



# Laura

Target Platform

## Considerations

The requirements specification details the initial requirements for the target platform i.e. the user's choice of system and interface.

Laura is a 32-bit Windows application. The supported operating systems are:

- Windows 10
- Windows 11
- Windows Server 2012
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

The minimum hardware requirements are:

Component	Minimum Specification
Processor	Intel Core i5-85xx or later
OS	Windows 10 (64-bit)
Storage	50 GB of free space for installation and data (SSD)
Memory	8 GB RAM
Network	100 Mbps
Display	HD (1366 x 768)

For improved response times, usability and for use with more complicated instrumentation, we recommend the following specification:

Component	Recommended Specification
Processor	Intel Core i7-87xx or later
OS	Windows 11 (64-bit)
Storage	100 GB of free space for installation and data (SSD)
Memory	16 GB RAM
Network	1 Gbps
Display	Full HD (1920 x 1080) or better

Thin clients are not supported for data acquisition but may be used for evaluation of data. With this technology it is recommended that the server and bandwidth are optimised for acceptable performance.

Laura requires a database to connect to for purposes of storing security access and default reports etc. The database will be Oracle 19c/21c/22c or MSSQL 2014/2016/2017/2019/2022.

Recommended database server requirements for up to 5 instances of Laura: specification:

Component	Recommended Specification
Processor	Intel Xeon
OS	Windows Server 2019 or later
Storage	200 GB of free space for installation and data
Memory	16 GB RAM
Network	1 Gbps
Database	SQL Server 2019 or later

In order to connect to an MSSQL database a suitable connection must be made. Laura will connect to the database via the Microsoft OLE DB Driver for SQL Server (2019-2022) or the Microsoft SQL Native Client (2014-2017).

In order to connect to the Oracle database a suitable connection must be made. Laura will connect to the database via the Oracle Client interface.

Minimum versions of these are:

Software Component	Minimum Version
OLE DB Driver for SQL Server	18.0.2 or later
SQL Native Client	10.50 or later
Oracle Client	12.0 or later

For the creation of temporary files (e.g. during print preview), 100 MB of free disk space is required by Laura.

Memory usage by Laura is estimated to be 200 MB to 1 GB.

The following radio-detectors/TLC scanners are supported by Laura.

Radio HPLC detector/ Radio TLC scanner	Interface Requirements
LabLogic B-RAM model 4	1 x RS232 serial port
LabLogic B-RAM model 5	1 x USB port
LabLogic B-RAM model 6	1 x USB port or 1 x Ethernet
LabLogic Scan-RAM (MCA)	1 x USB port
LabLogic Scan-RAM 2 (MCA)	1 x USB port or 1 x Ethernet port*
LabLogic Flow-RAM	1 x USB port
LabLogic Flow-RAM 2	1 x USB port or 1 x Ethernet port*
LabLogic Spec-RAM	1 x USB port
Canberra iScan	1 x USB port
Canberra Unispec MCA	1 x USB port
Canberra Osprey MCA	1 x USB port or 1 x Ethernet
Ortec Digi-BASE MCA	1 x USB port
Perkin Elmer FSA 505/515/525/610/625	1 x RS232 serial port
Berthold LB509	1 x RS232 serial port
Bioscan AR-2000	1 x RS232 serial port
Bioscan System-200	1 x RS232 serial port
PHDS Co. Fulcrum HPGe	1 x USB port

Other associated instruments supported by Laura.

Instrument	Interface Requirements
LabLogic SoFie control unit	1 x USB interface
Stop-Flow control unit	1 x RS232 serial port
LabAlliance isocratic scintillant pump	1 x RS232 serial port
Lablogic PEARL	1 x USB port

The following HPLC Systems are supported and unless otherwise stated require a standard null-modem serial cable to connect to a PC.

Note: We recommend using FTDI-based USB-RS232 adapters.

HPLC system modules	Interface Requirements and information
Agilent 1100/1200/1220/1260/1290	
G1156A Capillary 6-Col Valve	1 x RS232 serial port or 1 x Ethernet  This can be connected either by using a serial cable or if you have the optional 'Ethernet Card' installed in one of the modules then you can connect using an ethernet cable. This is required if you have a Diode Array Detector and want to collect a broad (>80 channels) spectrum.
G1157A 2/10 Valve	
G1158A 2/6 Valve	
G1159A 6-Column Valve	
G1160A 12/13 Valve	
G1162A 2/6 Valve	
G1163A 2/10 Valve	
G1310A Isocratic Pump	
G1311A Quaternary Pump	
G1311B Quaternary Pump	
G1311C Quaternary Pump	
G1312A Binary Pump	
G1312A Binary Pump/SSV	
G1312B Binary Pump SL	
G1312B Binary Pump SL/SSV	
G1312C Binary Pump VL	
G1313A ALS	
G1314A VWD	
G1314B VWD	
G1314C VWD SL	
G1314D VWD	
G1314E VWD SL+	
G1314F VWD	
G1315A DAD	
G1315B DAD	
G1315C DAD SL	
G1315D DAD	
G1316A TCC	
G1316B TCC SL	
G1316C TCC	
G1321A FLD	
G1322A Degasser	
G1329A ALS	
G1329B ALS SL	

Agilent 1100/1200/1220/1260/1290 Continued	
G1330A ALSTherm G1330A ALSTherm with AFC G1330B ALSTherm with AFC G1362A RID G1364A AFC G1364B Prep FC G1364C Analyt FC G1364D Micro FC G1365A MWD G1365B MWD G1365C MWD SL G1365D MWD G1367A WPALS G1367B HiP ALS G1367C HiP ALS SL G1367D HiP ALS SL+ G1367E HiP ALS G1376A Capillary Pump G1379A Degasser G1379B Degasser G4212A DAD G4212B DAD G4220A Binary Pump G4220A Binary Pump/SSV G4226A ALS G4280B Isocratic Pump G4281B Binary Pump G4282B ALS G4283A TCC G4284B VWD G4285B DAD G5611A Bio-Inert Quat Pump G5654A Bio-Inert Quat Pump G5664A Bio-Inert Analyt FC G5667A Bio-Inert HiP ALS SL	
Agilent 1200/1220/1260/1290 Infinity II Continued	
G7104A Flexible Pump G7110B Isocratic Pump G7111A Quaternary Pump VL G7111B Quaternary Pump G7112B Binary Pump	1 x Ethernet
G7112B Binary Pump with SSV G7114A VWD G7114B VWD G7115A DAD WR G7116A Multicol Therm G7116A Multicol Therm (10) G7116A Multicol Therm (2) G7116A Multicol Therm (6) G7116B Multicol Therm G7116B Multicol Therm (10) G7116B Multicol Therm (2) G7116B Multicol Therm (6) G7117A DAD FS G7117B DAD G7117C DAD HS G7120A HS Pump G7120A HS Pump with SSV G7121A FLD G7121B FLD Spectra G7129A Vialsampler G7129B Vialsampler G7130A Integrated Column G7162A RID G7162B RID (micro) G7165A MWD	
Gilson	
204 Fraction Collector 231XL Sampling Injector 401C Dilutor 402 Syringe Pump 832 Temperature Regulator	1 x RS232 serial port (requires a 9F-25F model serial cable)

Jasco	
AS-1550 Autosampler AS-1555 Autosampler AS-1559 Autosampler AS-2050 Autosampler AS-2055 Autosampler AS-2057 Autosampler AS-2059 Autosampler AS-950 Autosampler AS-951 Autosampler X-LC 3059 Autosampler	1 x RS232 serial port (requires a 9F-25M serial cable)
PU-1580 Pump PU-2080 Pump PU-2085 Pump PU-980 Pump X-LC 3085 Binary Pump	1 x RS232 serial port (requires a 9F-25M serial cable) <i>Note: Multiple pumps may be linked using Jasco supplied cables.</i>
LG-xxx-xx Ternary Gradient Unit	1 x RJ-45 type cable for connection to the pump, from Jasco
UV-1570 Detector UV-1575 Detector UV-2070 Detector UV-2075 Detector UV-970 Detector UV-975 Detector X-LC 3070 UV-Visible detector	1 x RS232 serial port (requires a 9F-25M serial cable)
FP-920 Fluorescence Detector	1 x RS232 serial port (requires a 9F-25M serial cable)
Knauer	
K-2500 UV Detector K-2501 UV Detector S1000 Pump S2550 UV Detector S100 Rinse Pump	1 x RS232 serial port for each unit (requires a non-standard power cable)
Knauer Continued	
Valve Drive 2-position Azura/BlueShadow 10P pump Azura/BlueShadow 20P pump	

Azura/BlueShadow 40P pump Azura/BlueShadow P61L Azura/BlueShadow 40D UV Azura/BlueShadow 50D UV Azura/BlueShadow UV2.1L	
Logi-CHROM	
Isocratic Pump Isocratic Pump with SSV Binary Pump Binary Pump with SSV LPG Pump Column Thermostat EC Detector UV Detector DA Detector MW Detector RI Detector Column Selection Valve (2)	Ethernet connection. All units connect through a DHCP switch
Perkin Elmer Series 200	
Series 200 Autosampler Series 200 Pump Series 200 Micro-pump Series 200 Column Oven Series 200 UV/VIS Detector	1 x RS232 serial port for each unit
Shimadzu VP-series	
SCL-10ADvp Controller CTO-10A Oven CTO-10AC Oven CTO-10ACvp Oven CTO-10ASvp Oven CTO-10Avp Oven FCV-10AL	1 x RS232 serial port
Shimadzu VP-series Continued	
FCV-10ALvp FCV-11AL FCV-11ALS FCV-15AL LC-10AD Pump LC-10ADvp Pump LC-10Ai Pump LC-10AS Pump	

LC-10AT Pump LC-10ATvp Pump SIL-10ADvp Autosampler SIL-10AF Autosampler SIL-HTa Autosampler SIL-HTc Autosampler SPD-10A UV Detector SPD-10Ai UV Detector SPD-10AV UV Detector SPD-10AVi UV Detector SPD-10Avp UV Detector SPD-10AVvp UV Detector	
Shimadzu Prominence/Nexera	
CBM-20A CBM CTO-20A Oven CTO-20AC Oven FCV-LPGE LC-20AB Binary Pump LC-20AD Pump LC-20ADXR Pump LC-20AT Pump SIL-20A Autosampler SIL-20AC Autosampler SIL-20ACHT Autosampler SIL-20ACXR Autosampler SIL-20AHT Autosampler SIL-20AXR Autosampler SPD-20A UV Detector SPD-20AV UV Detector SPD-M20A PDA LC-30AD Pump SIL-30AC Autosampler CTO-30A Oven CTO-30AS Oven	1 x RS232 serial port or 1 x Ethernet  Note: The SPD-M20A is connected using an Ethernet cable directly to the workstation and does not operate through the CBM. This connection is in addition to the selected CBM connection and will need to be configured separately.
Sykam	
S150 Conductivity Detector S3120 Conductivity Detector	USB
Teledyne	
Foxy R1 Fraction Collector Foxy R2 Fraction Collector	1 x RS232 serial port
Waters ACQUITY UPLC /Arc System	
Auxiliary Solvent Manager	Ethernet connection

Binary Solvent Manager Column Manager ELSD Detector Fluorescence Detector Flow Through Needle-R Photo Diode Array Detector Quad Solvent Manager Quad Solvent Manager-R Sample Manager Sample Manager Direct Inject Sample Organiser Tunable UV Detector	
Waters Alliance System	
Alliance 2695 System Alliance 2795 System 2487 Absorbance Detector 2489 Absorbance Detector 2-Column Regeneration valve 3-column selection valve 6-column selection valve	National Instruments IEEE488 interface card (NOT the Waters busLAC/E interface card)
VICI	
2-Column selection valve	USB

The following GC Systems are supported.

GC system modules	Interface Requirements and information
Agilent GC6850	
Flame Ionisation Detector Manual Injector Auto Injector	Ethernet

Connection to supported GC and HPLC can be made through the Instrument Control Framework (ICF).

ICF: GC and LC system modules	Interface Requirements and information
Agilent LC	
38X/1260/1290 ELSD	Ethernet
1100/1200/1260/1290 LC	Ethernet
1120/1220 Compact LC	Ethernet
7100 CE	Ethernet
Agilent GC	
7697 HS	Ethernet
G1888A HS	Ethernet
6850 GC	Ethernet
6890 GC	Ethernet
7820 GC	Ethernet
7890 GC	Ethernet
8890	Ethernet
8860	Ethernet
Intuvo 9000	Ethernet

ICF: GC and LC system modules	Interface Requirements and information
Shimadzu LC	
Nexera LC	Ethernet
Prominence LC	Ethernet
PDA	Ethernet
i-Series LC	Ethernet
LC-40 Series	Ethernet

The following LSC/Gamma Counters are supported.

Counters	Interface Requirements and information
Hidex	
300SL	USB
600SL	USB
AMG	USB