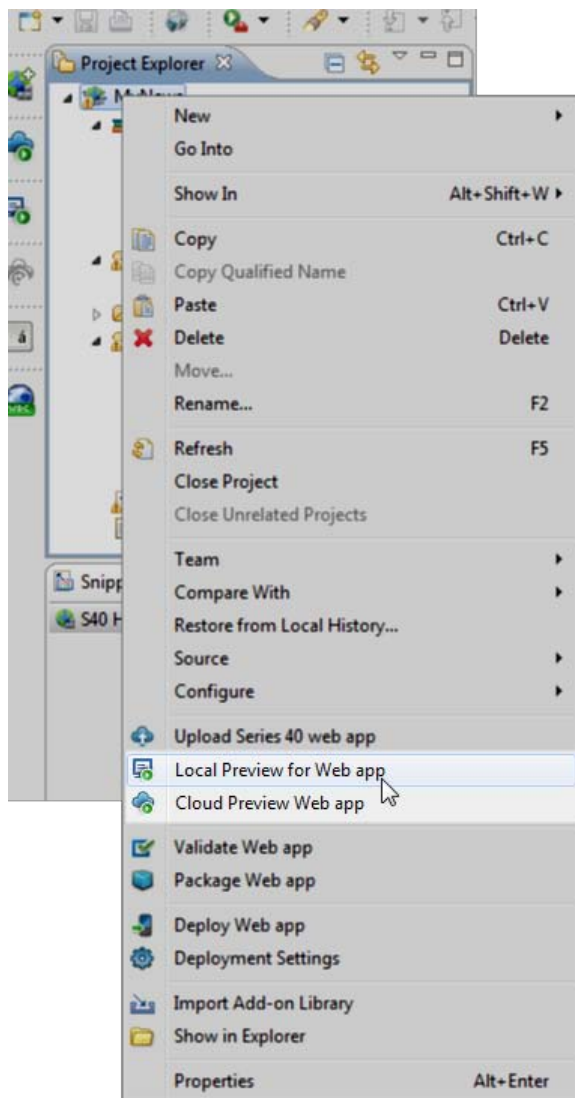


Figure 10: The web app preview options to launch WAS are shown.

The **Launching preview** dialogue, as shown in Figure 11, displays while the web app is validated and sent to WAS.

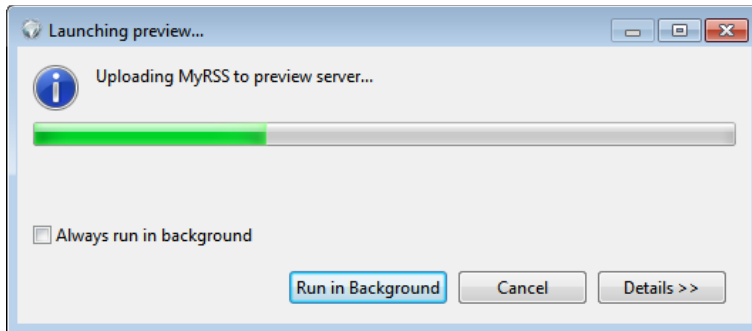


Figure 11: The Launching preview dialogue is shown.

Once the web app has been uploaded WAS starts, as shown in Figure 12, and opens the web app. You can now run the web app in the same way you would on a phone.



Warning: WAS doesn't provide an exact rendering of a web app's look as it would be on a phone —there may be differences in the visual representation and placement of some items. As such, all web apps should be tested on a phone before distribution to confirm that they look as intended.

For Series 40 web apps, WAS provides features to adjust phone characteristics and view settings as well as view log information useful for debugging web apps. For more information on WAS, see [Web App Simulator Guide](#), available from WDC.



Figure 12: The My News App running in WAS is shown.

## 2.6 Running your web app on a phone

Having tested your web app in the simulator the next stage is to run it on a Series 40 phone. To do this you'll need the following:

- a [Series 40 phone that supports Nokia Browser for Series 40](#). Nokia Browser for Series 40 is delivered:
  - in firmware for some phones. You may need to install new firmware on your phone. To check your phone has the latest firmware, connect it to your PC through Nokia Suite. In the menu click **Tools** and

then **Software updates**. Nokia Suite will detect if there is a new version of firmware for your phone. If there is, click **Update** to install it by following the instructions provided.

- for supported phones that don't yet include Nokia Browser for Series 40 in firmware, it can be obtained by opening [download.browser.ovi.com/get](http://download.browser.ovi.com/get) in the phone's browser. Select or tap download and follow the installation instructions. If you use Bluetooth Launcher to preview your web app on a phone and Nokia Browser for Series 40 isn't installed, the launcher will open the phone's browser and load the download page.
- optionally, a PC with Bluetooth technology and Bluetooth Launcher. Bluetooth Launcher can be obtained from the [Bluetooth Launcher download page](#) on the Nokia Developer website or installed directly to your phone by opening [nokia.ly/btlauncher](http://nokia.ly/btlauncher).

Deployment is achieved using the deploy options in WDE. This process validates and packages the web app (for more information, see [Web Developer Environment Guide](#)). It then uploads the web app to the Nokia Browser for Series 40 Proxy server. The next step offers two options:

- with a Bluetooth capable PC, you can use the Bluetooth Launcher. With this option, after uploading the web app to the Nokia Browser for Series 40 Proxy, WDE sends the web app URL to your phone and Bluetooth Launcher launches the web app in the Nokia Browser for Series 40 Client.
- Use the short URL provided by the deployment process to open the web app directly from Nokia Browser for Series 40.

The News web app template provides a fully functional web app so, if you haven't made any changes to the code, the web app can be deployed.

## 2.6.1 Deploy with Bluetooth Launcher

To run a web app on a phone using a Bluetooth connection you need to set up a Bluetooth connection, install Bluetooth Launcher, define your target phone in WDE, and then deploy your web app to run it on a Series 40 phone.

### 2.6.1.1 Set up a Bluetooth connection

Confirm that the PC running WDE and the target Series 40 phone can communicate over a Bluetooth connection. One way to do this is by pairing the phone and computer. This is done from the phone's **Menu** by opening **Settings, Connectivity, Bluetooth, Paired Devices**, and **Add a New Device**. The normal procedure for pairing Bluetooth devices can then be followed.



Tip: The phone's Bluetooth name can be found from **Menu** by selecting **Settings, Connectivity, Bluetooth,** and **My phone's name**, as shown in Figure 13.

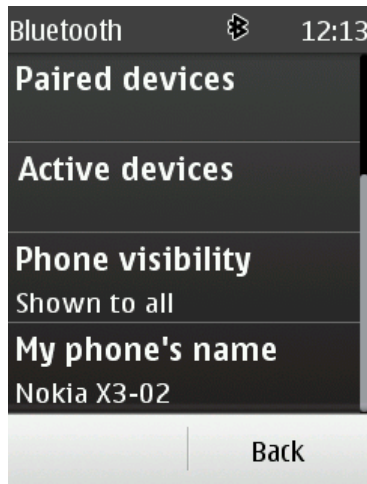


Figure 13: A Series 40 phone's Bluetooth name is shown.

### 2.6.1.2 Install Bluetooth Launcher

Bluetooth Launcher must be installed on the target phone. This can be done easily by opening [nokia.ly/btlauncher](http://nokia.ly/btlauncher) in Nokia Browser for Series 40 on your phone. Alternatively, extract the installation files `BluetoothLauncher.jad` and `BluetoothLauncher.jar` — from the `Bluetooth_Launcher.zip` file you downloaded from the Nokia Developer website — to a suitable folder. The simplest way to install the app is by sending the Bluetooth Launcher JAD and JAR files to your phone over the Bluetooth connection you have just checked. Alternative options are to install the file by connecting your phone over a USB cable and copying the files to the phone, or copying the files to a memory card that's installed into your phone.



Warning: Don't attempt to install the Bluetooth Launcher using Nokia Suite, it will not successfully install the application and Bluetooth launcher will not run on your phone.

Once the files are on the phone, return to the home screen and tap or select **Show** and the **Games** folder will open in which you will find the **Bluetooth Launcher** app, see Figure 14.

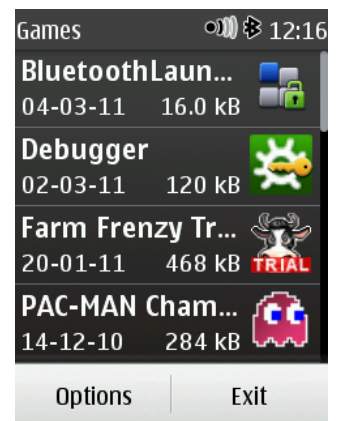



Figure 14: Bluetooth Launcher in the Games folder is shown.

Start **Bluetooth Launcher** and you will receive a message that states **Bluetooth connection successful**, as shown in Figure 15.

Once the connection message has been displayed, click **OK** to send the app to the background so it can wait to detect the arrival of a deployment instruction over the Bluetooth connection. You're returned to the phone's home screen.

 Note: When deploying your web app, you can see the Bluetooth connection request from the home screen of a Series 40 phone only.

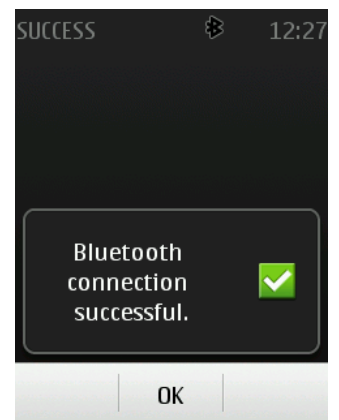


Figure 15: A successful starting of Bluetooth Launcher is shown.

## 2.7 Define the deployment target

Before deployment can be undertaken the target phone needs to be defined to WDE. Before doing this, ensure your target phone is visible to your PC over a Bluetooth connection. Then the deployment target is defined by clicking **Deployment Settings** on the project's shortcut menu. The **Preferences** dialogue displays with the **Deployment** item selected, as shown in Figure 16.

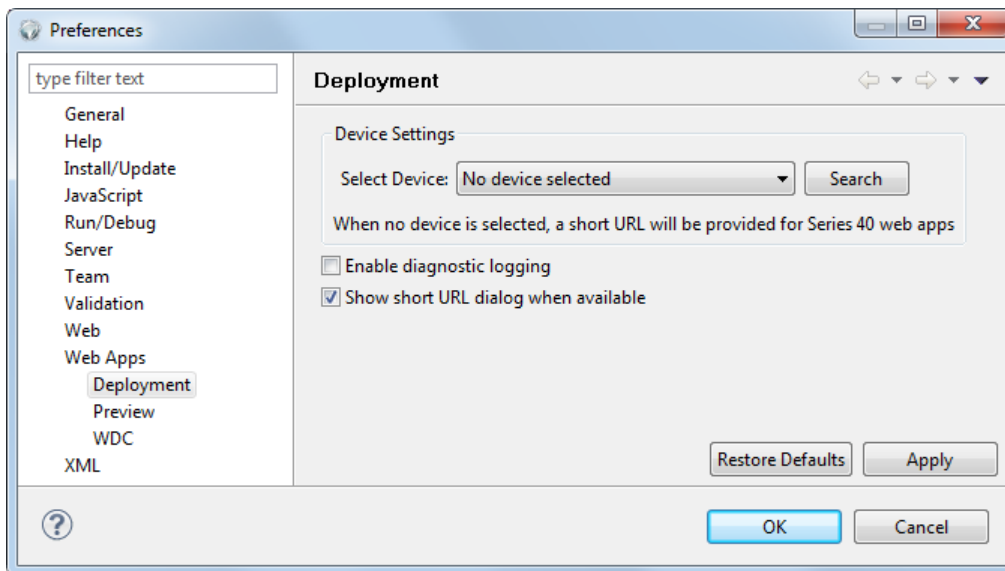


Figure 16: The Deployment settings of the project's preferences are shown.

Click **Search**. A progress information message may display while the available Bluetooth devices are found. When the search process is complete your Series 40 phone can be selected from the **Select Device** drop-down list, as shown in Figure 17. The name shown in this list will match the phone's Bluetooth name, as shown in Figure 13 on page 15.

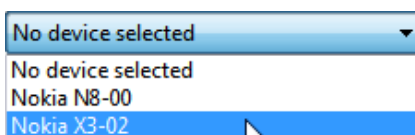


Figure 17: Selecting a phone from the list of available Bluetooth devices is shown.

With your phone set, click **OK** to save the preferences.

For more information on the options and features of the dialogue see [Web Developer Environment Guide](#), available from WDC.

### 2.7.1.1 Run your web app

Prior to deploying your web app return your phone to its home screen. To deploy the web app, on the project's shortcut menu click **Deploy Web app**. The status area displays an indicator, as shown in Figure 18.

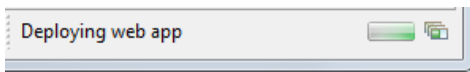


Figure 18: The status bar indicator of a web app deployment in progress is shown.

The **Deploying widget** dialogue, shown in Figure 19, displays. It's suggested that you select **Always run in background** and then click **Run in Background**. This hides the dialogue when undertaking subsequent deployments.

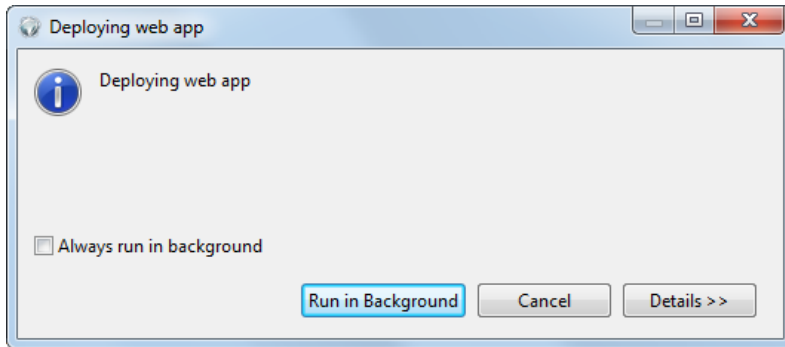


Figure 19: The Deploying widget dialogue is shown.

If not already open, the **Console**, shown in Figure 20, displays and provides details of the web app's deployment to the Nokia Browser for Series 40 preview server and the sending of its URL to the phone over the Bluetooth connection.



Figure 20: Progress of the web app deployment reported in the Console is shown.

On your phone, a message will be displayed asking if Bluetooth Launcher should be started, see Figure 21.

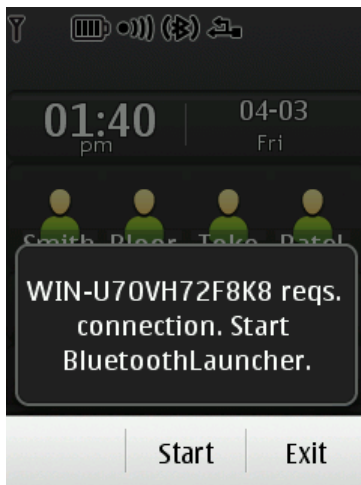


Figure 21: The message asking if Bluetooth Launcher should be started is shown.

Tap or select **Start**.



Note: If your phone doesn't include Nokia Browser for Series 40, Bluetooth Launcher will display a message and give you the opportunity to download and install Nokia Browser for Series 40. Once Nokia Browser for Series 40 is installed, return to the phone's home screen and redeploy the web app.

Your web app will now be launched in Nokia Browser for Series 40, as shown in Figure 22.



Figure 22: The News web app running on a Nokia X3-02 Touch and Type phone is shown.

## 2.7.2 Deploy by use of a short URL

If you don't have a Bluetooth enabled PC or want to share your web app as part of your development and testing process, then the WDE deployment process can provide a short URL. Compared to the full address of a web app on the Nokia Browser for Series 40 preview server, this short URL can be more easily entered into the Nokia Browser for Series 40 Client to run your web app. To use this option, you need to ensure that no phone is selected as the deployment target and then deploy your web app.

### 2.7.2.1 Define the deployment target

If this is the first time you have used your installation of WDE to deploy a web app, WDE will be correctly configured to create a short URL on deployment. However, should you wish to confirm that the configuration is correct click **Deployment Settings** on the project's shortcut menu. The **Preferences** dialogue displays with the **Deployment** item selected, as shown in Figure 23.

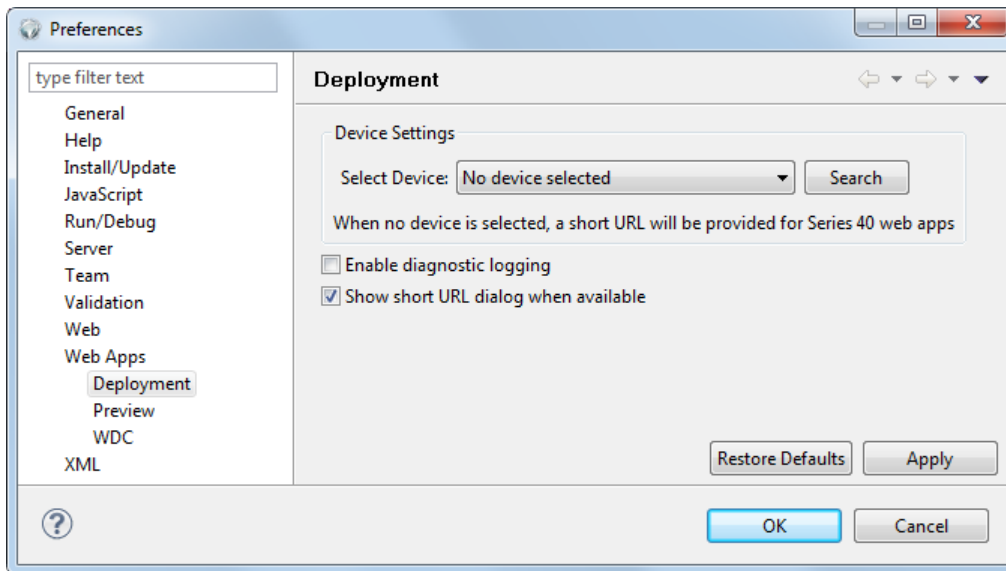


Figure 23: The Deployment settings of the project's preferences are shown.

Ensure **Select Device** is set to **No device selected** and click **OK**. You will receive a warning message, see Figure 24, to indicate you have not selected a phone and a short URL will be provided instead, click **Yes** to continue and save.

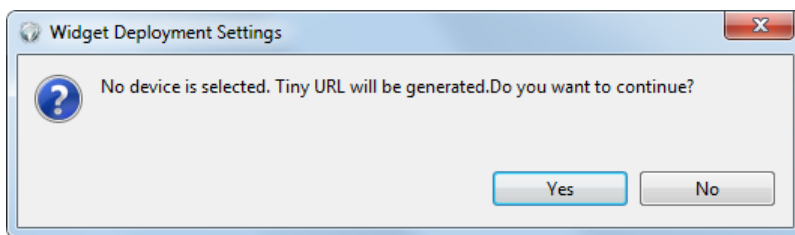


Figure 24: The message warning that no phone has been selected is shown.

### 2.7.2.2 Run your web app

To deploy the web app, on the project's shortcut menu click **Deploy web app**. The status area displays an indicator, as shown in Figure 25.

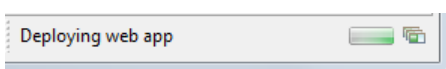


Figure 25: The status bar indicator of a web app deployment in progress is shown.

The **Deploying widget** dialogue, shown in Figure 26, displays. It's suggested that you select **Always run in background** and then click **Run in Background**. This hides the dialogue when undertaking subsequent deployments.

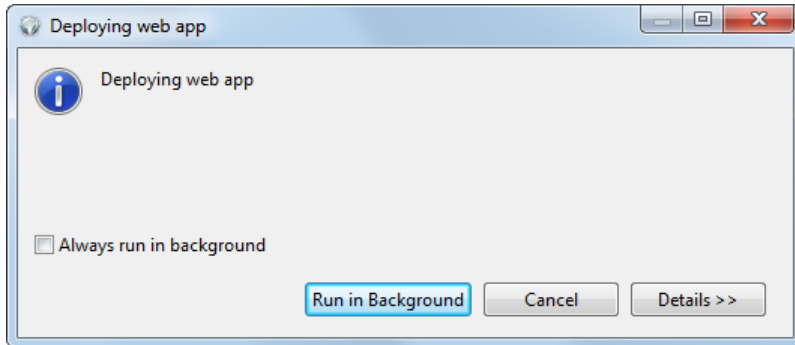


Figure 26: The Deploying web app dialogue is shown.

If not already open, the **Console**, shown in Figure 27, displays and provides details of the web app's deployment to the Nokia Browser for Series 40 preview server and the short URL created.

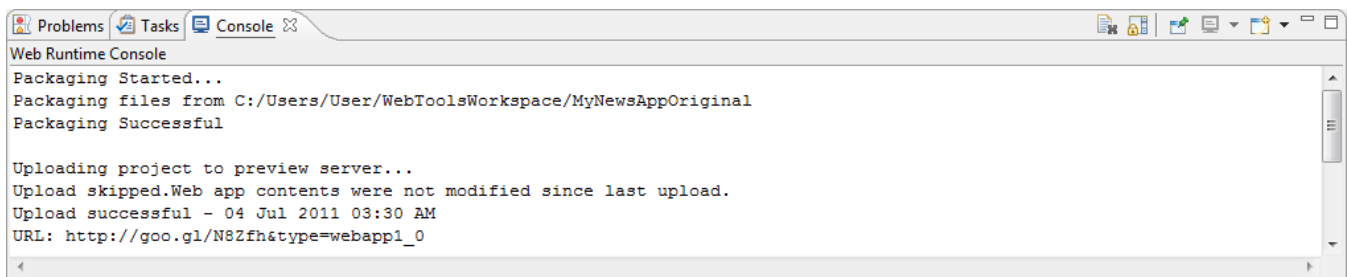


Figure 27: Progress of the web app deployment reported in the Console is shown.

When the web app has been deployed to the server, the **Web App short URL for Ovi Browser** dialogue displays. This dialogue reports the generated short URL in **URL**, shown in Figure 28.

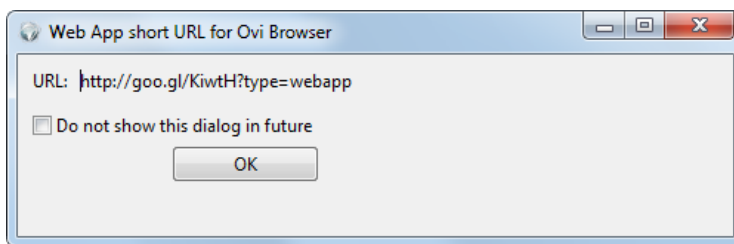


Figure 28: The Web App short URL for Nokia Browser for Series 40 dialogue displaying the URL for the web app is shown.

If you plan to invite others to test the web app, you can copy this URL and send it to your testers.

On your Series 40 phone, start Nokia Browser for Series 40 and enter the short URL, your web app will now be launched in Nokia Browser for Series 40, as shown in Figure 29.



Figure 29: The News web app running on a Nokia X3-02 Touch and Type phone is shown.

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