

# Introduzione a XAMPP

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# Introduzione

- **applicazione web richiede**
  - diversi componenti
    - HTTP server per rendere disponibili le pagine web
      - es. Apache
    - database per gestire i dati
      - es. MySQL
    - application engine per l'esecuzione di programmi
      - es. interprete PHP, Tomcat per JSP
  - configurazioni specifiche per ogni componente
    - trade-off: semplicità Vs sicurezza Vs efficienza
      - ambito di utilizzo

# Introduzione

- **XAMPP: insieme integrato di pacchetti software (distribuzione)**
  - include: Apache, PHP, MySQL, phpMyAdmin, ...
  - orientato allo sviluppo/test di applicazioni web
  - facile da installare, configurazione predefinita
  - interfaccia per operazioni semplici
    - es. avvio/stop servizi, configurazione porte web server
  - operazioni avanzate: necessario agire sulle configurazioni specifiche dei servizi
    - es. host virtuali
  - in generale non adatto per sistemi di produzione
    - hardening

# XAMPP per Windows 7

- **pagina di download**

- <http://www.apachefriends.org/en/xampp-windows.html>
- ultima versione 1.8.3 (per Windows 7)

- **requisiti**

- Microsoft Visual C++ 2008 Redistributable package
- pagina download: <http://www.microsoft.com/en-us/download/details.aspx?id=5582>

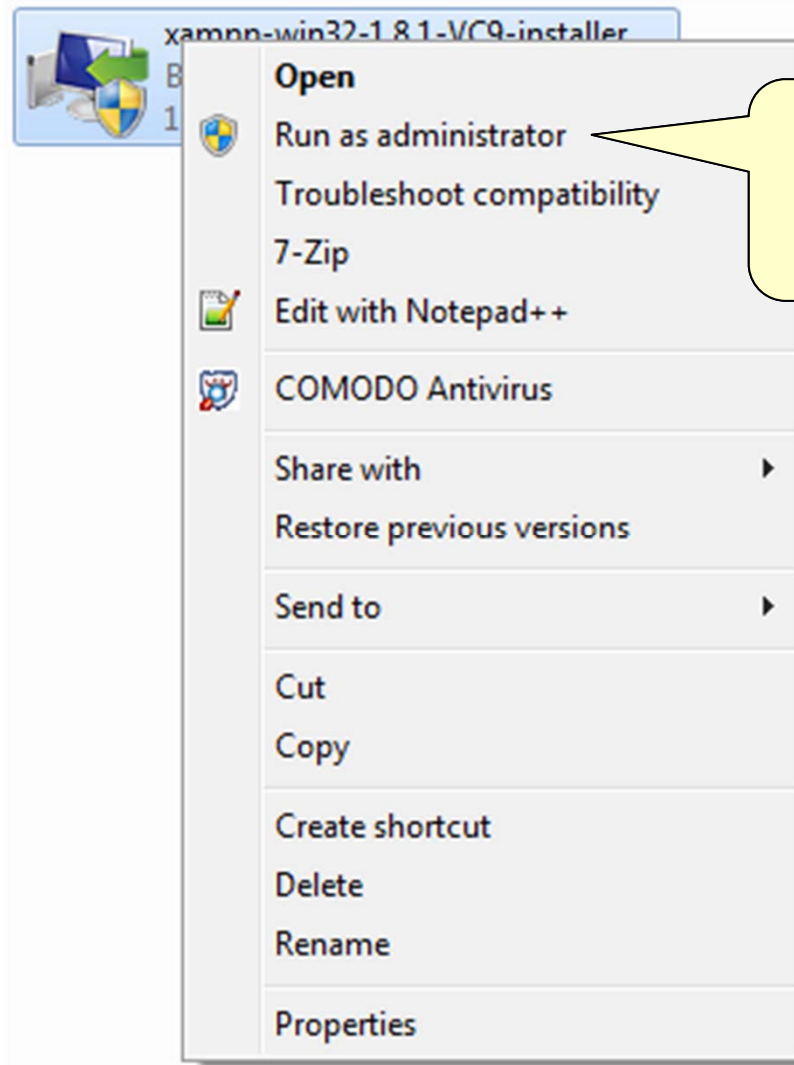
- **disponibile anche per**

- GNU/Linux
- Apple Mac OS X
- Solaris

# XAMPP Lite (portable) per Windows 7

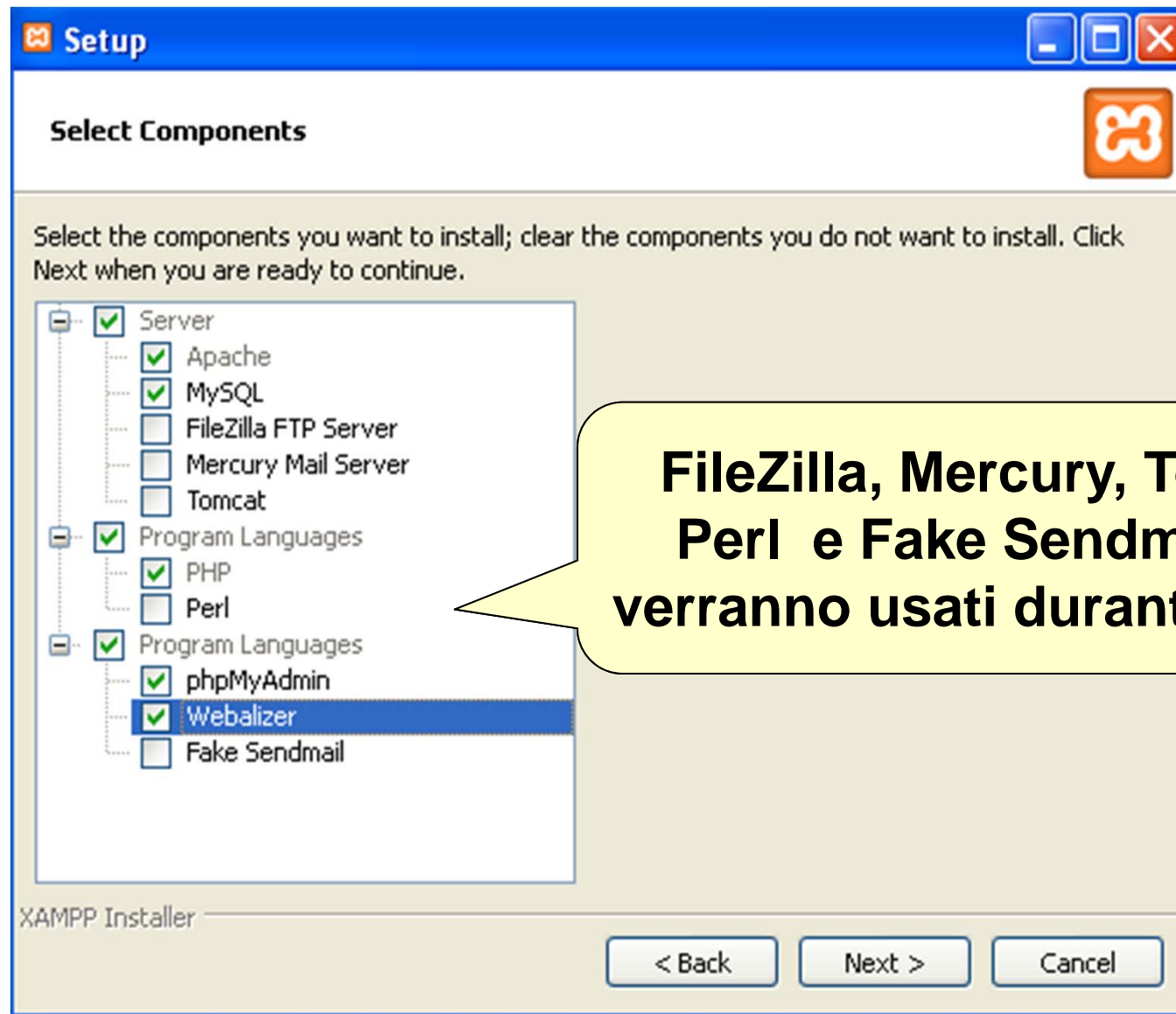
- **usa meno spazio su disco**
- **contiene Apache, PHP, MySQL, FakeMail**
- **installabile su memoria esterna (es. memoria USB )**
- **una volta installata, per essere avviata:**
  - aprire la cartella di installazione
    - default: “C:\xampp-portable”
  - doppio click su “xampp\_start.exe”
  - per accedere al pannello di controllo, doppio click su “xampp\_control.exe”
- **ATTENZIONE: il pannello di controllo è in versione beta**

# Installazione di XAMPP in Windows 7



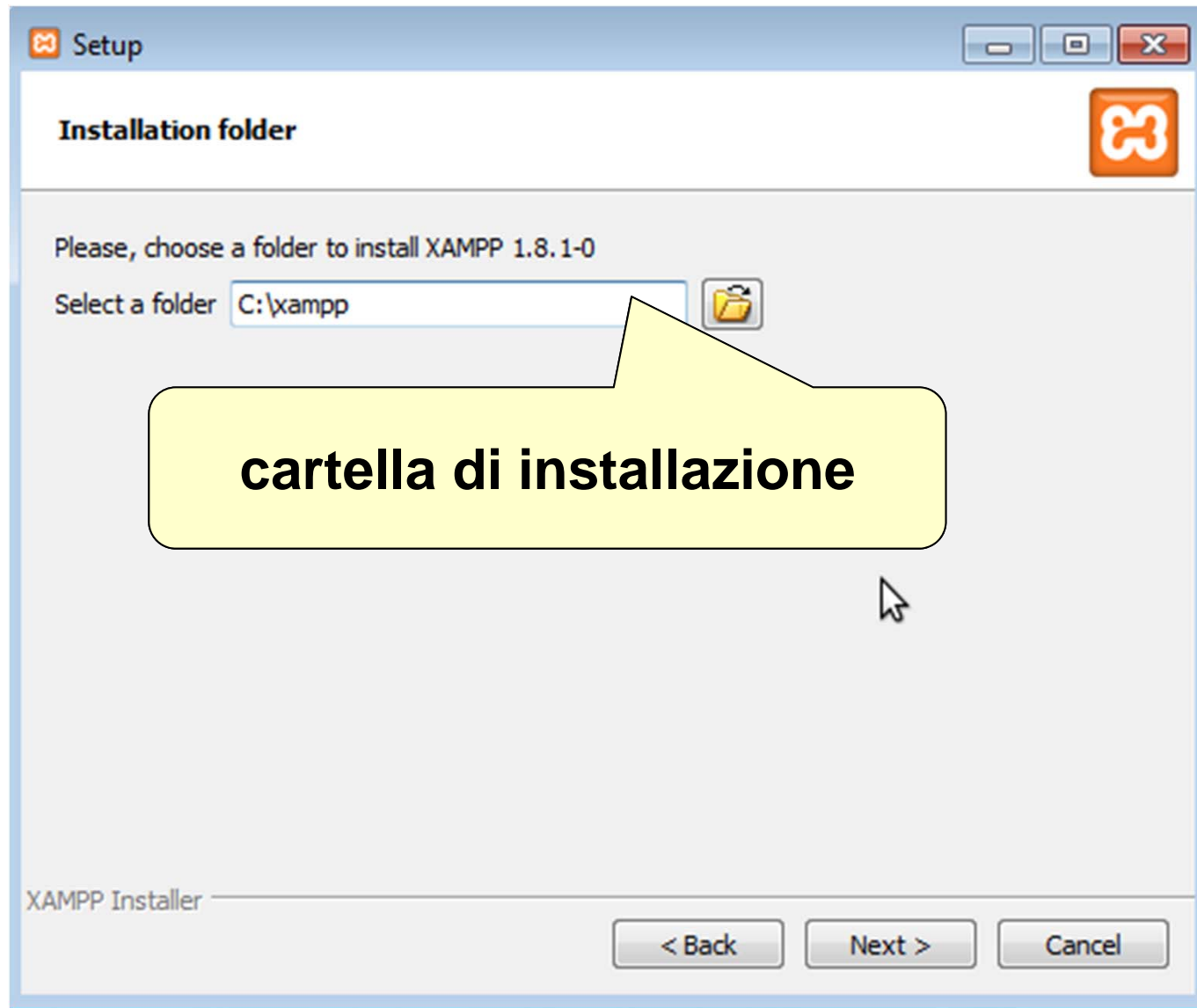
**avviare l'installazione con l'utente "Amministratore"**

# Installazione di XAMPP in Windows 7



**FileZilla, Mercury, Tomcat, Perl e Fake Sendmail non verranno usati durante il corso**

# Installazione di XAMPP in Windows 7





# Installazione di XAMPP in Windows 7



# Avvio di XAMPP



**avviare XAMPP con  
l'utente "Amministratore"**

# XAMPP – Pannello di controllo

XAMPP Control Panel v3.1.0 3.1.0 [ Compiled: September 20th 2012 ]

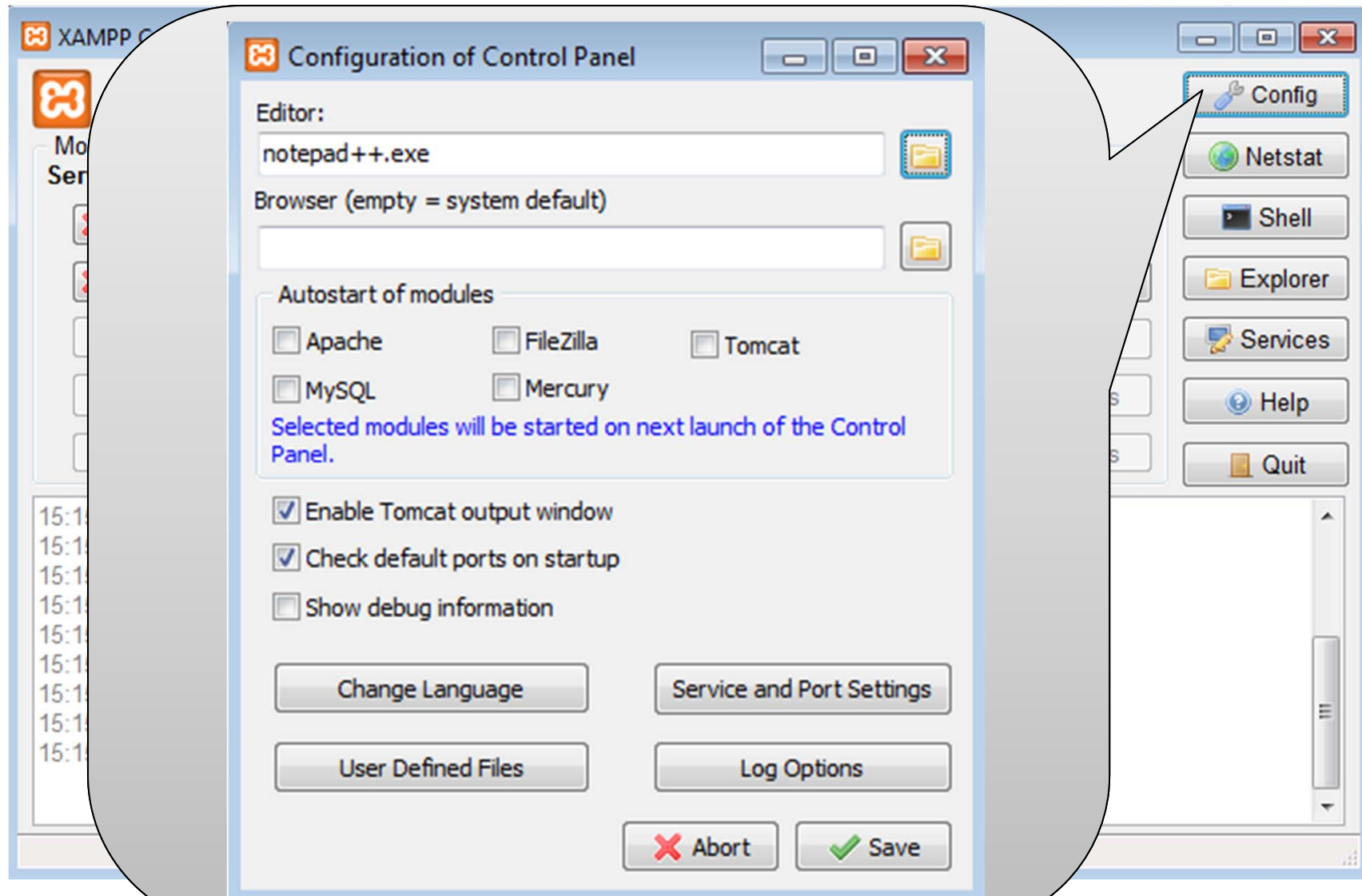
**XAMPP Control Panel v3.1.0 3.1.0**

Service	Module	PID(s)	Port(s)	Actions
<input checked="" type="checkbox"/>	Apache			Start Admin Config Logs
<input checked="" type="checkbox"/>	MySQL			Start Admin Config Logs
<input type="checkbox"/>	FileZilla			Start Admin Config Logs
<input type="checkbox"/>	Mercury			Start Admin Config Logs
<input type="checkbox"/>	Tomcat			Start Admin Config Logs

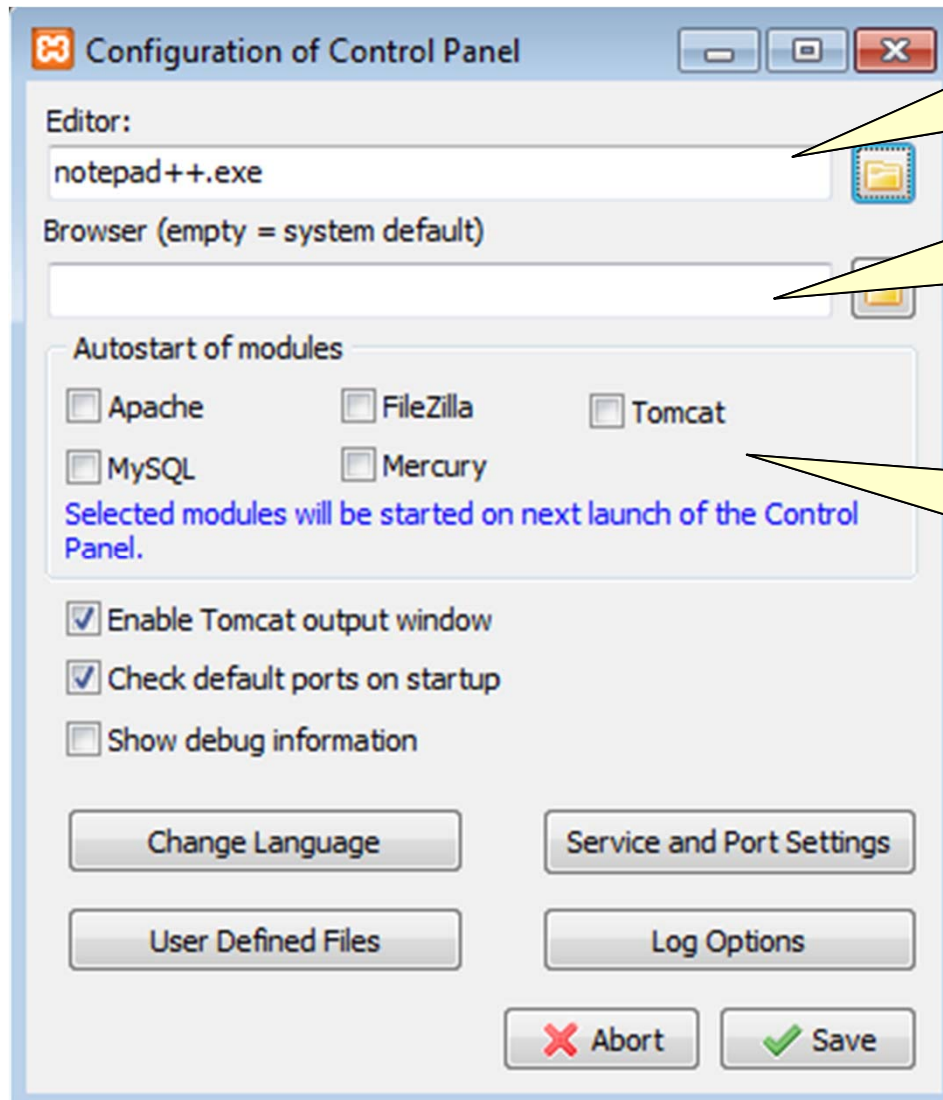
Buttons: Config, Netstat, Shell, Explorer, Services, Help, Quit

```
15:15:42 [main] XAMPP Installation Directory: "c:\xampp\"
15:15:48 [main] Checking for prerequisites
15:15:50 [main] All prerequisites found
15:15:50 [main] Initializing Modules
15:15:50 [main] The FileZilla module is disabled
15:15:50 [main] The Mercury module is disabled
15:15:50 [main] The Tomcat module is disabled
15:15:50 [main] Starting Check-Timer
15:15:50 [main] Control Panel Ready
```

# XAMPP – Impostazioni generali



# XAMPP – Impostazioni generali

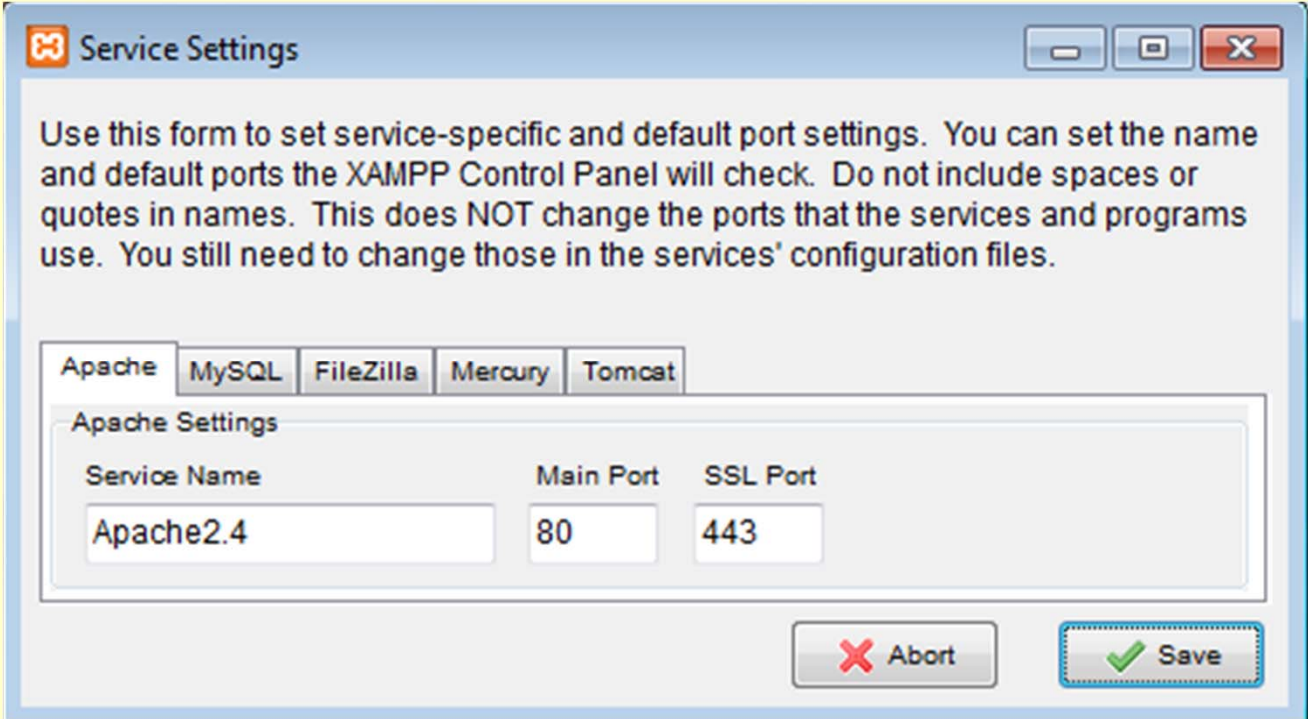


**editor di testo per  
le configurazioni**

**browser predefinito**

**avvio automatico dei servizi**

# XAMPP – Impostazioni servizio



The screenshot shows the 'Service Settings' dialog box for Apache. It includes a title bar with standard window controls, a descriptive text block, a tabbed interface with 'Apache' selected, and a table for configuration. At the bottom are 'Abort' and 'Save' buttons.

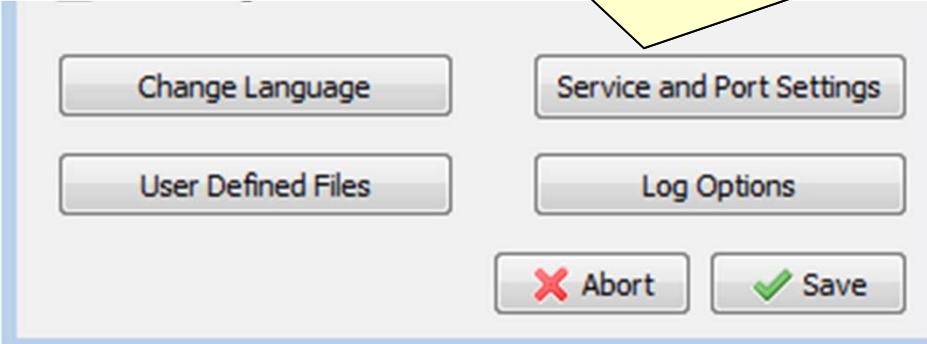
Service Settings

Use this form to set service-specific and default port settings. You can set the name and default ports the XAMPP Control Panel will check. Do not include spaces or quotes in names. This does NOT change the ports that the services and programs use. You still need to change those in the services' configuration files.

Apache MySQL FileZilla Mercury Tomcat

Apache Settings		
Service Name	Main Port	SSL Port
Apache2.4	80	443

Abort Save



The screenshot shows the main menu of the XAMPP Control Panel with four buttons: 'Change Language', 'Service and Port Settings', 'User Defined Files', and 'Log Options'. At the bottom are 'Abort' and 'Save' buttons.

Change Language Service and Port Settings

User Defined Files Log Options

Abort Save

# Apache

- **HTTP server**
  - ospita pagine HTML statiche
- **application server**
  - ospita pagine/applicazioni dinamiche (es. PHP)
    - attraverso caricamento di un modulo (es. PHP)
    - file con estensione “.php” (o altro: configurabile!)
- **pagine/applicazioni posizionate nella “Document Root”**
- **configurazione di default**
  - HTTP porta 80/TCP
  - HTTPS porta 443/TCP

# Avvio di Apache

XAMPP Control Panel v3.1.0 3.1.0 [ Compiled: September 20th 2012 ]

**XAMPP Control Panel v3.1.0 3.1.0**

Modules

Service	Module	PID(s)	Port(s)	Actions
<input checked="" type="checkbox"/>	Apache			Start Admin Config Logs
<input checked="" type="checkbox"/>	MySQL			Start Admin Config Logs
<input type="checkbox"/>	FileZilla			Start Admin Config Logs
<input type="checkbox"/>	Mercury			Start Admin Config Logs
<input type="checkbox"/>	Tomcat			Start Admin Config Logs

avvio di Apache

15:15:42 [main] XAMPP Installation Directory: "c:\xampp\  
15:15:48 [main] Checking for prerequisites  
15:15:50 [main] All prerequisites found  
15:15:50 [main] Initializing Modules  
15:15:50 [main] The FileZilla module is disabled  
15:15:50 [main] The Mercury module is disabled  
15:15:50 [main] The Tomcat module is disabled  
15:15:50 [main] Starting Check-Timer  
15:15:50 [main] Control Panel Ready

Config  
Netstat  
Shell  
Explorer  
Services  
Help  
Quit



# Avvio di Apache

XAMPP Control Panel v3.1.0 3.1.0 [ Compiled: September 20th 2012 ]

**XAMPP Control Panel v3.1.0 3.1.0**

Modules

Service	Module	PID(s)	Port(s)	Actions
<input checked="" type="checkbox"/>	Apache	2536 2436	80, 443	Stop Admin Config Logs
<input checked="" type="checkbox"/>	MySQL			Start Admin Config Logs
<input type="checkbox"/>	FileZilla			Logs
<input type="checkbox"/>	Mercury			Logs
<input type="checkbox"/>	Tomcat			Start Admin Config Logs

**identificativo/i del processo/i**

15:15:50 [main] The FileZilla module is disabled  
15:15:50 [main] The Mercury module is disabled  
15:15:50 [main] The Tomcat module is disabled  
15:15:50 [main] Starting Check-Timer  
15:15:50 [main] Control Panel Ready  
15:20:48 [main] Executing "c:\xampp\  
15:20:53 [main] Executing "services.msc"  
15:33:00 [Apache] Attempting to start Apache app...  
15:33:01 [Apache] Status change detected: running

# Avvio di Apache

The screenshot shows the XAMPP Control Panel interface. The title bar reads "XAMPP Control Panel v3.1.0 3.1.0 [ Compiled: September 20th 2012 ]". The main window title is "XAMPP Control Panel v3.1.0 3.1.0". On the right side, there are buttons for "Config", "Netstat", "Shell", "Explorer", "Services", "Help", and "Quit".

The "Modules" section contains a table with the following data:

Service	Module	PID(s)	Port(s)	Actions
<input checked="" type="checkbox"/>	Apache	2536 2436	80, 443	Stop Admin Config Logs
<input checked="" type="checkbox"/>	MySQL			Start Admin Config Logs
<input type="checkbox"/>	FileZilla			Logs
<input type="checkbox"/>	Mercury			Logs
<input type="checkbox"/>	Tomcat			Start Admin Config Logs

A yellow callout box points to the Apache row with the text: **Apache avviato (porte 80, 443)**

The bottom section shows a log window with the following entries:

```
15:15:50 [main] The FileZilla module is disabled
15:15:50 [main] The Mercury module is disabled
15:15:50 [main] The Tomcat module is disabled
15:15:50 [main] Starting Check-Timer
15:15:50 [main] Control Panel Ready
15:20:48 [main] Executing "c:\xampp\"
15:20:53 [main] Executing "services.msc"
15:33:00 [Apache] Attempting to start Apache app...
15:33:01 [Apache] Status change detected: running
```

# Stop di Apache

XAMPP Control Panel v3.1.0 3.1.0 [ Compiled: September 20th 2012 ]

**XAMPP Control Panel v3.1.0 3.1.0**

Modules

Service	Module	PID(s)	Port(s)	Actions
<input checked="" type="checkbox"/>	Apache	2536 2436	80, 443	<b>Stop</b> Admin Config Logs
<input checked="" type="checkbox"/>	MySQL			Start Admin Config Logs
<input type="checkbox"/>	FileZilla			Start Admin Config Logs
<input type="checkbox"/>	Mercury			Start Admin Config Logs
<input type="checkbox"/>	Tomcat			Start Admin Config Logs

stop di Apache

15:15:50 [main] The FileZilla module is disabled  
15:15:50 [main] The Mercury module is disabled  
15:15:50 [main] The Tomcat module is disabled  
15:15:50 [main] Starting Check-Timer  
15:15:50 [main] Control Panel Ready  
15:20:48 [main] Executing "c:\xampp\  
15:20:53 [main] Executing "services.msc"  
15:33:00 [Apache] Attempting to start Apache app...  
15:33:01 [Apache] Status change detected: running

# Apache – file di configurazione e cartelle

## ■ cartella “DocumentRoot”

- dove posizionare le pagine/applicazioni web
- “C:\xampp\htdocs” (in MS Windows)

## ■ cartella “ServerRoot”

- dove Apache viene installato
- “C:\xampp\apache” (in MS Windows)

## ■ file configurazione principale

- porte in ascolto, moduli da caricare, ...
- “C:\xampp\apache\conf\httpd.conf” (in MS Windows)

## ■ file configurazione XAMPP

- usato per integrare i componenti (es. PHP, database, ...)
- “C:\xampp\apache\conf\extra\httpd-xampp.conf” (in MS Windows)

# Apache - accesso ai file di configurazione

The screenshot displays the XAMPP Control Panel interface. At the top, the title bar reads "XAMPP Control Panel v3.1.0 3.1.0 [ Compiled: September 20th 2012 ]". Below the title bar, the main window title is "XAMPP Control Panel v3.1.0 3.1.0". On the right side, there are three buttons: "Config", "Netstat", and "Shell".

The central part of the interface features a table with the following columns: "Service", "Module", "PID(s)", "Port(s)", and "Actions". The "Service" column contains checkboxes for Apache, MySQL, FileZilla, Mercury, and Tomcat. The "Module" column lists the corresponding modules. The "PID(s)" and "Port(s)" columns are currently empty. The "Actions" column contains "Start" and "Admin" buttons for each service. The Apache service is currently stopped, indicated by a red 'X' in the checkbox.

A context menu is open over the Apache service, listing the following configuration files:

- Apache (httpd.conf)
- Apache (httpd-ssl.conf)
- Apache (httpd-xampp.conf)
- PHP (php.ini)
- phpMyAdmin (config.inc.php)

Below the table, there is a log window showing the following output:

```
15:15:50 [main] All prerequisites found
15:15:50 [main] Initializing Modules
15:15:50 [main] The FileZilla module is disabled
15:15:50 [main] The Mercury module is disabled
15:15:50 [main] The Tomcat module is disabled
15:15:50 [main] Starting Check-Timer
15:15:50 [main] Control Panel Ready
15:20:48 [main] Executing "c:\xampp\"
15:20:53 [main] Executing "services.msc"
```

# Apache - estratto httpd.conf

```
...  
ServerName localhost:80  
...  
ServerRoot "C:/xampp/apache"  
...  
DocumentRoot "C:/xampp/htdocs"  
...  
Listen 80  
...  
LoadModule auth_basic_module modules/mod_auth_basic.so  
LoadModule mime_module modules/mod_mime.so  
LoadModule cgi_module modules/mod_cgi.so
```

## Apache – estratto httpd.conf (cont.)

```
...
<Directory "C:/xampp/cgi-bin">
    AllowOverride All
    Options None
    Require all granted
</Directory>
...
<IfModule mime_module>
    AddType text/html .shtml
    AddOutputFilter INCLUDES .shtml
</IfModule>
...
# XAMPP settings
Include "conf/extra/httpd-xampp.conf"
```

# PHP

- **modulo installato sul server**

- caricato/utilizzato da application server

- configurazione interna all'application server

- configurazione del modulo PHP

- impostazioni specifiche (es. upload di file, sessioni, ...)

- **integrato e preconfigurato in XAMPP**

- installato in C:\xampp\php\ (in MS Windows)

- file configurazione Apache

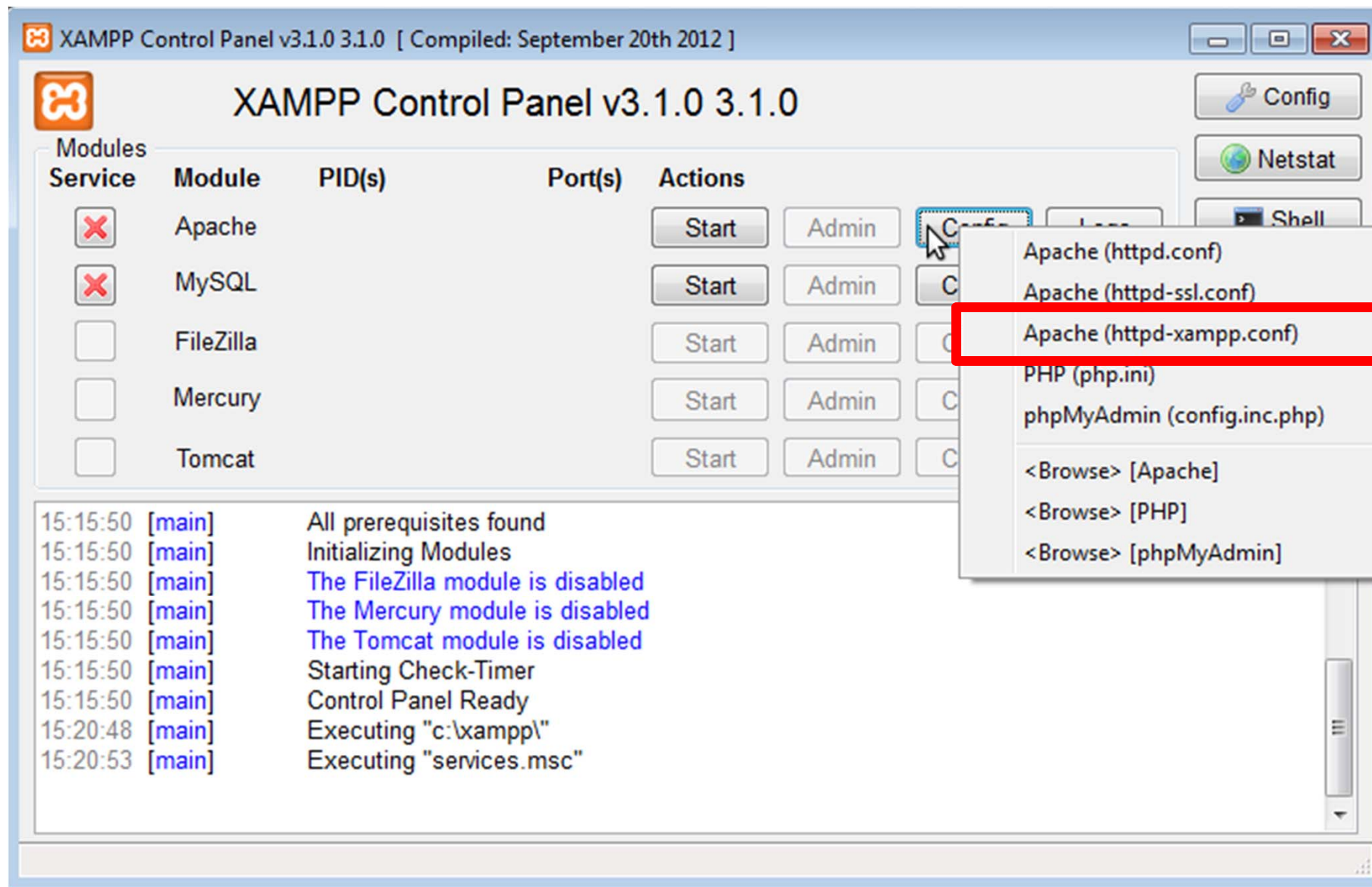
- C:\xampp\apache\conf\extra\httpd-xampp.conf  
(in MS Windows)

- file configurazione modulo PHP

- C:\xampp\php\php.ini (in MS Windows)



# PHP – file di configurazione per Apache



The screenshot displays the XAMPP Control Panel interface. At the top, the title bar reads "XAMPP Control Panel v3.1.0 3.1.0 [ Compiled: September 20th 2012 ]". The main window title is "XAMPP Control Panel v3.1.0 3.1.0". On the right side, there are buttons for "Config", "Netstat", and "Shell".

The central part of the interface features a table with the following columns: "Service", "Module", "PID(s)", "Port(s)", and "Actions". The "Service" column contains checkboxes for Apache, MySQL, FileZilla, Mercury, and Tomcat. The "Module" column lists the corresponding services. The "PID(s)" and "Port(s)" columns are currently empty. The "Actions" column contains "Start" and "Admin" buttons for each service. A context menu is open over the "Start" button for Apache, listing configuration files: "Apache (httpd.conf)", "Apache (httpd-ssl.conf)", "Apache (httpd-xampp.conf)" (highlighted with a red box), "PHP (php.ini)", and "phpMyAdmin (config.inc.php)". Below the table, there is a log window showing system messages such as "All prerequisites found", "Initializing Modules", and "Starting Check-Timer".

Service	Module	PID(s)	Port(s)	Actions
<input checked="" type="checkbox"/>	Apache			Start Admin
<input checked="" type="checkbox"/>	MySQL			Start Admin
<input type="checkbox"/>	FileZilla			Start Admin
<input type="checkbox"/>	Mercury			Start Admin
<input type="checkbox"/>	Tomcat			Start Admin

Log messages:

```
15:15:50 [main] All prerequisites found
15:15:50 [main] Initializing Modules
15:15:50 [main] The FileZilla module is disabled
15:15:50 [main] The Mercury module is disabled
15:15:50 [main] The Tomcat module is disabled
15:15:50 [main] Starting Check-Timer
15:15:50 [main] Control Panel Ready
15:20:48 [main] Executing "c:\xampp\"
15:20:53 [main] Executing "services.msc"
```

# PHP – estratto httpd-xampp.conf

```
LoadFile "C:/xampp/php/php5ts.dll"  
LoadModule php5_module "C:/xampp/php/php5apache2_4.dll"  
  
<FilesMatch "\.php$"  
    SetHandler application/x-httpd-php  
</FilesMatch>  
<FilesMatch "\.phps$">  
    SetHandler application/x-httpd-php-source  
</FilesMatch>
```

**software che implementa PHP**

# PHP – estratto httpd-xampp.conf

**estensione “.php” (notare regexp!):  
file eseguito dall'interprete PHP**

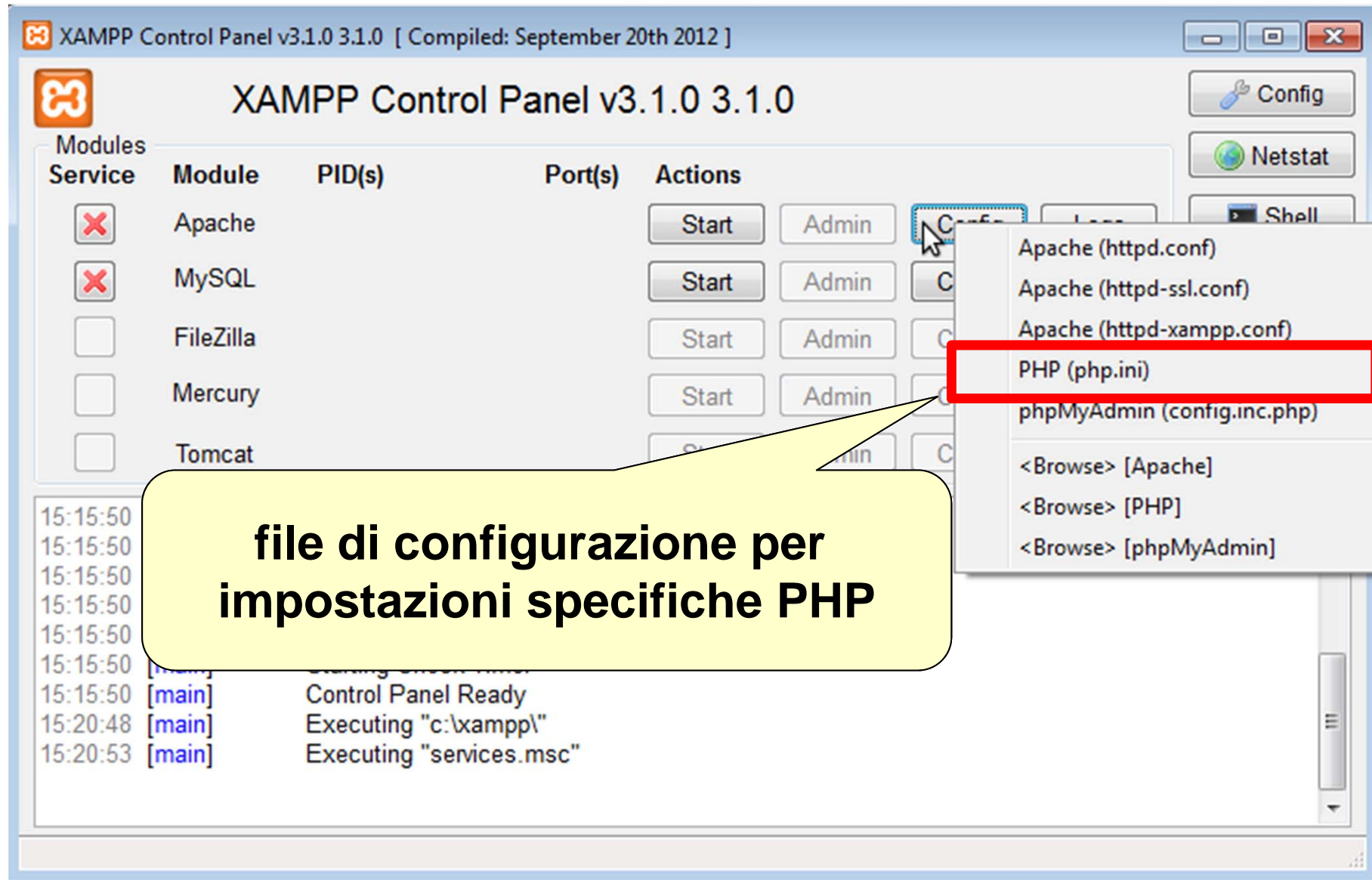
```
LoadFile "C:/xampp/...  
LoadModule php5_module .../php/php5apache2_4.d11"  
  
<FilesMatch "\.php$">  
    SetHandler application/x-httpd-php  
</FilesMatch>  
<FilesMatch "\.phps$">  
    SetHandler application/x-httpd-php-source  
</FilesMatch>
```

# PHP – estratto httpd-xampp.conf

```
LoadFile "C:/xampp/php/php5ts.dll"  
LoadModule php5_module "C:/xampp/php/php5apache2_4.dll"  
  
<FilesMatch "\.php"  
    SetHandler application/x-httpd-php  
</FilesMatch>  
  
<FilesMatch "\.phps$">  
    SetHandler application/x-httpd-php-source  
</FilesMatch>
```

**estensione ".phps" (PHP Source):  
file NON eseguito dall'interprete PHP !**

# PHP – file di configurazione per PHP



The screenshot shows the XAMPP Control Panel interface. A context menu is open over the 'Config' button for the Apache service, listing various configuration files. The 'PHP (php.ini)' option is highlighted with a red rectangle. A yellow callout box points to this option with the text: 'file di configurazione per impostazioni specifiche PHP'. The background shows a table of services and a log window at the bottom.

Service	Module	PID(s)	Port(s)	Actions
<input checked="" type="checkbox"/>	Apache			Start Admin Config
<input checked="" type="checkbox"/>	MySQL			Start Admin Config
<input type="checkbox"/>	FileZilla			Start Admin Config
<input type="checkbox"/>	Mercury			Start Admin Config
<input type="checkbox"/>	Tomcat			Start Admin Config

Log window content:

```
15:15:50 [main] Control Panel Ready
15:20:48 [main] Executing "c:\xampp\
15:20:53 [main] Executing "services.msc"
```

Configuration menu items:

- Apache (httpd.conf)
- Apache (httpd-ssl.conf)
- Apache (httpd-xampp.conf)
- PHP (php.ini)**
- phpMyAdmin (config.inc.php)
- <Browse> [Apache]
- <Browse> [PHP]
- <Browse> [phpMyAdmin]

# Apache - verifica installazione

- **caricare il file "ciao.html" nella DocumentRoot di Apache**
  - C:\xampp\htdocs (in MS Windows)
- **aprire il browser alla URL:**
  - <http://localhost/ciao.html>

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN"
  "http://www.w3.org/TR/html4/strict.dtd">
<html>
<head>
  <title>saluti</title>
</head>
<body>
  <p>Ciao!</p>
</body>
</html>
```

ciao.html

# PHP - verifica installazione

- **caricare il file "ciao.php" nella DocumentRoot di Apache**
  - C:\xampp\htdocs" (in MS Windows)
- **aprire il browser alla URL:**
  - http://localhost/ciao.php

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN"
    "http://www.w3.org/TR/html4/strict.dtd">
<html>
<head>
    <title>saluti</title>
</head>
<body>
    <p> <?php echo "Ciao da PHP!" ?> </p>
</body>
</html>
```

ciao.php