DEUTSCHE BÖRSE GROUP

ComTrader Technical Requirements

version 1.4

Deutsche Börse Group

ComTrader

Technical Requirements

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1 Technical Requirements to run ComTrader

1.1 Client PC

To run the ComTrader application a PC is required with at least 2 Gigabyte memory and a processor that runs with not less than 3 GHz single core or not less than 2 GHz dual core processors.

ComTrader application requires at least **a dedicated amount of 1 GB of memory**, optimal amount of memory can be found in Section 3.3 depending on the version in use

Sound card is also required. When using Windows Vista, one of the following external modules needs to be installed to play AAC audio as well:

- MainConcept H.264/AVC Pro Decoder Pack
- DivX Plus Codec Pack
- MainConcept Showcase (includes demo version codecs)

Supported Graphics Cards are listed below. In addition, to avoid rendering issues on Windows platform, upgrade the ATI driver to Catalyst 11.09 or later.

Graphics Card	Supported Graphics Processing Units (GPUs)	
NVIDIA	Mobile GPUs: GeForce 8M and 100M series or higher, NVS 2100M series or higher, and Mobility Quadro FX 300M series or higher	
	Desktop GPUs: GeForce 8 and 100 series or higher	
	Workstation GPUs: Quadro FX 300 series or higher	
ATI	Mobile GPUs: Mobility Radeon HD 3000, 4000, and 5000 series	
	Desktop GPUs: Radeon HD 2400, 3000, 4000, 5000, and 6000 series	
Intel	Mobile GPUs: GMA 4500MHD and GMA HD	
	Desktop GPUs: GMA 4500 and GMA HD	

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As operating systems Windows Vista, Windows 7, Windows 8, Mac OS X and Linux are supported.¹ Windows 7 (64 Bit version) and Linux Ubuntu 14.04. and higher are the preferred Operating Systems.

The Client PC must have a suitable internet connection with at least 256 kbit download speed and 64kbit upload speed. DSL or higher is recommended. The connection to the backend can be done directly or over a leased line (dedicated network connection to the backend network). HTTP and SOCKS proxies are supported.

The ComTrader needs a Java Plugin (JRE) with version 1.7.0_65 or higher 1.7 version (64 Bit recommended). Furthermore the end-user of ComTrader needs access rights to the Java Plugin (e.g. Plugin cache).

When standalone version is used, the proper Java version is bundled and does not require a separate installation.

To access the initial website an internet browser is required. The browser must support the Java Plugin.

¹ <u>http://www.oracle.com/technetwork/java/javafx/downloads/supportedconfigurations-1506746.html</u>

JavaFX for Linux requires gtk2 2.18+.

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1.2 Proxy server, Connection restrictions, URLs

The ComTrader will be started via the following web sites:

Power Market EPEX

Environment	ComTrader Download URL
Production	http://comtrader-prod.epexspot.com/new/
Simulation	http://comtrader-simu.epexspot.com/new/

Power Market SOUTHPOOL

Environment	ComTrader Download URL	
Production	http://comtrader-prod.bsp-southpool.com/new/	
Simulation	http://comtrader-simu.bsp-southpool.com/new/	

Gas Market EEX

Environment	ComTrader Download URL	
Production	http://commodity-trading.eex.com/new/	
Simulation	http://commodity-trading-simu.eex.com/new/	
Advanced Simu	http://commodity-trading-advsimu.eex.com/new/	

During the program start process the WebStart² mechanism does a version check and if necessary the most recent version of the ComTrader will be downloaded.

When using the standalone version, the version check is performed by HTTP connection to the download website. Therefore, this connection must be also allowed (in case it is not allowed, a warning is shown in the application).

At first start, a security warning is shown. The application is signed by a certificate of the Deutsche Börse Group. The checkbox "I accept the risk and want to run this application" has to be checked, before clicking "Run".

² Java Web Start technology enables Java software applications to be run with a single click over the internet. It ensures the most current version of the application will be run.

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x Do you want to run this application?				
٢		Name:	com.deutscheboerse.comxerv.comtrader	
		Publisher:	Deutsche Boerse AG	
L	E)	Locations:	http://eexint3.rit.deutsche-boerse.de:8888 Launched from downloaded JNLP file	
This application will run with unrestricted access which may put your computer and personal information at risk. Run this application only if you trust the locations and publisher above.				
1	More Inform	ation	Run Cancel	

The size of this file may change in the future (e.g. by updates). Please make sure that the download of this file is not restricted by size limitations for zip or jar archives in your infrastructure. Furthermore please make sure that the jar archive is not changed by any virus scanner.

The ComTrader application connects via AMQP protocol to a RabbitMQ-Broker which provides access to the backend systems. If the access to the internet is restricted (e.g. by firewalls or specific proxy restrictions), the subsequent listed URLs must be unlocked.

The running ComTrader connects to the backend systems via the following Connection Details:

Power Market EPEX

Environment	Data Center 1	Data Center 2
Production	IP: 193.29.79.217 URL : epex1.connect.comxerv.com Port : 50000 Protocol : AMQP	IP : 193.29.79.249 URL : epex2.connect.comxerv.com Port : 50000 Protocol : AMQP
Simulation	<u>IP</u> : 193.29.79.220 <u>URL</u> : epex-test1.connect.comxerv.com <u>Port</u> : 50000 <u>Protocol</u> : AMQP	<u>IP</u> : 193.29.79.252 <u>URL</u> : epex-test2.connect.comxerv.com <u>Port</u> : 50000 <u>Protocol</u> : AMQP

Profile server:

Environment	Data Center

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Production	<u>IP</u> : 193.29.79.180 <u>URL</u> : m7pro.deutsche-boerse.com
	<u>Port</u> : 443
	Protocol : SOAP
Simulation,	<u>IP</u> : 193.29.79.181
	<u>URL</u> : m7pro-simu.deutsche-boerse.com
	<u>Port</u> : 443
	Protocol : SOAP

Power Market SOUTHPOOL

Environment	Data Center 1	Data Center 2
Production	IP : 193.29.79.215 URL : southpool1.connect.comxerv.com Port : 50030	<u>IP</u> : 193.29.79.247 <u>URL</u> : southpool2.connect.comxerv.com <u>Port</u> : 50030
Simulation	<u>IP</u> : 193.29.79.216 <u>URL</u> : southpool- test1.connect.comxerv.com <u>Port</u> : 50030	<u>IP</u> : 193.29.79.248 <u>URL</u> : southpool- test2.connect.comxerv.com <u>Port</u> : 50030

Gas Market EEX

Environment	Data Center 1	Data Center 2
Production	<u>IP</u> : 193.29.79.218 <u>URL</u> : eex1.connect.comxerv.com <u>Port</u> : 50010	<u>IP</u> : 193.29.79.250 <u>URL</u> : eex2.connect.comxerv.com <u>Port</u> : 50010
Advanced Simulation	IP : 193.29.79.221 URL : eex-test1.connect.comxerv.com Port : 50110	IP : 193.29.79.253 URL : eex-test2.connect.comxerv.com Port : 50110
Simulation	<u>IP</u> : 193.29.79.221 <u>URL</u> : eex-test1.connect.comxerv.com <u>Port</u> : 50010	<u>IP</u> : 193.29.79.253 <u>URL</u> : eex-test2.connect.comxerv.com <u>Port</u> : 50010

These IPs, URLs and Ports may change in future releases of ComTrader. Changes might be considered in the infrastructure (e.g. firewalls).

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Connection to the download website must also be allowed for the version check functionality.

If a proxy server is used, you need to configure your ComTrader 2 Client in the login window:

- Go to tab "Proxy Server"
- Fill the parameters depending of the kind of proxy you use (SOCKS or HTTP) according to your local settings

Host	Port	Username	Password
IP address or hostname	port	username	password

Safeguards Proxy Server

- Note :
 - 1. Regardless the kind of proxy used (SOCKS or HTTP), it is needed to be allowed to connect to the correct server and port (refer to IP and Port below).
 - 2. If you are using HTTP proxy, HTTP CONNECT method must be enabled.
 - 3. After successful login proxy settings get locally saved on user computer and are pre-filled in future application executions
 - when selecting No proxy, all communication (AMQP, Profile Data and version check) will be performed directly, without proxy
 - when using SOCKS Proxy, all communication (AMQP, Profile Data and version check) will be performed via the SOCKS proxy, according to the user-specified proxy settings
 - when using HTTP Proxy, all communication (AMQP, Profile Data and version check) will be performed via the HTTP proxy, according to the user-specified proxy settings.

Note that AMQP traffic is tunneled via HTTP CONNECT request, which is often disabled by default. Proxy admins must enable HTTP CONNECT method.

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If the access should be established via Leased Lines, the following IP addresses and ports must be used:

Power Market EPEX

Leased Line Host	Data Center 1	Data Center 2
Production	<u>IP</u> : 10.136.9.13 <u>Port</u> : 50000	<u>IP</u> : 10.136.137.13 <u>Port</u> : 50000
Simulation	<u>IP</u> : 10.136.9.10 <u>Port</u> : 50000	<u>IP</u> : 10.136.137.10 <u>Port</u> : 50000

Profile server:

Environment	Data Center
Production	<u>IP</u> : 193.29.79.180 <u>URL</u> : m7pro.deutsche-boerse.com <u>Port</u> : 443
Simulation,	<u>IP</u> : 193.29.79.181 <u>URL</u> : m7pro-simu.deutsche-boerse.com <u>Port</u> : 443

Power Market SOUTHPOOL

Environment	Data Center 1	Data Center 2
Production	<u>IP</u> : 10.136.9.16 <u>Port</u> : 50030	<u>IP</u> : 10.136.137.16 <u>Port</u> : 50030
Simulation	<u>IP</u> : 10.136.9.17 <u>Port</u> : 50030	<u>IP</u> : 10.136.137.17 <u>Port</u> : 50030

Gas Market EEX

Leased Line Host	Data Center 1	Data Center 2
Production	<u>IP</u> : 10.136.9.13 <u>Port</u> : 50000	<u>IP</u> : 10.136.137.13 <u>Port</u> : 50000
Simulation	<u>IP</u> : 10.136.9.10 <u>Port</u> : 50000	<u>IP</u> : 10.136.137.10 <u>Port</u> : 50000

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2 Check infrastructure (using EPEX as example)

2.1 Test Java Plugin

Open the following URL with your internet browser:

For production: http://comtrader-prod.epexspot.com/new/

For simulation: http://comtrader-simu.epexspot.com/new/



Click the Start new ComTrader GUI button. If the browser wants to download, show or save a file named like "<FileName>.jnlp", the Java plugin is not configured correctly. Sometimes just the file association .jnlp file -> Java plugin is missing.

Actual manual for ComTrader application can be also downloaded from this website.³

Actual version of this setup guide can be also downloaded here.

³ Or it can be opened from the ComTrader application.

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2.2 Java Plugin Settings

Open the Control Panel via the Windows start menu:



Double click the icon "Java" to open the plugin settings. If the icon is missing, the plugin is not or not correctly installed.

The following window should open:

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🍰 Java Control Panel	
General Java Security Advanced	
About	
View version information about Java Control Panel.	
About	
Network Settings	
Network settings are used when making Internet connections. By default, Java will use the network settings in your web browser. Only advanced users should modify these settings.	
Network Settings	
Temporary Internet Files	
Files you use in Java applications are stored in a special folder for quick execution later. Only advanced users should delete files or modify these settings.	
Settings View	
Java in the browser is enabled. See the Security tab	
OK Cancel Apply	The lave plugin version can be verified with
	The Java plugin version can be vernied with

a click on "About...":



The version should be 1.7.0_65 or higher 1.7 version

Open the network settings with a click on "Network Settings...":

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Network Settings
Override browser proxy settings.
Use browser settings
 Use proxy server
Address: yourproxy.com Port: 8080 Advanced
Bypass proxy server for local addresses
Use automatic proxy configuration script
Script location:
O Direct connection
OK Cancel

<u>These settings are specific for your infrastructure</u>. Please ask your system administrator for help. When no user access restriction is in place, you can adjust the settings in internet browser and use it here by checking the "Use browser settings option".⁴

Open the settings for temporary internet files with a click on "Settings..."

Temporary Files Settings
Keep temporary files on my computer.
Location
Disk Space
Select the compression level for JAR files:
Set the amount of disk space for storing temporary files:
32768 MB
Delete Files Restore Defaults
OK Cancel

We suggest leaving the temporary files on the computer as otherwise the ComTrader application will be downloaded with every application start.

⁴ for Internet Explorer: Tools -> Internet Options => Connections => LAN Settings

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The end-user of ComTrader must have read and write access to the temporary files location. If you encounter problems with the download, please try to clear the cache (Button "Delete Files...") and download the application again.

Change the tab to "Advanced". The following settings are recommended:

🍰 Java Control Panel	
General Java Security Advanced	
JNLP File/MIME Association Always allow Prompt user Never allow	1
Application Installation	
Secure Execution Environment V Allow user to grant permissions to signed content V Allow user to accept JNLP security requests V Don't prompt for client certificate selection when no certificate V Allow for the certificate of the content permission	
Wivarn if site certificate does not match hostname Show site certificate from server even if it is valid Mixed code (sandboxed vs. trusted) security verification Calle - show warning if needed	
OK Cancel Apply	<u>-</u>]

📴 java - Control Panel		
Control Panel +		
Java Java Java Java Java Java Control Panel • Search Windows t General Update Java Security Advanced 		
Enable fact of usated publications Enable blacklist revocation check Enable caching password for authentication Use SSL 2.0 compatible ClientHello format		
Use SSL 3.0 Use TLS 1.0 Mixed code (sandboxed vs. trusted) security verification 		
OK Cancel Apply		

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TLS 1.0 and higher must be used for Advanced security settings. SSL 3.0 (and older) is not longer supported as it is vulnerable to "poodle attacks" and must be unchecked.

2.3 Using the standalone version

In case there are troubles running WebStart version of the ComTrader, standalone versions for windows operation systems -both 32bit and 64bit versions - are also provided. User can download these versions and run without installing.

In case	you have trouble using the webstart Com I ra	ader version, you can use standa	lone package
	Download ComTrader (32 bit Windows OS) *	Download ComTrader (64 bit Windo	Standalone packages hav

The standalone package consist of two folders and one or more exe files. The content of any files must not be changed.

For 32 bit version, one exe file (ComTrader.exe) is provided. Application is limited to use 1GB of RAM.

For 64 bit version, 3 exe files are provided with

1 GB RAM version (ComTrader-1G.exe),

2 GB RAM version (ComTrader-2G.exe). To use this version, user must have at least 4 GB RAM,

And 4 GB RAM version (ComTrader-4G.exe) . To use this version, user must have at least 6 GB RAM.

The standalone package has proper Java version bundled and does not use the WebStart technology. Therefore it is independent on Java version installed in the users computer.

3 Troubleshooting

Symptom	Possible	Measure
	causes	
ComTrader do not	Miscellaneous	 Start ComTrader via the URLs described in chapter
start over desktop		1.2
link		• Or download and start standalone version (see 2.3)
Java Plugin do not	Java Plugin	• Verify Java Plugin version and installation according
start, instead an	not correctly	

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.jnlp file is downloaded	installed	to section 0
Java Plugin starts, but immediately shows an error. ComTrader do not start.	Application cannot be downloaded or saved.	 Ensure that you have write access to the temporary cache location and the disk is not full. Ensure that the downloaded jar archive was not changed by an internal virus scanner.
ComTrader starts, but login is denied with error message	Connection to AMQP-Broker cannot be established.	 Check the connection settings in "Market" -Tab of login window (multi-exchange versions of ComTrader only) Check the security settings of the Java plugin (0). Check the proxy settings in ComTrader application according to Chapter 1.2 information
At the start of the application warning is shown: Actual version of ComTrader client could not be determined	Connection to download website is not possible	Check connection to download website according to Chapter 1.2.
At the start of the application warning is shown: New ComTrader version available	User is not using actual version of ComTrader	 Download new ComTrader version from download website (for urls see Chapter 1.2)
At the start of the application only Java logo is shown and application does not start	User uses wrong "bit version" or does not have enough memory	 Use different "bit version" (see 2.3) Or use different memory version (see 2.3)